

## ACRAEPHIA COUNTS: Π FOR Π(ΕΤΤΑΡΕΣ)

A poorly preserved inscription from Hellenistic Acraephia gives a list of fish for sale in the *agora*, each followed by a number, perhaps a maximum price.<sup>1</sup> This was in effect a civic attempt at price-control,<sup>2</sup> a gesture familiar from other Hellenistic cities.<sup>3</sup> Price data for commodities in the Hellenistic world are scant, so that this inscription is especially precious.<sup>4</sup> It is, therefore, worrisome that scholars have been unable to agree on the meaning of various numerals that appear in the text.

The attested numbers are: X, H, I, Π. The system is essentially acrophonic. The first symbol is taken to indicate a chalk (one twelfth of an obol), the second a hemiobol, and the third an obol. The fourth, Π, has been the subject of debate. Most have assumed that the *pi* indicated π(έντε), denoting five *chalkoi*.<sup>5</sup> This assumption, however, appears to produce redundancies and flaws elsewhere in the system. Thus, scholars have advanced a host of different ameliorations, most recently the argument that Π is an abbreviation of an unattested Boeotian dialectical form of τεταρτημόριον, representing a quarter-obol, or three *chalkoi*.<sup>6</sup> I propose here a less demanding solution.<sup>7</sup>

Feyel assumed that H must have indicated a hemiobol, *i.e.* six *chalkoi*. He observed that in this text Π never appears alone as a price, but is always paired (*e.g.* ΠX), so that ΠX must not have indicated

<sup>1</sup> Bottom fragm.: M. Feyel, *Nouvelles inscriptions d'Acraiphia*, *BCH* 60 (1936) 11–36, at 27–36; top fragm. with re-edition of bottom: F. Salviat and C. Vatin, *Le tarif des poissons d'Acraiphia*, in *Inscriptions de Grèce centrale* (Paris 1971) 95–109 [*SEG* XXXII 450], omitting the last eight lines, for which see Feyel. Corrections to lines 1–7 by P. Roesch, *Sur le tarif des poissons d'Acraiphia*, *ZPE* 14 (1974) 5–9, at 9 [*SEG* XXXVIII 377; *Études béotiennes* (Paris 1982) 286]: Τὸ ἀγώναρχυ τὸ ἐπ' Ἀριστοκλείου ἄρχοντος, Ἰ Ἀμνίας Διονουσίω, Δικῆος Διονουσίω, Ἰ Ἰαροκλείς Ἐγχορμαο, ἐσταλοκόπεισαν τὰ δεδο[γμένα] ἰ οὐπὲρ τῷ θαλαττῶ ἰ τὼς δὲ τὸ θαλαττῆον ἰ πωλιοντας πωλιμεν ἰ σταθμῶς κο[θ]αροῖς.

