Dai *mikrà kermata* di argento al *chalkokratos kassiteros* in Sicilia nel V sec. a.C.

From *mikrà kermata* of Silver to *chalkokratos kassiteros* in Sicily in the 5th Century BC*

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(Plates 2–7)

The proliferation in recent years in the antiquarian market, especially foreign, of so many silver coins from Greek Sicily, with extremely rare or unpublished specimens[1], has been accompanied by a renewed scientific interest in this type of coinage[2].

This, which the Greeks generically called *kerma* and also *kollybos*[3], in the smaller denominations, down to the *onkia* and to the *hexas* (which Epicharmus calls *hexantion*), also called *dionkion*, posed problems of handling and conservation. Besides being in small purses, like the one displayed

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[1]Münzen u. Med., List 353 (1974); 365 (1975); 373 (1975); 384 (1976); 395 (1977); 406 (1978); 412 (1979); 431 (1981); 443 (1982); 451 (1983). Num. Fine Arts., Auct. VI (1979), 56; Auct. X (1981), 73 (*litra* inedita di Thermai); Bank Leu, Aukt. XXII (1979), 25 (Longanaioi), 29 (Piakos-Adranos); Lanz, München Aukt. XX (1981), 72 (*litra* inedita di Herbessos); Dorotheum, Sonderaukt. 12 Nov. 1982, 71, 74 (*hexas* con astragalos di Himera, gr. 0,11); Sonderaukt. 2., 15 Apr. 1983, 62, 98, 103 (obolo anonimo di Zankle), 104.

[2]G. K. Jenkins, Piakos, SM XII (1962), 17 f.; Chr. Boehringer, Herbita, NAC X (1981), 95 ff.; Kataneische Probleme: silberne Kleinstmünzen, Act. 9ème Congrès Int. Numism., Berne 1979 (1982), 71 f.; U. Westermark - K. Jenkins, Notes on some new or rare coins of Kamarina, NAC XI (1982), 47 f. Less punctual, rather only provisional, the researches in Atti IV Conv. Centro int. Studi numism., Napoli 1973 (Suppl. AIIN XX, 1975), 77 f. (on the silver fractions of Henna, Galaria, Piakos, Imachara, Kephaloidion, Longane); 105 f. (Abakainon: detailed research); 142 f. (Hipana, Stiela); 164 f. (the barbarized Kleingeld).

[3]Fr. v. Schrötter, Wörterb. Münzk., Berlin 1930, 304, s. v. *kerma*; s. v. *kollybos*; R. Bogaert, Banques et banquiers dans les cités grecques, Leyde 1968, 46 f. In P. Chantraine, Dict. étym. de la langue grecque, Hist. des mots, II Paris 1970, 510, s. v. Κείρω is erroneously cited for the meaning of "monnaie" Emped., 101, 1 (92, ed. M. R. Wright, 129). Fundamental is Aristoph., aves, 1107 f.: ἐν τε τοῖς βαλλαντίοις / ἐννεοττεύσουσι χάλκεα μικρὰ κέρματα ("nei borsellini nidificheranno e schiuderanno piccole monetine", le civette attiche) (cf. J. Taillardat, Les images d'Aristophane, Etudes de langue et de style, Paris 1962, 314). Cf. also Aristoph., vesp., 789; Eubul. 67,7; 84, 7 in J. M. Edmonds, Fragm. Attic. Com. (= FAC), II Leiden 1959, 110 and 118; Antiphan. 113, FAC II, 222; Theopomp., FGrHist 115 F 89, p. 556, 1.

in the National Museum of Taranto, showcase 73 of the goldsmithery hall, or in leather pouches[4], the silver *kerma* was frequently placed in the mouth in the jaws, with the danger of being swallowed or of provoking accounts of vomiting[5].

Destined in principle to circulate in the economic-political area of the issuing *polis*, within which it was imposed with a nominal value superior to the real one, being normally issued below the theoretical weight[6], partly also due to the technical limits of coinage, the *kerma* found its necessary complement in the heavier issues, *drachma*, *didrachmon* and *tetradrachmon*. For cities, like Kamarina or Abakainon, and also Morgantina, Galaria and Henna, which did not have contemporary coinage superior to the *litra*, this latter was integrated in the flow of circulation of "hegemonic" cities, like Gela, Naxos, Katane, Leontinoi or Syrakousai, which had available besides corresponding *litrai*, submultiples and heavy denominations. Thus was realized the overcoming of the "frontiers", especially in the neuralgic crossroads of traffic of men and goods[7], in which the *kerma* flowed together and mixed, and confronting itself with other *kerma* and with stronger currency on the thread of the balance, ended up losing its "political" plus-value. This was verified especially on the money-changer's table, who retained a premium, even to compensate for the deficit that would have resulted from the act of melting the small coins (*apousia*)[8], in operating the exchange with other currency in circulation.

Similarly, when someone had to change a heavy coin, for example an Attic *tetradrachmon*, into *kerma* for example from Syracuse, necessary for the small purchases of the day, the money-changer as a true *kermatistes* (the term appears in the NT) resolved the operation by giving a number of "small change", whose weight was inferior to that of the coin received.

The Greek lexicon in certain rare terms confluent without order in the *Onomasticon* of Polluce (9,80—82) explains these problems experienced in the Sicilian *agora*, in which at a certain moment was established the generic equivalence, recorded in Aristotle[9], of a coined silver *litra* (with theoretical weight of gr. 0.87) with the Aeginetan *obolos* of gr. 1 circa. Such equivalence had to express the real exchange, operated certainly already in the 5th century BC, and not in Aristotle's age, by the Sicilian money-changer, to whom someone presented with heavy silver currency, to be changed into local *kerma*. Such a money-changer, if he imposed such an unfavorable valuation, gave in exchange for each Attic *drachma* no more than four *litrai* profiting at least 20%. He was

[4]It concerns the βαλλάντιον recalled, first than in the verse above cited of Aristophanes, in τε πεντόγκιον (cf. also note 18). In H. P. Thurn - S. Baumgärtner, Spardosen Epidh., frg.10 Kaibel: ἐγὼ γὰρ τὸ γα βαλάντιον · λίτρα / καὶ δεκάλιτρος στατήρ, ἐξάντιόν τε πεντόγκιον (cf. also note 18). In H. P. Thurn - S. Baumgärtner, Spardosen aus zweitausend Jahren, Die Kulturgeschichte des Sparens, Stuttgart 1983, no mention is read neither of Greek salvadanai, nor of the τησαυροι of Greek sanctuaries (cf. M. Comstock - C. Vermeule, Greek, Etruscan a. Roman Bronzes, Mus. Fine Arts, Boston 1971, 324 f., nr. 456).

[5]Cf. Aristoph. vesp. 609; 789 f. (with references in J. van Leeuwen, Lugd. Bat., 1909, 103 and 130); Pluto 379; Eccles. 815–18: . . . μεστὴν ἀπῆρα τὴν γνάθον χαλκῶν ἔχων. Theophr., char. VI 9: τοὺς τόκους (sc. ἡμιωβόλια) εἰς τὴν γνάδον ἐκλέγειν. Alexis 128, 7, FAC II, 434: ὁ δ' ἐγκάψας τὸ κέρμ' εἰς τὴν γνάθον.

[6]Cf. Jenkins, NAC 1982, 49; Chr. Boehringer, Kataneische Probl., cit., 77.

[7]One of them is to be found at Naxos – where in excavations conducted by Paola Pelagatti there emerged among other things a silver lira of Abakainon and a silver tetras of Naxos, of the type published in Münzen u. Med., Liste 373, 20–21 (G. Guzzetta, AIIN 21–22, 1974–5, 209 f.) – and another in the anonymous center of Civita presso Paternò, certainly identifiable with Aitna-Inessa (cf. quanto rilevo in AIIN 21–22, 1974–5, 35). From this latter center, sifted by clandestine diggers for years, most likely come the handfuls of rich kerma of the unpublished coins of Katane (presentati da Chr. Boehringer, Katan. Probl., cit.), never before emerged from Catanian soil.

[8]Bogaert, op. cit., 110 n. 267.

[9]Aristot. Fragm., 476 Rose (Polluc. on IX 80): δύνασθαι δὲ τὴν λίτραν ὀβολὸν Αἰγιναῖον. Cf. M. Caccamo Caltabiano - P. Radici Colace, in Giorn. It. Fil., n. s. X 2, 1979, 309; N. Parise, Atti VI Conv. Napoli, Suppl. AIIN XXV (1979), 294 ff.

the *litroskopos*, attested in Sofocle[10], term corresponding to *argyramoibos* and derived ἀπὸ τοῦ Σικελικοῦ νομίσματος, ὃ καλεῖται λίτρα[11], in use around the middle of the 5th century BC, when in the Sicilian *agora* the *kerma* circulated in great quantity in its multiform variety, from the *litra* to the *hemilitrion*, *pentonkion*, *tetras* (the so-called *trionkion*), *hexas*, creating also due to its wear difficulty in valuation, which had to be done "by eye".

Like the *argyroskopos*[12], *litroskopos* privileges the "visual" capacity in evaluating the coin[13] and is an indication of the embarrassment, in which the man of the *agora* had to find himself. Both *litroskopos* and the Attic *obolostates* — "the weigher of obols", who in Aristophanes[14] passes in the meaning of "lender of obols" and therefore of "usurer" — must have been formed in moments, in which the monetary economy was characterized in the *agora* of Athens by the prevalence of obols, in the Sicilian *agorai* by that of *litrai*.

In Sicily rather in the middle of the 5th century BC there existed very likely a compound, analogous to the Attic *obolostates*, (*litro*)*states*, which results attested in the simple form στατήρ (στάτης) in a fragment of Epicharmus[15]:

Πολλοὶ στατῆρες, ἀποδοτῆρες οὐδ' ἂν εἷς.

The gloss in the Etym. Magn., 725, 25 στατῆρες · οἱ χρεῶσται (the debtors) in my opinion rather records an extemporaneous interpretation of the verse of Epicharmus cited immediately after, in which a contrast was grasped: "many the debtors, those who pay back not even one alone"[16]. Epicharmus in the mythological comedy *Prometheus* or *Pyrrha*[17], to which the verse belongs, would have alluded to people, who had contracted debts and did not pay them.

Such an interpretation, however, raises perplexity, if one recognizes a connection of στατῆρες with ἵστημι (to weigh) and with the Attic ὀβολοστάτης. The semantic value of this latter should extend to the precedent, to be understood therefore as "weighers" of coin, and also money-changers, bankers, usurers.

On the contrary, ἀποδοτῆρες must be "those who give in counterpart" and therefore sell a good or deliver coin. In the verse one could allude to operations of buying and selling (on one side many ready to give coin weighing it, on the other total absence of persons disposed to sell) or of exchange (many the bankers, none however delivers coin). The true meaning of the verse remains rather too obscure.

What species of coin circulated in the *agora* of a city like Syrakousai in the years of Epicharmus emerges expressly from two fragments of the comedy *Le Ruberie* (Ἁρπαγαί): ἐξάντιον, πεντόγκιον,

[10]Soph. fr. 969 Nauck = 1065 Pearson: cf. Parise, art. cit., 298; L. Burelli, in ASNP 1977, 1323 f.

[11]Hesych. s. v λιτροσκόπους, ed. K. Latte, II 603.

[12]Attested in the inscription of Andania, of 92 BC (Syll.[3] 736, 47) (Bogaert, op. cit., 45 con n.74).

[13]In the nummulary tesserae of the 1st century BC, age of great monetary confusion at Rome, returns the formula *spectavit* (A. Degrassi, ILLRP II, nrr. 994 sg.).

[14]Aristoph., nub. 1155, ed. van Leeuwen 183 f.: in the Scholia understood as δανεισταί ("usurers"). Bogaert, op. cit. 47 rejects the sense of "essayeur" proposed by J. Hasebroek, Hermes 55, 1920, 116. See also M. Caccamo Caltabiano - P. Radici Colace, Stateres-chreostai in Epicarmo. Considerazioni sulla vita economica nella Siracusa della prima metà del V sec. a. C., in Atti Accad. Peloritana, Cl. Lett., CCL, 1980, 8.

