Weights and Measures

Epiphanius of Salamis (c. AD 310–403)

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Appendices: translation of Greek fragments; the alphabets in Syriac manuscript B; summary of the weights and measures — Introduction

APPENDIX I — THE ALPHABETS IN SYRIAC MANUSCRIPT B

On the opposite page is a photographic reproduction of folio 13c-d of Or. Add. 14620, designated in this work as B. Only the column at left (d) and the line of characters across the bottom of both columns are of interest here. The rest is practically the same as A, and the collation is found in its proper place under folio 60d. The caption at the top of B folio 13d is: ”The alphabet of various scripts.” The words at the foot of the first subcolumn to the right in 13d are: ”The Greek of the books,” that is, the uncials. At the foot of the second subcolumn: ”Of the numbers,” that is, the minuscules, used in writing numbers. At the foot of the third subcolumn: ”Tadmorine.” To the left of this third subcolumn we read: ”The Tadmorine alphabet, that is to say, the Phoenician. Tadmor is Phoenicia of Syria.” Since it is well known that the Greek Palmyra was the older Tadmor, the identification of ”Phoenicia of Syria” with Emesa, as quoted by R. Payne Smith (Thesaurus Syriacus, col. 3066), is in direct opposition to our manuscript. For a discussion of the forms of these Tadmorine letters see J. P. N. Land in Zeitschrift der Deutschen morgenlandischen Gesellschaft XXII (1868) 549-51.

The word at the foot of the next subcolumn is the Greek shmeion, which Lagarde calls ”numerorum siglae syriacae veteres” (cf. L, p. 36 n.). Next toward the left is the Mesopotamian alphabet, without special designation. At the extreme left of the folio are the words, ”Additions in the Mesopotamian alphabet are these,” referring to the eight characters immediately below, at least some of which are Syriac vowel signs. Land calls the alphabet-like line of characters across the bottom of the two

columns a Federprobe, as evidenced by the fourfold writing of C, with the opening in as many directions, and the presence of Greek φ. |136

APPENDIX II — TRANSLATION OF THE GREEK TEXT OF § 21

21. Thus far, O great lover of the good, we have sufficiently treated the subject of the translators in all that precedes. Hereafter, for the rest, as we have promised in response to your entreaties, O man of God, we give attention to the weights and measures and numbers in the divine Scriptures, showing whence each one is named and what is the quality, the weight, and the force of each of them. So the kor is a measure. And it occurs in the Gospel according to Luke, where the Savior commends the sagacious steward who re-wrote so and so instead of so many kors in their accounts, and made (it) so and so instead of so many baths of oil. For the names of the measures are as follows: lethekh, homer, bath, seah, modius, cab, choinix, hyfe of fine flour, handful of meal, ardeb, three measures of fine flour, three baskets of coarse meal, nevel of wine, kollathon, alabastron of ointment, kapsakes of water, kotyle of oil, kyathos, metretes of wine, metretes of oil, tryblion, xestes, amphora, aporryma, shafitha, hin, chus, the golden stamnos in which the manna was placed, mares, kupros, congiarium. Moreover, the koros is taken from the Hebrew language, where it is called the kor. And it is 30 modii. But the kor gets its name from the fundamental idea of a heap, for the heap is called a charia. And 30 modii heaped together make a camel's load.

And (as for) a lethekh, since it is said in the prophet Hosea, "I have hired for myself for a lethekh of barley," but in other codices, "for a homer of barley," they are the same; for they signify 15 modii. But the lethekh is named according to a word of the Hebrews which means a "lifting up," from the circumstance that a young man can lift up 15 modii and place them on an ass. And this is also called the homer. But there are two homers, a great one and a small one, of which the great one is the same as the lethekh, it being also 15 modii, but the small one is 12 baths. And this comes from the Hebrew language, the oil press being synonymously called bith. For "bath" is interpreted oil press, but it is 50 xestai |137 and is the measure of the craft of the oil-presser. Mnasis or medimnos are taken, I think, from the Roman language, for in that language medium is interpreted as "middle. Mnasis, moreover, is used as a measure among the Cyprians and other peoples. And it is 10 modii of wheat or barley by the modius of 17 xestai among the Cyprians. But the medimnos varies among the same Cyprians; for the people of Salamis, that is to say, of Constantia, have a medimnos of 5 modii, while those of Paphos and the Sicilians measure it as 4 1/2 modii.