<sup>2</sup> Salviat and Vatin, *Inscriptions de Grèce centrale* 109, thought this was a federal decree; D. M. Schaps, *Small Change in Boeotia*, *ZPE* 69 (1987) 293–296, at 293, has recently followed, despite the Roberts' objections (*Bull. épigr.* [1972] 196) and Roesch's demonstrations that both the decree and the agonarchs were civic: Roesch, *ZPE* 14 (1974) 6–7; idem, *Études béotiennes* 282–286, at 286; see also D. Knoepfler, *Gnomon* 60 (1988) 222–235, at 234. With the apparent stipulation that sales be transacted with “clean weights”: the editors' σταθμῶς ΑΠΠ[.]οις (7) might suggest σταθμῶς δικαί[ι]οις; *cf. e.g.* *IG* Π<sup>2</sup> 1013.17–18: ὅπως μηθεὶς τῶν πωλούντων τι ἢ ὀνομαζόμενον ἀσυμβλήτῳ μέτρῳ ἰ [μη]δὲ σταθμῶι χρῆται, ἀλλὰ δικαίῳ; *cf. also* μέτροι δικαίῳ: *BGU* VI 1268.16 (III BC); *P.Lille* I 24.fr4.9 (III BC?); *P.Heid.* VI 383.r.12 (209 BC); *P.Yale* I 51.B.10 (184 BC); *P.Amh.* II 43.9–10 (173 BC); *P.Tebr.* III.1 824.16 (171 BC?); μέτροι χοῖ δικαίῳ μετρήσει δικαίῳ: *BGU* XIV 2393.r.12 (215/14); VI 1277.9 (215/14); XIV 2397, 9 (214/13); *P.Frankf.* I 19 (214/13); *BGU* X 1946.10 (213/12); X 1951.4 (221–203); XIV 2390.33 (160/59); *cf. also* *P.Cair.Zen.* I 59132.7–8 (256 BC): οἰόμενος δεῖν τῷ δικαίῳ/ [μεγάλῳ] σχοινίῳ μετρηθῆναι ἰ αὐτῶι; measuring σκυτάλη δικαίῳ: *BGU* XIV 2391.9 (*ca* 250 BC); *P.Heid.* VI 369.15 (197 BC); *P.Freib.* III 34.fr2.37 (174/3); *P.Amh.* II 43.10 (173 BC); *P.Erasm.* I 36.23 (152 BC); *BGU* VI 1271.6 (180–145); *P.Lille* I 21.fr2.26 (155–144); *P.Dion.* 17.24 (108 BC); *SB* V 8754.1.12 (49/8?); but Roesch, *ZPE* 14 (1974) 7 observes, “la pierre porte assez clairement ΣΤΑΘΜΥ . ΚΟ . ΑΠΠΙΣ”, suggesting (*p.* 8) that ‘clean’ here meant ‘precise’; possible, but weight-scales in a fish market can become sloppy and encrusted with fish, that is, weighted; perhaps the stipulation mandated clean and dry scales, so as to prevent artificially inflated weights and prices. For requirements on weights elsewhere see *e.g.* *IG* V 1390.A.99–100; *I.Délos* II 509.1–2, 33–34.

<sup>3</sup> L. Migeotte, *Le contrôle des prix dans les cités grecques*, in *Économie antique: Prix et formation des prix dans les économies antiques* (Saint-Bertrand-de-Comminges 1997) 33–52; G. Steinhauer, *Inscription agoranomique du Pirée*, *BCH* 118 (1994) 51–68, on which: A. Bresson, *La cité marchande* (Bordeaux 2000) 151–182. Regulating fish prices at Delphi: *SEG* XXXII 326 (III BC).

<sup>4</sup> This text is the basis of a reconstruction of the relative cost and rate of consumption of fish as against grain: T. W. Gallant, *A Fisherman's Tale* [= *Miscellanea Graeca* 7] (Ghent 1985) 39–41.

<sup>5</sup> Feyel, *BCH* 60 (1936) 32–33; Salviat and Vatin, *Inscriptions de Grèce centrale* 102, 104; M. N. Tod, *The Greek Acrophonic Numerals*, *BSA* 37 (1936/37) 236–257, at 245 [= *Ancient Greek Numerical Systems* (Chicago 1979) 62–83].

<sup>6</sup> Schaps, *ZPE* 69 (1987) 295–296.

<sup>7</sup> It is worth getting this detail right. Until we understand the number-system we cannot conclude, for example, with Gallant, *A Fisherman's Tale* 40, that “[a]t Acraiphia in the third century BC, fish was expensive, on average thirteen times more expensive than wheat”: for risks sometimes associated with such arguments from cliometrics see J. D. Sosin, *Grain for Andros*, *Hermes* 130 (2002) 131–145, at 137–141; on a possible date for the Acraephian text early in the second century BC: Roesch, *ZPE* 14 (1974) 9.

six *chalkoi* (5+1), which H denoted, but rather five.<sup>8</sup> On this explanation the presumed syntactical relationship between Π and X was not addition but multiplication. There is a logic to this suggestion. At Delos, for example, the symbol † served both as a counter (††† = 4 dr.) and as a modifier indicating that the units in question were drachmas (†ΔΓ = 15 dr.).<sup>9</sup> In 1971, however, Salviat and Vatin published a second, larger, fragment of the Acraephian inscription, which seems to attest a price of Π (A.ii.5) and also ΠXX (A.i.19). On Feyel's reckoning Π alone ought never to have existed and ΠXX should denote six *chalkoi* and so should be redundant given H. Moreover, at B.8 Salviat and Vatin read ΗΠXX (Feyel had read ΙΠX). On Feyel's logic ΗΠXX would have to amount to twelve *chalkoi* (6+6), or one obol, which ought to have been expressed simply with Ι. Finally the price ΗΠ (A.ii.21), 11 obols (6 + 5), would appear to be not only redundant with ΗΠ X (A.i.39, A.ii.7, 21, B.*passim*) but also inconsistent with Feyel's observation that Π must be followed by X.