[15]Epidh., fr. 116 Kaibel = A. Olivieri, Frammenti della Commedia greca e del Mimo nella Sicilia e nella Magna Grecia, I, Framm. Comm. dorica sicil. 2, Napoli 1946, fr. 63, p. 43: both read οὐδαμεί.

[16]Cf. Caccamo-Radici, Stateres-chreostai, cit., 5 f.

[17]See, now regarding P. Oxy. 2426–7, B. Gentili, Gnomon 33, 1961, 332–35.

ἡμιλίτριον, λίτρα, δεκάλιτρος στατήρ, that is the *didrachmon*[18]. Even if in the Marmor Parium[19] the *akme* of the poet is placed in 472 BC, during the tyranny of Hieron, his activity must have extended at least until 440 BC[20].

In the systematization, which E. Boehringer has proposed of Syracusan coinage in a still irreplaceable book[21], the *oboloi* appear in series XI, attached to the *drachma*, and again in series XIId, supported by *hexas* and *pentonkion* (nrr. 371—373), and finally in series XIIe, of the so-called *damareteion*. Only with series XIII, of Group IV (which would begin in 474 BC), appears the *litra* (nrr. 415—430), connected with the *pentonkion*, which in reality constituted a *hemiobolion*.

In series XV to the rare *didrachmon* are linked *litra* and *hemilitrion* (nrr. 549—553); then in series XVIII to the *didrachmon* and to the *drachma* is associated the *hemilitrion*, with which for typology and style are connected the first *tetrantes* and *onkeiai* in bronze (nrr. 613—627). For Boehringer the *terminus a. q.* for all these series would be 450 BC. The *hemilitrion* reappears in series XIX and again in series XXI, XXIII and XXIV; only in series XXIV returns the *litra* (nrr. 729—733). By now we would have reached 435 BC.

The monetary horizon of the "Αρπαγαί of Epicharmus seems to be found in Boehringer's series XIII—XV: the *hexas* however would have already constituted an ancient coin. On the other hand, if one recognizes as valid the requirement to lower, and I have proposed until 463 BC, the issue of the so-called *damareteion* — which has revealed itself as a coin of *sympoliteia* between the Syracusans and the Leontinoi, whose 'speaking stem' appears in the damareteic series, issued as *aristeion* in the two cities, which together had reconquered democratic freedom and expelled the *xenoi*[22] — also series XIII—XV must be dated at least 15 years later, that is to 460—445 BC: this would be the epoch reflected in the aforementioned comedy of Epicharmus.

In Boehringer's series XI-XII the issues of *oboloi* and of the connected larger denominations must have taken place without interruption, in a continuous flow. Revealing to man the case of recoinage of a Syracusan *obolos* (of type 288 sg. or 365 sg., Boehringer) of gr. 0,58 (TAV. 2, 1) over an *obolos* of the Aitnaioi of the type with shrimp[23], for which it undoubtedly served as a model, for the R/, the Syracusan *obolos* with the legend ΣYRA divided among the spokes of the wheel (Boehringer 392 sg.), of series XIIe of the *damareteion*. Accepting the datings of E. Boehringer, who places this latter in 480/79 BC, such "typological imitation" on the part of the Aitnaioi must have occurred at least after 475/4 BC: successive, even if by little, must have been the recoinage operated in the Syracusan mint. But with 474 BC in Syrakousai the issues of the *litrai* with the "octopus" must have begun, of series XIII: a resumption of Syracusan issues of *oboloi* with the wheel in such a chronological system results rather strange.

Instead, lowering the "damareteic" series XIIe to 463 BC, the *obolos* with the shrimp of the Aitnaioi goes ascribed to Aitna-Inessa, and dated around 461 BC. The recoinage of this latter in the Syracusan mint is well explained in years around 460 BC, in which, once the unifying hegemony

[18]Epidh. fr. 9–10 K. = Olivieri, pp. 52–54. Interesting is the association in fr. 10 ἐξάντιόν τε πεντόγκιον! For ἐξάντιον, cf. Hesych., s. v. ἐξᾶς · εἶδος ⟨νομίσματος⟩ παρὰ Συρακοσίους. On bronzes of Eryx (BMC Sic., 136, 57; F. Imhoof Blumer, NZ 18, 1886, 238 nr. 5, tav. V 14) one reads ΞAIƎH. Cf. H. Chantraine, in JNG XII, 1962, 51 f.; Parise, Atti VI Conv., cit., 294 f.

[19]FGrHist 239, A 55.

[20]Olivieri, op. cit., 5 f. thinks until 438–431 B.C.

[21]Die Münzen von Syrakus, Berlin-Leipzig 1929 (ristampa Bologna 1978).

[22]Cf. my article, AIIN 21–22, 1974–5, 23 ff.

[23]Cf. A. Salinas, Le monete delle antiche città di Sicilia, Palermo-Roma 1867–1922, Tav. XVIII 8 (exemplar from Palermo, gr. 0.72); Chr. Boehringer, JNG 18, 1968, 77 and pl. 7, 3; H. Bloesch, RSN 39, 1958–59, 9 nr. 2, gr. 0.64, Winterthur; Cab. des Méd., F. G. 269 gr. 0.58 (TAV. 2, 2); München, St. Münzslg. gr. 0.554. Boehringer, art. cit., 77 calculates a weight average of gr. 0.60 on five specimens, between gr. 0.45 and gr. 0.72.



of the Dinomenids had ended, the coin of the Aitnaioi, enemies of the Syracusans, could be rejected and therefore recoined in Syrakousai.

In conclusion, in series XI—XII there do not exist issues clearly separated from each other: in the Syracusan mint *oboloi* of type 365 sg., Boehringer were reused even after the *oboloi* of type 392 sg., Boehringer, to the point that an *obolos* of the Aitnaioi, typologically inspired by this latter, could be recoined with type 365 sg., Boehringer. Group IV, Boehringer runs parallel for Syracusan *litrai* to the series of "Silenic" *litrai* of the Katanaioi and of the Aitnaioi[24], among which an economic-political *koine* was reconstituted, not procrastinatable any longer, which immediately entered into circuit also on the monetary level with Syrakousai.

In truth, the picture that E. Boehringer has presented of Syracusan *kerma*, especially of the fractions of the *litra*, appears disarticulated and lacunose. The *hexas* should necessarily integrate the *pentonkion*, whenever this latter appears, in order to reconstitute the alignment with the *litra*: thus it occurs at Akragas and for the Leontinoi and, as will be seen, also at Gela and at Rhegion. The *tetras* (the so-called *trionkion*) should be associated with a *hexas* in order to replace the *pentonkion*, now absent, exactly as happens for Katane.

The criterion of typological and stylistic connection of the D/ of the small silver denominations with the D/ of the corresponding *tetradrachma*, valid for a chronological framework, must be extended also to the *tetrantes* and *onkeiai*, first bronze coins of Syrakousai, whose D/ repeats that of the silver *hemilitrion* of series XVIII, Boehringer. Only that this latter should be moved essentially to the bottom, in place of series XXV, making series XIX—XXV rise: series XVIII, now become series XXV, proposes in a return to the taste of the small head of Arethusa, with hair knotted in the *krobylos*, the typical style of the *ketos* series, which is now adopted as a symbol in the exergue alongside others, the cricket or the olive leaf. In this way the *hemilitrion* of series XVIII comes to follow other issues of *litrai* and *hemilitria* and eliminates the improbability of an isolated intermezzo of bronze *tetrantes*/*onkeiai*.

In other workshops, even before the *hemilitrion* of series XVIII (XXV), dies for *litra*, *hemilitrion*, *tetras* and *hexas* of silver had been prepared by Masters (Eukleidas/Eumenos). These are the last series of Boehringer, which, with the return for series XVIII, should reach 420—415 BC[25].

Syrakousai therefore approached bronze coinage, substitutive and not certainly integrative of silver *kerma*, only due to a state of necessity, very likely when in 415—413 BC it found itself besieged by the Athenians. This is confirmed by the hoard of Scala Greca (Inv. 2091), buried also during the siege, and composed of *tetrantes* (with an *onkia*) of bronze and some worn silver *litrai* of Syrakousai[26]. These *tetrantes* and *onkia* represent the first χαλκόκρατος κασσίτερος issued for the intervening shortage of silver at Syrakousai during the siege[27].

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[24]For the series of Katane, cf. Boehringer, Katan. Probl., cit.; for those of Aitna, cf. also those reproduced in TAV. 2, 3–6 from the Cab. des Méd., F. G., 305 O gr. 0,82; 305 N gr. 0,68; 267 gr. 0,64; 305 K gr. 0,79

[25]For a lowering of the XVIII series to 430 B.C., cf. R. R. Holloway, L'inizio della monetazione in bronzo siracusana, Atti VI Conv. Napoli, cit., 126. Chr. Boehringer, Zur Finanzpolitik u. Münzprägung des Dionysios von Syrakus, in Greek Numismatics a. Archaeology, Essays in honor of Margaret Thompson, Wetteren 1979, 19 dates the first bronze tetrantes of Syrakousai to 420 B.C.

[26]A few years later, perhaps to be connected with Himeran refugees of 408/7 BC, is the hoard of Calcide (Inv. 26: dated to 422—415 BC; cf. Atti VI Conv. Napoli, cit., 172 e tav. XXIII): the specimen with octopus under the hippocampus of Syrakousai is a *tetras* and not an *oncion* (!), as writes Holloway, art. cit., 127, who also speaks of a bronze *hexas* with octopus!

[27]The Greek expression in Polyaen. IV 10, 2: (Περδίκκας) . . . πολεμῶν ἀργυροῦ νομίσματος ἀπορούμενος χαλκόκρατον κασσίτερον ἐχάραξε, has been compared by me — in order to illustrate the false formula δραχμαὶ καττιτέρου applied to Dionysius I in Chr. Boehringer, Zur Finanzpolitik . . ., cit. 26 — with Ps.-Aristot. oecon., 1349, a 32 and Polluc. onom. 9, 79 (cf. Gnomon 55, 1983, 758). This comparison confirms and clarifies what G. Berthiaume observes, Helléniques III 4, 17 et le sens du terme chalkeus à l'époque classique, R Phil. 1974, 306

In any case I do not think one should accept a high dating, up to the middle of the 5th century BC, for the beginning of bronze coinage in any Western *polis*, which had known silver *kerma* in the same period: so much for Rhegion, whose rare issue of bronze *onkia* (of about gr. 6) cannot not be connected, also for the type of the R/, with the heavy series of Lipara, datable between 427—415 BC[28], as much for Himera and Akragas, although the bronze *litra* is calculable on sustained levels (gr. 72 and 52 respectively), taking into account also the absence of a coined bronze *litra*, differently than at Lipara.

For a dating around 420 BC of the bronze of Akragas, even if in the first issues it may have been attested on a theoretical *litra* of gr. 52, offers a starting point the specimen here reproduced (TAV. 2, 8), of gr. 6,12, in a Palermitan collection, of *tetras* recoined on a *hemilitrion* of Solunto[29]. This gives a *terminus a. q.* in 406 BC for the "uncial" bronze of Solunto: Akragas must have proceeded to the recoinage of foreign coinage, Punic above all, in silver (as in the case of the *tetradrachmon* of Carthage)[30] and in bronze in years shortly before its expulsion[31].

Also at Syrakousai bronze coinage involved in the Athenian war took radical steps: the "uncial" series, characterized by globules indicative of *onkeiai*, must have lasted barely a few years, soon overcome in the growing inflationary push by series without globules, which were to be worth at least double (*hemilitria*). Thus was coined the issue with Corinthian Athena head on left, ΣΥΡΑ on D/ and on R/ the free hippocampus — in a verse of Epicharmus one reads "but of Poseidon the noble son, the small hippocampus"[32] — of about gr. 6, which must be very likely a *hemilitrion*, being double the *tetras* with Arethusan head/ octopus below a hippocampus[33], which perhaps accompanied in small quantity the first or preceded it just.