(The seah) is called satos, being derived from the same Hebrew and pronounced as a feminine, but in Greek as neuter, for it is called salon and not satos. And it is an overfull modius, so that the modius is full and because of the overfulness a quarter of a modius (more). But it is called a seah, meaning according to this lan-

guage a ”taking up” or ”lifting up,” from the circumstance that the one measuring, according to a certain custom, takes the measure and lifts it up. But the name of the modius was invented by the Hebrews with great exactness, being 22 xestai, not in simple fashion or by chance, but from great exactness. For the ”just” modius, as the Law is accustomed to say, is measured according to the sacred measure. For the sacred measure is nothing else than the twenty-two works that God did in the six days of the hebdomad.

APPENDIX III — TRANSLATION OF THE FRAGMENTARY CONCLUSION OF THE GREEK TEXT FOLLOWING §24

But the cab, from the same language, is a different measure, that is to say, the fourth part of a modius. But the choinix and hyfe are one, though called by a double name. And it is 2 xestai and a certain fraction. The handful of meal. This is simple and clear to all. The ardeb. This measure was named by the Egyptians, and it is 72 xestai. And this also is so composed with great exactness. Seventy-two men were building the tower at the time when the one language was confounded into seventy-two. Hence also they are called meropes, because of the divided speech. But the metretes has the same capacity according to the sacred measure. ”Three measures of fine flour,” those which Abraham commanded Sarah to prepare for the angels, from which measures he commanded an ash cake to be made. Every one of these measures held an omer.

The omer, however, was the tenth part of the great measure, that is, of the ardeb, which makes 7 1/5 xestai. Three baskets of coarse meal, where they were at that time accustomed to put the coarse meal. But it is a kind of wheat cut in two. The nevel of wine, which is a measure of 150 xestai. The seah is 56 xestai. The alabastron of ointment is a little glass jar containing a libra of |139 oil, and the capacity is half a xestes. But it is called an alabastron because of its fragility. (As for) the kapsakes of water, 12 xestai of water is the capacity; but the kapsakes prepared for Elijah is 4 xestai. The kotyle is a measure, it is half a xestes. And it is called a kotyle because the xestes is cut in two. The kyathos is the sixth part of a xestes. But the Scripture calls the kyathoi medekoth. And it calls the strainers masmaroth, which we also call ethmoi. But both are called by the same name because they have also the same use.

The tryblion is a saucer in form, that is, a dish, but it has the capacity of half a xestes. The Alexandrian xestes holds 2 librae of oil by weight. The aporryma is employed as a measure only among the Thebans, for it is half a saites. The true saites, however, is 22 xestai. The sabitha. This is the Syriac term which is translated ”the drawing vessel of the wine press”; among the people of Ashkelon it is 22 xestai. The hin. The great hin is 18 xestai; the sacred hin is 9 xestai. The chus is 8 xestai. But the one called ”sacred” is 6 xestai, which is the twelfth part of a metretes. The talent is that measure used in weighing that exceeds every other, and in librae it is 125

librae, 6,000 lepta to the talent, which lepta are called assaria; but the denarion is 60 assaria, and the silver (talent) is 100 denaria.

