PHAROS

Volume II (1994)

GIEBEN

PHAROS

Journal of the Netherlands Institute at Athens

Volume II (1994)

J.C. Gieben, publisher
Amsterdam

PHAROS Journal of the Netherlands Institute at Athens is published by J.C. Gieben, publisher on behalf of the Netherlands Institute at Athens. One of the main objectives of the journal is to provide a forum for Dutch scholars whose research and field work focus on Greece. Research carried out under the supervision of the Netherlands Institute at Athens will be regularly reported on in this journal. Contributions from other scholars are welcome. Both original articles and short communications relating to Greek archaeology, as well as studies on ancient and medieval history, numismatics, and epigraphy will be published. All contributions must be written in English. The opinions expressed in the articles are the responsibility of the authors.

Subscriptions
The journal is published annually, usually at the end of the year.
Subscriptions may be sent to booksellers or directly to the publisher:
J.C. Gieben
Nieuwe Herengracht 35, 1011 RM Amsterdam,
Tel./Fax + +31-(0)20-6275170.

Instructions to authors
All authors who consider submitting an article or short communication to the journal are requested to contact the editorial secretary before sending in manuscripts. They will receive a copy of the 'Guidelines for authors' to which they must conform as closely as possible. All manuscripts will be reviewed by two members of the editorial board.

1. Manuscripts
Manuscripts should be written in English and submitted to the editorial secretary. Authors submitting a paper do so on the understanding that the work has not been published elsewhere and has been read and approved of by all authors involved. Authors are responsible for the correct spelling of the text. Submitted articles will be acknowledged immediately. Only manuscripts written according to the 'Guidelines for authors' will be considered. These guidelines can be obtained from the editorial secretary.

2. Illustrations
All illustrations should be originals and must be submitted camera-ready and at the right scale. Illustrations are either Figures (line drawings, tables or charts) or Plates (good black and white photographs). Do not send the original illustrations until the manuscript has been accepted by the editors. All illustrations should be clearly identified on the back.

3. Proofs
Authors will receive a proof copy for careful checking and correction. Changes must be kept to a minimum, and authors will be charged if they make extensive alterations. Proofs should be returned to the editorial secretary as quickly as possible to ensure that the journal appears on time.

Editorial secretary
J.J. Hekman
Department of Archaeology
University of Groningen
Poststraat 6, 9712 ER Groningen
The Netherlands
Tel. + +31-(0)50-635961
Fax: + +31-(0)50-636992
e-Mail: j.j.hekman@let.rug.nl

Netherlands Institute at Athens
Address in Greece:
24 Alex. Soutsou
106 71 Athens, Greece
Tel./fax: 01-3622555

Director
M.J. Haagsma, M.Phil

Address in the Netherlands
P. Blok
c/o Bureau Buitenland
University of Amsterdam
P.O. Box 19268, 1000 GG Amsterdam
The Netherlands
Fax: + +31-(0)20-5252771

ISSN 1380-2240

Printed in the Netherlands

CONTENTS

EDITORIAL PREFACE

It appears that the publication of a second issue of a new journal involves more obstacles than the first opening issue. Despite some serious problems, among them an unfortunate and prolonged illness of one of the editors, this second issue of Pharos is printed a few months later than scheduled. Its slimmer size, compared with the double-sized first issue, is more in line with the appearance of future issues.

During the last year some far reaching changes have taken place concerning the Netherlands Institute at Athens. The administration of the Institute is now placed in the hands of a board formed by delegates of a group of universities in the Netherlands of which the University of Amsterdam holds the chair. The other universities taking part in the management of the Institute include the University of Leiden, the University of Nijmegen, and the University of Groningen. This new structure will provide a more solid basis for future activities of the Institute and will allow the Institute to grow. It is expected that the Institute will move to new and more spacious premises in the very near future.