The head of Athena represents a "salvific" goddess, if in such sense the legend ΣΩΣΙΑ[34] should be interpreted, which follows the ethnic on stylistically little valuable specimens, drawn from dies

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regarding the "contradiction" in Hom., Il. 21, 592, discussed in Aristot. poet. 1461 a: an alloy can be designated with the name of the most precious constituent element.

[28]Atti VI Conv. Napoli, cit., 109. Against the very high chronology (middle of 5th century BC) of M. Caccamo Caltabiano, Actes 9ème Congrès Int. Numism. Berne, 1979, 90 sg., K. Rutter Atti VI Conv. Napoli, 194 proposes 425—420 BC. The hoard of Gizzeria, recalled by Caccamo Caltabiano, 92 sg. is correctly dated in Invent., 1913 to the beginning of the 4th century (Kraay): it marks the transition from silver *kerma* to bronze coinage in the Magna Graecia area.

[29]Cf. E. Gabrici, La monetazione di bronzo nella Sicilia antica, Palermo 1927, tav. II 38 with dating to the second half of the 4th century; R. Calciati, Corpus Nummorum Siculorum, 1983, 310 with dating in the first half; more correctly to the end of the 5th century, in Bank Leu, Aukt. 6, 1973, aus Samml. T. Virzì, nr. 207.

[30]Cf. G. K. Jenkins, Coins of Punic Sicily II, SNR 53, 1974, tav. 6 E.

[31]"Uncial" is therefore still within the same *terminus a. q.* appears the bronze with the almost never perfectly clear legend, MAMAP, which consists of an issue of *hemilitrion* with half bull "gelese" on left / Nike flying "imerese" on left (SNG Cop. Sic. 1072; Gabrici, cit., 144—45) and in one of *tetras* — of which is reproduced at TAV. 2, 9 the specimen of gr. 4,74 studied by me years ago in the small collection of the pharmacist Cannì at Ragusa — with nymph head, of Syracusan taste, on right, among three globules on R/ and half bull on left, on which the legend MAMAP on D/. This must be developed in Μαμαρ(τίνων), referable to a first group of Mamertine mercenaries descended into Sicily, perhaps in the service of the Geloi, around 410 BC (cf. what I have written in Per la storia dei culti nella Sicilia greca, in Il Tempio greco in Sicilia. Architettura e Culti, Atti Ia Riunione scientifica della Scuola di Perfezionamento . . . Catania (Siracusa 1976) (1985), 151, nota 18). The form Μαμαρ, due to an obvious error, also on a Mamertine bronze, of gr. 2,16 (TAV. 2, 10).

[32]Epicharm. fr. 115 K. On the marine hippocampus, cf. D'Arcy W. Thompson, A Glossary of greek Fishes, London 1947, 93.

[33]Cf. note 26. The specimen at TAV. 3, 17 in the Staatl. Münzsammlung München, gr. 2,373.

[34]I no longer believe sustainable the interpretation of an engraver's signature proposed in Atti VI Conv. Napoli, cit. 178. Σωσία, attested as a feminine name, should correspond to Σώτειρα, epithet attributed also to Athena (Bull. ép. 1963, 104; 1966, 182). It would concern a Sosipolis, like the nymph of Gela and of Selinunte (to be compared with Paus. VI 20, 2 sg.; 25, 4).

prepared with scarce care, which is understandable during the Athenian siege.

Immediately other fine issues for beauty followed with the head of Arethusa on D/ and with diversified reverses, of which the sequence is obscure to me: rather that with the wheel, then one with dolphin above a shell, and a third with star within incuse square. On the D/ of the same appear signatures of the Masters, Phrygyllos, Kimon, Eu(kleidas?) or Eu(menos?), E(uainetos?), Im(?).

It happened however that at the same time, when the various series with the wheel were being coined, contiguous *hemilitria* with Athena head/hippocampus were put back into circulation by the same Syracusan mint, perhaps because they were declared out of circulation, after the application of a circular countermark, now with Arethusa head (whether right or left), now with four-spoked wheel, often with the letters ΣYPA or ONKI among the spokes. Such countermarks are found sometimes one at a time, sometimes paired on the same specimen. Thus a typological correspondence between the new issue with the wheel and the type of countermark applied to coins of the Athena/hippocampus series is verified. The punches employed were different, but always typologically traceable to the issue with the wheel.

In numerous specimens with hippocampus countermarks, different from those discussed up to now, were applied outside of Syrakousai: at Leontinoi that with Apollo head and legend Λεον(τίνων) or the other quadrangular one with lion head with open jaws, flanked by that "Syracusan" one with Arethusan head, which often cuts the border; at Akragas very likely that with the type of the pecten or the other with Herakles head, which both can be compared with countermarks detectable on worn Akragantine bronzes[35].

Specimens already countermarked at Syrakousai received a further countermark of validation at Leontinoi, to which must be attributed the speaking type of the leonine head: in any case before 413/2 BC. The wheel countermark with ONKI declares that the specimen put back into circulation had been reduced to the value of *onkia*, a value with all probability attributed to all the other countermarked coins of the hippocampus series.

Another Syracusan issue, characterized on R/ by the octopus, presents on D/ a three-quarter Arethusan head, of Kimonian taste, which at Himera has found a revival in two issues of bronze *tetras*, quite rare, connected by the D/ type, as results from the specimens reproduced at TAV. 2, 11—12, one of gr. 1,27, the other of gr. 0,99, datable shortly before 408 BC. Soon the octopus type on R/ reappears at Syrakousai in a series with Arethusan head in profile on D/, which reproduces the typology of the first bronze issue, but with at least double value: numerous specimens of it result recoined. Precisely on other Syracusan coins, with Kimonian three-quarter head, or with dolphin and shell, like the specimen of gr. 2,95 at TAV. 2, 13, and others on a *hemilitrion* of Selinunte (Herakles head/ Bow and quiver), like that of gr. 3,14 at TAV. 2, 14, and on a *hemilitrion* of Himera (Nymph head/ Laurel crown), like that of gr. 3,43 at TAV. 2, 15. These last two constitute evidence for a chronology around 406 BC of the Syracusan series.

In this context should perhaps be inserted the rare anonymous issue with Apolline head and octopus on R/, of which I present a variant at TAV. 2, 16. Meanwhile also Syrakousai had to overcome the hard trial of the Punic invasion.

To face it adequately the city, perhaps even before the providential man, Dionysius, emerged,

[35] Apart from what I noted in Atti Conv. Napoli, cit., 176, regarding the countermark of the Leontinoi (BMC Sic. 94, 78), reaffirming the principle "of normal correspondence of countermark and (new) issue", I would add that the Leontinoi had to issue, presumably within 413/2 BC, together with their *tetrantes* and *onkeiai* (of the type Apollo head / tripod) Syracusan hippocampi countermarked in their mint and certainly at the value of *onkeiai*, cf. now the well illustrated and stimulating study of Romolo Calciati, Le contromarche della serie Athena-Ippocampo di Siracusa, Società Pavese di Numismatica e Medaglistica, 1985.

had to allocate its gold reserves to ensure the engagement and loyalty of mercenary troops, inclined to wages in gold coin, and subsidize the citizens in military service with "distributions" of silver coins, whose supply had certainly been interrupted following the Punic hostilities.

Thus began the issues, with dies signed by Kimon and by Euainetos, of the "Herculini" and of the "cavallini" in gold for the mercenariat, of decadrachms for the citizen army[36].

It does not seem to me that a value ratio should necessarily be sought (the commonly accepted 1:15 is perhaps illusory) at Syrakousai between silver decadrachms and heavy *chrysos*, which remained an episodic issue, unlike the former, which had multiple issues both successive and spaced, and which are defined ἄθλα, whose synonymous value, moreover very likely if addressed to citizen soldiers, of μισθός and δῶρον is widely attested[37]. Two other significant passages remain, relative to Dionysius I's war preparations in 399 BC, in Diod. XIV 42, 1 τό τε μέγεθος τῶν μισθῶν . . . . καὶ τὸ πλῆθος τῶν προκειμένων ἄθλων τοῖς ἀρίστοις κριθεῖσι (sc. τεχνίταις) and 43, 2 (great preparation of shields, daggers, helmets and breastplates, which evokes the figuration of panoply in the exergue of the decadrachm).

Dionysius, as soon as the Punic invasion stopped and a peace treaty was sealed, turned to organizing an imperialistic system, which ended by extinguishing the autonomies of every other *polis*. He introduced at Syrakousai a regime of austerity: Οὐκ εὐπορῶν δὲ ἀργυρίου he induced the *ekklesia* to decree that bronze coinage should be accepted on par with silver (ἔχειν ὡς ἀργυροῦν ἀλλὰ μὴ καττιτέρινον) (Ps.-Aristot. oecon. 1349, a 35). Dionysius indeed resumed bronze issue with the hippocampus, expression of a well-founded pro-Corinthian and maritime propaganda, increasing its weight by a few grams (from gr. 6 to 7/8 circa) and retariffing it as *litra*[38]: in some series on D/, behind Athena's head, a lambda is detected, to be developed into λ(ίτρα), or a globule, sign of the unit (TAV. 3, 18—19).

At the same time a multiple was issued — of which the first "version", immediately interrupted,

[36]The "ercolini" and the "cavallini" of gold, which as a pair correspond to about gr. 8,70, which could represent the monthly salary of a mercenary according to the micro-Asiatic tariff (with slight addition), which in Greek area was normally required in silver at one drachma per day, according to the acute examination of the dies operated by D. Berend would derive from a brief and concentrated issue. The hoard of Avola, Inv. 2111 (dated to 370 BC) and the other Inv. 2124 (dated to 360 BC) are not explained without corresponding warlike events in the Syracusan suburb. I would think, especially for the first, rather to 396 BC, when Imilcone arrived to block the port of Syrakousai and to occupy Achradina, sacking the sanctuary of Demeter and Kore (Diod. XIV 62—63). The *chrysoi* would be to date after another five-year period of activity of Kimon and Euainetos, to 406 BC: treasured for a long time, as is usual in Greece for gold coin (cf. the accounts of the Parthenon, in which for at least 14 years remained stationary in the treasury the Lampsacene and Cyzicene staters from 447 to 433 BC: IG^3 1, 436—449), at Avola they mixed with *dareikoi*, probably imported by a survivor of the expeditions in Ionia under Hermocrates and the successive Syracusan strategists (Thouk. VIII 85, 3; Xenoph. hell. I 1, 27 sg.; 3, 13). On the other hand, the first Kimonian decadrachms of Syrakousai cannot be detached from those of Akragas (the hoard of Naro, Inv. 2118, dated by Kraay to 390—385 BC must rise to at least 405 BC), which must have been issued in the imminence of disaster and however preceded by the Akragantine *chrysos* of gr. 1,34: this in a 1:13 ratio is covered with a *tetradrachmon*, like the corresponding Syracusan *chrysos*, which was followed by the heavier one of gr. 1,74, present also at Gela and at Syrakousai (for a first synthesis, cf. Chr. Boehringer, Zur Finanzpolitik . . ., cit., 16 sg. e tav. 38). This latter, as Berend has observed, would correspond with a 1:10 ratio to 1 silver *tetradrachmon*. In the same years also in Athens a fall of gold to 1:10 occurred, due to the intervening shortage of "Lauriotic" silver (W. E. Thompson, NC 1964, 119 sg.). The absence of *chrysoi* for Selinunte and Himera, fallen first in 408/7 BC, reveals the military unpreparedness of both, incapable of hiring with gold mercenaries, necessary to face a professional army like that put in the field by Carthage, and marks otherwise the *terminus p. q.* for Akragantine-Syracusan gold.

[37]Cf. E. Will, Notes sur μισθός, Le Monde grec, Hommages à Cl. Préaux, Bruxelles 1975, 426—438.