Now the silver (coin) was coined as a coin from the beginning, but it was coined by the Assyrians. And they say Abraham brought the coin into Canaan. The 1/125 part of the talent is 1 libra. But the libra is 12 ounces. And the ounce contains 2 staters. |140 And the stater is half an ounce, being a didrachmon. Concerning the shekel. The shekel, which is also called the kodrantes, is the fourth part of an ounce, half of the stater, being 2 drachmae, for the drachma was the eighth part of the ounce. And the drachma was called the holke. By this weight, the shekel,they weighed the hair of Absalom whenever he had his hair cut, the weight being 125 shekels, which is an ounce of 1 shekel, amounting to 2 1/2 librae. Even the obolus was coined among silver (coins). But this was the eighth part of the ounce, the one made not of silver but of iron. But there was also another obolus coined of silver, being a very small coin, the eightieth part of the ounce. For it is said in Leviticus: ”The didrachmon is 20 oboloi.” We have already shown that the didrachmon is the fourth part of the ounce.

The chalkoi. The Egyptians invented these. There are two silver (coins) coined, and the silver (coins) are called copper among the Alexandrians. But the chalkus is the eighth part of an ounce by weight, like the drachma. The mina, which is called the mane in Hebrew. But the Italian mina is 40 staters, which is 20 ounces, a libra and two-thirds. And there have been many types of silver coins from time to time. The nummus was coined by a certain Numa, king of the Romans. But the ancients called half of the silver (denarius) the dichryson. |141 And this silver (denarius) is what the Romans call the miliarision, which is translated ”military gift.” This dichryson also was the silver (coin) that was later called repudiated, because after a time the king was killed and his stamp, which had been engraved upon the dichryson, was removed from it. For thereafter when one was found bearing the image of the dead king it was accounted repudiated, that is, fraudulent.

The follis, which is also called the talent. But it is double, composed of 2 silver (minas), which is 208 denarii. And the follis is 2 lepta according to the copper coinage, but not according to the silver coinage. The mares is a measure of 2 pots among the people of Pontus. But the pot among them is 10 xestai, so that the kupros is 20 Alexandrian xestai. Among the same people of Pontus the kupros is a measure of dry produce of 2 modii, which is said by them to be 5 choinikes. And the choinix among them is 5 xestai, so that the kupros would be 20 xestai. For among them the great modius is 24 xestai. The kollathon among the Syrians is half of a liquid seah, and it is 25 xestai. And the congiarium is a liquid measure, and called the same among the Hebrews. This measure is explained in the Chronicle of Eusebius and by other chroniclers, (who tell) how each of the kings in (his) time in

accordance with (his) ambition made grants to the Roman populace for good cheer. It is to be interpreted ”put together” or ”coiled up.” |142

[Notes moved to the end and renumbered] 1. Lit., ”upon” or ”to.” 2. Lagarde says both c and r read ὑφε; he has οἰφεὶ in text. 3. Lagarde says both c and r read σαβιθα; his text reads σαφιθα. 4. Greek: βαδον. 5. This ἐλαιοτρέπτης should be added to the Greek lexicon. 6. Greek: h2; but καὶ would fit the plural verb better. 7. This sense of μετρέω in the passive is not indicated in the lexicons. 8. Petavius (see Dindorf’s ed. of Epiphanius IV 98) says that the emendation of δε και to δεκα was made already by Cornarius. 9. I.e., seah. 10. I.e., the week (of creation). 11. Greek: ποστημορέον. 12. Lagarde has the singular; Dindorf uses the plural without any word of explanation. Lagarde’s footnote says both c and r read αρτου. 13. Both Lagarde and Dindorf declare that their sources read γομον, but Lagarde prints γομορ in his text; there can be no doubt as to the meaning.

14. Both Lagarde and Dindorf read ἄρτου instead; but in his Symmicta I 211 and 215 Lagarde has σέτου from various fragmentary Greek mss. 15. But 50 in Syriac § 32. 16. Originally the name of a mineral (a variety of gypsum or calcite) from which vases and jars were made; but the term came later in careless popular speech to be applied to such objects made of other substances. 17. ὀψόβαφον for the more usual ὀξύβαφον. 18. See p. 55, n. 372. 19. Cf. p. 136, n. 2; the Syriac is shafitha. 20. κατα δὲ τὸν ληρισμον, emended to λιτρισμὸν by both Lagarde and Dindorf. Lagarde, op. cit. I 216, gives this latter word. 21. Much of this sentence is hopelessly corrupt; cf. Hultsch, Metrologicorum scriptorum reliquiae I 143 f. and 265, who gives on pp. 143 f. the emended reading translated above. Cf. also p. 57, n. 394, on denarion, denaria.