Another change that must be mentioned here concerns the editorial board of Pharos. Three new members have joined the editorial board, each contributing a specific expertise regarding the various fields of interest covered by the Journal. The address of the editorial board remains unchanged. The journal is open for all scholars who would like to submit papers on Greek archaeology and ancient and medieval history of the Greek world. Generally, contributions may relate to all aspects of Greek culture and history, although a substantial part of the contents will continue to be devoted to archaeological fieldwork. Authors with papers dealing with cultural and historical subjects are encouraged to submit their articles to Pharos.

In this issue two papers written by Dutch scholars deal with various aspects of ancient Greek culture and history. A third contribution presents a report on the continuing investigations at Velouchovo, in Aetolia. This issue also carries the second in a series of reports on the investigations, archaeological and otherwise, of the ancient Arcadian site at Lavda, modern Theisoa. Future issues of Pharos will continue with this series, as well as with further reports on Dutch archaeological projects of the Netherlands Institute at Athens. Short communications on recent acquisitions of Greek antiquities in Dutch museums are planned for the next issues.

A STUDY OF THE ATTIC SETTLEMENT SYSTEM FROM THE KLEISTHENIC COUNCIL OF FIVE HUNDRED

E.Ch.L. van der Vliet

THE complexity and hierarchy of settlement systems are an important indication of the evolution of societal complexity, and of the level of social-political evolution in the process of state formation. The evolution of settlement hierarchy and the level of integration of the settlement system are thus essential tools in the study of the evolution of the Athenian state and society at the end of the Archaic age and the beginning of the fifth century, crucial in addressing the issue of the 'state-like' nature of the rule (of the tyranny) of the Peisistratids. A theoretical approach to modelling the basic features of the Athenian or Attic settlement system has recently been made by Rihll and Wilson (1991). Their results can be used as a point of reference or comparison. There is, however, in the absence of archaeological research of the Attic settlement system and its evolution by surveys of the whole of Attica and by systematic excavation, an historical source that can be used for the modelling of the Attic settlement system at the end of the sixth century. These are the bouleutic quota of the Council of Five Hundred which Kleisthenes established. The aim of this contribution is to present such a model based on the numbers of *bouleutai* representing the various *demes* in the Kleisthenic Council of 500.[1]

In studies of political evolution and state formation in prehistoric societies, it is often assumed that two-level settlement systems can be associated with a political organisation of chiefdoms, and three- and four-level forms with that of early states.[2] In this perspective

[1] I have used the locations, map and numbers by Traill (1975), and the corrections and revisions in (1986).
[2] This seems implied by the definition of the chiefdom as a two-level form of social-political organisation

we may observe that Attica as a whole at the end of the sixth century, accepting that the historically known Kleisthenic system does reflect the situation of that moment, was a four-tier system with Athens as its centre. The region of Athens shows a three-tier settlement system, but in the other regions two-tier or very weakly developed three-tier forms prevail. At the end of the sixth century, after the expulsion of the Peisistratid tyrants, Kleisthenes created a new structure of the Athenian citizenship and its political organisation. The Council of Five Hundred (*Boule*) was one of its key-elements. The Athenian citizens were, among others, divided in local administrative communities called *demes*, and from each *deme* a number of citizins were annually selected as councillors (*bouleutai*)in the Council of Five Hundred. The total number of councillors from each *deme*, as is generally accepted, was fixed at one time and remained unchanged. *Deme*-membership was hereditary from father to son. This, I think, permits the hypothesis that the bouleutic quota of the Kleisthenic system reflect, first, the geographical hierarchy and level of complexity of the settlement system, and, second, show the level of complexity of Athenian society at the time of the creation of this political system. This follows from the assumption that the number of councillors from the various *demes* corresponds with the number of citizens in the settlements, and thus that the numbers of *bouleutai* representing the various *demes* in the Kleisthenic council are a fairly good indication of relative settlement sizes.

