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Problems of "Pastoralism" and "Transhumance" in Classical and Hellenistic Crete*

Ἕνας βοσκός, γεροβοσκός καὶ παλικουραδάρης, τὰ νιάταν του θυμήθηκε, τὰ νιάταν του θυμάται. "Ποῦ ἔν' ἐκεῖνοι οἱ καιροὶ καὶ οἱ βουλισμένοι χρόνοι, ἀπὸ τοῦ μουν νιὸς καὶ εἰς τὸ βουνὸν ἤβλεπα τὸ κουράδι, ποῦ ἔχα μαντριὰ τὰ πρόβατα, μαντριὰ μαντριὰ τὰ γίδια, ποῦ ἔχα καὶ ἐννιά μπροστάρηδες καὶ ἐσέρναν τὸ κουράδι, ποῦ ἔχα μιτάτον ξακουστὸ στοῇ Νίδας τὸ λιβάδι".

1. Animal husbandry in ancient Crete: The problem

From the Neolithic times onwards animal husbandry and related activities (production of milk and cheese, weaving, working of the animals' skin etc.) represent one of the main branches of Cretan economy.¹ The breeding of cattle and sheep was regarded by Diodorus as a Cretan contribution to civilization, an "invention" of the Curetes, the Cretan mountain daemons.² The abundance of ancient literary, archaeological, and epigraphic evidence for the breeding of all kinds of livestock (goats,³ swine,⁴ oxen and

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1 Neolithic times: MANTELI 1990; Minoan times: e. g. BRANIGAN 1970, 68-69; DAVARAS 1976, 8-10; in the Linear-B documents: e. g. BENNET 1992; HILLER 1992, 27-28; in modern Crete: STAVRAKIS 1890, 197-198 and table 146; CHALIKIOPOULOS 1903, 134-135; ALLBAUGH 1953, 54 fig. 2 (in 1948 48% of the land was used for nomadic grazing), pp. 263, 278-279, 551 table A 93. A study of pastoralism in post-Minoan Crete is still lacking; cf. some remarks of WILLETTS 1955, 135; BRULÉ 1978, 147-148; SANDERS 1982, 32; PETROPOULOU 1985, 50-53; VAN EFFENTERRE 1991a, 400, 403-404.

2 Diod. 5,65,2.

3 E.g. Anth. Gr. 9,744. Cf. the representation of goats and wild-goats on the coins of Praisos (SVORONOS 1890, 289-290 nos 25-27, 30-31, pl. XXVIII 3-4) and Priansos (ibid., 296 no 6, pl. XXVIII 23). A goat, associated with the goddess Diktynna, is represented in relief on the stele with the treaty between Polyrhena and Phalasarna (MEYER 1989, 320-321 N 19). Cf. Paus. 10, 16, 5 on a statue of a goat dedicated by the city Elyros in Delphi.

4 E. g. I. Cret. II, xii 16 A 5; IV 41 I 12-17 (=KOERNER 1992, no 127); SEG XXXV 991 B 4. Cf. the place names Σωνία and Ὑῶν ὄρος (I. Cret. I, xvi 5

cows,⁵ horses,⁶ and above all of sheep⁷) is therefore not surprising. Several characteristic sources would suffice to demonstrate, how significant the breeding of sheep was in Doric Crete: According to Stephanos of Byzantium the name of the city Polyrrhenia (West Crete) means "many sheep" (πολλὰ ῥήνεα),⁸ and the expression "Cretan sheep" seems have to become proverbial.⁹ Only in the Cretan oaths do we find the imprecation "if we break our

I. 63; Staatsverträge II 148 B 6). Representations of swine and boars: HIGGINS 1973, 90 nos 257, 258, 262. On bone finds see e. g. JARMAN 1973 (Demeter sanctuary at Knossos).

5 E. g. I. Cret. II, xi 3; II, xii 10; IV 41 I 12-17 (=KOERNER 1992, no 127); SEG XXXV 991 B 3; cf. Anth. Gr. 6,262-263; Vit. 1,4.10. The Gortynians called themselves the "cow-men" (see below, note 100). Cf. the dedications addressed to the Curetes as protectors of cattle (χαρταίποδα): I. Cret. I,xxv 3; I,xxx 7-8; SEG XXIII 593; DAVARAS 1960, 459-460; KRITZAS 1990b. Cf. (in general) GEORGOUDI 1990, 241, 257. On the mention of oxen in the Knossian Linear-B texts see now PALAIMA 1992 (with further bibliography). Cattle are often represented in the clay votives found in sanctuaries: e. g. PEATFIELD 1990, 120-121 (Minoan peak sanctuaries); HIGGINS 1973, 89-90 (Demeter sanctuary in Knossos); LEBESSI 1985, 48 no B 1, 50 no B 6 (Hermes sanctuary at Simi). On the archaic representations of ram-bearers found in Cretan sanctuaries, probably dedications of wealthy citizens, see now LEBESSI 1989.

6 On the Cretan horsemen and horses see Plat., legg. I 625 d; VIII 834 a-d; Strab. 10, 4, 18 (C 482); Oppian., Cyneg. 1,170; Isid., orig. 14,6,16; cf. I. Cret. I, viii 33 I. 7; IV 41 II 3. On bone-remains: BEDWIN 1992 (Knossos). Representations of horses and horsemen: e. g. PERNIER 1914, 48-54; BOARDMAN 1970, 137 pl. 280; HIGGINS 1971, 280 nos 36, 39, 42; HIGGINS 1973, 90 nos 260-261; CALLAGHAN 1978, 21-22; SAKELLARAKIS 1987, 251-252 fig. 11. Cf. the place-names Hippagra (I. Cret. I, xvi 5 I. 52; SEG XXVI 1049 I. 53) and Hippokoronion (Strab. 10,3,2 C 472). A great number of Cretan personal names derives from the word ἵππος: Agesippos, Aristippos, Chrysippos, Euxippos, Glaukippos, Heraippos, Hippaitchos, Hippas, Hippokleidas, Kallippos, Klesippos, Kratippos, Lysippos, Menippos, Mnasiippos, Phainippos, Philippus, Poseidippos, and Zeuxippos (see FRASER-MATTHEWS 1987, s. v.). On the magistrates calles *hippeis* see WILLETTTS 1955, 155; PANAGOPOULOS 1981, 66-72.

7 On the predominance of sheep among livestock in ancient Greece see GEORGOUDI 1974, 165; CHERRY 1988, 9; for Crete cf. JARMAN 1972 (Myrtos); REESE 1984 (Kommos); BEDWIN 1992 (Knossos). In the Linear-B documents (in connection with the wool-industry): see below, note 57. In the inscriptions of Dorian Crete: e. g. SEG XXXV 991 B 2-3 (Lytos, 6th c.); I. Cret. II,v 52 (Axos, 1st c. B.C.); I. Cret. II,xi 3 I. 8 (Diktyннаion, 6 B.C.); below, notes 10-11. Representations of sheep in Cretan works of art: e. g. BRANIGAN 1970, pl. 8b (a large flock of sheep on a MM I vase from Palaikastro).

8 Steph. Byz., s. v. Polyrrhenia.

9 It is to be found in Artemidor's Onirocriticon (4,22, p. 214,5 ed: Hercher).

oath let our women and our sheep not bear according to nature",¹⁰ and in the "Curetes hymnus" sang at the sanctuary of Zeus Diktaios by the ephebes of Cretan cities the god was called up to spring into the flocks and give them fertility.¹¹

Consequently, the history of the raising of livestock on Crete should occupy a central position among the problems of the historical geography of the island. Of great importance are above all the questions, how this economic activity was related to the geomorphology of the island, what changes it experienced in consequence to demographic, social, and administrative changes, and how Cretan settlement patterns in various periods reflect the intensive or extensive occupation with pastoralism (choice of areas, formations of settlements in connection with transhumance, building of shelters and enclosures¹² etc.). Unfortunately, the kind of evidence we have from ancient times usually suffices to demonstrate the occupation of the Cretans with animal husbandry. When we try to get a clear picture about the organisation of this economic sector, our sources usually desert us. Questions concerning the private or collective ownership of livestock, the size of herds, the existence of specified pastoralism, the legal and social status of herdsmen, the part played by pastoral economy in the economic activity of the different historical periods, the use of the animals (labour, transport, meat, wool etc.),¹³ the destination of the products (export or subsistence?), the changes this sector experienced when the aristocratically organised society of Dorian Crete was integrated into the Imperium Romanum (after 67 B.C.), and the question of "transhumance" or the seasonal movement of animals cannot always be answered; some of them have not even been stated.¹⁴ Since a systematic discussion of animal husbandry in Dorian Crete is still lacking, it is necessary to review here the relevant evidence, especially

10 E.g. I. Cret. II, v II. 1-3: [ἐπιπροχοῦσι μὲν ... μήτε γυναῖκας] τίχ[τε]ν κατὰ νό[μον] μήτε πρόβατα; cf. I. Cret. I, ix 1 II. 85-89; III, iv 8 II. 41-42, 46-47; VAN EFFENTERRE 1991b, 24-25 no E 3 II. 10-11.

11 I. Cret. III, ii 1 (cf. SEG XXVIII 751 and VERBRUGGEN 1981, 102-103): ἀ[μῶν] δὲ θόρ' ἐς πο[ι]μνία καὶ θόρ' εὖποκ' ἐς [μῆ]λα.

12 On enclosures in ancient and modern Crete see MOODY-GROVE 1990.

13 Cf. in general CHERRY 1988, 6-7; JAMESON 1988, 88-89; on the difficulties of recognizing the various uses of livestock in zoo-archaeological records see e. g. HALSTEAD 1981, 322-329; on the lack of zoo-archaeological data from Iron Age settlements see PAYNE 1985.

14 On the methodological questions related to the study of pastoralism in ancient societies see the remarks of WHITTAKER 1988, 1-4; HODKINSON 1988; SKYDSGAARD 1988; GARNSEY 1988; cf. HALSTEAD 1981; ISAGER-SKYDSGAARD 1992, 83-85. On the difficulty to recognize pastoralism in the archaeological remains: CHERRY 1988, 17-20. Post-Minoan Crete hardly appears in the relevant studies of ancient pastoralism and transhumance; see e. g. HODKINSON 1988; SKYDSGAARD 1988; ISAGER-SKYDSGAARD 1992.

the legal sources, in an attempt to find out, whether, when, and in what sense "transhumance" and pastoralism were practiced in Dorian Crete.

In the following discussion we have to bear in mind that "Dorian Crete" is a modern abstraction, comprising not only at least 60 independent city-states (see note 93), but also covering a period of at least eight centuries; generalisations are therefore dangerous. Here I will focus on the better documented classical and Hellenistic periods.

2. Animal husbandry in the framework of subsistence economy in Dorian Crete

2.1. The main features of subsistence economy in pre-Roman Crete

Characteristic for the Cretan society and economy in the classical and Hellenistic periods (ca. 500–67 B.C.) is an archaic social structure, whose main features can be seen a) in the dependence of the citizenship on military education and the participation in the common meals (συσσίτια) and b) in the rule over a dependent population of various legal statuses (bought slaves, serfs, free non-citizens).¹⁵

The adequate economic system for this kind of society is a subsistence economy based on farming and animal husbandry.¹⁶ A *lex sacra* concerning the sanctuary of Zeus Diktaios in East Crete¹⁷ and forbidding the use of sacred land for economic purposes lists the most important forms of land use on Crete: grazing (ἐννέμειν), keeping of livestock (ἐναυλοστατεῖν), arable cultivation (σπεῖρειν), and cutting wood (ξυλεύειν).

Large-scale agricultural production and manufacture connected with exports seem to have played no part in the Cretan economy before the Roman conquest. R. F. WILLETTS summarizes the basic features of economy in Classical Crete as follows: "The economy of Crete has to continue to be classified

15 The best description of the aristocratic society in Dorian Crete is still that of WILLETTS 1955, 33–36, 166–191, 249–356; on Hellenistic Crete see PETROPOULOU 1985, 115–122. On the *syssitia* see now TALAMO 1987; LAVRENCIC 1988; LINK 1991, 118–124; SCHMITT PANTEL 1992, 60–76. On the various forms of personal dependence see WILLETTS 1955, 37–56; GSCHNITZER 1976, 75–80; VAN EFFENTERRE 1982, 35–44; WITTENBURG 1982; PETROPOULOU 1985, 125–128.

16 On the ideal of subsistence in ancient Greece cf. in general BINTLIFF 1977, 104; AUSTIN-VIDAL-NAQUET 1977, 15–17; WAGSTAFF-AUGUSTSON-GAMBLE 1982; SALLARES 1991, 298–299. On animal husbandry in the framework of ancient Greek subsistence economy see HODKINSON 1988, 59–61.

17 Cited in I. Cret. III, iv 9 II 81–82 (112 B.C.).

among those more backward forms of landed proprietorship over small-scale production, and remained as a predominantly agricultural economy, drawing its major sustenance from the soil, with no advanced forms of industry or commerce such as were to be found in democratic Athens, and where the land continued to be owned by a relatively few families, who preserved their old clan organisation in modified ways suited to their interests; and where small-scale ownership never had the chance to develop".¹⁸

The Hellenistic age did not bring any substantial changes. It is true that the new intensive political relations with cities, confederations, and kings abroad¹⁹ had consequences for the economic relations as well. However, as far as we can judge from the scanty evidence, the economic interaction between Crete and the rest of the Hellenistic world was basically related with the mercenary service and the piracy of the Cretans; foreign coins e. g. found their way to Crete as payment for mercenaries and not for the export of Cretan products.²⁰ Indeed, the only product massively exported from Crete in Hellenistic times seems to have been cypress-wood; but these massive exports were related with a few major building programmes²¹ and cannot be regarded as a constant economic factor. The limited monetary transactions with other areas prove to have resulted from the piratic activities of the Cretans (slave-trade, ransoming of captives, lending of money for the ransoming of captives, sale of booty etc.).²² Since the limited Hellenistic trade of Crete was not related to the local agricultural production or manufacture, it could not cause a substantial change of the traditional social or economic order.²³ All the epigraphic evidence we have supports the view that the archaic social order, based on the military education of the youth in ἀγέλαι, the participation of the citizens in "men-houses" (ἀνδρεῖα, ἑταιρεῖα), and the traditional division of the population in citizens, free non-citizens (ἀπέταροι), "serfs" (ὀρόφριοι), and slaves, remained intact until the Roman conquest,²⁴ and

18 WILLETTS 1955, 176–177; cf. CHANIOTIS 1988a, 67–69.

19 On these contacts see now KREUTER 1992.

20 LE RIDER 1966, 191–194.

21 IG IV 1² 102 I. 26; 103 I. 132 (Epidauros); IG XI 2, 219 A 37 (Delos); cf. VAN EFFENTERRE 1948, 111–112; BURFORD 1969, 37, 151, 176–177; MEIGGS 1982, 200, 424.

22 On this close relation between piracy and trade in general see GARLAN 1978, 5–6; on Crete: BRULÉ 1978, 158–161; PETROPOULOU 1985, 39–40, 49–50, 61–62, 68–74; CHANIOTIS 1988a, 70.