[38]Cf. Gnomon 55, 1983, 758. The specimen at TAV. 3, 17 a, of gr. 5,52, belongs to the earlier issue, also because on R/ under the hippocampus it presents a shell, which connects to the slightly earlier issue with dolphin and shell on R/. The specimen at TAV. 3, 18 weighs gr. 6,48, the other at TAV. 3, 19 gr. 6,12 (both coll. Cammarata).



is probably to be found in the very rare specimen, of about gr. 30, with hippocampus on waves on R/, made known by S. Garraffo in the last Naples Convention (1983) — typologically characterized on D/ by the same Athena head and on R/ by a marine star stylized between two dolphins. On some rare series a large globule between the tail or between the mouth of the dolphins on R/ was intended to mark the unit value, which for evident weight reasons (the coin oscillating between 30 and 36 gr.) could not be other than a *drachma*. Dionysius, with what contemporaries and historiographic tradition considered a tyrannical overreach worthy of a tyrant, the substitution of the traditional silver monetary unit, the *drachma*, with a bronze coin, politically imposed, did nothing but bring to extreme consequences and stabilize a monetary situation, which had been introduced before him out of necessity. Consequently Dionysius canceled every silver issue, except the occasional and rhythmic one of decadrachms, and certainly that of *chrysos*, provoking a first awakening of "Corinthian pegasi" in the Sicilian area.

In reality Dionysius I's bronze *drachma* was not to have a future. If not under Dionysius II, at the advent of Dion, in 357/6 BC, there occurred a massive recoinage of Dionysian bronze in at least 16 centers, involved for a long time in the economic and political radius of Syracuse under Dionysius I. The same wanted to express their reconquered autonomy by organizing their own mints: in Sicily the mercenaries Sileraioi and Tyrrhenoi, and cities like Mytistraton, Petra, Henna, Herbessos, Halaisa and the *koinon* Symmachikon (perhaps at Herbita), Agyrion, Adranon, Aitna, Kentoripai, Tauromenion; outside the island, Issa (in Dalmatia), Kroton and probably Skylletion, to which for a long time under the control of Dionysius I (Strabo VI 1,10, C 261) I would attribute the issue, recoined on *litrai* with the hippocampus, characterized on D/ by the capped and crowned head of Odysseus, beardless, on R/ by Skylla[39].

Of these recoined issues some are anepigraphic, like that with Apollo head and lyre and the other with Nymph head and leaping horse, attributable with certainty the first to Adranon, the other to Aitna: indeed, issues with the legend of these two cities repeat the type of the recoined coins, which naturally present the weight of the reused specimens, greater than that of the new issues. However, the value of the recoined coins had to be the same as these latter, in any case inferior to the original one under Dionysius. It is significant and of unequivocal interpretation that on the R/ of the larger denomination of Mytistraton, recoined on Dionysian *drachma*, six globules within a crown are detected: the *drachma* had fallen to the value of *hemilitrion*!

The issue of Aitna, apart from that recoined without legend and without the sign M on the horse (significant absences of a lower value, perhaps even of *onkia*), in the new edition (typologically equal, but with legend and M) was associated with a larger denomination, with helmeted Athena head and legend on D/, leaping horse and M on R/, which is concentrated around 17/15 gr., aligning itself with the issue of Adranon, with Apollo head/lyre surrounded by the ethnic (never recoined) and with that of Syracuse with Zeus Eleutherios head/thunderbolt, known in three series.

In my opinion the phenomenon of recoinage, which expresses an economic recovery successive to a political rejection, must have developed immediately after this last issue, which correctly V. Cammarata has defined "dionea", which had a replica, on a slightly lower weight, at Agyrion, in the city of the Leontinoi (base and refuge of Dion, and for nothing connected to Timoleon) and

[39]Cf. Chr. Boehringer, Zu Finanzpolitik, cit. 24; 30 n. 71. A specimen with Skylla now in Münzen u. Med., Liste 477 (1985), 18 (the D/ described as Kabeiros head). Skylla on coins of Italian Kyme. However Odysseus on the coinage of Ithaka appears bearded: if ever, the hero with the cap of the Skylletion coin could be Menesteo. A tradition, reported in a late scholium to the Aeneid, attributes to Odysseus the foundation of Skylletion (J. Bérard, La Colonisation grecque ..., Paris 1957, 160. However, if the prevalence of findings of such specimens in the central-northern zone of Sicily is confirmed, one should think once again of recoinages operated by Italian mercenaries (V. Cammarata).



at Aitna, the same that had issued the series now recalled with Athena head and horse. To the same "dionea" issue with Zeus Eleutherios/thunderbolt is connected typologically and in political significance the recoined series of the Symmachikon, which despite the weight should be worth a *hemilitrion*, like the non-recoined issue with Apollo Archagetas head/thunderbolt and bunch of grapes (BMC Sic., 29, 4).

To return to Dionysius I, he definitively, anticipating the monetary policy of the Ptolemies, realized a "closed" economy, based on bronze (besides rare heavy silver coins), marking the definitive eclipse of silver *kerma*. This latter, of which also small Sicilian cities had been pleased for a need not always strictly economic — and which for equal reasons would reappear fleetingly in the years of the restoration of Dion and Timoleon disappeared definitively, overwhelmed in the pitiless crucible.

However, the rapid establishment in the Sicilian *agora* of fiduciary bronze coinage — beyond "a revolution of thought, of a mentality that allowed the Greek to accept coin as symbolic value"[40] — was prepared and made possible rather by the habit with small silver *kerma*, which had proved indispensable for small business and immediately imposed as "political coinage", at nominal value superior to the real one. It indeed had always presented a weight inferior to the theoretical one, as can be verified, and not only due to intervening wear, but from the issue itself[41], even if in extreme cases the artisanal technique of coinage may have played a role.

Favorable circumstances, the affectionate friendship of Dr. H. Küthmann, Director of the Staatliche Münzsammlung of München and the generosity of intelligent collectors, to all of whom I renew my gratitude, have allowed me to study a series of new specimens of *kerma*, which are now emerging from the faithful bosom of the earth. As if by a miracle reappearing, these small masterpieces of incision arouse admiration and joy in those who can hold them in hand and in the studious person the anxious yearning to know realities and events of the world of the Greeks of Sicily.

The coinage of *kerma*, especially of the smallest values, must have posed serious difficulties, which the Greek artisans however knew how to overcome admirably. With dies often too wide they struck thin lenticular flans, leaf-like, of the type reproduced at TAV. 3, 20, prepared by pouring molten silver between two plates, also of metal, which fitted together, studded on the inside with cells of adequate form, within which the metal was deposited: a specimen of such a utensil is preserved in a private collection.

On the other hand, cases of recoinage and countermarking of larger *kerma* are not unknown. Thus a *litra* of the Leontinoi, of gr. 0,787 (TAV. 3, 21) at München, appears recoined on one of Selinunte, of the type of this one at München, of gr. 0,789 (TAV. 3, 22). This latter presents on D/ the countermark with nymph head of Eyrymedo, celebrated on the D/ of the *drachma* of Selinunte (BMC, Sic., 141,38), to whose issue was therefore associated the validation through countermarking (with the type of the nymph head) of the preceding *litrai* returned to the mint. The same phenomenon occurred for some *litrai* of Himera, countermarked with the leaf of the *selinon*[42], for *litrai* of Akragas, like this one at TAV. 3, 23, in a private collection, of the type Salinas, Tav. VII 23 and also for *litrai* of Syrakousai, with the octopus, like this one of gr. 0,59 at TAV. 3, 23a. I also note an *obolos* of the Leontinoi (lion head type), of gr. 0,634 at TAV. 3,

[40]Thus R. Holloway, Atti VI Conv. Napoli, cit., 140. Aristophanes in 392 BC joyfully greeted the interruption in Athens of bronze issues.

[41]Cf. note 6. At Akragas were marked with λί(τρα) (Salinas, tav. VII 24 sg.) silver fractions, often below the theoretical weight.

[42]BMC Sic. 80, 42; SNG Deutschl., Siz., 354: countermark erroneously described.

24, which seems recoined on the same type, perhaps on the occasion of retariffing as *litra*[43]. A provisional systematization of the *kerma* of the Leontinoi seems to involve the connection of the *litra* (SNG ANS Sic. II 261), with the connected *pentonkion* and *hexas* (Boehringer, Kat. Probl., cit. tav. 8, U-V) to the *tetradrachmon* (SNG ANS Sic. II 219 sg.) and of the other *litra*, ib. 264 (with *hemilitrion* and *hexas*, Boehringer, cit. tav. 8, W-X) to the *tetradrachmon*, ib. 238 sg. Instead the *obolos*, ib. 213 sg. with the connected *pentonkion* and *hexas* (Boehringer, cit. tav. 8, S-T) belongs to the first pre-damareteic issues of the Leontinoi, of about 467 BC.

Finally I note an *obolos* of Syrakousai, type 365, Boehringer, which results recoined on type 288, of gr. 0,54 (TAV. 3, 25): an *obolos* of democracy on one of tyranny! Besides should be recalled the case examined above of the Syracusan *obolos* recoined on that of Aitna (TAV. 2, 1).

On the other hand the silver *onkia*, whose theoretical weight does not exceed gr. 0,07 and therefore should have been extremely difficult to handle, seems attested only for a few mints: the specimen of Messana, presented by H. Cahn[44], in my opinion is always a low-weight *hexas*, of the type corresponding to that of the Staatliche Münzsammlung München (TAV. 3, 26), of gr. 0,129, which repeats that in Salinas, tav. XXXIII 9, except for the right-facing legend. A variant, with the hare running right, of gr. 0,115 is presented at TAV. 3, 27. Similarly, despite the weight of gr. 0,062 and the single globule (but it seems one could detect a second one not impressed), the specimen at TAV. 3, 28 is also a *hexas* of Syrakousai. The definition of *onkeiai*, and not rather of low-weight *hexantes* with different dies, is erroneous for the small coins so defined by Chr. Boehringer and ascribed to Katane[45].

To the series of *hexas* I can rather add a new type, characterized on D/ by a nymph head, turned right — with hairstyle that recalls that of the *litra* with bull on R/ (SNG Deutschl. Sik. 446) — within a circle of pearls, and on R/ by the vertical winged thunderbolt, flanked by two discs, under each of which the legend K-A. It, known to me from a specimen (TAV. 3, 30), in private collection, of gr. 0,12, suggests a chronological lowering of the series of *hexas* and *tetras* of Katane, which are normally found mixed and cannot develop over a sixty-year period, as Chr. Boehringer has proposed, but should be restricted within 440—415 BC, and in any case precede bronze.

A novelty seems to constitute the *hexas* (TAV. 3, 31), of gr. 0,072, rather broken and clumsily glued, characterized on R/ by two globules, on D/, within a series of pearls in two divergent lines, by the letter *rho*, with open eye: the attribution to Rhegion appears evident, all the more since the *pentonkion* is known in two variants, one of which with frontal lion head on D/, *rho* with leg, left-facing, surrounded by five globules on R/[46], the other with hare protome turning right on D/, *rho* with eye, without leg, turned left, within five globules on R/[47]. It would have been found together with a broken *hexas* of Messana (TAV. 3, 32) and with this other one (TAV. 3, 33), of gr. 0,077, characterized on R/ by two globules, on D/ by a closed shell, flanked by pearls arranged irregularly. It is proposed to establish a connection with the anonymous *litra*, SNG Lloyd 1031, gr. 0,78 (ascribed to Himera and defined "obol")[48], of which I present a quarter specimen

[43]Specimens of the same type present weights of *litra*: cf. for example SNG IV Fitzw. Mus., Leake a. Gener. Coll. II, Sicily-Thrace, 1040, gr. 0,78.

[44]Münzen u. Med., Liste 373 (1975), 17 gr. 0,07.

[45]Katan. Probl., cit. 73—77: of the three *onkiai* reported one weighs gr. 0,055, the third gr. 0,08, while the *hexas* G gr. 0,06 (that reproduced at TAV. 3, 29 gr. 0,077). I note a *hemilitrion* with Silenos head on left, of gr. 0,26, and a *hexas* with river head, with cornetto, on left of gr. 0,11.

[46]W. Giesecke, Sicilia Numismatica, Leipzig 1923, 16 nr. 19 a, gr. 0,28 tav. 2, 13; SNG V Ashmol. 2, 1588 gr. 0,35.

[47]Giesecke, op. cit., 16 nr. 18 a, gr. 0,33 tav. 2, 11.