The picture which emerges from modelling the Attic settlement system on this basis appears to confirm the accuracy of the underlying assumption as a guiding principle. Besides, the number of *bouleutai* originating from each *deme* corresponded with the number of hoplites which each *deme* contributed to the citizen army. Given the agrarian and predominantly subsistence oriented nature of the economy of the Attic countryside, and even of its emerging townships at this time, there is no reason to doubt that the ratio between those independent landed proprietors qualified for hoplite service and the total population will have varied locally only slightly. Regional or local differences in the composition of this ratio will have been minor. This means that the relation between citizen population and the total population was the same everywhere, and similarly, that there were no great variations in the relative size of the class of landowners and smallholders from which, certainly initially, the councillors were selected. The notable exception probably is the town of Athens, with a greater number of non-propertied citizens and probably also with a relatively greater number of non-citizens, slaves and metics. The consequence thereof is that the size of the town of Athens in this model will be underestimated, but it will appear that this does not affect either the argument or the main conclusions.

---

and the (early) state as at least a three-level form. See in particular Peebles & Kus (1977), 421-448; see Earle (1987), 279-308. A theoretical explanation, in particular regarding the origin and evolution of the Asiatic mode of production, is given by Friedman & Rowlands (1977), 201-76, and a more archaeological approach, inspired by central place theories, is Renfrew's concept of the early state module: Renfrew (1975), 3-59; see Service (1975), 72-80 and fig. 1, and Dalton (1981), 17-48, esp. 29, fig. 1.2. This approach is particularly well known in studies of the evolution of complexity and the origin of the state in ancient Mesopotamia: Johnson (1977), 285-339, and Johnson (1981), 144-88; Adams (1981); Nissen (1983), 45, fig. 6; a summary by Maisels (1990), 134-38, 236-54.

The effects of local variations will also be neutralised in most cases by the statistical handling of the data. A second silent assumption underlying this approach appears easier to refute. I suppose that the population of the Attic countryside did not live more or less dispersed but rather clustered in village-like settlements corresponding to the institutional *demes*. This is demonstrably not always the case, although on a larger scale dispersion of settlement in Attica was possible only under particular circumstances (such as the growth of urban development in the Athens-Peiraios complex in the fifth and in the fourth centuries BC); dispersed settlement seems then related to market oriented agricultural exploitation, while the variations in soil quality favour a clustering of habitation near the better localities as long as considerations of subsistence determine the choice of settlement location. This can be deduced from the Attic settlement pattern in the Mycenaean period as well as in the nineteenth century. Finally, I have calculated a number of councillors for the town of Athens by adding up these from the *demes* that were later included within the city-walls: Kydathenai, Melite, Skambonidai, Kollytos, and Koile. These amount to a total of 28. Because the construction of the model depends on relative settlement sizes, there is no need to know the exact population numbers. By handling figures indicating relative sizes, the shape of the various models is not affected.

Analysis

The histogram (Fig. 1) presents the number of *demes* which had the same number of *bouleutai* and shows a distribution of four size categories (*demes* with varying *bouleutai* numbers, e.g. Erchia with 6 or 7, have been equally distributed over the adjoining entire numbers). The apex, the first category, consists of Athens (28), Acharnai (22), and Aphidna (16). This distribution is not seriously affected if Traill is right and Acharnai was actually formed by two settlements, the one having 15 *bouleutai* and the other 7.[3] The exact division of the other size categories, however, is less evident, although the probability of the presence of three 'tops' in the graphs from 0 to 11 *bouleutai* is obvious. The small *deme* predominates clearly. The mean is 3.7, the modus 2, and the median (number 68) is also 2. In order to delineate the various size categories more clearly, I calculated the coefficient of co-variation of groups in various possible divisions and multiplied them with each other. The lowest product, I assume, represents the least random division, and renders categories of the smallest *demes* with 0 to 3 *bouleutai*, medium sized *demes* with 4 to 7, and greater *demes* consisting of those with 8 to 11 *bouleutai* (see Fig. 1). The overlap among the various categories occurs in the *demes* with 3 and 7 *bouleutai*. Later I will suggest an explanation for this overlap and the resulting compression of this distribution.