23 CHANIOTIS 1988a, 70–71.

24 PETROPOULOU 1985, 48, 81–82, 115–116, 123–128 (with the epigraphic evidence). WITTENBURG 1982. On the aristocratic character of the constitution see WILLETTS 1955, 170–181; BOWSKY 1989; CHANIOTIS 1992b, 305–310.

that the traditional forms of land ownership and land use survived to the end of the Hellenistic period.²⁵

2.2. Animal husbandry, *syssitia*, and the question of collective or private ownership of herds

The Cretan pastoral economy has to be seen in the framework of this rigid, archaic social order. Indeed, Aristotle reports that the produce of animal husbandry represented one of the sources for the sustenance of the Cretan *syssitia*;²⁶ thus he quite specifically connects the breeding of livestock with an institution of fundamental importance for a society based on subsistence. An archaic decree of the community of the *Dataleis* (ca. 500 B.C.) provides that the (foreign) scribe *Spensitheos* had to give (annually?) a fixed contribution of meat to the "men's house" (*andreion*).²⁷

Unfortunately, the manuscript tradition of Aristotle's passage on the Cretan *syssitia* is corrupt in a crucial point regarding the sources of financing the *syssitia* and the ownership of the livestock.²⁸ According to the version given by some codices the Cretan common meals were financed by three sources: a) the contribution paid by the citizens from their private agricultural produce and their private livestock (*ἀπὸ πάντων γὰρ τῶν γινομένων καρπῶν τε καὶ βοσκημάτων*), b) the public revenues (*καὶ ἐκ τῶν δημοσίων*), and c) the tribute

25 See e. g. the persistence into the Hellenistic times of the traditional division of land into various legal categories: a) Land-lots (*κλῆροι*) in private or clan ownership: I. Cret. I,xvi 17 II. 16,20; PETROPOULOU 1991, 52–53 no E 6 II. 10,15; cf. GSCHNITZER 1976, 80 with note 175. b) Land cultivated by private slaves (*ἀφαιμίαι*): SEG XXVI 1049 I. 72; cf. VAN EFFENTERRE-BOUGRAT, 1969, 39–41; GSCHNITZER 1976, 76–77; cf. AUDRING 1989, 95–96. c) Public land cultivated by a dependent population paying tribute (*οἰκετήρια*): I. Cret. I,xvi 17 II. 16,20; PETROPOULOU 1991, 52–53 no E 6 II. 10,15 (notice the distinction between *κλῆρος* and *οἰκετήρια* in these texts).

26 Arist., Pol. II 10,8, 1272 a 17–19 ed. Ross: *ἀπὸ πάντων γὰρ τῶν γινομένων καρπῶν τε καὶ βοσκημάτων <καὶ> ἐκ τῶν δημοσίων καὶ ἐκ τῶν φόρων οὓς φέρουσιν οἱ περίοικοι, τέτακται μέρος τὸ μὲν πρὸς τοὺς θεοὺς καὶ τὰς κοινὰς λειτουργίας, τὸ δὲ τοῖς συσσιτίοις*. On the problems related to the mss. tradition of this passage see below.

27 SEG XXVII 631 B 11–13; see the discussion of JEFFERY-MORPURGO-DAVIS 1970, 125, 144; but BEATTIE 1975, 40–41 has argued that this contribution was paid on the day of the scribe's admission to the *andreion*.

28 The mss. give (with several variations) the text *ἀπὸ πάντων γὰρ τῶν γινομένων καρπῶν τε καὶ βοσκημάτων ἐκ τῶν δημοσίων καὶ φόρων κτλ.* On the various emendations proposed see PANAGOPOULOS 1987, 77–78 and below. The fragment of Dosiadas on the *syssitia* of Lyttos (FgrHist 458 F 2) cannot be discussed here, since it is not relevant to the specific question of communal ownership of livestock. On this fragment see the bibliography in note 15.

of the serfs (καὶ φόρων οὐδὲ φέρουσιν οἱ περὶ οἱχοί). This version is followed by several historians of Crete.²⁹

According to a slightly emendated version the *syssitia* were financed "from the whole of the agricultural produce and the livestock raised on public land" (ἀπὸ πάντων γὰρ τῶν γινομένων καρπῶν τε καὶ βοσκημάτων ἐκ τῶν δημοσίων).³⁰ The scholars who accept this emendation often suppose that the livestock raised on public land was in communal ownership.³¹ This is, however, not necessary, since there is nothing uncommon in the grazing of private cattle and sheep on public pasture.³² L.H. JEFFERY and A. MORPURGO-DAVIS, who also accepted this version, expressed the reasonable assumption that the *δημόσια* were a "public pool", to which the citizens contributed their tithe,³³ again, in this case Aristotle's passage would not imply communal ownership of livestock.

The communal ownership of cattle and sheep is implied only by the third emendation (ἀπὸ... βοσκημάτων δημοσίων) accepted by the majority of the editors,³⁴ who do not seem to realize the consequences this emendation would have for the economic history of Crete: Not only would Aristotle attest the existence of livestock belonging to the community (*δημόσια βοσκήματα*), but this would also presuppose highly specialized pastoralism, since the herds belonging to the community must have been kept either by citizens specialized in this sector or by public slaves.³⁵ But have we really any reasons to accept this emendation?

29 See basically the arguments of KIRSTEN 1942, 130–132; the same view has been defended recently by PETROPOULOU 1985, 81 and LINK 1991, 119–121. Cf. ROLFES 1922, 66 („von dem ganzen Eingang aus Früchten und Herden und von den Staatseinnahmen“).

30 SUSEHMIL 1879, ad loc.; NEWMAN 1887, II, 353; AUBONNET 1960, ad loc.; DREI-ZEHNER 1970, ad loc. Cf. JOWETT 1921, ad loc.; SIEGFRIED 1967, 100 („vom Gesamtertrag an Früchten und Vieh, der auf den staatlichen Ländereien erzielt wird“); LORD 1984, 79; TALAMO 1987, 9, 16–19; EVERSON 1988, 45; SCHÜTRUMPF 1991, 41 („vom Staatsland, von allen seinen Felderträgen und dem [dort weidenen] Vieh“).

31 SUSEHMIL 1879, ad loc. („von dem gesammten Ertrag an Vieh und Feldfrucht aus dem Gemeindeland“); AUBONNET 1960, ad loc. („du cheptel appartenent à l'état“); SCHMITT PANTEL 1992, 66.

32 LINK 1991, 107–108, 115.

33 JEFFERY-MORPURGO-DAVIES 1970, 151–152 with note 43; cf. ISAGER-SKYDS-GAARD 1992, 139.

34 IMMISCH 1929, ad loc.; ROSS 1957, ad loc.; RACKHAM 1977, ad loc.; PANAGOPOULOS 1987, 77. Cf. WILLETTS 1955, 20 note 4, 26; LATTE 1968, 299; GIGON 1973, 96; LAVRENCIC 1988, 151.

35 On public slavery in Doric Crete see GSCHNITZER 1976, 75–80; VAN EFFENTERRE 1982, 42–44.

First of all, any further evidence for large scale public ownership of herds in ancient Crete is lacking; the ownership of herds by the sanctuary of Diktynna in West Crete in the early imperial period is another matter.³⁶ H. and M. VAN EFFENTERRE have discussed an archaic inscription from Lyttos³⁷ in connection with collective ownership of flocks. This enigmatic decree of the Lyttians pertains to the limitation of an area devoted to the "putting together and separating" of the livestock: "The Lyttians decided that the following boundaries shall be valid for the joining and separating (into herds?) of the sheep and the large cattle and the swine"³⁸ The French scholars suspected that this regulation reflects an important social development known from other parts of archaic Greece: The local aristocracy had concentrated the land in its hands; not being able to cultivate their land, the landowners intensified the animal grazing, employed aliens as their shepherds, and devoted large parts of their land to pasture. The mass of the citizens reacted against this development, in other parts of Greece by demanding the abolition of debts and the redistribution of land, on Crete by prohibiting the immigration of foreigners,³⁹ who would be employed by the rich Lyttians as shepherds, and by restoring the collective ownership of livestock (χοιναωνία).⁴⁰ After the livestock had been put together (χοιναωνία), the various species (sheep, large cattle, pigs), which needed different pasture land, were separated again (σύνκρισις).

However, the French scholars were not able to provide any cogent arguments for this interpretation, which has been rejected by S. LINK and R. KOERNER.⁴¹ S. LINK assumed that the decree made allowance for the interests of the small owners of livestock, who could not afford a herdsman for their small herds; they built up together large herds, in order to make the employment of a herdsman worth while. The essential aim of the decree was the limitation of the public pasture and not the formation of a collective ownership of livestock.⁴² According to the similar view of R. KOERNER this document regulates the grazing owned by individual citizens on public pasture; the Lyttians

36 I. Cret. II, xi 3 (A.D. 6). Of course, one should not exclude the possibility that the public slaves were herdsmen of cattle owned by the community, but this cannot be proven. On the ownership of livestock by sanctuaries see now ISAGER 1992.

37 SEG XXXV 991 B (ca. 500 B.C.)=KOERNER 1993, 330-332 no 88.

38 B 1-4: ἔφαδε Λυκτίοισι τὰς χοιναωνίας καὶ τᾷ(ς) σύνκρισις τῶν π/ροβ]άτων καὶ τῶν καρταιπόδων καὶ / τᾶν ὕων ὄρον ἤμεν τόνδε.

39 This is attested by a decree written on the other side of the same stone: SEG XXXV 991 A = KOERNER 1993, 327-330 no 87. However, we have no reason to assume that the two decrees belong to the same historical context.

40 VAN EFFENTERRE-VAN EFFENTERRE 1985, 184-185.

41 LINK 1991, 117-118; KOERNER 1993, 331-332.

42 LINK 1991, 117-118.

were concerned that this should happen in an orderly way, without damages for the arable land and the animals.⁴³

There are further reasons for rejecting the interpretation of the French scholars. The Lyttian text leaves no doubt that it describes an action that had to be performed *periodically* in a certain limited area. It is precisely this periodicity that makes VAN EFFENTERRE's theory about the restoration of the collective ownership of livestock improbable. On the contrary, the procedure assumed by LINK and KOERNER is well known in rural Greece and Crete of modern times. On the island of Skyros the individual owners of sheep put their herds under the charge of employed shepherds, who are responsible for leading them to pasture.⁴⁴ Gains and losses are shared by the owners. In modern Crete there are five distinct ways of "joining" and grazing livestock (called τὸ κοινιάτο (κοινός, the partners are called κοινιαταδόροι):⁴⁵ a) According to the most common type of contract (χυρίως κοινιάτο or συμμισιαχό (σύν ἡμισυ) two or more owners contribute an equal number of animals (sheep and goats) to build a common herd; they carry the cost jointly and share the profit. In some cases one of the owners undertakes the grazing, being paid for his work either in kind or in money. b) In the practice called ἀποκοφιάρικο κοινιάτο the livestock of one or more owners is given to a shepherd who owns no animals; the shepherd is obliged to graze the animals for 4-5 years; he bears half of the costs for grazing and has a claim on half of the produce of the animals entrusted to him (meat, milk, wool, newborn animals). c) According to a type of agreement called ξεχαρτζιστό κοινιάτο the owner of animals gives them to a shepherd (συζευτής (σύν + ζεύγνυμι), who is obliged to pay to the owner an amount equal to the value of these animals; the shepherd finances this payment from the produce of the animals entrusted to him; after he had paid their value off (usually within a period of 2-3 years), the shepherd keeps half of the animals. d) In the eparchy of Apokoronas (West Crete) the practice called κεφαλιοπύρωτα or σιδεροκέφαλα ("fire"-or "iron-headed" sheep) is attested: A shepherd grazes animals owned by another person for a certain period of time; he receives an annual payment and at the end of the agreed period of time he has to return to the owner animals of equal number and age as the ones which had been entrusted to him. e) According to a practice called μαζουλοισιμίσιαχο (μαζούλι (Turkish mahsul = income, συμμισιαχό (σύν + ἡμισυ) in the eparchy of Rhethymnon several owners build a joint herd and share the costs and the gains. Although unequivocal evidence for the pooling together into collective transhumant herds of the small flocks owned

43 KOERNER 1993, 332.

44 I owe the information about this practice on Skyros to the anthropologist Marina Reizaki (Heidelberg).

45 See the detailed description of MAVRAKAKIS 1985, 82-85; cf. CHALIKIOPOULOS 1903, 134 (on Sitia).

by individual farmers in ancient Greece is still lacking,⁴⁶ the inscription from Lyttos may reflect a practice analogous to those attested in modern Crete. The animals (sheep, swine, cattle) were collected to a limited area; perhaps the different species were collected there in different seasons.⁴⁷ Probably they were not kept there for a seasonal stay,⁴⁸ but they were "separated" into herds and led to other areas for pasture. At the end of the season the animals were returned to their owners.

A treaty between Gortyn and Rhizenia (Prinias?, late 5th c.) cannot offer conclusive evidence for the communal ownership of livestock either. In this treaty the Gortynians imposed upon the dependent community of the Rhizenians the duty of contributing every two years animals in value of 350 stateres for the sacrifice offered to Zeus Idaios.⁴⁹ However, this does not necessarily mean that the numerous animals (sheep or oxen) contributed by the Rhizenians were communal property; it is equally reasonable to assume that the community bought these sacrificial animals from its citizens.⁵⁰

Since the archaic Lyttian inscription and the treaty between Gortyn and Rhizenia cannot be brought in connection with a collective ownership of livestock, there remains no other evidence for communal ownership of animals than the corrupt passage of Aristotle. Therefore, in view of the abundant evidence for the private ownership of livestock in the Cretan legal sources it is reasonable to assume that this passage has nothing to do with collective ownership of livestock. The philosopher probably differentiated between the produce of sheep and cattle in private ownership (ἀπὸ... βοσκημάτων)

46 HODKINSON 1988, 56; but the synnoma recorded from Rhodes may suggest common possession of pasturage (HODKINSON 1988, 36) or cooperation in the grazing of livestock.

47 The pigs e. g. could most profitably be taken into the woods in autumn (cf. HALSTEAD 1981, 323), whereas the ovicaprids are led to their summer quarters late in autumn or early in winter.

48 Perhaps only the swine, which could not have followed the sheep and the cattle in a movement involving considerable distance (VAN EFFENTERRE-VAN EFFENTERRE 1985, 183-184), were kept there; cf. the previous note.

49 Staatsverträge II 216 II. 1-2; for a discussion see GSCHNITZER 1958, 39-43, esp. 42, cf. 173 note 25; VAN EFFENTERRE 1993, esp. 15.