22. For the emended reading (Ἀσσυρέων rather than ἀσσαρέων) cf. Hultsch, op. cit. I 265. 23. Petavius (see the edition of Epiphanius by Dindorf or that by Migne) thinks δ δραχμάς was originally written and that a scribe copied the numeral mark as ι and thereupon further modified his text, thus giving us an inaccurate statement and a most unusual term, διδραγμα instead of δέδραχμον. 24. According to Lagarde, both c and r read σιμου. 25. Both Petavius and Hultsch (op. cit. I 265) insist that h (”eighth”) must be supplied to make sense out of this sentence. Lagarde, op. cit. I 216, gives, indeed, ογδοον. 26. Lagarde, op. cit. I 216, adds φημι, corresponding to the Syriac @ in § 48, and also uses the finite verb ἐστάθμιζον rather than a participle. 27. Again corrupt. Cf. § 48 and Lagarde, loc.cit. 28. Hultsch, op. cit. I 266, emends to this reading, which is found in Lagarde, op. cit. I 217.

29. This spelling is cited by Hultsch, op. cit. I 266. 30. The Lexicon of Sophocles identifies this ἄργυρον with the miliarision, the equivalent of the denarius. 31. Hultsch, op. cit. I 267, and Lagarde, op. cit. I 217, give the true reading, βαλάντιον, ”bag” or ”purse”; cf. § 53. 32. Lagarde says that r reads 220 denarii.

The Syriac says 2 1/2 silver (minas) and 250 denarii; cf. § 53. 33. Where the word mares might be expected; but kupros is the only reading I have been able to find in either Greek or Syriac. Cf. p. 63, n. 448. 34. "Which" apparently refers to the kupros, but should refer to a single modius. 35. Lagarde, op. cit. I 218, and Hultsch, op. cit. I 270, supply the right number, 2 xestai. 36. One of the meanings of congiarium is a gift bestowed upon the populace on some festival occasion.

APPENDIX IV — SUMMARY OF THE WEIGHTS AND MEASURES

Superior figures indicate the section in which any particular equation is found.

Appendices: translation of Greek fragments; the alphabets in Syriac manuscript B; summary of the weights and measures — MEASURES OF CAPACITY

kor.....30 modii lethekh.....15 modii.....great homer bath.....50 xestai.....little homer mnasis.....10 modii modius.... 17 xestai in Cyprus.....22 xestai usually.... 24 xestai in Pontusmedimnos.... 5 modii in Constantia.... 4 1/2 modii in Paphos and Sicily seah*.....1 1/4 modii cab.....1/4 or 1/5 or 1/6 modius choinix... 1/8 (Cyprian) modius... 2 xestai.... hyfi.... 2 handfuls ardeb (dry measure).....metretes (liquid measure) metretes.....72 xestai usually.....104 xestai of wine in Cyprus.....also measured as 88 xestai .....82 xestai .....and 96 xestai "three measures".....little omer.....6 xestai† omer.....1/10 ardeb.....7 1/5 xestai nevel.....150 xestai.....3 liquid seahs..... amphora or foreus liquid seah.....50 xestai kollathon.....1/2 liquid seah.....25 xestai shatifta.....alabastron .....1/2 xestes .....libra of oil great kapsakes. .. .12 xestai ... .spondeion .....1/4 liquid seah.... qvuna (?) |143 small kapsakes = 4 xestai... .stamnos.....qvurta (?) kotyle.....1/2 xestes kyathos.....1/6 or 1/3 xestes tryblion.....1/2 xestes xestes.....2 librae of oil in Alexandria.....8 librae in Pontus.....22 ounces in Italy.....20 ounces in Nicomedia.....24 ounces in the xestes castrensis .....sextarius aporryma.....1/2 saites .....11 xestai true saites.....22 xestai Nicaean saites.....8 or 10 xestai shafitha.....sapation .....22 xestai in Ashkelon.....18 xestai in Azotus.....14 xestai in Gaza great hin.....18 xestai sacred hin.....9 xestai complete chus.....8 xestai .....1/9 metretes .....1/6 samios sacred chus.....6 xestai.....1/12 metretes