Subsequently, to make the division of these supposed levels of settlement size and thus the settlement hierarchy in its entirety visible on the map, I connected each *deme* with the nearest neighbour that belonged to a larger size category (see Fig. 2, based, however, on a slightly different categorisation, e.g. assuming a higher rank for Erchia). Thus, a number of local or regional centres appeared which I took as the starting point for drawing

[3] Traill (1986), 133-34, with references.

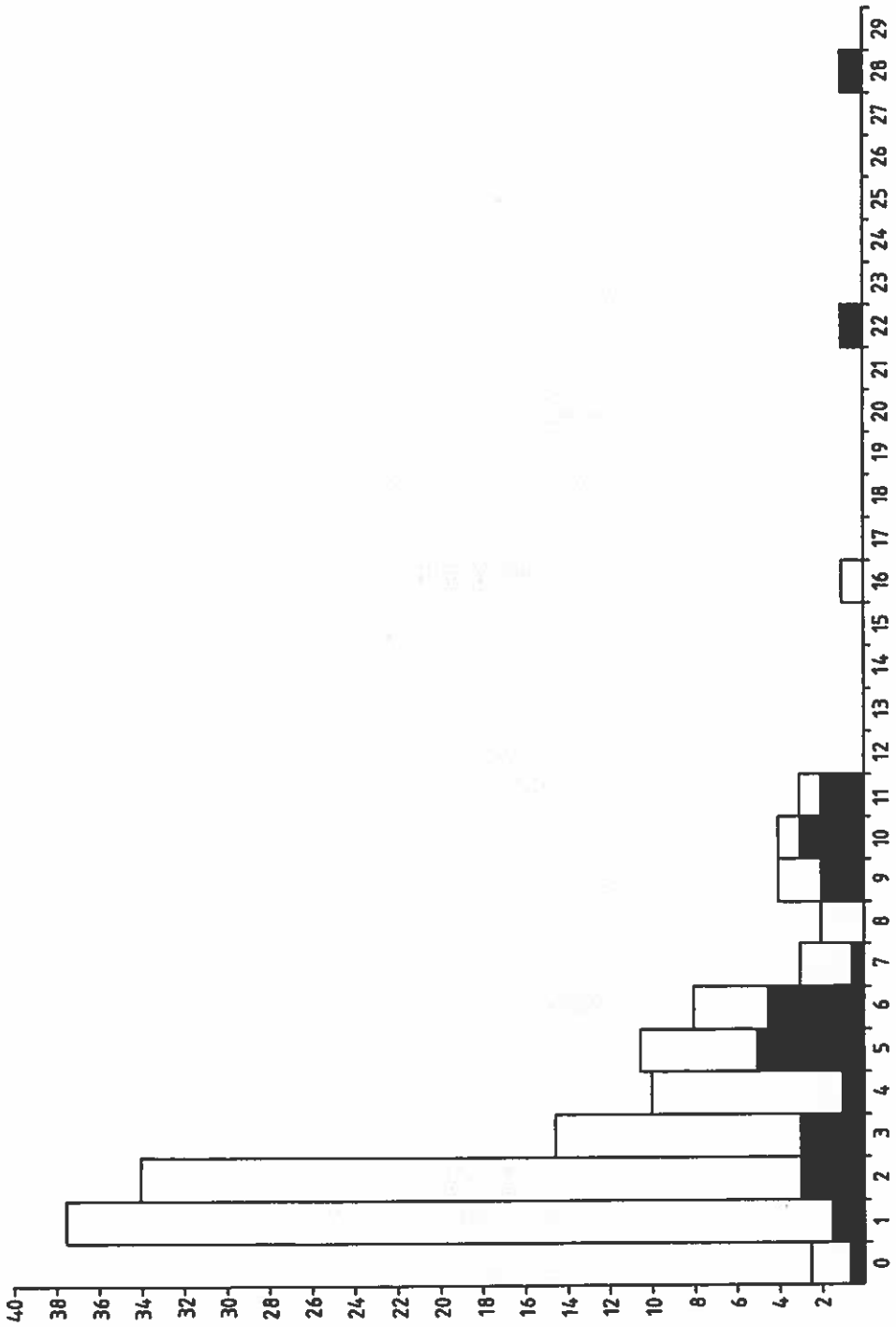


Figure 1. *Distribution of bouleutic numbers (Athens combined): Number of demes/number of bouleutai. Shaded: demes connected with Geometric sites*