50 On the prevalence of sheep among sacrificial animals see JAMESON 1988, 99-103; if we take the prices for sacrificial sheep in classical Athens as a basis (JAMESON 1988, ca. 10 drachmae), we may assume that the Rhizenians had to contribute at least 70 sheep; of course this calculation has a very questionable indicative value. For large sacrifices offered to Zeus in Crete cf. I. Cret. II, v 1 I. 12-13 (mention of an ἑκατόμβα ἃ μεγάλα, Axos, 6th c.); SEG XXIII 566 = LSCG 145 I. 16 (sacrifice of 100 oxen to Zeus Agoraios, Axos, 4th c.); Staatsverträge II 148 B 9-10 (sacrifice of 60 rams to Zeus Machaneus in Knossos, 5th c. B.C.). On the purchase of sacrificial animals in classical Greece see GRASSL 1985.

and other public revenues ((καὶ) ἐκ τῶν δημοσίων, sc. προσόδων rather than δούλων).⁵¹

The Cretan legal sources attest only the private ownership of sheep and cattle. In the early classical period the legal inscriptions of Gortyn⁵² concern themselves with subjects such as the damage done to animals, the pledging of animals, the inheritance of sheep and cattle. In all these cases the legal texts consider animals in *private ownership* only (including the cattle owned by serfs). This holds true also for an Hellenistic law of Knossos which regulates the sale of domestic animals.⁵³ None of the numerous Cretan legal inscriptions (laws, decrees, and treaties) referring to the problems related to pastoral economy (like the damage done by sheep and goats to the agricultural production,⁵⁴ the wounding of animals,⁵⁵ animal-theft (§3.4.4), the grazing of flocks on sacred land (§3.4.1), and the crossing of the boundaries of the neighbouring city-states by herdsmen (§3.4.3) makes the slightest allusion to a collective ownership of animals.

2.3. Wool-weaving and leather-working in the subsistence economy of Dorian Crete

Beside the part the breeding of livestock played for the support of the *syssitia* (through the production of meat, milk, fat, cheese and other milk-products),⁵⁶ pastoral economy was indirectly related to two "industrial" activities, wool-weaving and leather-working. The question arises as to how "industrial" activities fit into the system of subsistence economy known from Crete.

Wool-weaving took a central position among the "industrial" activities known from the palatial economy of pre-Dorian Crete.⁵⁷ In post-Minoan times it is known only as one of the main occupations of women.⁵⁸ This

51 Cf. above, note 29.

52 I. Cret. IV 41 I-II = KOERNER 1993, no 127 (with commentary); I. Cret. IV 72 col. IV 35-36, V 39 = KOERNER 1993, no 169 (Gortyn, ca. 450).

53 I. Cret. I, viii 5 (3d c.).

54 I. Cret. IV 41 I-II = KOERNER 1993, no 127 (Gortyn, early 5th c.). Cf. below, 3.4.1.

55 I. Cret. I, viii 5 B 1-3 (Knossos, 3d c.).

56 On Cretan cheese: Athen. 14,658 d; I. Cret. II, xi 3 I. 39; IV 65 I. 13; IV 143 I. 5 (Gortyn); Anth. Gr. 9,744. Milk: I. Cret. I, xviii 18 I. 12 (in a medical recipe, recorded in an inscription at the Asklepieion of Lebena, 1st c. B.C.); cf. Anth. Gr. 9,744. According to Byzantine historians the Arabs regarded Crete as "the land, where milk and honey flow in abundance" (γῆ ῥέουσα μέλι καὶ γάλα): Theoph. Cont. 74,21-22 Bonn (CSHB); Kedrinios II 92,14-15 Bonn; Zonaras III 398,5 Dindorf. Fat: I. Cret. I, xviii 18 I. 12 (στῆαρ τράγιον).

57 On wool-weaving in the Linear-B tablets: e. g. KILLEN 1964; 1966; 1972; cf. CHERRY 1988, 25-26; HILLER 1992, 35-38.

58 On Cretan wool-weaving in general cf. SANDERS 1982, 32.

can be inferred from legal texts referring to the items woven by women or to weaving implements,⁵⁹ epigrams,⁶⁰ grave monuments,⁶¹ and loom-weights inscribed with the names of women.⁶² The Cretan wool-“industry” was favoured by the abundant presence of dye-plants (e. g. crocus, phycus⁶³) and purple-shells near the Cretan coasts.⁶⁴ In classical and Hellenistic Crete wool-weaving basically covered the needs of the household and was not — at least not primarily — intended for sale or export. There is no evidence for the export of wool-products to other parts of Greece before Roman times.⁶⁵ The clauses of the great legal inscription of Gortyn (ca. 450 B.C.) pertaining to divorce and inheritance confirm the assumption that the products of this activity remained in the household. The relevant clauses⁶⁶ provide that the divorced woman and the childless widow received “half of whatever she has woven”; similarly, if a wife died childless “half of whatever she has woven” was to be returned to her heirs. The law says nothing about an income deriving from the weaving activity of the women, although it takes into consideration the income women might have attained from their other property (land and livestock). The textile production was obviously not meant for trade. Since the annual need of wool for clothing probably did not exceed 2–3 kg per person, i. e. an amount of wool which could be produced by 4–5 sheep,⁶⁷ the

59 I. Cret. IV 72 col. II 50–51, III 25–26, 34–35 (Gortyn, ca. 450); cf. WILLETTS 1967, 20, 29, 60–62; KOERNER 1993, 475; I. Cret. IV 53 B 3–5 (Gortyn, early 5th c.); cf. BLE 1988, 98 note 102; I. Cret. IV 75 B 4–5 (Gortyn, 5th c.); cf. KOERNER 1993, 424.

60 Anth. Gr. 6,289.

61 On the representation of weaving implements in funerary monuments of Cretan women see e. g. LEBESSI 1976, 86–90 (Prinias, 7th c.); DAVARAS 1960, 463–464 (Lyttos, Hell.); SEG XXVII 633 (Milatos, imp.); KRITZAS 1990a, 15 no 9 (=I. Cret. I, vi 3, Biannos, Hell.).

62 Some examples are cited by CHANIOTIS 1989, 76 note 13 and p. 79 (Tilo); add LEVI 1966, 586 (Vibia, Tharo?, Thina?); I. Cret. III, i 5 (Philion?). See also CHANIOTIS 1992b, 320–321.

63 Theophr., hist. plant. 4,6,5; Diosc., mat. med. 4,99 ed. Wellmann; Plin., n. h. 13, 136; MURRAY-WARREN 1976, 49.

64 Staatsverträge III 553 A 6 (Stalai, 3d c.); Herodotus 4,151; Plin., n. h. 32, 66; Sol. 11,12. Cf. in general VAN EFFENTERRE 1948, 110; MURRAY-WARREN 1976, 49; REESE 1987. For a Hellenistic establishment for the dyeing and weaving of wool at Kolonna (Lassithi, 3rd c.) see WATROUS 1982, 22.

65 The mention of a typical χρηματὸν ἔσθημα (Poll., Onom. 7,77, II p. 73,27–28 Bethe) and a cretan μανδύη (Poll., Onom. 7,60, II p. 69,3–6 Bethe) prove the knowledge other Greeks had of these products, but do not necessarily attest exports.

66 I. Cret. IV 72 col. II 45–54, col III 24–30, 31–37. Cf. the commentaries of WILLETTS 1967, 20, 29, 60–62 and KOERNER 1993, 475.

67 On these calculation cf. HALSTEAD 1981, 327–329.

wool-weaving practiced in the household does not necessarily presuppose a specialized pastoralism.

Leather-working, the other handicraft directly related to cattle breeding, differs in an essential way from wool-weaving.⁶⁸ Contrary to wool-weaving practiced in the individual household, leather-working seems to have been a specialized handicraft of vital importance for military purposes (e. g. the manufacture of armour). We learn about this activity from a glosse of Pollux mentioning a special kind of Cretan (leather) shoes (δρήτια)⁶⁹ and from two very fragmentary archaic inscriptions from Eleutherna, the one referring to the "makers of garments of skin" (σισυροποιοί) and making arrangements for their payment,⁷⁰ the other to "a worker of leather" (σχυτεύς).⁷¹ It is not clear, whether these decrees concern themselves with foreign artisans, who were given certain privileges in order to exercise their handicraft in Eleutherna,⁷² or with local artisans (possibly of inferior legal status). It is nevertheless evident that both decrees concern *specialized* artisans, since a specialized terminology was used to designate them. Further it is certain that their work was of benefit for the whole community; the *sisyropoioi* were indeed employed by the city of Eleutherna; also the work of the *skyteus* was probably of importance for the manufacture of armours.⁷³ Of course, this scanty evidence for leather-working as a specialized skill in archaic Crete does not imply the existence of a manufacture, the products of which were intended for trade; on the contrary, the documentary sources lead to the conclusion that this handicraft was primarily ment to cover the military needs of the Cretan communities. This sector, too, is therefore to be seen in the framework of the subsistence economy of the Dorian communities.

3. Specialized pastoralism in Dorian Crete

3.1. The problem

The evidence presented so far shows that animal husbandry occupied an important place in the economy of Dorian Crete; of course we lack any quantitative evidence as to its *relative* importance, i. e. in relation to other branches

68 On leather-working in Minoan Crete see the short remarks of DAVARAS 1976, 181.

69 Poll. Onom. 7,83, II p. 75,13–18 Bethe; cf. 10,141, II p. 232,12–14.

70 I. Cret. II, xii 9 (6th/5th c.); cf. the commentary of KOERNER 1993, 361. On the meaning of the term see BLE 1988, 175 note 94.

71 VAN EFFENTERRE 1991c, 22–23 E 2 A 3 (arch.); VAN EFFENTERRE reads σχύτσα (plural of τὸ σχῦτος), but I suggest reading [τὸ]ν σχυτέα.

72 On the status of such artisans in archaic Crete see VAN EFFENTERRE 1979.

73 The word δπλον or one of its derivatives can be read in I. 5 of the decree concerning the σχυτεύς: [-]ΤΑΙΠΑΡΟΠΑ[-].

of economy. Equally important is the question as to whether the breeding of livestock was practiced in a mixed form with agriculture or took the form of specialized pastoralism (including transhumance).⁷⁴

The scanty epigraphic evidence of the archaic and classical period suffices only to show that the breeding of sheep, cattle, and pigs was practiced in close relation to farming, a phenomenon familiar from ancient subsistence economies.⁷⁵ For instance, the regulations of inheritance in the great legal inscription of Gortyn (ca. 450 B.C.) take for granted that a household included among other things (agricultural implements, clothing et sim.) small and large livestock,⁷⁶ which could also be owned by unfree persons. Small herds of a few animals representing various species (sheep, goats, swine, cows, oxen etc.) could easily be kept in farmsteads or even in settlements, as the archaeological evidence seems to imply.⁷⁷

Specialized pastoralism as well as transhumance presuppose the existence of large flocks,⁷⁸ and this condition was not necessarily fulfilled by the Greek cities. Recent research has made plausible that small size herds prevailed in ancient Greece;⁷⁹ the importance the raising of stock had for ancient diet was also limited, as about 2/3 of the daily food energy requirement were covered by the annual cereal crop.⁸⁰ We should not take for granted that Crete was an exception, especially as direct evidence for large-scale breeding of livestock is lacking. Except for some indirect evidence of the archaic and classical times (§3.3.1) it is basically in the Hellenistic age that we recognize specialized pastoralism. For this task we may rely on two criteria: a) the seasonal movement of herds (transhumance); b) the presence of specialized shepherds and breeders of livestock.⁸¹

74 On the necessity of differentiating between animal husbandry and pastoralism see WHITTAKER 1988, 1; on the conditions for the development of specialized pastoralism *ibid.*, 3–4; cf. HALSTEAD 1987, 79–81; CHERRY 1988, 7–8, 17.

75 In general see HODKINSON 1988, 38–51; cf. the critical remarks of SKYDSGAARD 1988, 76–84.

76 I. Cret. IV 72 col. IV 31–37 = KOERNER 1992, no 169: “And the case (the father) should die, the city houses and whatever there is in those houses in which a serf living in the country does not reside, and the livestock, small and large, which do not belong to a serf, shall belong to the sons” (translated by WILLETTTS 1967, 218). Cf. col. 39–44; I. Cret. IV 75 B 7 = KOERNER 1992, no 147 (Gotyn, 5th c.).

77 E. g. HAGGIS-NOWICKI 1993, 327–328.

78 HALSTEAD 1987, 79

79 HODKINSON 1988, 62–63.

80 FOXHALL-FORBES 1982.

81 On these criteria cf. HODKINSON 1988, 50–51, 55–56; SKYDSGAARD 1988, 75–76; CHERRY 1988, 8 (on prehistoric Greece).

Large herds require a large amount of grazing land in contrasting climatic zones. Pasture can sometimes only be found at some distance from the settlement. Consequently, the seasonal movement of the flocks from the mountain pastures to the winter quarters of the coastal plains and vice versa (transhumance) is necessary. This task can only be undertaken by specialized shepherds, who must be taken from other productive activities and be devoted to the grazing of the livestock. The status of such herdsmen may be very different, e. g. serfs, slaves or just the family's youngster.⁸²

Whereas for the second criterium (specialized shepherds) we have no other information than a few and not very reliable literary sources (anecdotes, dedications, Hellenistic epigrams), for the first criterium (transhumance) we have to our disposal the rich documentary material of the Hellenistic age, especially treaties between Cretan cities. These sources document specialized pastoralism in certain areas and indicate to some extent under what conditions (rising population, social pressure) this phenomenon appeared.

3.2. Transhumance on Crete: The geographical factor and the modern experience

The term "transhumance" is used in the historical and geographical research with a variety of meanings which correspond to the wide variety of practices related to the seasonal movement of people and livestock.⁸³ In the case of modern Crete the term usually designates the seasonal movement of individual shepherds (not whole households), living mostly in the mountainous villages of the island (400–700 m above the sea-level), to winter quarters situated in the coastal plains (χειμαδιά) or to summer pastures of the upland plains.

Crete is a "mountain in the sea",⁸⁴ with 55% of its surface being highlands (400–2.456 m above the sea-level);⁸⁵ the few but fertile plains do not cover more than 3,6% of the surface (ca. 300 km²). What is more significant is, however, the fact that many regions are not suitable for a manifold economic activity throughout the whole year; the summer is in some areas extremely hot, with almost no rainfall in July and August; other regions, especially the mountainous areas of Psiloritis (Mt. Ida) and the White Mountains of

82 Cf. ROBERT 1949a; AUDRING 1985; HODKINSON 1988, 55; ISAGER-SKYDSGAARD 1992, 100–101.

83 On "transhumance" and its various forms in general see e. g. GEORGOUDI 1974, 155–160; HALSTEAD 1987, 79–81; HODKINSON 1988, 51–58; GARNSEY 1988, 198–203; ISAGER-SKYDSGAARD 1992, 99–101.

84 MATTON 1957, p. 13. On the importance of the mountains for the Cretan economy and society see CHANIOTIS 1991 and 1993.