[48]Cf. also Münzen u. Med., Liste 395 (1977), 21 gr. 0,59; Liste 412 (1979), 14 gr. 0,51. For the *telline* and the

(TAV. 3, 34), of gr. 0,63, characterized on R/ by the four-spoked wheel, on D/ by an open bivalve shell. Even if for the typological aspect the attribution to Italian Kyme might seem probable, metrological reasons counsel prudence.

To the Magna Graecia or Messinese area seems to belong a small coin, which before ending up in an auction catalog[49] I had noted at Catania, which (TAV. 4, 35) presents on R/ a shapeless incuse, on D/ a bull protome, with large horn, on left within a circle of detected pearls. Generic the comparisons with some Auriol type[50] or with the head of the Sybaritic bull. The weight seems to orient toward the system of the Attic obol or of the Sicilian litra: it is better to wait for more certain elements.

The *hexas* appears to be the most dynamic denomination of Sicilian *kerma*, since it connects by integrating now with the *obolos*, thus constituting a *litra*, now with the *pentonkion*, which is a *hemiobolion*, now with the *hemilitrion* or with the *tetras* (thus at Katane, deprived of the *pentonkion*, and in Syracuse from about 425 BC). H. Küthmann[51] has acutely referred to Gela, for which was known to G. K. Jenkins only the *hexas*, characterized on D/ by a small horse protome, a *pentonkion*, of gr. 0,209, whose D/ presents a horse protome entirely corresponding (TAV. 4, 36): another specimen discovered by me in a private collection weighs gr. 0,26 (TAV. 4, 37). In reality the type of the horse protome reveals the direct connection with the first issue of *litra* of the Geloi, characterized precisely on D/ by the horse within a beaded circle (nrr. 244 sgg., Jenkins). In the case of Gela, as appears evident for the *obolos* of the Leontinoi (frontal lion head/grain), the connected *hexas* and *pentonkion* allowed the recovery in circulation of the *litra*, issued successively, of the preceding *obolos* connected in the latest series to the weight of the *litra*. In conclusion, the *hexas* reveals each time a necessity of weight compensation or adjustment between two or more denominations (the lower also in more specimens) with scarce intermediate. Thus various combinations were obtained, from which always resulted an alignment with the *litra* or with the *obolos*, now at nominal value, now at real value. There occurred at the same time the transition from an "Attic" tendency orientation to a decidedly "Sicilian" one, with the predominance of the *tetradrachmon* and of the *litra*, to which corresponded a price rise in the local market, for example of the *medimnus* of barley, which from an *obolos* passed to a *litra* (see ahead to note 68).

Also at Akragas to the rare *hexas*, of the type Salinas, tav. VII 33, is paired the *pentonkion*[52]: at TAV. 4, 38—39 are reproduced two specimens, one of gr. 0,112, the other from the Staatl. Münzsammlung München of gr. 0,213. The same has been verified recently for Kamarina, for which have emerged at the same time *hexas* and *pentonkion*, with the type of the swan on D/[53]. The association of the two denominations is found for the Leontinoi in at least two series, that with frontal lion on D/ and the other with crowned head or less of Apollo, more recent, while for the third, with leonine head, only the *hexas* is known up to now next to the *hemilitrion*, both

konche (famous those of Messana: Archestr. Gel., fg. 50 R = Athen. 92 d—e; Polluc., on. VI 63), cf. D'Arcy Thompson, op. cit., 259; 18. For the corresponding typology of the coinage of Italian Kyme, cf. R. Garrucci, Le monete dell' Italia antica, Roma 1885, 81, tav. LXXXIV 16.

[49]Dorotheum, 2. Sonderaukt., April 1983, 103 gr. 0,66.

[50]Cf. A. E. Furtwängler, Monnaies grecques en Gaule, Le trésor d'Auriol, Fribourg 1978, 234 Tav. 29.

[51]Münchner Jahrb. bild. Kunst, 32, 1981, 209, nr. 4 gr. 0,209 (TAV. 3, 35), comparable with K. Jenkins, The Coinage of Gela, Berlin 1970, 49; 219 nrr. 199—202 (add SNG ANS 4 Sic. II 326, gr. 0,06, erroneously ascribed to Messana). The *pentonkion* S at Tav. 8, Chr. Boehringer, Katan. Probl., cit., rather than to the Leontinoi is attributable to Gela!

[52]Salinas, op. cit., Tav. VII 31—32; P. Orsi, AMIIN IV, 1921, 9; SNG, Leake 915 gr. 0,32; Lloyd 814 gr. 0,15. At Cab. des Med., Paris, F. G. 71—72, gr. 0,30 e 0,19.

[53]Cf. NAC XI, 1982, 49.

characterized on R/ by the barley grain among the globules[54].

Syrakousai in the earliest, Epicharmean phase, has known the same association of *hexas* and *pentonkion* — of this latter a specimen of gr. 0,30 and another, from München, of gr. 0,237 are reproduced at TAV. 4, 40—40 a[55] — while later, in years close to 420 BC the same presents *hexas* and *tetras* in two different series, one of the "wheel" with *hexas*, *hemilitrion* and *litra*, the other of the "octopus" with *tetras* and *litra*: sign of a convergence with the Etneo-Katanese monetary area[56]. Of the first series are reproduced two specimens of *hexas*, one of gr. 0,128 and the other of gr. 0,096, a *hemilitrion* of gr. 0,312 and a *litra* of barely gr. 0,44 at TAV. 4, 41—42, 43—44; of the second three *tetrantes*, one with head on right, preceded by the legend Συρα, of gr. 0,215 at München, another corroded of gr. 0,11 with head on left and a third of gr. 0,204 with head on right, among the letters Σ on left; Y on right (TAV. 4, 45—46—47).

The pairing of *hexas* and *tetras* occurs also at Naxos, for which various *tetrantes* have emerged[57] and also a *hexas*, which is known to me also from a photograph (TAV. 4, 48): the head, which like that of Dionysius, of the D/ and the type of the R/, comparable with that of a bronze issue[58], ensure the attribution.

For Himera the *hexas* was known, characterized on D/ by the astragalus, which recalls the drachma of the "Akragantine type" series[59], of which is reproduced the specimen from München, of gr. 4,224 (TAV. 4, 49). Now has emerged the *pentonkion*, of which a specimen of gr. 0,31 is published at TAV. 4, 50, characterized on R/ by five globules within a linear circle, on D/ by a bearded head, turned right, with forehead adorned by a small horn, within a circle. Style and typology bring back to the "hoplitic" series of Himera, which presents on D/ a helmeted head and on R/ now a helmet, now two greaves and the legend[60], of which the most common variant, also *litra*, offers on D/ a bearded and crowned head, on R/ a Corinthian helmet surrounded by the legend[61]: that reproduced at TAV. 4, 51, of gr. 0,555 is interesting precisely for this latter.

To the same Himera should certainly be attributed the *tetras*, which on D/ presents a bearded head, with wild ear, striated and pointed, surmounted by an arched horn curved behind to the neck, turned right, of gr. 0,192 (TAV. 4, 52). Of it a variant, with head on left, goat ear, is known to me in two specimens, one of gr. 0,171 (TAV. 4, 53) and another at München of gr. 0,151 (TAV. 4, 54). The type of the D/ in my opinion constitutes a simplified version of the monstrous head, with long projecting horn, to which is connected a wing surmounted by a large rooster tail — variant of the *hippalektryon*[62], which then becomes popularized as *gryllos* — of the Himeran *litra* (TAV. 4, 55), on whose R/ figures the naked hero on horseback of the goat, whom I have identified with Leukaspis[63]. Precisely the head of this goat returns on the D/ of an anonymous *hexas*, to be certainly ascribed to Himera[64], of which I present a specimen of gr. 0,14 (TAV. 4, 56). In

[54]Boehringer, Katan. Probl., cit., tav. 8.

[55]Cf. SNG Lloyd 1303 gr. 0,19; Ashmol., 1944 gr. 0,25.

[56]The *kerma* of the Katanaioi must correspond chronologically to this Syracusan one, articulated on the same values: see note 45.

[57]Münzen u. Med., Liste 373, 20—22; 406, 46—47.

[58]Münzen u. Med., Liste 395, 12 gr. 0,13.

[59]BMC Sic. 78, 30 gr. 0,0769; K. Jenkins, Atti II Conv. Napoli, 1969, 26 e Tav. II 8; Dorotheum, Sonderaukt. 1982, 74 gr. 0,11 (*hexas*).

[60]BMC Sic., 80—81, 45—47; SNG Llyod 1030; Münzen u. Med., Liste 443 (1982), 7 gr. 0,49.

[61]Münzen u. Med., Liste 406 (1978), 22 gr. 0,56.

[62]Cf. J. Dörig, Ιουδὸς ἱππαλεκτρυών, La monture fabouleuse d'Okeanos, Mus. Helv., 40, 1983, 140 sg.

[63]Cursoriamente in Atti IV Conv. Napoli, 1973, 55.

[64]Münzen u. Med., Liste 406, 62 gr. 0,13: the ivy leaf alludes to the Dionysiac cult, in which Tychon should also be framed.

conclusion on the illustrated *tetras* is figured always Tychon, the demon of Fortune — whose name in "red" alphabet letters is read before the rooster in series VII, Kraay of the archaic *drachmai* of Himera[65] — who in the *litra* appears in his hybrid nature of rooster and androprosopic goat.

An interesting variant of the very rare *tetras*, a quarter of *obolos*, of the latest archaic series of Himera, compared to those edited by Kraay (tav. 15, nr. 306), is represented by the specimen at TAV. 2, 7, of gr. 0,191, characterized on D/ by the hen on right, and on R/ by a four-spoked wheel stylized, with three rods (signs of value?) within each of the spokes.

To Himera should otherwise be referred a *hemilitrion*, of gr. 0,33, on which (TAV. 5, 57) on D/ is figured the monstrous head of Tychon, on R/ a barley grain among six globules.

The appeal to the prototype of the Leontinoi is obvious, which has found numerous imitations. I can recall new examples and precisely:

I°) A *tetras* of gr. 0,16 (TAV. 5, 58), with feminine head on right on D/, a barley grain among three globules on R/, which by style seems to bring back to the Punic area;

II°) A *pentonkion*, characterized on D/ by a feminine head three-quarter, on left, and on R/ by a barley grain among four globules, which G. K. Jenkins has attributed to Motya[66], of which I publish a specimen of gr. 0,232 and another of gr. 0,29 (TAV. 5, 60—61);

III°) Another *pentonkion*, with young man's head on right, adorned with small horn on the forehead on D/ and on R/ a large barley grain among four globules, which is known to me in three specimens, one of gr. 0,246, a second of gr. 0,311 and a third of gr. 0,27 (TAV. 5, 62—63—64).

Of this latter I believe one can propose the attribution to Gela, another great city producing barley and wheat in the 5th century BC, which on the R/ of tetradrachms and didrachms and then on *tetrantes* and *onkeiai* of bronze has presented the youthful head of the Gelas, often accompanied by the symbol of the grain[67].

Faced with this recurrence of the type it occurred to me to ask if it, beyond the celebration of the grain production of the citizen *chora*, might not by chance also indicate the official price of barley. This seems evident for the *kerma* of the Leontinoi: the barley grain, indeed, besides surrounding the leonine head in the larger denominations, characterizes the R/ both of the *obolos* and of the two *litra* issues[68]. Indeed, granted that the *litra*, which contains twelve *onkeiai*, corresponded to the price of a *medimnus*, which contains twelve *hemihekta*, the *hemilitrion* issued with the same type by the Leontinoi and by the Himeraioi should mark the price of six *hemihekta* of barley, the *pentonkion* at Gela and at Motya (?) that of five, the *tetras* in Punic zone of three (that is a quarter of *medimnus*, about Kg. 10 of barley), and finally the *hexas* for the Leontinoi the price of two *hemihekta*.

On the other hand, *kerma* especially in *litra* values has had wide fortune also in cities of Sicily controlled by Carthage, like Entella[69], Eryx, Hipana, Motya, Nakona and Panormos[70].