Thiessen-polygons. These are Athens, Acharnai, Aphidna, Eleusis, Lower Paiania, Aixone (it does not matter here whether it has 8 or 11 *bouleutai*), Kephale and Phrearroi. In two cases I thought I had to make a rather arbitrary decision. The settlement of Lamptrai seems to have been less extensive than its number of *bouleutai* suggests due to the wide dispersion of habitation in its neighbourhood.[4] Similarly I preferred to consider Phrearroi as a regional centre rather than Anaphlystos because of the indications that the latter actually consisted of a number of smaller settlements (Lohmann 1989, 43-66, esp. 55-56). I admit that the statistics are rather crude, but I am not convinced that a more sophisticated handling of these figures, and in particular of this kind of data, will result in a better model. More sophistication tends to create a false impression of exactitude.

Taking into account the physical features of the Attic landscape, especially the effect of the hills and mountains surrounding the plain of Athens, we can thus reconstruct the network that underlies the settlement hierarchy (Figs. 2-3). It is obvious that this system resembles the central place type which is based on the traffic principle.[5] This is in agreement with the general pattern of the evolution of urban centres and regional settlement systems elsewhere in Archaic and Classical Greece, with the notable exception of Sparta. It also demonstrates that in ancient Greece the administrative factors were less dominant in shaping settlement systems and hierarchies than can be expected of early states in general, pointing therefore to a lesser impact of redistribution by the state on the economy than appears to be characteristic of other early states. Obviously, independent traders and exchange at fixed meeting places on the borders (see Drako's Law on Homicide: *IG* I^3 104: the market on the frontier),[6] played an important role early in the economic life of Archaic Greece. This, however, certainly does not mean that the market-oriented economy prevailed.

Some distortion may be due to the fact that a great number of the inhabitants of the *demes* of Acharnae and Aphidna were living dispersed over the countryside, as might be assumed (Traill 1982, 169), but this would even further accentuate the outstanding position of Athens. On the other hand, we have an instantaneous view of an evolving system in a way which would be impossible through the use of archaeological data alone. The appearance of a number of greater settlements in the *astu*-region surrounding Athens points to a different degree or rate of development of this region when compared with the rest of Attica. The growth of the city of Athens, on the one hand, appears to have stimulated the development of its direct surroundings, i.e. the region consisting mainly of the lower valley of the Kephisos and confined by the Hymettos, the Pentelikon, the Parnes and Aigaleos, and the sea, which is also the region of the *astu-demes* of the Kleisthenic system. On the other hand, the relatively large growth of Athens can be explained by its function as the centre of the whole of Attica, without the other regional centres being integrated in this system (remaining centres are then on a local level with little mediating functions). The 'Kleisthenic' system thus reflects the effects of the

[4] See the difficulty of locating with certainty the *deme*-site of Upper-Lamptrai, near Kitsi, in a relatively well researched area. See Traill (1982), 162-71, esp. 165, and the discussion by Langdon (1988), 43-54, esp. 45-47. See also for its natural environment, Philippson (1952), 810.

[5] $k = 4$: see Haggett *et al.* (1977), 139-48.

[6] Natural routes of communication or traffic nexuses, e.g. near Pallene, Philippson (1952), 771, see 791; 804-805; also near Keratea and Phrearroi, Philippson (1952), 831. Erchia/Spata, Milchhöfer (1907), 398-99.