85 ALLBAUGH 1953, 42, 471 pl. A8.

West Crete, which offer excellent pasture in the summer, are inadequate for habitation and agricultural activity in the winter.⁸⁶

These geographical conditions favour the seasonal moving of the livestock (especially sheep and goats). Only the technological developments of recent times (construction of roads, new possibilities for the transportation and the storage of food, irrigation etc.) have brought significant changes to Cretan pastoral economy. The transhumant character of the breeding of sheep in modern Crete is a well known phenomenon.⁸⁷ In order to keep their livestock (mostly sheep, but also goats) the Cretan herdsmen need from March to September (in some regions until December)⁸⁸ pasture on the mountains (called *μαδάρες* in West Crete); each owner of livestock receives a parcel of the communal pasture, on which one or more stone-huts (*μιτάτα*), huts (*χατούνες*), and grottos offer shelter to him and his animals. The shepherd spends at his *mitato* the summer and autumn months, in general without his family. In the rest of the year (from September/December until the spring bathing of the sheep in the sea) the herds are kept at the warm coastal plains (*χειμαδιά*) or on the small islets near the Cretan coasts (*Γαῦδος*, *Γαυδοπούλα*, *Θοδωροῦ*, *Γραμβοῦσα*, *Ἀγριογραμβοῦσα*, *Γαῖδουρονήσι*, *Ντία* etc.). The main problems of transhumance in modern Crete are the limited water resources and the notorious *ζωοκλοπή*, the animal-theft, which sometimes takes the form of organized raids.⁸⁹

Since these geographical conditions have not changed since the ancient times, one logically expects that the ancient Cretans must have responded to the problems imposed upon them by their environment with similar practices.⁹⁰ But things are not as simple as that; except for the fact that we cannot

86 See e. g. WAGSTAFF 1972, 276–280 and RACKHAM 1972, 284 on the region of Ierapetra (the ancient Hierapytna); NIXON-MOODY-RACKHAM 1988, 167–170 on Sphakia (West Crete); HAYDEN-MOODY-RACKHAM 1992, 307–315 on Vrokastro (East Crete).

87 An informative description is given by MAVRAKAKIS 1985, 46–81 (especially on West Crete); cf. FAURE 1964, 24–25, 46–47, 217–220; Harzfeld 1985; NIXON-MOODY-PRICE-RACKHAM 1989, 212–213. On the vocabulary of the modern Cretan transhumance see XANTHUIDIS 1918. Many Cretan folk-songs reflect the life of transhumant shepherds: see e. g. APOSTOLAKIS 1993, 475–489.

88 Cf. the ancient sources on the duration of transhumance: GEORGOUDI 1974, 167–169.

89 FAURE 1964, 218; HERZFELD 1985, *passim*, esp. 3–4, 9–11, 20–33, 38–50, 163–205. Animal-theft is also a common motif of the Cretan folk-songs: e. g. APOSTOLAKIS 1993, nos 703–705, 707, 710–711, 715–716, 728.

90 This has been often assumed: cf. the bibliography cited by CHERRY 1988, 13–14. See however the critical remarks of HALSTEAD 1987, 77–79 against the uncritical use of traditional practices as analogies for antiquity; CHERRY 1988, 14–17 shows the problems of this environmentally determined view of ancient pastoralism; cf. HODKINSON 1988, 38, 50–51; GARNSEY 1988, 203–204.

take for granted that deforestation, which has provided the Cretan pastoral economy with large pastures on the mountains, had occurred in analogous dimensions already in ancient Crete,⁹¹ there is a major difference between the political geography of the island in the Dorian period and in modern times: From the Roman conquest onwards Crete always constituted a political and administrative unity;⁹² in the archaic, classical, and Hellenistic times it did not. For the classical and Hellenistic period we know of at least 57 independent states.⁹³ The subsistence of these numerous small communities depended on the possibilities of developing a variety of economic activities (especially farming and animal husbandry); for these the Cretan communities did not need so much an extensive territory, as a territory with a variety of soils, adequate for diverse activities in the various seasons.⁹⁴ Crete offers this variety of soils and

91 On the importance of deforestation for large-scale pastoralism cf. HALSTEAD 1981, 325; CHERRY 1988, 15; Hidkinson 1988, 54; SKYDSGAARD 1988, 76; GARNSEY 1988, 205–206. On the literary and epigraphic evidence for forests in ancient Crete see CHANIOTIS 1991.

92 On the importance of this factor in Cretan history (esp. in the time of the Linear-B texts) see BENNET 1990. For the significance of political structures (esp. of political unity) for the practice of transhumance see GEORGIOUDI 1974, 172; CHERRY 1988, 16; HODKINSON 1988, 56–57; SKYDSGAARD 1988, 80; GARNSEY 1988, 204.

93 The lists of P. FAURE (1959; 1960; 1963; 1965a; 1993) have to be revised; this revision cannot be undertaken here. Taking into consideration the distinctive features of sovereignty (citizenship, the issue of coins, the signing of treaties) I regard as certain the existence of the following sovereign states in the classical and Hellenistic times: the city-states of Allaria, Anopolis, Apollonia, Aptera, Aradena, Ariaioi, Axos, Biannos, Bionnos, Chersonesos, Diatonion, Dragmos, Dreros, Eleutherna, Eltynia, Elyros, Eronos, Gortyn, Herakleion, Hierapytna, Hyrta (?), Hyrtakina, Istron, Itanos, Keraia, Knossos, Kourtolia, Kydonia, Lappa, Lato, Lisos, Lyttos, Malla, Maroneia, Matalon, Milatos, Modaiioi, Olus, Petra, Phaistos, Phalanna, Phalasarna, Polichna, Polyrrhenia, Praisos, Priansos, Rhaukos, Rhithymna, Rhizenia, Setaia, Sisai, Stalai, Sybrita, Tanos, Tarrha, Tyllisos, the tribal state of the Arcadians, and the confederation of the Oreioi. The testimonia for these states are to be found in FAURE's articles cited above. Some of the above states lost their independence or were destroyed in the course of the classical and Hellenistic period (e. g. Apollonia, Dragmos, Dreros, Eltynia, Istron, Matalon, Milatos, Phaistos, Praisos, Rhaukos, Rhizenia, Setaia, and Stalai). The number of Cretan city-states was, however, certainly greater, since at least some of the settlements which had the status of a dependent community in the classical and Hellenistic period were originally independent cities which lost their sovereignty in consequence of war, synoikismos or sympolity (e. g. Acharna, Ampelos, Datala, Hydramia, Inatos, Kantanos, Katre, Kisamos, Larisa, Lasaia, Lebena, Lykastos, Oleros, Osmida, Pelkis or Pelkin, Pergamon, Poikilasion, Rhytion, Syrinthos, and Tegea).

94 Cf. the remarks of VAN EFFENTERRE 1991a, 403–404. The French survey of the region of Mallia has demonstrated the diversity of the economic activities in

climatic conditions, and this is probably the reason the island was regarded as extremely fertile in spite of its mountainous character. But the political fragmentation into numerous small states („Klein-“, „Kleinst-“, and „Zwergstaaten“ to use E. KIRSTEN's expressions) and consequently the geographical fragmentation undermined the advantages offered by the geomorphology. The numerous communities did not participate in a unified economic system; their concern for their subsistence led inevitably to conflicts.

The extensive breeding of sheep offers an excellent example of how this fragmentation affected the Cretan economy. Extensive pastoralism presupposes that a community has adequate upland pasture as well as winter quarters near the coast or on small islets. Most cities could not fulfill this condition; in this case they had to use the territories of neighbouring cities (on the basis of treaties). Transhumance meant in ancient Crete the constant crossing of innumerable borderlines, and this could easily lead to conflicts, e. g. about the division of the pasture and the export of goods, because of animal-theft or damages done to arable land. These problems could even cause wars.⁹⁵ More often they were the object of interstate agreements. Indeed, we have a great number of Hellenistic treaties between Cretan cities which include clauses about the pastoral economy, and exactly these clauses offer the best evidence for a specialized pastoralism in Crete.

3.3. Evidence for specialized pastoralism and transhumance in Crete

3.3.1. The archaic and classical periods

Diogenes Laertios reports that the legendary sage Epimenides from Knossos or Phaistos (6th century B.C.?)⁹⁶ was sent by his father to find a lost sheep in the rich pasture land of Mt. Ida (on the upland plain of Νίδα), fell asleep in Zeus' Cave, and woke up 57 years later with the mantic and expiatory

the various geographical zones: see DEWOLF-POSTEL-VAN EFFENTERRE 1963, 42–53; cf. e. g. BINTLIFF 1977, 116–117 (Agiofarango); ROBERTS 1979, 240 (Knossos); ROBERTS 1981, 5 (Knossos); WATROUS 1982, 7–8 (Lassithi); MOODY 1987, esp. 38–130 (West Crete). Cf. RENFREW-WAGSTAFF 1982, 73–180; 245–290 for Melos.

⁹⁵ See e. g. HeII. Oxy. 21,3 vv. 480–485 ed. Chambers (18,3 ed. Bartoletti). Cf. SARTRE 1979, 214–215.

⁹⁶ On the dispute about Epimenides' origin see DEMOULIN 1901, 89–93; cf. CHANIOTIS 1992a, 98 note 346.

properties which made him famous in Greece.⁹⁷ This legend shares common elements e. g. with the legendary meeting of the young shepherds Hesiodos and Archilochos with the Muses,⁹⁸ and thus should not necessarily be regarded as a reflection of reality. Nevertheless, it demonstrates that the idea that a young shepherd from Knossos or Phaistos grazed his flock in a distant summer pasture on Mt. Ida did not seem strange.

Also the late archaic decree of Lyttos (§2.2) presupposes the existence of large herds of sheep, cattle and swine, which could not be kept on the individual farmsteads and thus must have participated in a seasonal movement (possibly only to a relatively short distance from Lyttos).⁹⁹ If the contribution of a large number of sacrificial animals by the Rhizenians, mentioned in the treaty between Gortyn and Rhizenia, should be understood as a kind of tribute payment, this would imply that a large part of the population of Rhizenia occupied itself with pastoralism (above, note 49). Also the tradition that the Gortynians used to call themselves 'the cow-men' (Καρτεμνίδες)¹⁰⁰ indicates that pastoralism played an important part in the self-representation of a whole community, at least in early times. The name of the city Polyrhena, meaning 'many sheep' (note 8), provides further evidence on this matter.

Archaeological finds may also help us recognize specialized pastoralism in the archaic times. A. LEBESSI has made plausible that the archaic representations of ram-bearers on bronze-statuettes and bronze-sheets found in various sanctuaries, always on Cretan mountains (sanctuary of Hermes in Simi, Zeus' cave on Mt. Ida, cave of Psychro, late 7th c.), were the dedications of wealthy citizens, who derived their wealth from their abundant flocks.¹⁰¹ It has been suggested that at least some Minoan "peak sanctuaries", which are distributed in areas of upland pastures and where very large numbers of terracotta models representing sheep, cattle, and other animals are found, were closely

97 Diog. Laert. 1,109: Οὗτός ποτε πεμφθεις παρὰ τοῦ πατρὸς εἰς ἀγρὸν ἐπὶ πρόβατον, τῆς ὁδοῦ κατὰ μεσημβρίαν ἐκκλίνας ὑπ' ἄνθρωπον τινα κατεκοιμήθη ἐπὶ καὶ πεντήχοντα ἔτη. On the identification of this cave with the Idean Cave see DEMOULIN 1901, 95-99; FAURE 1964, 116 note 1.

98 MÜLLER 1985, 101-110.

99 On transhumant movements to short distances see HODKINSON 1988, 53.

100 Hesych., s. v. Καρτεμνίδες· οἱ Γορτύνιοι; cf. Hesych., s. v. χάρτην· τὴν βοῦν Κρήτες; see WILLETTS 1962, 155 note 57.

101 LEBESSI 1989; cf. HODKINSON 1988, 36 (in general). The cult of Apollo Karneios (WILLETTS 1962, 265-266; cf. NILSSON 1906, 123-124) and the festival Hyberboia (WILLETTS 1962, 108-109), attested in Crete, may be also related to pastoralism. Cf. also I. Cret. II,xxiii 11 (Polyrhena, 2nd c.) on the possible cult of a heros Boudamon (cf. Hippodamon, explained by M. GUARDUCCI ad loc. as *qui boves domat*).

connected with pastoral economy;¹⁰² similarly, the popularity of certain cult places on the Cretan mountains in historical times, might be an indication of increased pastoral activities.¹⁰³ For the early period we may also add that L.V. WATROUS has argued that the LM III c settlement of Karphi may have served as a summer quarter of transhumant shepherds.¹⁰⁴

Pastoralism probably left its traces also in Cretan place-names, which probably go back to this early period. Beside the name of the city Polyrrhenia, we may note that Ardanitos, probably in the borderland of Hierapytna and Praisos (below, note 110), is a place-name closely related to pastoral activities; according to a gloss of Hesychius ἀρδανία designates a water-reservoir used for the watering of the sheep and cattle.¹⁰⁵ The relation to animal husbandry is more problematic in the case of Cretan mountains named after animals, since it is not clear if we are dealing with domesticated livestock: e. g. Αἰγᾶϊον ὄρος ("the mountain of the wild? goats"),¹⁰⁶ Τίτυρος ("the mountain of the billy-goats"),¹⁰⁷ and Ὑῶν ὄρος ("the mountain of the pigs or boars?").¹⁰⁸

Unfortunately, for the archaic times we have to content ourselves with these sparse and equivocal sources. For the classical period there is a lack of any evidence for transhumance and specialized pastoralism (except perhaps for the treaty between Gortyn and Rhizenia).

3.3.2. The Hellenistic period

The evidence for specialized pastoralism and transhumance becomes rich only in the Hellenistic period. To some extent this is due only to the fact that the Hellenistic age provides us with more sources than the earlier periods of Cretan history; but we can not exclude the possibilities that the augmentation

102 BINTLIFF 1977, 148–155; cf. HALSTEAD 1981, 331; CHERRY 1988, 11–12.

103 Cf. §3.5. On cult places on the Cretan mountains see e. g. CHANIOTIS 1988b, 22 note 4. The use of caves as places of worship on Crete in prehistorical times is at least partly connected with pastoral economy: FAURE 1964, esp. 130–139, 150, cf. 46–47, 217–220.

104 WATROUS 1977, 3–4; WATROUS 1982, 19–20; but see the remarks of NOWICKI 1987, 31. For the difficulties in identifying ancient enclosures for herding purposes in the archaeological record see MOODY-GROVE 1990, 191; such an enclosure has been excavated in Macedonia: EFSTRATIOU 1991. On seasonal settlements in prehistoric Crete: BINTLIFF 1977, 116–117; CHERRY 1988, 10; in ancient Greece: VOKOTOPOULOU 1986, 340–345, 374–376 (summer settlement of Molossian stockbreeders at Vitsa, on Mt. Pindos, 9th–4th century); for modern Crete see e. g. CHALIKIOPOULOS 1903, 125–126.