[65]Atti II Conv. Napoli, cit., 13. Cf. now C. M. Kraay, The archaic Coinage oh Himera, Napoli 1984, 77: the late Author does not agree with the religious interpretation I proposed. The abbreviation ΛV, the most frequent, should be developed into Λυ(χαῖος), very likely epithet of Dionysos.

[66]Coins of Punic Sicily, SNR 50 (1971), 74 nr. 7 gr. 0,25, Tav. 23, 7 (Museo di Mozia) (TAV. 5, 59).

[67]K. Jenkins, The Coinage of Gela, cit., 255 sg., 271—272.

[68]Cf. note 54. In the same sense could be interpreted the *litra* of Morgantina (SNG Lloyd 1124), with bearded Zeus head, with hard features, on D/ and on R/ a grain spike within the retrograde legend, which however should not be dated too high (about 465 BC for K. T. Erim, Atti IV Conv. Napoli, cit., 69 sg. e Tav. I 1). At Paris, as I was able to note thanks to the courtesy of Mad. Nicolet and Dom. Gerin, 4 specimens are preserved: Coll. de Luynes 1035; F. G. 840—841; Chandon de Briailles 240, gr. 0,75. The specimen at TAV. 5, 65, weighs gr. 0,58.

[69]A variant of the *hemilitrion*, Salinas tav. XXI 28, in private collection, of gr. 0,38 at TAV. 5, 66.

[70]For these five cities a common typology is noted: cf. BMC Sic. 239; 115; Atti IV Conv. Napoli, cit., tav. XX 8; 11. Jenkins, SNR 50, 1971, tav. 23—24.

To this latter can perhaps be attributed a small silver coin of gr. 0,66 (TAV. 5, 67), with Akragantine-type eagle on left on D/ and three dolphins in circle around a mollusk(?) and a Greek Pi on R/, and two *tetras* issues, still datable to the end of the 5th century BC: one with bearded and horned head (Pan) on right on D/ and on R/ the letters ΠΑΝ divided among three globules, of gr. 0,16[71] (TAV. 5, 68), the other of gr. 0,18 (TAV. 5, 69), with horned head on right, youthful, preceded by the letters ΠΑΝ and on R/ three globules, among which are detected an ivy leaf, a berry and a cross sign. Always to the same Panormos belongs perhaps a *pentonkion*, definable as such by the weight of gr. 0,25, characterized on D/ by feminine head on right within beaded circle, on R/ by a large Greek Pi left-facing (TAV. 5, 70), which can be interpreted as initial of the ethnic, as at Akragas and Rhegion[72] and perhaps in the specimen at TAV. 5, 67, rather than of *pentonkion* value[73].

Still to Punic area could be brought back the *pentonkion*, of gr. 0,25, characterized on D/ by a club (TAV. 5, 71).

Of the influence exercised by the Kimonian model, already noted on the famous tetradrachm of Segesta[74], new evidence has emerged. Thus, on the D/ of a new small silver coin dominates a feminine head, figured from the neck upward frontally, with face slightly turned to right (of who looks) and with hairstyle gathered at the two sides of the *ampyx*, which projects at the center; on R/ appears a four-spoked wheel, each of which terminates in a cross and among which are distributed four globules, which with that at the center suggest it concerns a *pentonkion*. The traditional type of the Syracusan *obolos* is now employed to indicate the value of this, which is in reality a *hemiobolion*. The specimens known to me, one of gr. 0,228 and another of gr. 0,21 (TAV. 5, 71—72), besides a third of gr. 0,27 not photographed, present an average of gr. 0,236, which remains within the limits of the *pentonkion*[75].

In the absence of legend, unless another specimen emerges that contradicts it, the attribution to Kamarina must remain only a good hypothesis. The die engraver arrived at a "prospective" solution analogous to that realized on the R/ of the famous "Kimonian" tetradrachm of Segesta[76] (TAV. 5, 74): he unfolded the hairstyle and operated a torsion to the right of the head, which thus almost silhouettes itself in the open air. Obvious, apart from the undeniable influence exercised by the Kimonian tetradrachm of Syrakousai (TAV. 5, 75), the stylistic difference both from Euainetos, who also realized and signed the Kamarine die of the didrachm with the frontal head of Hipparis[77] (TAV. 5, 79) and from the die engraver of the R/ of the connected Kamarine drachma[78] (TAV. 5, 76).

[71] Münzen u. Med., Liste 443, 17 gr. 0,16.

[72] Salinas, cit. tav. VII 35 gr. 0,32, a *pentonkion* to be connected with the *hexas*, VII 33. For Rhegion, see notes 46—47.

[73] This is perhaps verified for the specimen of Kroton, SNG Cop., Italy 1816 gr. 0,36, which rather than *obol* could be defined *pentonkion*, indicated by the monogram Π of the R. Is it possible that Kroton linked up for fractions with the Sicilian area? See ahead to note 120.

[74] L. Mildenberg, Kimon in the manner of Segesta, Actes 8ème Congrès int. de Num., 1973, Paris-Bâle, 1976, 113—121. Experiments of frontality naturally precede Kimon: at Segesta (Mildenberg, tav. 10; SNG Lloyd 1191, 1193—4; Coll. Jameson 715; Lockett 854), Gela (Jenkins, The Coinage of Gela, tav. 38, 13), besides that at Syrakousai, Katane, Selinunte (Jenkins, cit., 84 sg.; Mildenberg, 118).

[75] Cf. NAC XI, 1982, 49.

[76] See note 74.

[77] U. Westermark - G. K. Jenkins, The Coinage of Kamarina, London 1980, 62 sg., 200 sg., tav. 25. The celebration of the coinage of the small river Hipparis is well justified: also Pindar (ol., V 10—14, of 456 BC) notes, as premise for the urban flourishing of the city recently refounded (in 461 BC), the derivation in the houses of the water of the Hipparis through the "sacred canals" (ὀχετοί) (cf. Encicl. Virgiliana, Treccani, s. v. Camarina).

[78] Westermark-Jenkins, cit. 205.

This *pentonkion*, from the metrological point of view, fits admirably next to the *hemidrachmon* with the head on left of the nymph Kamarina on R/[79] (TAV. 5, 77): the connected *litra*[80], indeed, could be exchanged only with the *drachma* and the *didrachmon*, not already with the *hemidrachmon*, which is in reality a *triobolon*, which in the *pentonkion* finds a suitable submultiple.

Another evidence of Kimonian fascination mediated by the Kamarine interpretation offers a *hemilitrion*, emerged recently, which presents on D/ a head in prospect, turned left, of river divinity (the forehead is crowned by two horns and the hair appears in humid curls), and on R/ an *aphlaston*, with the point on right, which recalls that of the bronze *hemilitria* of Lipara, of the first heavy series[81]. Above the same, surmounted by three globules, are read left-facing the letters IИ, which are completed below the *aphlaston* in circular sense, right-facing but inverted, in KⱯ, inserted after the first and the second of three other globules: there results the reading Νίκα and the indication of *hemilitrion* value.

I can offer the illustration of a specimen of gr. 0,379 and of another of gr. 0,38 (TAV. 5, 78—78 a); of two others, one of gr. 0,37 and the other of gr. 0,39 I was able to take only fleeting vision. On the finest, to the right of the head, I detected from bottom to top three certain letters ΣIX, followed by some other sign, perhaps I̱Λ̱ or Α̱. Consequently I remained in doubt between ΣIXI̱Α̱ or ΣIXΑ̱.

The positioning of the frontal head, turned slightly to the left, evokes that of Hipparis from the D/ of the *didrachmon* of Kamarina, coin 163 W.-J. (tav. 79), connected for the R/ with the other signed by Euainetos[82], and attributable to a pupil of talent.

The R/ of the new *hemilitrion* celebrates a naval victory: the *aphlaston* surrounded by Nike takes up the motif of the R/ of the *hemidrachmon* (*triobolon*) of Himera, on which surrounded by the legend NI-AⱭ appears a Nike flying to the right, which in her right hand holds an *aphlaston*, to which a ribbon is tied[83].

The legend on the D/, also due to uncertainty of reading, poses a problem: abbreviation of ethnic or signature of engraver?

I would exclude that it could be an anthroponym, strange in the case of a reading Σιχια, explainable in the case of Σιχα, that is Σιχᾶ[84]. What ethnic could be proposed Σιχια(νινῶν) or Σιχα(νινῶν). This last form, if confirmed, could be explained by calling upon the toponym Ἴχανα and the ethnic Ἰχανῖνοι, attested for an obscure small *polis* of Sicily[85].

While awaiting to resolve every reservation, it is worth trying to establish to which historical event, in which a naval victory had a significant role, this *hemilitrion* of undoubted Camarinian

[79]Ib., 207.

[80]Ib., 208 sg.

[81]Atti VI Conv. Napoli, cit. 102.

[82]Westermark - Jenkins, cit. 62 sg.

[83]BMC Sic. 80, 37 sg.; S. Boutin, Catal. Coll. Pozzi, Maastricht 1979, nr. 1041 gr. 2,09; SNG Lloyd 1023—24; Fitzw. Mus., Leake 1028 etc. The type returns to Himera on bronzes, and in the *drachma-hemidrachmon-litra* series in the figure of the Nike flying at Kamarina. For the *aphlaston*, cf. my art. in Atti VI Conv. Napoli, 1977 (Suppl. AIIN 25, 1979) 102 sg. Very little in R. Lonis, Guerre et Religion en Grèce à l'époque class., Paris 1979, 251.

[84]On a bronze tablet at Himera ΣIXA (Kokalos XX, 1974, 270 sg.). The comparison with the lycian (!) Σικα is aberrant: the name connects with the verb σίζω (I hiss). Cf. Σιχάοης, name of a *mantis* at Sparta (IG V 1, 210, 43; 212, 54) (Glotta IV, 1912, 321).

[85]It would be another case of alternation with and without initial *sigma*, like Σέγεστα / Ἔγεστα, Σεργέτιον / Ἐργέτιον, Σίπανα / Ἴπανα. Cf. Historia, XIII 1964, 434 n. 119; E. Manni, Kokalos, VII 1961, 122 sg. For Ichana, cf. RE IX 1 (1914), 821; E. Manni, Geografia fisica e politica della Sicilia antica, Roma 1981, 189; 37—38 (to observe that *Yppanenses* and not already *Ichanenses* is read in the codices of Plin. n. h. 3, 8, 91. The same error in M. Lombardo, ASNP XII, 1982, 1092).

inspiration and Himerean coinage could allude: one is immediately led to think of the years of the Athenian expedition in Sicily (415—3 B.C.), which ended up involving almost all the Greek cities and those of ancient Siculan origin from one side or the other.

For the Doric form Νίκα on the R/ the *hemilitrion* must have been issued by a non-Chalcidian center, most likely by one of those of Siculan origin and Dorized, and in any case deployed alongside Syracuse, which ended up having the support not only of Himera, Selinunte, Kamarina and Gela, but also, especially following the death of Archonides the Old, ancient and faithful friend of Athens, of some Siculan centers[86].

In the *naumachia* fought before the Porto Grande of Syracuse in 413 B.C. Syracusans and allies defeated the Athenians, who had always boasted of their superiority at sea and who had already defeated the Syracusan fleet[87]: it happened thus to the former «to increase by conquering each their own fatherland»[88] and to celebrate the victory by raising a trophy, after having taken control of the routed ships and having collected the dead[89].

Among the allies of Syracuse proud of the victory must be found those who issued the *hemilitrion* celebratory of the νίκα, with the symbol of the *aphlaston* — the stern ornament curved toward the prow, which fluttered like a banner and which was a trophy of war, allusive to the ναυάγια Athenian — on the R/ and on the D/ the head in frontal view of the river god, perhaps eponym of the city, 'in the manner of Kamarina': provisionally I would call them Sichianinoi /Sichaninoi, if not rather simply Ichaninoi.

If this connection of the *hemilitrion* illustrated with the naval victory before Syracuse in 413 B.C. is accepted, there follows a certain raising of the chronology of Kimon and of Euainetos and of their frontal creations to 413—12 B.C.

The years that precede the Athenian invasion, at least the period 424—415 B.C., have marked a flourishing of the *kerma* also in the Chalcidian cities.