mares.....2 pots in Pontus.....20 Alexandrian xestai pot (of the Pontians).....10 xestai kupros.....2 modii .....10 choinikes .....20 xestai (dry measure) congiarium.....6 xestai. little xestes.....sexton

Appendices: translation of Greek fragments; the alphabets in Syriac manuscript B; summary of the weights and measures — MEASURES OF WEIGHT

talent.....6,000 lepta or assaria .....125 librae centenarius.....100 librae libra ... 12 ounces.....288 grams.....1,728 carats.....3,456 barleycorns ounce.. .2 staters... .24 grams... .4 shekels.....8 lepta .....7 oboloi stater.....2 double zuze gram.....6 carats shekel.....2 lepta .....2 zuze .....kodrantes (another) kodrantes.....25 denarii zuza.....lepton .....holke .....1/8 ounce iron obolus.....1/8 or 1/7 ounce silver obolus.... 1/80 ounce |144 Italian mina.....40 staters.....20 ounces.....1 2/3 librae Theban mina.....60 staters.....2 1/2 librae other minae.....2 or 4 librae assarion.....100 lepta

Appendices: translation of Greek fragments; the alphabets in Syriac manuscript B; summary of the weights and measures — MEASURES OF LENGTH AND AREA

field.... 5 or 6 seahs.....5 plethra of land of the first class or 6 plethra of land of the second class jugon.....5 or 6 fields.....30 sataeans .....koraean field.....20 akainai by 20 akainai akaina.....6 2/3 cubits Egyptian field.....100 cubits by 100 cubits plethron.....20 (akainai) by 20 cubits koraean of second class.....60 sataeans jugum.....2 1/3 sataeans sataean (modius).....5 or 6 cabs jugera.....called zyga in Cyprus, syntelesmata elsewhere decad.....(apparently) 10 days' plowing among the Palestinians, 10 sataeans, about 5 Roman jugera cubit.....length of forearm to tip of middle finger cubit... .24 fingers... .3 spans... 6 hands... 4 palms or hand-lengths square cubit.....48 fingers solid cubit..... 192 fingers finger.....8 lepta palm (handlength).....6 fingers span.....8 fingers hand.....4 fingers COINS denarion.....60 assaria silver (talent).....100 denaria .....6,000 lepta .....nomisma stater.....2 double zuze shekel.....2 lepta .....2 zuze silver mina.....100 denarii kodrantes.....25 denarii .....ködarion iron obolus.....1/8 ounce |145 silver obolus.....1/80 ounce double zuza.....20 silver oboloi chalkus.....zuza .....1/8 ounce nummus.....dichryson .....1/2 silver (denarius) silver (denarius).....miliarision lepton.....assarion .....ziretia .....obolus double follis or purse.....2 1/2 silver (minae).....250 denarii follis.....125 silver (denarii) follis.....2 lepta according to the copper coinage folis.....sala or (better) sela.....1/2 ounce

Appendices: translation of Greek fragments; the alphabets in Syriac manuscript B; summary of the weights and measures — PRINTED IN USA

* Apparently based on the Cyprian modius of 17 xestai, which would make the seah about the same as the usual modius of 22 xestai, more exactly 21 1/4 xestai. Peshitta and LXX identify seah and modius in Matt. 5:15. The seah is a dry measure.
† But cf. § 8.

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