105 Hesych., s. v. ἀρδανία, αἱ τῶν κεραμίων γάστραι, ἐν οἷς τὰ βοσκήματα ἐπότιζον; cf. MAIURI 1911, 660–661.

106 Hesiod., Theog. 484; FAURE 1965b, 428.

107 Stadiasmus maris magni 340–341.

108 Staatsverträge 148 B 6.

of the evidence reflects a change in economic patterns, whose origins should be looked for in demographic and socio-economic developments. We will have to return to this matter later (§4).

The most reliable sources for the question of pastoralism and transhumance are the Hellenistic treaties between the Cretan cities: The treaties concern themselves with those crucial aspects of economic life, which tended to lead to conflicts or could become the object of interstate cooperation.¹⁰⁹ To a very large extent the economic regulations in the Cretan treaties pertain directly or indirectly to animal husbandry; this fact alone would suffice to demonstrate the rising importance of pastoral economy in Hellenistic Crete.

A treaty between the neighbouring cities of Hierapytna and Praisos in East Crete (early 3rd century B.C.) includes a detailed regulation about the right of the citizens of the one city to use the pasture of the other: "The Hierapytnian shall have the right to graze (his flocks) on the land of the Praisians, with the exception of the sacred enclosures at Ardanitos and Daros, and similarly the Praisian on the land of the Hierapytnians, on the condition that they will do no damage and return each to his own land; and if a Hierapytnian chooses to keep his flock on the land of the Praisians, he shall have a Praisian (citizen) as (his) mediator; similarly, if a Praisian chooses to keep his herd on the land of the Hierapytnians, he shall have a Hierapytnian (citizen) as (his) mediator."¹¹⁰ This regulation differentiates between a) the occasional use of the pasturage of the neighbouring city by shepherds who kept their herds on the territory of their native city (certainly in the mountainous borderland of Hierapytna and Praisos) and b) the seasonal movement of animals from the warm coastal plains and the lowlands to the uplands pastures and vice versa (transhumance). For the latter practice the verb αὐλοσταντεῖν is used, a composite of αὐλή, a word used in the Greek sources specifically in connection with transhumance.¹¹¹ Both phenomena, the occasional grazing on the land of the neighbouring city and the long-term keeping of herds there, presupposes

109 Edition with detailed commentary in my book „Die Verträge zwischen kretischen Städten in hellenistischer Zeit“ (forthcoming).

110 Staatsverträge III 554 B 33–68: ἐπινομά / [δ'] ἔστω τῷ³⁵ / [ι τε] Ἱεραπ[υτνί]ωι ἐν τ/[αῖ Πρ]αισίαι, / [χ]ῶρι τῶν τ/[ε]μενέων⁴⁰ / τῶν ἐν Ἀρ/δανίτοι κ/αὶ ἐν Δαροι, / καὶ τῷ Πρ/αισίωι ἐν τ⁴⁵/αῖ Ἱεραπ/υτνίαι, ἀ/σινέας ἐόν/[τα]ς δὲ καὶ / ὄνοντας [ε]⁵⁰/κατέρος ἐς / τὰν ἰδίαν / αἱ δὲ κα λῆι ὁ / [Ἱ]εραπύτνι/ος αὐλοστ⁵⁵/ατ⁻εν ἐν τᾷ[ι] / Πρ(α)ίσαι, σ/υγκριτὰν ἐ/χέτω Πραί/σιον ὡσαύ⁶⁰/τως δὲ καὶ / ὁ Πραίσιος α[ι] / κα λῆι αὐλ/οστατ⁻εν ἐ/ν τᾷ Ἱεραπ⁶⁵/υτνίαι, συν/κριτὰν ἐχέ/τω Ἱεραπύ/τνιον. For discussion see below, 3.4.1.

111 On αὐλή, ἔπαυλος, σύναυλος, σταθμός in connection with transhumance see SKYDSGAARD 1988, 74–75 (without the verb αὐλοσταντεῖν). Cf. also the verbs ἐναυλοσταντεῖν (I. Cret. III, vi 9 1. 82, lex sacra of the sanctuary of Zeus Diktaios in East Crete) and αὐλιζειν (SEG XXIII 305 III 6–7; treaty between Myania and Hypnia, ca. 190 B.C.).

an intensive occupation of a part of the population with the raising of livestock, clearly exceeding the husbandry on the agro-pastoral farm. Further, it is clear that we are dealing with *citizens* (ὁ Ἱεραπύτνιος, ὁ Πραίσιος) occupying themselves for a great part of the year with the breeding of animals. At least a part of the population of Praisos and Hierapytna was therefore practicing specialized pastoralism in connection with transhumance. This conclusion can be strengthened by further treaties of Hierapytna. A treaty with Priansos concerns itself with the same issue, the use of grazing land: "If anybody grazes (his flock), he shall be exempted from charges; but if he does any damage, he shall pay the fine according to the laws of each city (i. e. the city where the damage was done)".¹¹² The same regulation can be restored in another treaty between Hierapytna and the neighbouring community of the Arcadians: "[If the Hierapytnian grazes (his flock) on the land of the] Arcadians or the Arcadian on [the land of the Hierapytnians, he shall be exempted from charges; but if they] do any damage, they shall pay [the fines according to the laws] that exist [in each city]".¹¹³ All three treaties pertain to the mutual use of pasture land (probably at the frontier), the exemption from charges (§3.4.2), and the punishment for damages done to the arable land by the livestock (§3.4.1).

Such regulations are known so far only from treaties of Hierapytna with other Cretan cities; the assumption that Hierapytna was facing in the 3rd and 2nd centuries B.C. certain problems related with pastoralism seems quite reasonable. We will have to return to this question later (§4). We should further bear in mind that these treaties of Hierapytna were not concluded only with neighbouring communities (Praisos, the Arcadians), but also with a city with which Hierapytna did not have a common border (Priansos). The Hierapytnians had to cross the territory of two other cities (Biannos, Malla), in order to bring their flocks to the territory of Priansos; analogous treaties with Biannos and Malla probably enabled the seasonal movement of the Hierapytnian flocks.¹¹⁴

These three treaties offer direct evidence for transhumance in Hellenistic Crete. On the basis of this direct and unequivocal testimonia we can understand properly a series of legal sources (§3.4) which concern themselves with

112 I. Cret. III,iii 4 II. 28-30 (early 2nd c. B.C.): εἴ τις κα νέμ[η] ἀτελῆς ἔστω· αἱ δὲ κα σίνηται, ἀποτεισά/τω τὰ ἐπιτίμια [δ] σι[νό]μενος κατὰ τὸς νόμος τὸς ἐκατέρη χει/μένος.

113 Staatsverträge III 512 II. 1-3 (late 3d c. B.C.): [εἰ δὲ κα νέμῃ ὁ μὲν Ἱεραπύτνιος ἐν ταῖς Ἀρχαῖς/δων ἢ ὁ Ἀρχὰς ἐν ταῖς Ἱεραπυτνίων χώραι, ἀτελῆς ἔστω· εἰ δὲ κα σί[ν]ωνται, ἀποτινόν[των τὰ ἐπιτίμια κατὰ τὸς νόμος τὸς ἐκατέρη] κειμένος (restored by me on the basis of the analogy to the treaty between Hierapytna and Priansos).

114 I. Cret. III,iii 6 (early 3d c. B.C.) may be a treaty between Hierapytna (I. 7) and Biannos (in I. 5 we may restore τοῖς Β[ιαννί]οις).

problems of pastoral economy. As already mentioned, the majority of the clauses which concern economic matters in the Hellenistic treaties of Crete are related with animal husbandry. These clauses are always to be found in isopolity-treaties, with which two Cretan cities mutually granted citizenship to those citizens who were willing to make use of it.¹¹⁵ The isopolity-treaties (especially those concluded between Hierapytna and other Cretan communities) allowed the citizens of the one city to use the pasturage of the other. These regulations permitted both the occasional use of the pasturage of the neighbouring city (probably at the borderland) as well as the seasonal movement of livestock. Both practices could raise a series of issues: the payment of charges, the assignment of pasturage, the payment of customs for the crossing of the borders by the shepherds together with their herds and their personal belongings, the safety of the roads, animal-theft, and the damages done to the arable land by the moving animals. It is exactly these issues which are the object of interstate agreements in Hellenistic Crete.

3.4. Pastoralism in the isopolity-treaties of Hellenistic Crete

3.4.1. Assignment of pasturage and the protection of arable and sacred land

Several isopolity-treaties of Hierapytna with neighbouring communities make provisions so that the Hierapytnians were allowed to use the pasture of the other community and vice versa.¹¹⁶ With one exception (Priansos) these trea-

¹¹⁵ On isopolity-treaties in general see GAWANTKA 1975.

¹¹⁶ Staatsverträge III 554 II. 33-68 (Hierapytna-Praisos, early 3rd c.); Staatsverträge III 512 II. 1-3 (Hierapytna-Arcadians, late 3rd c.); I. Cret. III,iii 4 II. 27-30 (Hierapytna-Priansos, early 2nd c.). For these texts see above, notes 109, 111, and 112. A similar clause can be restored in the treaty between Hierapytna and Lato (ca. 111 B.C.): SEG XXVI 1049 II. 13-15: [ἐπινομά δ' ἔστω τῷ Λατίῳ ἐν ταῖς Ἱεραπύτναις τῶν χωρῶν χωρὶς εἰ?] ἐν τῷ τεμένει [—, / ὡσαύτως δὲ τῷ Ἱεραπύτνῳ ἐν ταῖς Λατίων χωρῶν —]. Because of the mention of a temenos the editors of this inscription restored here the clause about the erection of a stele with the text of the treaty in a temenos of Eileithyia. This restoration is undoubtedly wrong, since the clause about the erection of the stele appears in II. 45-47. The clause in question appears among clauses regulating the citizenship and the economic privileges of the persons who made use of the isopolity (enktesis, exports etc.); therefore, the word temenos is probably used in connection with sacred land exempted from pasture (cf. Staatsverträge III 554 B 33-42: ἐπινομά / [δ'] ἔστω τῷ³⁵ / [ι τε] Ἱεραπ[ύτν]ῳ ἐν τ[ῇ] Πρ[α]ισοῖ, / [χ]ῶρῃ τῶν τ[ῆ] μενέων⁴⁰ / τῶν ἐν Ἀρ[α]νίταις καὶ ἐν Δαροῖ). The verb νέμειν ("graze") can be read in the fragmentary treaty between Axos and Tylisos (late 3rd c.), probably in a similar clause: Staatsverträge III 570 I. 7.

ties were concluded with communities, with which Hierapytna had a common border: Praisos, the tribal state of the Arcadians, and Lato.

Presumably the pasture was situated on the common borderland; in one case (Hierapytna-Praisos) the use of the pasture is allowed on condition that the shepherds had to return to the territory of their native city after the grazing.¹¹⁷ This clause concerns the occasional grazing of flocks on the borderland and not the transhumance. It has a certain similarity to the joint use of the borderland by two states attested in mainland Greece. Instead of setting boundaries to a disputed frontier region, the cities involved agreed to use these areas in common (κοινὰ χῶραι).¹¹⁸

In case the shepherds used the foreign territory for a long-term seasonal stay the question of the assignment of pasture and the payment of customs (§3.4.2) arose. The long-term keeping of flocks on foreign territory is explicitly stated in the treaty between Hierapytna and Praisos (note 110) and implied by the treaty between Hierapytna and Priansos (note 112), since the two cities did not have a common frontier. The procedure followed in this case is described in detail in the isopolity-treaty between Hierapytna and Praisos: "If a Hierapytnian choses to keep his herd on the land of the Praisians, he shall have a Praisian (citizen) as (his) mediator (συγκριτής); similarly, if a Praisian choses to keep his herd on the land of the Hierapytnians, he shall have a Hierapytnian (citizen) as (his) mediator". The duties of this mediator can be explained easily. The pasture-land has always been (since the time of the Linear B texts) public land; all the citizens were allowed to use it.¹¹⁹ In modern Crete each family of a community is assigned a certain parcel of the communal pasture, and this assignment remains valid for generations.¹²⁰ It is clear that the penetration of foreign shepherds and their flocks in such a traditional order could result to conflicts with the native shepherds (not unknown in modern Crete). Presumably, it was the duty of the local "mediator" (συγκριτής), who had good knowledge of the territory and its traditional distribution among the shepherds of his city, to arbitrate in these conflicts and to see that the foreign shepherd used the pasture assigned to him.¹²¹

117 Staatsverträge III 554 B 33-68: ἐπινομὰ / [δ'] ἔστω τῷ³⁵ / [ι τε] Ἱεραπ[ιτν]ιω ἐν τ/[αι Πρ]αισίαι, / ... ὄντων [ἐ]⁵⁰ / κατέρος ἐς / τὰν ἰδίαν. Cf. WILHELM 1921, 20.

118 E. g. SEG XI 377; cf. IG IV²1,75 (Hiernione-Epidauros). On the κοινὰ χῶραι see DAVERIO ROCCHI 1988, 37-40; SKYDSGAARD 1988, 80.

119 See e. g. GSCHNITZER 1981, 36; AUDRING 1989, 77.

120 MAVRAKAKIS 1985, 46-48.

121 Cf. REINACH 1911, 380, 389-390; GUARDUCCI 1942, 81; SCHMITT 1969, 330 („Flurrichter“); PETROPOULOU 1985, 51; VAN EFFENTERRE-VAN EFFENTERRE 1985, 183 note 100.

A common problem connected with the seasonal movement of the livestock over long distances was the damage done to the arable land and the crops.¹²² The treaty between Hierapytna and Priansos (note 112) concern itself with such damages: "If anybody grazes (his flock), he shall be exempted from charges; but if he does any damage, he shall pay the fine according to the laws of each city (i. e. the city where the damage was done)". A similar clause can be restored in the treaty between Hierapytna and the Arcadians (note 113). Also the expression ἀσινέας ἐόντας ("doing no damage") used in the treaty between Hierapytna and Praisos in relation to the shepherds, who had to return to their native city after the grazing of their flocks, certainly refers to the damage the livestock (above all the goats) could cause to the crops.¹²³

Finally, measures were taken for the protection of sacred land from cattle and sheep. A *lex sacra* concerning the sanctuary of Zeus Diktaios in East Crete forbids the use of the sacred land for grazing (ἐννέμειν) and seasonal keeping of livestock (ἐναυλοστατεῖν).¹²⁴ The treaty between Hierapytna and Praisos (note 110) exempts two sacred enclosures (τεμένη)¹²⁵ in Ardanitos and Daros, and a similar clause can probably be restored in a treaty between Hierapytna and Lato (note 116).

3.4.2. Charges for pasture

The three Hierapytnian treaties presented above (§§3.3, 3.4.1) show that the Cretan cities imposed charges for the use of their pasture land. However, there still exists a controversy among the scholars whether these charges had to be paid by citizens and foreigners alike (unless the latter were exempted from them). This problem is connected with the interpretation of the term ἐπινομά (ἐπινομή or ἐπινομία in the inscriptions of other areas) used in the isopolity-treaty between Hierapytna and Praisos (note 110). The term *epinome/epinomia* has been interpreted as follows:

122 See e. g. ROBERT 1949b; MAMA IV 297. For Crete c. f. above, note 54.

123 SCHMITT 1969, 330 and MAREK 1984, 148 translate: "without suffering any harm"; but the analogous clause in the treaty between Hierapytna and Priansos makes clear that damages *done by* and not to the shepherds are ment; cf. LSJ, s. v. ἀσινής.