On this subject I can present a new issue of Himera, of gr. 1,005, which (TAV., 80—80 a) presents on the D/ a head of nymph, preceded by the legend Ἱμερα, to the right, on the R/ a protome of lion, with open mouth and hanging tongue, to the right, surmounted by a sprig of ivy. Profile and hairstyle of the nymph evoke the features of Aretusa on the R/ of *hemidrachma* Syracusan, referable to Euainetos and Eukleidas (TAV. 5—6, 81—82—83), taken up on coins of Kamarina[90], in which the head of the nymph is preceded by the legend Καμάρινα (TAV. 5, 77). The leonine protome to the right of the R/ suggests the speaking stem of the coinage of the Leontinioi, on which it normally appears turned to the left[91]: this inversion could be indication of the dependence of the Himerean coin from a coin-model of the Leontinioi.

It could be a case of an issue of *sympoliteia*, to be placed alongside the *hemidrachmon* issued in the name of the Katanaioi and the Leontinioi[92]. The singularity of the weight, gr. 1,005 can be explained as half of the *hemidrachmon*, which is a *triobolon*, present, besides at Katane-

[86]Thuc. XII 1, 4—5.

[87]Thuc. VI 12 sg.; VII 63, 4; VII 23, 3; 73, 1 sg.

[88]Thuc. VII 70, 7: τὴν οἰκείαν ἕκαστους πατρίδα νικήσαντας ἐπαυξῆναι.

[89]Thuc. VII 72, 1: οἱ Συρακόσιοι καὶ οἱ ξύμμαχοι ἐπικρατήσαντες τά τε ναυάγια καὶ τοὺς νεκροὺς ἀνειλοντο καὶ ἀποπλεύσαντες πρὸς τὴν πόλιν τροπαῖον ἔστησαν. For an analysis of the sources, cf. U. Laffi, Kokalos XX, 1974, 18 sgg.; D. Kagan, The Peace of Nicias a. the Sicilian Expedition, Ithaca-London 1981; G. Bruno Sunseri, Kokalos, 28—29, 1982—83, 56 sg.

[90]Westermark - Jenkins, The Coin. of Kamarina, cit. 78: the illustrations at TAV. 5, 81—82—83, derive from tav. 30!

[91]Cf. ad es. SNG Lockett 800; SNG Lloyd 1056; 1069 etc.

[92]Chr. Boehringer, Atti VI Conv. Napoli, cit. 152. Another case is to be found in the *litra* in Münzen u. Med., Liste 384, 6 (see AIIN 21—22, 1974—5, 33).

Leontinioi and at Himera (that with legend Νίκα mentioned above), at Syracuse, Naxos, Stielana and Kamarina: therefore a nominal corresponding to the Athenian *triemiobolion*[93], which reveals a decisively Attic orientation of the issuing center, Himera in agreement with the Leontinioi. In the context it is perhaps to be placed a small silver coin, of gr. 1,15, if the weight communicated to me is exact, characterized on the D/ by a small horned head to the right, with a small branch behind and traces of letters IXA on the front, on the R/ by a round altar, with flames lit, on legs, between a leonine fountain mouth to the right and three small spheres to the left. It is hoped that it will be published soon and the mint identified.

Worth being noted, even if I can present only a worn specimen, of gr. 0,348 barely, which should be a *hemilitrion*, is the silver coin, published (TAV. 6, 84) over a century ago as from Katane by the scholar C. Gemmellaro[94], which presents on the D/, surmounted by a small branch, the figure of the boar to the right, below which seem to be noted traces of the letters ABA, which complete on the R/ in KAI within an olive crown (TAV. 6, 84 a—84 b). If for the D/ it recalls the typical R/ of the *litrai* of Abakainon, of which the most widely attested presents on the D/ the head of Zeus girt by an olive crown, for the R/ it evokes that of the noted *litra* — *obolos* for some (SNG, Oxford 1853) — of Messana, of the type reproduced at TAV. 6, 85.

This typological connection is explained in consideration of the natural gravitation of Abakainon also toward the Messenian area, although the style of the coins and the monetary discoveries at Naxos and at Civita (Aitna-Inessa) reveal more solid connections to the Etnean area. Through Abakainon (Tripi) the vast Etnean territorial complex controlled by Katane, which together with Naxos still held until the last decade of the 5th century B.C. the outlets to the sea, reached the Nebrodi and connected to the north with Messenia.

Of the economic predominance of Katane in the Etnean area in the second half of the 5th century B.C. the issues of Piakos in bronze are evidence, known in the denominations of *hemilitrion*, *tetras* and *onkia* (this last still unpublished, with only the dog on the R/), referred by G. E. Rizzo to the Catanese „Maestro della foglia", active also for the Leontinioi[95], and in silver. Recently a silver *hemilitrion* has emerged, known to me in three specimens, one at München of gr. 0,337 (TAV. 6, 86), one in Swiss coll. of gr. 0,23 (TAV. 6, 87) and one known only from the photograph (TAV. 6 88). From this last it results clear on the D/, before the head of the nymph to the right, the legend ΠΙΑΚΙ, repeated on the R/ above the half bull with feet in motion, to the right. On the other two specimens, of the same die, the legend is missing on the D/, of which some trace is found on the R/ of the München specimen. An undoubted typological analogy connects this *hemilitrion* with the *litra*, of gr. 0,72, published by G. K. Jenkins[96], of which a second specimen (TAV. 6, 89) appeared in a catalogue[97]. On the D/, within a circle of pearls, appears the head of the nymph to the right, preceded by the legend Πιακίνος (which in the second specimen results Πιακίνων!), on the R/ a horned bull to the right on a line of exergue, which encloses a fish, and above the legend

[93]Cfr. RE VII A 1 (1939), 142 sg.

[94]Cenno sopra di una moneta antica d'oro e di una di argento inedite, Catania 1854, 12 e Tav. annessa (I came to knowledge of this article during a visit to the ancient library of the passionate bibliophile Dr. Attilio Bruno, of Catania). For the issues of Abakainon one naturally refers to A. Bertino, Atti IV Conv. Int. Numism. Napoli, 105 sg. The specimen of Messana reproduced at Tav. 85, from Münzen u. Med., Liste 353, 8, gr. 0,70. [Cf. now D. Bérend, Réflexions sur les fractions du Monnayage grec, Festschr. Leo Mildenberg, Wetteren 1984, tav. 2, 2 gr. 0,24].

[95]Cfr. ora Chr. Boehringer, Atti VI Conv. Napoli, cit., 165 sg.

[96]Schw. Münzbl. 46, 1962, 17 sg. e ancora Atti IV Conv. Napoli, cit., 90.

[97]Bank Leu, Aukt. 22, 1979, 29 gr. 0,62. Another specimen, seen by me in the antiquarian market, presented on the D/ clearly the legend ΠΙΑΚΙΝΩΝ, and on the R/, above the bull, ΑΔΡΑΝΟΣ. The river Adranos is not connected with the dog, as later the homonymous god.

AΔPAN (indistinct in the other specimen). Jenkins found in it „eine Gemeinschaftsprägung" between Piakos and Adranon, issued after the foundation of the second, which occurred in 400 B.C.[98].

I believe that this interpretation should be abandoned, unless one admits the existence of a Greek Adranon even before the Dionysian foundation[99]. It remains significant that also the *hemilitrion* presents a legend on the D/ and one on the R/: the first should be valued as ethnic, Πιακί(νων), the second should designate rather the eponymous river god, personified in the half bull (also indicative of the value of half *litra*), Πιακί(νος).

Similarly on the R/ of the *litra* the river Ἀδρανός is celebrated through the personification of the horned bull, which appears on bronze coins of the Greek Adranon: up to the banks of the same, which constituted a tributary of the Symaithos[100] and certainly collected the waters of the small river Piakinos, then the lands of the Piakinoi must have extended. It was certainly at the expense of the territory of these last that in 400 B.C. Dionysius I founded, perhaps also absorbing the *kome* connected to the venerated Siculan sanctuary of the god Adranos, his Adranon, whose presence quickly exhausted every autonomy and economic force of the small centers of the context, certainly of Chalcidian culture, Piakos included.

Another center, whose political identity was suffocated by the spirals of Dionysian imperialism, is that of the Stielanaioi — Στιελαναῖοι, in Doric Στια(λαναῖοι), as one reads on the silver coins[101] — who cannot be connected with the toponym indicated in the literary tradition, that is in Stefano Bizantino[102] and in a papyrus fragment of the Syracusan Sofrone[103], as Στύελλα, to be corrected to Στίηλα[104]. The same should arise in the territory of the Hyblaioi, who placed at the back of ancient Megara (Hyblaia) could well be defined Megaris, but had achieved Hellenization through Chalcidian influences: the two silver issues are evidence of this, on which two small rivers are celebrated, who made fertile the *chora* of the Stielanaioi, most likely the Alabon and the Mylas. The more ancient, illustrated by a specimen of gr. 0,75 at TAV. 6, 90, reflects on the D/ the type of the *litra* of the Leontinioi, with the young man standing, nude, turned to the right, who holds in his left hand a large rod and with his right pours libation on an altar, while on the R/ it presents an anthropomorphic half bull to the right, around which from the bottom in clockwise direction runs the legend Στιελαναίον[105].

Similarly, the successive issue, characterized on the D/ by the head of the river god (rather than Apollo) to the right, preceded by a small branch, and on the R/ by the symbolic half bull to

[98]Schw. Münzbl. 46, 1962, cit., 18.

[99]A pupil of the course, M. Cultraro has pointed out to me his art., Adranon. Cosa conosciamo sull' Adranon che precedette l'arrivo di Dionisio il Vecchio, in Archeologia, Mensile dei gruppi archeologici d'Italia, XXI, 35 n. s., Nov. 1982, 10—11.

[100]RE IV A 1 (1931), 1073.

[101]G. E. Rizzo, Monete greche della Sicilia, Roma 1946, 58; 276, Taw. LX 17.

[102]Steph. Byz., s. v. Στύελλα · φρούριον τῆς ἐν Σικελίᾳ Μεγάριδος · τὸ ἐθνικὸν Στυελλῖνος e ancora s. v. Ὕβλαι; (at the end) μία δὲ τῶν Ὑβλῶν Στύελλα καλεῖται, ὡς Φίλιστος δ' Σικελικῶν (FGrHist 556 F 20; Komm., 508; Noten, 302 n. 101, where the monetary legend is incorrect, but P. Soc. It., 1214 is cited).

[103]P. Soc. It. XI (1953), 1214 c. For A. Olivieri, Framm. della Commedia² II, Napoli 1947, 67 sg., who attributes the fragment to the Akestriai („Le medichesse"), there would be an allusion to a character, who comes ἐκ Στύελλας (reading Στίελας the play on words is clearer) and who caught by diarrhea (τίλος) knocks at the door.

[104]K. Ziegler, in RE Suppl. VII (1940), 1232—36, where the article by S. Mirone, Stiela, Topografia e Numismatica, ZfN 38, 1928, 29—55 is discussed at length — with an unacceptable identification of the site at (Portiera) Stella, 20 Km. from Catania — deliberately ignored by G. E. Rizzo, op. cit. Cf. also L. Bernabò Brea, in Atti IV Conv. Napoli, cit., 49 sg.; G. V. Gentili in N S, 1954, 385. E. Manni, Geogr. fis., cit., 226 sg., after having acutely noted that the ethnic Στιελαναῖον refers back to a form Στιελάνα, would however want to detach it from Στίελα (Στύελλα).

[105]Cf. Rizzo, cit., tav. XXIII 17; LX 17; LXIV 2—4; LIX 14.

the right, on which stands the abbreviated legend ΣΤΙΑ, which in some specimens results ΣΤΑ (the *iota* inscribed in the *tau*, in some coins inserted as correction)[106], refers back to the Leontine-Catanese model of the „Maestro della foglia" and to that of Assinos of the *hemidrachmon* of Naxos[107].

To the series of *drachma*, *hemidrachmon* and *litra* hitherto known[108] recently has been added the *hemilitrion*, with the same types and from similar dies, characterized on the R/ by the legend ΣΤΙ: I can present the specimen from München (TAV. 6, 91), of gr. 0,355, from the same die pair as that published by Cahn[109].