To salvage Feyel's system we might declare Π (A.ii.5) misread for ΠX; ΠXX (A.i.19) misread for HXX; ΗΠXX (B.8) misread for ΙΠX or ΗΠ X; ΗΠ (A.ii.21) misread for ΗΠ X. The text is in an admittedly poor state of preservation. But even if we were to grant so many misreadings, we would still be left with a system in which ΠX denoted five *chalkoi*, a compilation for which no parallel is found in Boeotian numerical notation.

Salviat and Vatin attempted to remove the problem by suggesting that when the mason carved ΗΠ X, he really meant ΙΠX, *i.e.* that the mid-bar was a ligature joining Ι to Π. They even went so far as to print ΙΠX for ΗΠ X throughout their text. But Η is very often a component of compound numerical characters in Boeotia (*e.g.* ΠΗ [5 x 100], ΤΗ [3 x 100], where Η = 100).<sup>10</sup> That ΗΠ should represent a ligature between Ι and Π, rather than Η and Π is no more likely than a system in which ΠXX equals six *chalkoi*. Salviat and Vatin constructed a system that construed Π as five, which was an improvement, but replaced redundancy with implausible orthography, which was not. The many redundancies in Feyel's system notwithstanding, that of Salviat and Vatin was no more plausible.

D. M. Schaps has sought a new solution, suggesting that Π stands not for *pente*, but for a putative Boeotian dialectical variant of *tetartēmorion*, which denoted a quarter-obol piece worth three *chalkoi*. The proposal is clever. If the resulting system produced no redundancies it might justify positing an otherwise unattested Boeotian form. But it does. According to Schaps' system HXXX (A.i.41) and ΗΠ (A.ii.21) both denote nine *chalkoi*: HXXX =  $\frac{1}{2}$  ob. *i.e.* 6 ch. + 3 ch. = 9 ch.; ΗΠ =  $\frac{1}{2}$  ob. +  $\frac{1}{4}$  ob. *i.e.* 3 ch. = 9 ch. At B.36 Feyel read μνᾶν ΗΤΑ, thinking (p.33) that T denoted *tetartēmorion*. If this hunch could be proven correct Schaps' argument would collapse. But a generation later Salviat and Vatin could not even read the line, or apparently any line after B.32. In fact, the entire text below B.32 is a mess. Feyel read B.35–37 as follows: ΤΑΝΕΞΕΝΤ Ι μνᾶν ΗΤΑ Ι ΝΩΝΓΧ *vac.* This does not inspire confidence that ΗΤΑ is a number at all. Schaps thought Feyel's assumption improbable on grounds that if some other character denoted a *tetartēmorion* it would be strange not to find that character elsewhere in the inscription.<sup>11</sup> This, however, assumes not only that one of the prices must have included a *tetartēmorion*, which is not necessary, but also that Acraephia used an abbreviation for *tetartēmorion* in the first place, which is the fact Schaps is trying to establish. A *tetartēmorion*, however, was not simply three *chalkoi* or the equivalent weight, but rather a quarter-obol piece. Acraephia did not, so far as we know, strike quarter-obols.<sup>12</sup> We can generate the Boeotian form for *tetartēmorion*, but we still do not know whether *tetartēmorion* were struck at Acraephia, much less whether another city's fractionals

<sup>8</sup> Feyel, *BCH* 60 (1936) 32–33.

<sup>9</sup> *E.g.* *I.Delos* I 362.A.12: ΜΧΧΧΔ†††† = 13,014 drachmas; II 445.5: †ΔΓ.