124 Above, notes 17 and 111. Cf. similar *leges sacrae* from other areas: LSCG 67 (Tegea, 4th c.); 79 (Delphi, 178 B.C.); 84 (Korope, ca. 100 B.C.); 104-105 (Ios, 4th c.); 116 (Chios, 4th c.); 136 (Ialysos, ca. 300 B.C.); Syll³963 (Arkesine, 4th c.).

125 *Temenos* can also mean *territorium certe definitum* (GUARDUCCI 1942, 80; cf. SCHMITT 1969, 330); however, in the Cretan inscriptions it is usually used in the sense of "sacred enclosure": cf. BLE 1988, 360; PETROPOULOU 1985, 51, 85.

1) According to J.H. THIEL *epinomia* means in principle the right of an alien to use the pasturage of a community; this right could be offered either to an individual (with an honorific decree) or to a whole community (with a treaty). According to this interpretation the recipients of the *epinomia* acquired the right to use the pasture land of a foreign community, having to pay the same charge as the citizens.¹²⁶ This view presupposes that the citizens did pay charges for the use of the public pasturage.

2) According to D. HENNIG *epinomia* means the *exemption from charges* for the use of public pasturage, and not the right of grazing; recipients of this privilege could be citizens and aliens alike. HENNIG's view finds a strong support in the fact that in Boeotia the privilege of *epinomia* was eventually given to citizens; since the citizens had the right to use the communal pasture anyway, this additional privilege can only mean their exemption from charges.¹²⁷

3) Finally, according to Chr. MAREK the citizens did not pay any charges for the use of public pasturage; this constituted one of the citizen-rights. The term *epinoma*, attested only in the isopolity-treaty between Hierapytna and Praisos, designated the transfer of this citizen-right to the citizens of the city which signed the isopolity-treaty.¹²⁸

MAREK's interpretation is obviously wrong. We know that in Crete the citizens paid taxes and charges to their cities for all their activities (agriculture, fishing, mercenary service etc.),¹²⁹ also for the cultivation of public land.¹³⁰ Therefore, the citizens must have paid charges for the use of public pasture as well. Since HENNIG's interpretation is the only one substantially supported by the sources, we may assume that in Crete too *epinoma* meant the right of an alien to use the pasture land of the partner-city without paying any charges. In other words *epinoma* would be the right explicitly described in the treaty between Hierapytna and Praisos: "If anybody grazes (his flock), he shall be exempted from charges".¹³¹

126 THIEL 1926, 54-60; cf. PETROPOULOU 1985, 50 note 221.

127 HENNIG 1977, 130 note 24; cf. HODKINSON 1988, 51-52

128 MAREK 1984, 148-149 („Die Besonderheit in diesen kretischen Städten muß freilich darin liegen, daß hier in der Tat die Nutzung des kommunalen Weidelandes ohne Abgaben ein Bürgerrecht war, welches die Vertragspartner sich im Zuge der Isopolitievereinbarungen gegenseitig gewähren.“).

129 The various taxes, charges, and duties have been collected by PETROPOULOU 1985, 79-80.

130 I. Cret. III,iii 4 I. 18-21 (Hierapytna-Praisos).

131 I. Cret. III,iii 4 I. 28: εἰ τις καὶ νέμ[η]ι ἀτε]λὴς ἔστω. Nevertheless, the alternative interpretation, that the privileged aliens paid the charges on the same favorable conditions as the citizens, should not be excluded. This latter procedure is mentioned in the treaty between Hierapytna and Praisos (I. Cret. III,iii 4 I. 18-21) in relation to the cultivation of public land: ἐξέστω δὲ... σπειρέν...

3.4.3. The crossing of borders and the question of customs

As we have already seen, the seasonal movement of animals meant the periodical crossing of the borders. In the case of Hierapytna, if its shepherds made use of the treaty with Priansos and brought their flocks in its territory, they had to cross the territory of two other cities, Biannos and Malla. A movement over long distances is not surprising; in modern times the transhumant shepherds of Sphakia in West Crete bring their herds to the coastal areas south of the Messara plain (Lasaia, Agiopharango) and near Rhetymnon (Central Crete), and the shepherds of Mt. Ida use winter quarters in Sitia in East Crete or in Kaloi Limenes in South Crete.¹³²

These seasonal journeys over long distances were not only connected with dangers (§3.4.4), but also with high costs; in principle, the alien had to pay customs for the import and export of goods, unless he was freed from them by the foreign city. Beside their sheep and goats the transhumant shepherds carried personal belongings and were sometimes accompanied by slaves. In addition to that, various transactions could take place during the journey and during their stay in the foreign city: The sale of the meat, wool, and skins of animals, the sale of newborn animals, the purchase of items necessary for the living of the shepherds etc. Finally, on returning to their native city the shepherds brought back not only the herds they had taken to the summer or winter pasturage, but also the newly born animals. The importance of these issues can be clearly seen in a treaty between the Aigaieis and the Olympenoi in Asia Minor (4th/3rd century), which regulates the exemption from customs for the import and/or export of certain items (garments, food and wine, newborn sheep etc.) by transhumant shepherds.¹³³

If transhumance did take place in a large scale in Hellenistic Crete, we should not be surprised to find regulations about these issues in the treaties. Indeed, numerous treaties of isopolity or alliance concern themselves with the question of export (ἐξαγωγή) of goods from the territory of the parties to the agreement. The relevant clauses provide, in principle, that the citizens of the partner-city were exempted from customs, if the export took place *by land*. For exports at sea the aliens paid the customs provided by the laws of the city, where the export took place; they also had to take an oath that they were

διδῶσι τὰ τέλεα καθάπερ οἱ ἄλλοι πολῖται. Cf. CHANIOTIS 1986. MAVRAKAKIS 1985, 48 reports that in modern Crete the charge for pasturage paid by foreign shepherds is double as high as the one paid by the local owners of livestock.

132 BINTLIFF 1977, 630; HERZFELD 1985, 38. Other examples in FAURE 1964, 24-25; MAVRAKAKIS 1985, 50.

133 Staatsverträge III 456; for a discussion see GEORGOUDI 1974, 176-178; cf. HODKINSON 1988, 51-52.

exporting items for their own use.¹³⁴ A. PETROPOULOU has interpreted these clauses as an effort of the Cretan cities to intensify the trade;¹³⁵ according to her, the Cretan cities did not demand customs for exports by land, because these exports were insignificant. However, if we take into account a) the lack of any sources attesting an intensive trade activity in Hellenistic Crete, b) that these clauses appear in treaties which also regulate the right of pasture, and c) that the only group of persons, who could profit from the exemption from duties for exports by land, were the transhumant shepherds who had no alternative than to use the land routes, it seems plausible to bring these regulations in connection with transhumance. Because of the geographical conditions of Crete transport by land was advantageous basically only for sheep and goats; all other goods could more easily be promoted at sea. As a matter of fact, all the cities which concluded these treaties had harbours.

Closely related to these clauses about the export of goods is a clause in the treaty between Hierapytna and Priansos, which gives the citizens of the two cities the right to bring their possessions in safety into the territory of the partner city: "If a Hierapytnian brings something in safety into Priansos or a Priansian into Hierapytna, he is allowed to import or export it as well as its produce by land and at sea without paying any customs; but if he sells any of the goods he had brought to safety, if the export takes place at sea, he has to pay the customs provided by the laws of each city".¹³⁶ In spite of the complicated formulation, it is clear that this clause permitted the citizens of the two cities to bring their belongings in case of war or another danger to the territory of the partner-city and to re-export them without having to pay any

134 I. Cret. IV 186 B I. 15-18 (Gortyn-Lappa): ἐξα γωγὰν δ' ἤμεν τῶι τε Γορτυνίῳ Λάπ/παθεν καὶ τῶι Λαππαίῳ Γορτύναθεν πάντων, κατὰ γὰν μὲν / ἀτελεῖ, κατὰ θάλασσαν δὲ καταβάλλοντανς τέλη κατὰ τὸν / νόμον τὸν ρεκατέρη κειμένους ὑπὲρ τῶν ἐνλιμενίων; I. Cret. I, xvi 5 II. 15-17 (Lato-Olus): ἐξαγωγὰν δὲ (ἤ)μεν τῶι τε [Λ]ατίῳ ἐξ Ὀλόντος καὶ τῶι Ὀλοντίῳ ἐγ Λατῶς, κατὰ γὰ / ν μὲν ἀτελές, κατὰ θάλασσαν δὲ κατ[αβάλλονσι τὰ τέλια κατὰ τὸς ἑκατέρῃ κειμένος νό] / [μ]ο[s], ὁμόσανσι ἐς ἴδιαν χρήαν ἐξάγην; cf. I. Cret. I, xviii 9 B 3-5 (Lyttos-Olus); I. Cret. IV 174 I. 34-37 (Gortyn-Hierapytna-Priansos); SEG XXVI 1049 II. 20-23 (Hierapytna-Lato); PETROPOULOU 1991, 52-53 E 6 II. 18-22 (Eleutherna-Aptera). Similar regulations may be restored also in Staatsverträge III 512 II. 31-37 (Hierapytna-Arcadians); Staatsverträge III 583 I. 9 (Hierapytna-Lato). Probably the "isopolits" had to pay the customs on the same (favorable) conditions as the citizens: see CHANIOTIS 1986.

135 PETROPOULOU 1985, 63-68.

136 I. Cret. III, iii 4 II. 21-27: Εἰ δὲ τί / κα δ' Ἱεραπύτνιος ὑπέχθηται ἐς Πρίανσ[ι]ον ἢ ὁ Πριανσιεύς / ἐς Ἱεράπυτναν ὀτιοῦν, ἀτελέα ἔστω καὶ ἐσαγομένῳ καὶ / ἐξαγομένῳ αὐτὰ καὶ τούτων τὸς καρπὸς καὶ κατὰ γὰν / καὶ κατὰ θάλασσαν ὧν δέ κα ἀποδῶται κατὰ θάλασσαν ἐώ/σας ἐξαγωγὰς τῶν ὑπεχθεσίμων ἀποδότη τὰ τέλεα / κατὰ τὸς νόμος τὸς ἑκατέρῃ κειμένος.

customs.¹³⁷ Since Hierapytna and Priansos did not have a common border, it is obvious that only two groups of persons could make use of this privilege: shepherds and pirates. The shepherds wandering in the frontier areas were exposed to the dangers of wars and raids more than anybody else. The treaty considers also the "produce" of the belongings brought to safety (καρποί), i. e. the offspring of the livestock of the transhumant shepherds.¹³⁸ If "goods" brought to safety were sold in the partner city and were not exported or were exported by land (i. e. livestock) no customs were raised. It is clear that this regulation favoured at the first place the shepherds who had no alternative than to use the land routes. The second group of persons who could make use of this regulation were the notorious Cretan pirates. They could bring their booty to safety in the allied city and re-export it, including the offspring of captured persons; only when they sold their booty to foreign merchants, they had to pay the usual duties.¹³⁹

3.4.4. The safety of the land routes and animal-theft

The major problem of modern Cretan transhumance is animal-theft (above, note 87). Direct evidence from ancient Crete is lacking, except perhaps for a very fragmentary Hellenistic decree or law of Axos, which concerns thefts (perhaps of cattle).¹⁴⁰ A Hellenistic treaty between Malla and Lyttos which concerns itself with the abduction of free men, slaves, and their belongings may be related with animal-theft and raids against shepherds in the mountainous borderland between the two cities, which was hardly controlled at all.¹⁴¹

The problems of transhumance appear more clearly in the clause about the safety of the land routes in two Hellenistic treaties (between Lato und Olus, and Lyttos and Olus, late 2nd century). This clause is best preserved in the treaty between Lato and Olus: "If someone takes something from a Latian or an Oluntian, the elders who are responsible for the *eunomia*i and investigate and regulate in each of these cities, shall intervene; and they shall have the right [to reconcile the parties (?)] and to undertake everything, as it seems proper. And the 'roads of the aliens' (or the 'roads leading to foreign territory'?) shall be inviolable; and if someone does wrong on these roads, he

137 MÜLLER 1975, 143, 147; cf. PETROPOULOU 1985, 22-23.

138 Cf. MÜLLER 1975, 143, 147; PETROPOULOU 1985, 22, 51.

139 Cf. MÜLLER 1975, 143 note 51, 150 note 74. On the Cretan slave-trade see PETROPOULOU 1985, 68-74.

140 SEG XXIII 657: [αἱ δὲ τις τετραπόδας ? ἄλ]λω κλέψει. But this restoration is very speculative. I. Cret. IV 41 IV 2-5 = KOERNER 1993, no 127 (Gortyn, early 5th c.) possibly concerns animal theft; but see KOERNER 1993, 383.

141 Cf. CHANIOTIS 1994.

shall pay the sixfold fine, if he is defeated in a lawsuit".¹⁴² The meaning of the *ξενικαὶ ὁδοί* and the function of the officials called *πρέιγιστοι οἱ ἐπὶ ταῖς εὐνομίαις* have been the object of a controversial discussion:

a) *Ξενικαὶ ὁδοί*: For Crete, the expression *ξενικὴ ὁδός* is attested in these two Cretan treaties and in Plutarch's vita of Lykurgos (31,7); according to Plutarch the grave of the Spartan lawgiver was on a *ξενικὴ ὁδός* near Pergamon in West Crete. The term is also attested outside of Crete, always in connection with mountainous regions.¹⁴³ On Crete these "routes" or "roads of the aliens" can be located on Mt. Kadiston (between Olus and Lato) and on the mountains of Lassithi (between Lyttos and Olus). According to D. GONDICAS¹⁴⁴ these routes were "sacred roads" leading to important sanctuaries. Her interpretation is, however, based on a misunderstanding of the adjective *θῖνος* (= *θεῖος*) used in the relevant clauses; this word is used in this context in the sense "inviolable", and not "sacred".¹⁴⁵ A. PETROPOULOU has argued that the *ξενικαὶ ὁδοί* were the routes leading beyond the territory of a city¹⁴⁶ and that the aim of these clauses was to secure the trade activity and the recruitment of mercenaries.¹⁴⁷ The first interpretation may be right, but the second is mere speculation. The use of a distinctive attribute (*ξενικός*) clearly shows that a sharp distinction was necessary between these *specific* routes and other roads; we have either to do with routes leading beyond the border, to the foreign territory (*ξένη*), or with routes which were *regularly* used by foreigners (*ξένοι*). If we take into account the social and economic conditions in Hellenistic Crete, we may suppose that the transhumant shepherds, and not the merchants, for which there is a lack of any sources whatsoever, made regular use of these routes. This assumption can be strengthened by a study of the officials responsible for the security on these routes.

b) *Εὐνομίαι*, *εὐνομία*, (*συν*)*ευνομιῶται*: The board of magistrates called in the treaty between Lato and Olus *πρέιγιστοι οἱ ἐπὶ ταῖς εὐνομίαις* is known

142 I. Cret. I,xvi 5 II. 34-38: [Αἱ] δέ τί κα ἔλγεται Λατῖω ἢ Βολοντί[ωι, ἐπιόντων οἱ πρέιγιστοι] / [οἱ ἐ]πὶ τα[ῖς] εὐνομίαις οἱ ἑκατέρῃ ἔρευνιοντες καὶ ρυθμίττον[τες καὶ κύριοι ἔστων ———] / πρὸς αὐσαυτὸς καὶ τᾶλλ[α] πάντα χρήμενοι, καθὼς κα ἐπεικ[ῆς ἦι. ἤμεν] / [δὲ] καὶ τὰς ὁδὸς τὰς ξε[νι]κὰς θίνας· αἱ δὲ τίς κά τινα ἀδικήσῃ ἐν τα[ύταις] ταῖς ὁδοῖς,] / ἀποτεισάτω ἑξάπ[λοα τὰ π]ρόσιμα δίκαι νικαθές. Cf. I. Cret. I,xviii 9 B 5-8.