The population of Stielana, as the form Στια(λαναίων) on these issues reveals, around 420 B.C. had become Dorized. Undecided must remain the attribution of a silver *litra* of gr. 0,481, somewhat worn, emerged recently, characterized on the D/ by a large Apolline head to the right, and on the R/ by two large laurel leaves (TAV. 6, 94). It also appears devoid of legend. One is led to think of the „Maestro della foglia", whose activity seems exclusively dedicated to pro-Athenian centers, like Leontinioi, Katane, Naxos, Piakos and Stielana itself for the preparation of dies for silver and then for bronze. He must have moved above all between Leontinioi and Katane. The mint of the former, which ignores experiments in frontality and signing masters, must have been closed shortly after the Athenian defeat of 413: the *tetradrachma* with the leaf on the R/[110] and the *tetrantes*/ *onkiai* in bronze represent the last work. The mint of Katane, whose autonomy must have been reconstituted through the merit of its pro-Syracusan party, active even if still powerless in 415—413 B.C. (Thuk. VI 50—51; 64—65), instead resumed striking coins at least until 402 B.C.[111].

A further example of the progressive extinction of the Ionic dialect before the growing Doric pressure, of which Syracuse was the powerful generator alongside the Messenian groups, who by now controlled the north-eastern zone of Sicily, is given to verify for the center of Longene (Longane). On the caduceus of the British Museum[112] one reads Λουγεναῖος ἐμὶ δεμόσ(ιος) (TAV. 7, 95); on the D/ of the silver *litra*, of Dionean age, which is illustrated here with the specimen of gr. 0,731 from the British Museum (BMC Sic. 96, 1) (TAV. 7, 96—96 a), before the head of Herakles to the right, from bottom to top, in capital letters ΛΟΓΓΑΝΑΙΟΝ. On the R/ is figured the youthful head with horn, certainly the Longanos, eponym of the city, to be found in an area near Mylai[113].

Apart from the legend, to be understood no longer as ethnic in the genitive plural with long O, which would be obvious still in the 5th century B.C., but rather as neutral adjectival form, to which

[106]Cf. BMC Sic. 144; SNG ANS 4, Sic. II 748 gr. 1,54 (*hemidrachmon*) with *iota* inscribed between the last two letters.

[107]Rizzo, cit., tav. XXIV 10; 12; XII 6 sgg.; XXVIII 22—29.

[108]Insufficient R. Holloway, Atti IV Conv. Napoli, cit., 142 sg.; better illustration in Mirone, art. cit., tav. III e in Rizzo, cit., tav. LX 15 sg.

[109]Münzen u. Med., Liste 406, 61 gr. 0,39. Another specimen of gr. 0,412 and one of *litra*, burnt, of gr. 0,50, both with legend ΣΤΙ at TAV. 6, 92—93.

[110]Rizzo, cit.tav. XXIII 22; SNG ANS, 4, Sic. II 256—7; 239—241.

[111]Cf., for the rehousing of Ognina, Chr. Boehringer, SNR 57, 1978, 134 sgg.

[112]IG XIV 594; Jenkins, Atti IV Conv. Napoli, cit. 101 e tav. XI.

[113]Rizzo, cit., 64 sg.; Jenkins, art. cit., 100 sg.; L. Bernabò Brea, Atti IV Conv. Napoli, 6 sg. Manni, Geografia fis. cit. 197 has proposed to distinguish Longane from Longone (sic!) recorded in Steph. Byz. (Philistos, F Gr Hist, 556 F 38): it must be a graphic variant, or at most phonetic, of the same toponym! The *litra* at TAV. 7, 96 from the same die pair as that in J. Babelon, Cat. Coll. de Luynes, I, Paris 1925, 1005 gr. 0,75 (TAV. 7, 97). Cf. also Coll. Jamesson, 637; Bank Leu, Aukt. XXII, 25; Dorotheum Sonderaukt. 2, 98; Paris, Cab. des Méd., F. G. 690 gr. 0,66 (TAV. 7, 97 a).

is to be understood κόμμα/ἀργύριον[114], typology and style suggest a dating around the middle of the 4th century B.C. It suffices to compare the silver *litra* of Gela, with head of Herakles/head of the Gelas, which Jenkins[115] has dated from 339 B.C. (for the „Timoleontean" prejudice), or rather the silver *litra* emerged recently[116] of Erbessos, with crowned head of Zeus to the right (of Syracusan imprint) preceded by the legend Ἐρβησσ(ίνων) and on the R/ an Apolline head to the right. Of this last I present four specimens, respectively of gr. 0,64, gr. 0,63 and gr. 0,71 the first three, without weight the fourth (TAV. 7, 98—99—100—101). A second issue, with head of Sikelia to the right on the D/ and on the R/ head of a river god to the right, preceded by the legend, is known to me in two specimens, of gr. 0,565 one, of gr. 0,39 the other here reproduced (TAV. 7, 102—103). For both it is possible to note typological correspondences with the successive bronze series of the same Erbessos[117].

On the other hand, a confirmation for the dating of the *litra* of the Longanaioi in the 4th century B.C. is offered, in my opinion, by the discovery of a specimen of gr. 0,53 (TAV. 7, 104), now in the Museum of Syracuse, of the Salinas type, tav. XXXII 4 (with horned head to the right), in the excavations at Alaesa Archonidea (Tusa), city founded in 403 B.C.[118]. Less clear is the meaning of the discovery of a specimen of gr. 0,56[119], of the type presented at TAV. 7, 96, during the excavations conducted by Paola Pelagatti at Kamarina, within an Etruscan amphora c.d., if it is true that this last should be dated to the middle of the 5th century B.C.

The Chalcidian acculturation of Longene (Longane) was certainly the work of nearby Mylai, in which the Danklaioi took refuge when around 490 B.C. they lost their *polis* due to the massive arrival of the Messenians[120]. But the area was by now destined to be Dorized. Also at Himera in

[114]For the issues of Seuthes I with such expression, cfr. Head, HN², 1911, 282. On the more ancient coins of the Leontinioi and of the Syracusans, of Dionean age, the legend results Λεοντίνον / Συρακόσιον (BMC, Corinth 98 e Tav. XXV 1—2). The same predilection for the neutral adjectival form returns in the legend Συμμαχικόν / Καινόν / Ἀγυριναῖον of known Siceliot issues, which most likely fall in the years of Dion (for the first, cfr. V. Cammarata, Per una attribuzione delle monete della Symmachia a Dione, in Henna, Rassegna del Comune, 15, 1982, 21 sg.; for the second, widely illustrated in R. Calciati, Corpus Numm. Sic., cit. 249 sgg., the interpretation as issue of the mercenary Thracian Kainoi, proposed by R. Macaluso, in Miscell. E. Manni, IV Roma 1980, 1370 sg., seems to me unfounded, also in consideration of the enormous diffusion and abundance of such coins).

[115]Jenkins, The Coinage of Gela, cit., 280. I would add the silver *litra* of Kamarina, which Westermark - Jenkins, NAC XI, 1982, 57 sg. date to the end of the 5th century B.C.

[116]Lanz, München, Aukt. 20, April 1981, 72, gr. 0,62 (it also appears to be found at Winterthur).

[117]Gabrici, cit., tav. III 10—12.

[118]The coin identified as Gela (?), in G. Carettoni, N S 1961, 269, nr. 210.

[119]Also this at the Museum of Syracuse, where there is a third specimen of gr. 0,70, with hole, from the ancient collection.

[120]Cf. what I have written in AIIN 21—22, 1974—1975, 14 sg. Contra, G. De Sensi Sestito, Contrasti etnici e lotte politiche a Zancle-Messene e Reggio alla caduta della tirannide, Athen. LXIX, 1981, 43 sgg. In truth, rather than an underground and capable „ethnic contrast", at a distance of thirty years, to provoke the momentary resumption of the „name of Zancle around 461 B.C.", the various testimonies discussed (the dedications of arms at Olympia with the inscription Μεσσένιοι Μυλαίόν: SEG XXIV, 313—4, in which the Mylaioi or the Danklaioi are designated by the toponym of residence; Diod. XI 76, 5: Ῥηγῖνοι μετὰ Ζαγκλαίων, in which the Danklaioi are properly indicated, well distinct from the Messanians; Strabo VI 2, 3, in which with Berard is to be corrected „Zanclei a Mylai"; the known *tetradrachmon* of Bruxelles with thundering Zeus) proclaim the indomitable resistance of the oligarchic group outside the ancient Dankle, precisely at Mylai! With the aforementioned *tetradrachmon* is associated a *litra*, with types Dolphin to the right / DAN (A. Evans, NC 1896, 111; SNG ANS Sic. 327 gr. 0,65, here at TAV. 7, 105), which finds metrological, stylistic and typological correspondence in one of Messene (SNG ANS Sic., 322 gr. 0,65 a TAV. 7, 106): between the two cities a monetary *sympoliteia* had been established, in respect of the reciprocal ethnic identity, which excludes the inclusion of the Danklaioi in the city of the strait, now of the Messanians, and ensures that the former had their own territorial base, most likely in the *phrourion* of Mylai. Similarly the staters coined with DA (De Sensi Sestito, art. cit., 52 nota 49) should be interpreted as expression of monetary *sympoliteia*

the first decades of the 5th century B.C., when the coinage appears with „Akragantine types" due to the strong confluences of people from Kos (where the crab was typical monetary *parasemon*, as at Akragas), a linguistic crisis had occurred, between Chalcidian and Doric, as Thucydides notes[121]. Dialectal Dorism had emerged even at Zankle around 500 B.C., even if timid in an Ionic context (SGDI 5275, if read correctly). However, for the resistance of the Chalcidian element, even if politically subjugated, after the metonomasia on the first issues of *sympoliteia* between Messana and Rhegion the ethnic appears in Ionic form Μεσσενίον and only on the successive series is imposed Μεσσανίον[122].

Mylai in the 4th century, also due to the Dionysian foundation of Tyndaris with Messenian elements, ended up yielding to Dorization, involving centers like Longene, which by now in the Dionean age signed its silver *litrai* with the Dorized ethnic, Λογγαναῖον.

At the same time Tyndaris also coined its first issue, in silver, of *litra*, with the head of Elena to the right, marked TVNΔAPIΣ, and on the R/ a galloping horse to the right, surmounted by the two stars of the Dioscuri[123].

between Kroton and the Danklaioi of Mylai! The high chronology of the *tetradrachmon* mentioned has been still vainly sustained by Cl. M. Lehmann, RBN 127, 1981, 19—32.

[121]Thuc. VI 5, 1: cf. S. Mazzarino, Atti III Conv. Studi Magna Grecia, Taranto 1963 (1964), 56.

[122]BMC Sic. 100—101 (De Sensi Sestito, cit., 44 e nota 20; 46). The passage to the Doric legend Μεσσανίον must be put in connection with the massive reinforcement of *xenoi* Messenians in 461 B.C. in Messenia (Diod. XI 76, 6).

[123]Cf. F. von Duhn, ZfN, III 1876, 27 sg.; S. Consolo Langher, Documentazione numismatica e storia di Tyndaris nel IV sec. a. C, Helikon, V 1965, 82 sg., tav., nrr. 14—15.





Zu: G. Manganaro, Dai mikrà kermata al chalkokratos kassiteros.
Nr. 1-8 Maßstab 2 : 1.

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Nr. 18, 21-22, 24, 26-35 Maßstab 2 : 1, Nr. 23 a, 25 Maßstab 1,5 : 1.

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Nr. 36, 50 Maßstab 4 : 1, Nr. 48 Maßstab 3 : 1, Nr. 38, 40 a-47, 51-54 Maßstab 2 : 1.

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Nr. 60, 62-63, 72, 75-78, 79, 80 a Maßstab 2 : 1.

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Nr. 84 b, 88 Maßstab 4 : 1, Nr. 86, 90, 91 Maßstab 2 : 1.

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Nr. 101 Maßstab 3 : 1, Nr. 96 a-98 Maßstab 2 : 1, Nr. 95 Maßstab 0,4 : 1.

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