<sup>10</sup> For a tabulation: M. N. Tod, Three Greek Numerical Systems, *JHS* 33 (1913) 27–34, at 34 [= *Ancient Greek Numerical Systems* 37–44].

<sup>11</sup> It is not clear from his comments, Schaps, *ZPE* 69 (1987) 296 n. 9, whether he considered T for *triōbolon* more likely.

<sup>12</sup> Moreover, the word *tetartēmorion* is attested on stone only very rarely and apparently never in Boeotia.

enjoyed sufficient Acraephian circulation to earn their own abbreviation in state legislation. The problem is not dialect possibilities but numismatic realities. Whereas Salviat and Vatin removed all redundancies, but introduced an unlikely ligature, Schaps pruned the number of redundancies to one, but introduced an unattested Boeotian word for an unattested Acraephian object.

It is, to my eye, almost unbelievable that Π should not indicate five *chalkoi*; the letter *pi* is so commonly found in Boeotian compound numerical characters, where it indicates multiplication by five: e.g. ΠΕ (= 5 × 100);<sup>13</sup> and ΠΕ stands very frequently for πεντήκοντα.<sup>14</sup> In most place Π did indicate *pente*. Nevertheless, Feyel's system does not, on present evidence, appear viable, and neither does that of Salviat and Vatin.

But before we posit an otherwise non-existent dialectical form for a fractional coin that Acraephia may never have issued we should consider another possibility. For countless inhabitants of central and northwest Greece, including Boeotians,<sup>15</sup> the number four began with the letter *pi*: πέτταρες.<sup>16</sup> Perhaps Π indicated not π(έντε) but π(έτταρες), denoting four *chalkoi*. If so, then we would have a system with two redundancies, but entirely lacking in implausible ligatures and unattested words: the uncertainly read ΠΧΧ (A.i.19) would be redundant given Η (A.ii.4, 6; B.28) and ΗΠΧΧ (B.8) given Ι. Perhaps the first was in fact ΗΧΧ and the second simply ΗΠΧ, which not only seems to be visible in the photograph published by Feyel (*BCH* 60 [1936] pl. IV), but is also the most common price in the inscription and close to what Feyel had read in the first place (ΙΠΧ).

I suggest, then, that whereas in Greek documents Π usually means “five”, here it means “four”, and if for us that is cause for confusion, we may rest assured that for the fish-eaters and coin-counters of Hellenistic Acraephia, it was not.

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<sup>13</sup> E.g. K. Bringmann et al. (eds.), *Schenkungen hellenistischer Herrscher an griechische Städte und Heiligtümer* (Berlin 1995) 85[E].11, 28; Tod, *JHS* 33 (1913) 34 [= *Ancient Greek Numerical Systems* 37–44]; for revisions in this text see J. D. Sosin, A Missing Woman: the Hellenistic Leases from Thespieae Revisited, *GRBS* 41 (2001) 47–58, at 51–57.

<sup>14</sup> E.g. M. Feyel, Études d'épigraphie béotienne I, *BCH* 60 (1936) 175–183; commentary at “II”, 389–415; on the text: Sosin, *GRBS* 41 (2001) 47–51.

<sup>15</sup> As Schaps, *ZPE* 69 (1987) 295, knew.

<sup>16</sup> *IG* VII 1738.5; 2418.10; 2420.22, 36–37; 2431.7; 3171.C.38, 51; 3193–3195 *passim*; *SEG* XXVI 675.5, 9, 11 (Larisa); 676.4, 5–6, 8, 17–18; XXXI 575.9 (Larisa); XXXVI 548.2–3 (Metropolis in Thessaly); M. Missailidou-Despotidou, A Hellenistic Inscription from Skotoussa (Thessaly) and the Fortifications of the City, *ABSA* 88 (1993) 187–217, at 188–191, A.73, B.22, 23, 24–25, 28–29; also the ordinal *petratos* (*-otos*): *IG* VII 3170.13 (restored); 3172.a.142; 3176.2–3; Missailidou-Despotidou, *ABSA* 88 (1993) 188–191 at B.3, 4, 10, 18, 28, 39, 66, 69; also *SEG* XXXVII 494.10 (Thessalian Metropolis): παρ πέτριτεν ἔτες.