143 Polyb. 11,11,5 (Mt. Alesion near Mantinea); IG V 2, 443 I. 35 (Arcadia); Syll³ 636 = LSCG 70 II. 23-24 (Parnassus, a *ὁδὸς ξενίς* is mentioned in connection with the grazing of the cattle belonging to the sanctuary of Delphi); cf. IG XIV 352 = DUBOIS 1989, no 16 (Halaisa on Sicily).

144 GONDICAS 1988, 281-282.

145 Cf. F. BLASS (commentary on SGDI 5075).

146 PETROPOULOU 1985, 99-100; cf. VAN EFFENTERRE 1942, 46 ("routes internationales"); DUBOIS 1989, 242 (<la principale route qui mène hors du territoire>).

147 PETROPOULOU 1985, 136.

from several Cretan cities (Lato, Olus, Aptera, Polyrhénia). Its members (called *συνευνομιῶται* in Polyrhénia) are known from Hellenistic inscriptions referring to dedications or building works carried out in sanctuaries;¹⁴⁸ this does not necessarily mean that the primary function of this board was the restoration of or supervision over sanctuaries. The decisive source for the duties of the *πρεῖγιστοι* *οἱ ἐπὶ ταῖς εὐνομίαις* or (*συν*)*ευνομιῶται* is the treaty between Lato and Olus, from which we can infer that the members of this board intervened in cases of abduction and theft ([αἱ] δὲ τί κα ἔληγται) on the "routes of the aliens";¹⁴⁹ they undertook a judicial investigation of the case (*ἐρευνῶντες*),¹⁵⁰ put things in order (*ῥυθμίττον[τες]*), and arbitrated between the disputing parties (*χρησθαὶ καθὼς κα ἐπεικέες ᾗ*).¹⁵¹ For these reasons A. MAIURI and M. GUARDUCCI compared the duties of this board with the duties of the Athenian *astynomoi* and *diatetai*:¹⁵² the keeping of public order and arbitration in the case of minor conflicts. H. VAN EFFENTERRE specified these duties further by bringing them in connection with the maintenance of law and order in the mountainous border areas and on the "routes of the aliens"; for that reason the Latian officials had their seat near the border.¹⁵³

Since the transhumant shepherds belonged to those who crossed the borderline regularly, it is probable that the *eunomiotai* were concerned, among other things, also with the conflicts which arose between the shepherds: animal-theft, disputes about the ownership of run-away animals etc. The etymology of this term is possibly not related to νόμος = "law",¹⁵⁴ but νέμειν = "to graze". Interestingly enough, as G. DE SANCTIS published a dedication of the *συνευνομιῶται* to Pan (without knowledge of the other attestations of this office), he interpreted this term as the name of an association of shepherds.¹⁵⁵ His interpretation was proven wrong, but the fact that these officials made a dedication to the protecting deity of shepherds confirms the assumption that

148 I. Cret. I, xiv 2; I, xvi 21: construction works at a sanctuary of Ares and Aphrodite at the border between Lato and Olus; I. Cret. I, xvi 24: constructions at a sanctuary of Lato; I. Cret. II, iii 21 (Aptera); II, xxiii 9: dedication to Pan (Polyrhénia). It is not clear whether the word *εὐνομίας* in a fragmentary decree of Gortyn, found in Mylasa, refers to this board (I. Mylasa 654).

149 Cf. DEITERS 1904, 47; MUTTELSEE 1925, 28; PETROPOULOU 1985, 99.

150 MAIURI 1910, 38-39 gives further examples of *ἐρευνᾶν* in this sense.

151 Cf. MAIURI 1910, 39-40, who cites Arist., Rhet. I 13, 1374 b 20-21: ὁ γὰρ διατητὴς τὸ ἐπεικέες ὀρεῖ.

152 MAIURI 1910, 42-45; GUARDUCCI 1933, 204; cf. DEITERS 1904, 47. Other interpretations cannot be taken seriously: XANTHODIDIS 1912, 42-51 identified the *eunomiotai* with the *kosmoi*, the board of the leading officials of the Cretan cities; MUTTELSEE 1925, 26-35 regarded *eunomia* as another name of the *boule*.

153 VAN EFFENTERRE 1942, 46; cf. PETROPOULOU 1985, 99.

154 MUTTELSEE 1925, 27-30; GUARDUCCI 1933, 204; VAN EFFENTERRE 1942, 46; WILLETTTS 1955, 195.

155 DE SANCTIS 1901, 475-476; cf. POLAND 1909, 540.

the duties of the *πρεῖγιστοι* *οἱ ἐπὶ ταῖς εὐνομίαις* ("the elders responsible for the orderly grazing?") were related to the problems that arose from the regular crossing of the borderlines by transhumant shepherds. As a matter of fact analogous officials (*δροφύλακες*, *χωροφυλαχέοντες*, *περίπολοι*, *ἐρημοφύλακες*) are known from other areas in Greece.¹⁵⁶

3.5. Of Cretan shepherds and owners of livestock: Between literary topic and reality

The Hellenistic treaties studied above do not give any information whatsoever on the status of shepherds. The latter appear, however, in Hellenistic poetry, in the work of Theocritus, Callimachus, and in the "Cretan" epigrams of Leonidas of Taras in the *Anthologia Graeca*. The motifs attested in these epigrams always concern the life of shepherds in the wilderness of the highlands: the attacks of wild animals against the shepherds of cattle and sheep,¹⁵⁷ the dedication of a bronze ram-statuettes by Simalos and Soton to their protecting god, Hermes, on a mountain (*βαθυσχοίωνων πὰρ λοφιᾶν*),¹⁵⁸ the abduction of a goat-shepherd by a nymph on the Diktaean mountains.¹⁵⁹ The Kydonian Lycidas in Theocrit's "Thalysia" is easily recognizable as a typical goat-shepherd through his clothing and his specific way of life.¹⁶⁰ The "staging" of these epigrams in the highlands of Crete is certainly related to the seasonal movement to the upland pastures. The epigram about Simalos und Soton implies that these persons were the owners of the rich flocks they supervised as shepherds (*ὠγιγνόμοι... πολύαιγοι*).

One would be tempted to explain these poems (especially Theocritus' idyll) as an expression of the well known interest of Hellenistic poetry and art in pastoral life.¹⁶¹ On the other hand, the Hellenistic poets would not have "staged" their bucolic poems in Cretan landscapes, had Crete not been known for its pastoralism. Further, the "Cretan" epigrams of the Greek Anthology in general, and especially those composed by Leonidas of Taras, demonstrate good knowledge of the social reality of Hellenistic Crete (e. g. piracy,¹⁶² arch-

156 See e. g. GEORGOUDI 1974, 176, 182; DAVERIO ROCCHI 1988, 84–91; AUDRING 1989, 79 with note 29; HODKINSON 1988, 36.

157 Anth. Gr. 6, 262 and 263 (Leonidas of Taras); the ethnicon "Cretan" is not mentioned in the second epigram, but the personal name Sosos is one of the most common Cretan names (FRASER-MATTHEWS 1987, s. v.).

158 Anth. Gr. 9,744 (Leonidas of Taras).

159 Callim. ep. 22 ed. Pfeiffer.

160 Theocr., id. 7,10–20.

161 SCHNEIDER 1967, I, 147–156; HIMMELMANN 1980, 83–108; LAUBSCHER 1982, esp. 43, 46–47, 108–117. ISAGER-SKYDSGAARD 1992, 101 disregard the Hellenistic bucolic poetry as a source for pastoralism; cf. GEORGOUDI 1974, 159.

162 Anth. Gr. 7,654. On Cretan piracy see BRULÉ 1978; PETROPOULOU 1985, 35–46.

ery,¹⁶³ hunting,¹⁶⁴ onomastics¹⁶⁵). So we have no reason to assume that these literary sources stay in a grave discrepancy to the situation on contemporary Crete.

If the Hellenistic legal sources remain silent about the Cretan shepherds and/or owners of sheep and cattle, persons related to specialized pastoralism do make their appearance in the contemporary dedications. The cult of typically "pastoral" deities (the Curetes, Hermes, Pan) is well attested in Hellenistic times.¹⁶⁶ The close relation between religion and pastoralism can be seen in two characteristic examples: Only the Cretan oaths make explicit mention of sheep in their imprecations (in the formula expression "if we break our oath let our women and our sheep not bear according to nature", see note 10); in the hymn sang (annually?) at the sanctuary of Zeus Diktaios by the ephebes of Cretan cities the god (on Crete a protector of fertility) was called up to spring in the flocks and give them fertility (note 11).

Beside religion, Cretan onomastics offer an impressive evidence for the predominant position pastoral activities took in the self-representation of the Cretans.¹⁶⁷ In Hellenistic times many personal names related to the breeding of sheep, goats, and cattle are attested in various Cretan cities.¹⁶⁸ A first characteristic group of personal names derives from words related to grazing and ownership of sheep, goats, and cattle: Boukolos ("the shepherd of cattle", one attestation), Eurybotas / Ourybotas ("great cattle-breeder", four attestations in Knossos, Eltynia and Gortyn), Poimne ("the flock") and Poimalion (ποιμαίνειν, "to graze"), both attested to the best of my knowledge

163 Anth. Gr. 7, 427; 9, 223 and 265.

164 Anth. Gr. 6,75. 121. 188. 351; 7,448. 449; 9,223. 265. 268. On the importance of hunting for the social life of the Cretans see CHANIOTIS 1991.

165 Many names of Cretans in the epigrams of the Anthologia Graeca find parallels in Cretan onomastics (cf. the lemmata in FRASER-MATTHEWS 1987): Androklos (6,75; cf. Androkles, 9 attestations), Meliteia (6,289; cf. Melita), Niko (6,289), Philolaidas (6,289; cf. Philolas), Sodamos (7,494, 3 attestations), Sosos (6,262, 57 attestations), Soton (9,744), Therimachos (6,188) and Theris (7,447; cf. Theraia, Theraios, Theris, Theron).

166 Curetes οἱ πρὸ καρταιπόδων: I. Cret. I,xxxi 7-8 (2nd/1st c.); cf. the place-name Curetes in East Crete (SEG XXVI 1049 I. 78); for dedications to the Curetes in Roman Crete see below, note 189. Hermes: I. Cret. I,xvi 7 = SEG XXXIV 920 (Lato, 2nd c.); for the cult caves of Hermes on Crete see FAURE 1964, 131-139; for the Cretan cults of Hermes as protector of fertility see WILLETTTS 1962, 287-289; LEBESSI 1985, 163-187. Cult caves of Pan: FAURE 1964, 148-150. A recently excavated Hellenistic sanctuary at Tsiskiana in West Crete could be related to a deity protecting pastoral activities; during a single campaign 436 statuettes of oxen have been found there: NINNIU-KINDELI 1988, 291.

167 Also notice that sheep are explicitly mentioned in a fragmentary funerary epigram (of a shepherd?) from Axos (I. Cret. II, v 52 I. 10, 1st c.)

168 On the following names see the relevant lemmata in FRASER-MATTHEWS 1987.

only in Crete (in Hierapytna), Eumelos ("the owner of good sheep", in Knossos, Olus, and Polyrhénia), Melion ("the owner of sheep", in Hierapytna). A second group of Cretan personal names is related to livestock, especially to ovicaprids: Agedas (Keraia), Aigeidas, Aigylos (Polyrhénia), and Aigon (Itanos, ἀἴξ, "goat"), Krios ("ram", in Gortyn, Lasaia, and Psycheion), Chimaros ("the goat", three attestations, in Priansos and elsewhere), Moschos ("calb") and Moschion (in Phaistos and Rhithymna), and Bous ("ox", in Olous). In view of these epigraphic testimonia we may assume that the Cretan bucolic motifs in the Hellenistic poetry are not very distant from reality.

4. Pastoralism on Crete: General phenomenon or response to a crisis?

The literary and documentary evidence presented above permits the conclusion that specialized pastoralism existed — sporadically or not — in Dorian Crete from the archaic to the end of Hellenistic times. In all these periods we were able to find direct or indirect evidence for the existence of large flocks (e. g. in Rhizenia and Lyttos), for citizens, who derived their wealth from their rich herds (§3.5), and for seasonal transhumance (§3.4). However, we can neither prove that these conditions prevailed in *all* Cretan landscapes nor that an *unbroken continuity* existed from the archaic to the end of the Hellenistic period.¹⁶⁹ The bulk of our evidence comes from the Hellenistic age. At first sight this does not seem unnatural, since the Hellenistic age is in general richer in literary and documentary sources than the earlier periods of Dorian Crete. However, this explanation is not satisfactory. We have seen, that the most detailed and reliable sources for specialized pastoralism and transhumance are the Hellenistic treaties. Is it only by chance that all the relevant treaties date in the Hellenistic age and almost all of them concern one city (Hierapytna)? Of course, we may not exclude the possibility that earlier Cretan treaties were written on bronze sheets and are now lost; the concentration of evidence in East Crete may also be symptomatic for the more intensive archaeological research in this area. Nevertheless, these two objections do not change the fact that in Hellenistic times Hierapytna found it necessary to conclude a series of treaties with almost all its neighbours and to include in them clauses which facilitated the practice of a specialized pastoralism to its citizens. Thus, Hierapytna's policy may offer a case study for the question on what conditions specialized pastoralism could appear.

We owe most of the information about Cretan pastoralism to the Hellenistic isopolity-treaties between the Cretan cities. Theoretically, an isopolity-treaty gave all the citizens of one city the right to settle in the partner city; they

¹⁶⁹ Cf. (in general) HALSTEAD 1987, 81.

were granted citizenship, could acquire land in their new city and develop their economic activities on the same conditions as the citizens of the partner city. The reciprocity of the clauses is, however, misleading. In September 1992 the Federal Republic of Germany and Rumania signed a treaty in which both states are obliged to take back those citizens, who stay illegally in the partner-state; the reciprocity of this regulation cannot blind us to the fact that only Rumanian asylum seekers were taken into consideration.¹⁷⁰ Similarly, the reciprocity of ancient treaties does not mean that the interests of both partners were identical. A close study of the relevant clauses confirms this conclusion. The potential addressees of these rights were persons who did not possess land in their native city. Indeed, all the treaties stipulate that no person would possess land in both his native city and his new city. By making use of the isopolity a person had to settle all his financial and legal matters in his native city and then leave her.¹⁷¹ It is obvious that these treaties make sense only if one of the partners had a surplus of citizens who did not possess land (or enough land) and was interested in settling them in a neighbouring city.

As a matter of fact, a close study of the isopolity treaties of Hierapytna confirms this logical assumption. More than half of the Cretan isopolity-treaties known so far were concluded between Hierapytna and other Cretan cities (Praisos, the Arcadians, Itanos, Priansos, Lato, a community of Hierapytnian settlers, and an anonymous city, perhaps Biannos).¹⁷² Except for Lato none of the other cities which signed isopolity-treaties with Hierapytna is known

170 *Süddeutsche Zeitung* of 25th September 1992 (p. 1): „Die Abschiebung abgelehnter Asylbewerber aus Rumänien wird erleichtert. Bundesinnenminister Rudolf Seiters und sein rumänischer Kollege Victor Babiuc unterzeichneten in Bukarest einen Vertrag, in dem sich beide Staaten verpflichten, eigene Staatsangehörige zurückzunehmen, die sich illegal im Land des Vertragspartners aufhalten. Dies betrifft faktisch nur die rumänische Seite.“

171 *Staatsverträge* III 554 II. 13-16: παραιτησάμενος / τὰν αὐτῶ πόλιν; cf. II. 1-2: διαθέμε/νος τὰ ἴδια; I. Cret. I,xvi 17 II. 10-11: δικαιοπραγήσαντα τοῖς ἰδιο/[ις παραιτησάμενον]; τὰν ἰδιαν πόλιν; SEG XXVI 1049 II. 11-12: δικαιοπραγήσαντι τοῖς ἰδιο[ις]; cf. I. Cret. I,xvi 5 I. 11. For a discussion of these treaties see above, note 109.

172 *Staatsverträge* III 554 (Hierapytna-Praisos, early 3rd c.); *Staatsverträge* III 512 (Hierapytna-Arcadians, late 3rd c.); *Staatsverträge* III 579 (Hierapytna-Itanos, late 3rd c.); I. Cret. III,iii 4 (Hierapytna-Priansos, early 2nd c.); I. Cret. III,iii 6 (Hierapytna-Biannos?, early 2nd c.; cf. note 114); I. Cret. III,iii 5 (Hierapytna-Hierapytnian settlers, early 2nd c. ?); SEG XXVI 1049 (Hierapytna-Lato, ca. 111 B.C.). The other isopolity-treaties between Cretan cities are the following: *Staatsverträge* III 570 (Axos-Tylisos, late 3rd c.); Polyb. 28,14; Diod. 30,13 (Apollonia-Kydonia, early 2nd c.); I. Cret. I,xviii 10 (Lytton-anonymous Cretan city, early 2nd c.); I. Cret. I,xvi 17 (Lato-Eleutherna, early 2nd c.); I. Cret. I,xviii 9; SEG XXXIII 134. 638 (Lytton-Olus, ca. 111 B.C.); I. Cret. I,xvi 5 (Lato-Olus, ca. 109 B.C.)

to have concluded an isopolity-treaty with another Cretan city. One would, therefore, suspect that the initiative for these treaties was taken by Hierapytna, interested in settling a surplus of citizen population in the partner cities. But there is no need for speculation on this matters, since we have concrete evidence for that.

Hierapytna is located on the narrowest spot of Crete, on the isthmus of Ierapetra (12 km wide); it is the place with the lowest rainfall in Greece.¹⁷³ At the beginning of the Hellenistic age the territory of Hierapytna was limited by that of numerous other cities, located in a short distance from Hierapytna (map. 1, *Tafel 1*): Biannos (39 km) and Malla (14 km) in the west, Lato (20 km) and Istron (14 km) in the north, Praisos (32 km) with her various dependent communities (Stalai, Setaia, Ampelos) in the east. Hierapytna probably faced a considerable population growth in the Hellenistic times; its population cannot be estimated, but its relatively large dimensions can be demonstrated by a comparison of the number of mercenaries Hierapytna and Olus had to send to Rhodos according to two treaties of the late 3rd c.: The Oluntians sent 100 men, the Hierapytnians 200 men.¹⁷⁴ We also know of numerous Hierapytnian emigrants (mostly mercenaries) in Central Greece, Cyprus, and Delos.¹⁷⁵ To supply her population with land Hierapytna made use of the three solutions known to the Greeks: colonization, emigration in neighbouring cities, and conquest. Probably in the early 2nd century a relatively large group of citizens was settled in the territory of another Cretan state (the Arcadians?);¹⁷⁶ Strabon refers to a synoikismos between Hierapytna and the neighbouring community of Larisa;¹⁷⁷ ca. 145 B.C. a small settlement of both military and agricultural character was founded on the sacred land belonging

173 On the geological situation of this area which does not favour a dense settlement see LEHMANN 1939, 213; on the climate: PHILIPPSON 1948, 193, 196; WAGSTAFF 1972, 276-280; RACKHAM 1972, 284 (Ierapetra "has a more seasonal climate than anywhere else in Mediterranean Europe and closely resembles the drier parts of Palestine"); cf. WATROUS 1982, 7. The temperature lies over 25°C from June to September; from June to August there is almost no rainfall.

174 On these treaties (*Staatsverträge* III 551-552) see PETROPOULOU 1985, 16; KREUTER 1992, 65-84.

175 See LAUNEY 1950, II, 1154 and I. Délos 2598 I. 34.

176 I. Cret. III,iii 5; RIGSBY 1986, 357-359 has contested the location of this settlement on the territory of the Arcadians, but could not provide any conclusive argument for his assumption that this settlement was founded in Larisa, near Hierapytna, after a revolt.

177 Strab. 9,5,19 (C 440): Λάρισσα... καὶ ἐν τῇ Κρήτῃ πόλιν ἢ νῦν εἰς Ἱεράπυτναν συνοικισθεῖσα, ἀφ' ἧς καὶ τὸ ὑποκείμενον πεδίων νῦν Λαρίσιον καλεῖται. According to RIGSBY 1986, 357-359 this information of Strabon is related to the settlement of Hierapytnian citizens referred to in the previous note.

to the sanctuary of Zeus Diktaios.¹⁷⁸ The isopolity-treaties of Hierapytna always include clauses which permit its citizens to settle in the partner cities and to acquire land there. An unequivocal indication for Hierapytna's efforts to increase its territory can be seen in the continuous wars of the 3rd and 2nd c. against the neighbouring cities. At the end of these wars in the late 2nd centuries the Hierapytnians had achieved a threefold increase of their territory (map 2, *Tafel 1*): They had conquered the whole territory of Praisos, had made substantial gains in the north after the destruction of Istron, and laid claim on Itanian land.¹⁷⁹

In view of these testimonia it seems quite clear that the economic clauses in Hierapytna's isopolity-treaties primarily met the interests of the Hierapytnians. The Hierapytnians were evidently not interested in the immigration of citizens from other Cretan cities to their city, but in the possibilities provided to Hierapytnian citizen to emigrate to neighbouring areas. The interests of Hierapytna's partners have to be looked for in other areas (e. g. military support).

Hierapytna's policy in the Hellenistic age (colonization, emigration, conquest) leaves not doubt that the city was facing grave demographic and economic problems. The Hierapytnians were not in a position to retain their subsistence with their original territory; the reasons may be a population growth, the concentration of land in the property of few landowners and the consequent pressure of population upon limited lowland resources, or probably both. Many citizens became mercenaries and pirates,¹⁸⁰ others had to settle in other regions of Crete, obviously many of them had to turn to pastoralism.¹⁸¹

Hierapytna was certainly not the only Cretan city whose subsistence faced a severe crisis in Hellenistic times. It has been suggested that the rise of Cretan piracy and mercenary service was a consequence of these problems.¹⁸²

178 I. Cret. III,iv 9 I. 86; on this document see now CHANIOTIS 1988b; P. GAUTHIER (Bull. épigr. 1993,399) contested my view that the χωριον mentioned there was a village of agricultural character; but he has overseen that this χωριον is mentioned in connection with the cultivation of the sacred land (II. 72-88).

179 On the expansion of Hierapytna in general cf. BENNET 1990, 202 with table 3; VAN EFFENTERRE 1991a, 397-400; BOWSKY 1994. On the conquest of Praisos see I. Cret. III,iv 9 II. 46-47; on the territorial conflict with Itanos see I. Cret. III,iv 9-10. On the northern border of Hierapytna see FAURE 1967; VAN EFFENTERRE-BOUGRAT 1969, 38-39; FAURE 1972, 107; VAN EFFENTERRE 1991a, 402; BOWSKY 1994, note 16.

180 On the Hierapytnian pirates see BRULÉ 1978, 34-56. On the Hierapytnian mercenaries see above, note 175.

181 On the relation between rising population and specialized pastoralism (in general) cf. WHITTAKER 1988, 3; CHERRY 1988, 17; HODKINSON 1988, 57.

182 WILLETTS 1965, 143-148; BRULÉ 1978 161-162, 182-184.

Information about upheavals and civil wars¹⁸³ and the massive emigration of Cretans (especially to Egypt and Asia Minor)¹⁸⁴ are certainly related to these economic and social problems. The endless wars and territorial disputes as well as the numerous treaties between the Cretan cities confirm the conclusion that many Cretan cities were not in a position to maintain their subsistence without waging war against their neighbours or attempting economic cooperation. Although definite evidence is still lacking, it seems reasonable to assume that under these conditions (population growth, lacking of land for all the citizens) an extensive occupation with pastoralism presented at least some citizens with an alternative to the more traditional economic activities (arable cultivation, small-scale animal husbandry).

The conquest of Crete by the Romans (67 B.C.) set an abrupt end to the conflicts of the Cretan cities and at the same time to their archaic social and economic order.¹⁸⁵ Crete occupied now a central geographical position in the pacified and unified Eastern Mediterranean; the extinction of piracy facilitated the trade activity with and on Crete. At the same time the fundamentals of the archaic Cretan society, the common meals, the military education, and the "men's houses", disappeared; further, the Cretans lost two of their main resources: piracy and mercenary service. These new conditions revolutionized Cretan economy. The agricultural production did not depend anymore on the system of the *syssitia*, was not controlled by the community, and did not aim at subsistence. The ultimate consequence of this change was a new orientation of several economic sectors towards trade, the most clear example being the massive export of wine and medicinal plants from Crete.¹⁸⁶ Under these new conditions some changes must have occurred in pastoral economy as well.¹⁸⁷ However, all recent studies on Roman Crete remain silent on this question, basically due to the lack of reliable sources.¹⁸⁸ Only a few indications for pastoralism can be found in the epigraphic sources, i. e. several vows addressed by

183 I. Cret. III, iv 8 (Itanos, early 3rd c.); Polyb. 4, 54, 6 (Gortyn, ca. 221); I. Cret. I, ix 1 (Dreros, ca. 221); Polyb. 22, 15, 5 (Phalasarna, 184); I. Cret. I, viii 9 and IV 176 (Gortyn-Knossos, early 2nd c.); I. Cret. I, xix 3 A (Malla, 2nd c.); cf. VAN EFFENTERRE 1948, 168-172; WILLETT 1955, 128-129, 182-185; BRULÉ 1978, 178-179; PETROPOULOU 1985, 109-133.

184 See e. g. LAUNEY 1950, I, 277-278; BRULÉ 1978, 162-170.

185 For the following remarks see CHANIOTIS 1988a, 79-80; cf. BENNET 1990, 201-203; HARRISON 1991; HARRISON 1993, esp. 39-121; BOWSKY 1994.

186 Wine: CHANIOTIS 1988a, 71-87; cf. MARKOULAKI-EMPEREUR-MARANGO 1989; EMPEREUR-KRITZAS-MARANGO 1991; EMPEREUR-MARANGO-PAPADAKIS 1992. Medicinal plants: ROUANET-LIESENFELT 1992; cf. CHANIOTIS 1991.

187 Cf. the developments in Roman Italy: GARNSEY-SALLER 1987, 68; GARNSEY 1988, 201-202.

188 SANDERS 1982, 32; HARRISON 1991.

shepherds or cattle-owners to the Curetes for the safety of their livestock¹⁸⁹ and the account found at the sanctuary of Diktynna in West Crete (6 B.C.), which attests the employment of (specialized?) slaves as shepherds of cattle, the leasing of cattle, and the controlled production of wool.¹⁹⁰ Further, recent archaeological surveys indicate a systematic exploitation of land,¹⁹¹ probably connected with a shift to a market economy,¹⁹² and at least some of the traces of human activity in areas which were abandoned in earlier periods may be related to pastoralism.¹⁹³

The written sources for the breeding of livestock in Dorian Crete demonstrate the importance of this economic sector. It is also true that the demographic conditions on the island favour the seasonal movement of animals, a phenomenon still attested in modern Crete. However, the environmental factor and the modern experience alone do not prove that specialized pastoralism and transhumance were practiced continuously and in all Cretan landscapes in the archaic, classical, and Hellenistic periods. The documentary sources, especially those concerning Hellenistic Hierapytna, rather lead to the conclusion that transhumance became important in Hellenistic Crete under certain demographic and social conditions (population growth, lack of land for all the citizens) and presented an alternative to more traditional economic activities (arable cultivation, small-scale animal husbandry).

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189 I. Cret. I, xxv 3 (late 1st. c. B.C.); SEG XXIII 593 (1st c. B.C.); KRITZAS 1990b (1st. c. A.D.). Also Vitr. 1,4,10 seems to imply intensive cattle breeding in the plain of Messara (at the border between Knossos and Gortyn).

190 I. Cret. II, xi 3 II. 9-10 (unfree βουκόλοι, leased by the sanctuary of Diktynna), II. 22-23, 28 (leasing of oxen), I. 38 (wool), I. 30 (ownership of cattle? by the sanctuary). Cf. also GAVRILAKI-NICOLOUDAKI-KARAMALIKI 1990 on the production of bone items (pins, fibulae, etc.) in Roman Lappa.

191 HARRISON 1991; cf. BINTLIFF 1977, 620-622 (Agiofarango); WATROUS 1982, 23-24 (Lassithi); NIXON-MOODY-PRICE-RACKHAM 1989, 208-209 (Sphakia); MOODY-HAYDEN 1990, 311; HAYDEN-MOODY-RACKHAM 1992, 332-33 (Vrokastro). For the connection between market demand for pastoral products and specialized pastoralism cf. HODKINSON 1988, 56.

192 HARRISON 1991; NIXON-MOODY-PRICE-RACKHAM 1989, 208-209.

193 See e. g. NIXON-MOODY-RACKHAM 1988, 171 for the region of Sphakia.

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