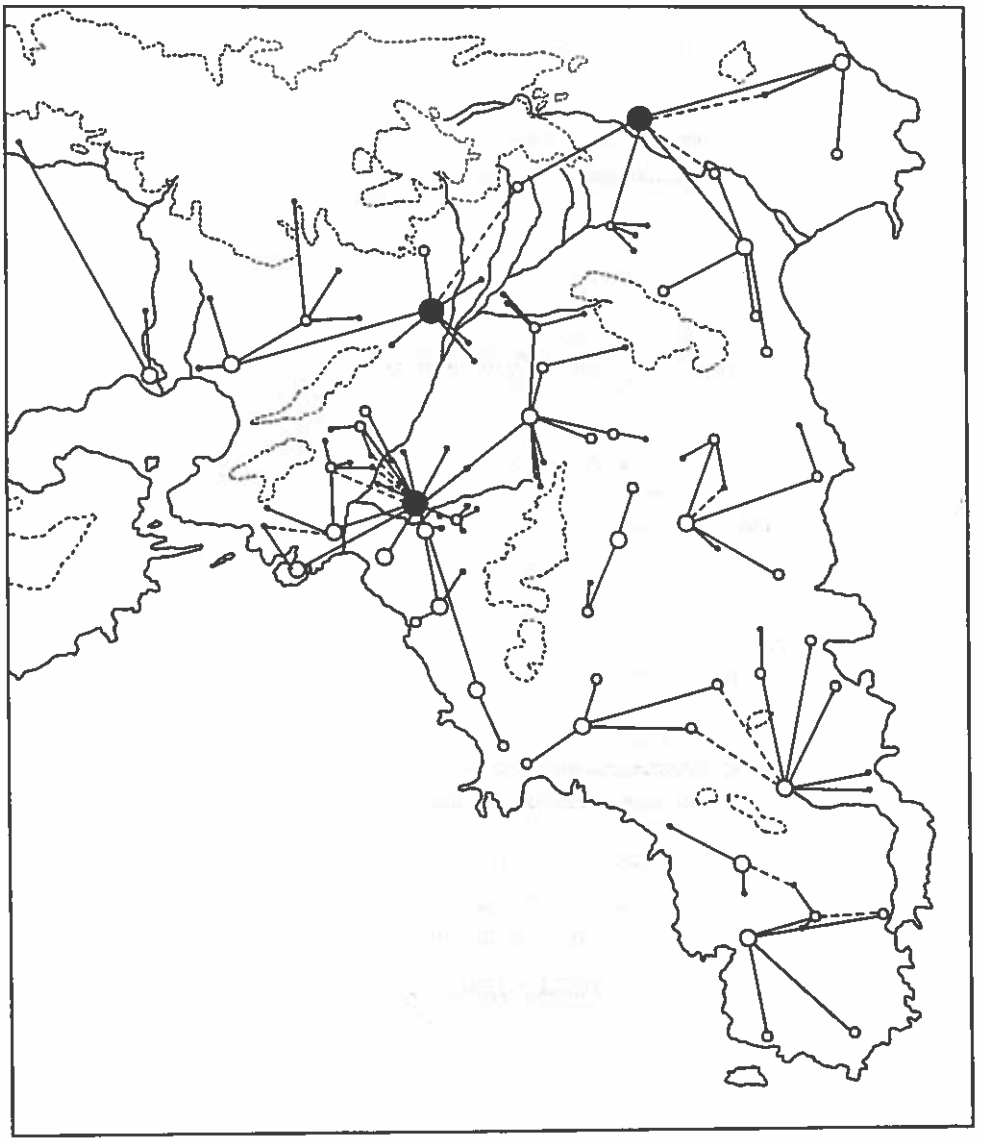


Figure 2. *Network of nearest neighbouring higher/lower ranking deme-sizes. Erchia assumed the same ranking as Lower Paiania (based on Trail 1975)*

establishment of a centralised polity which may have been the work of the tyrants. This also enhanced the position of Athens as the religious and ritual centre of Attica, but the economic factor seems more important within the perspective of urban growth. The Peisistratids are thought to have stimulated the development of various kinds of crafts by attracting artisans to Athens and the undertaking of building activities there, as well as the promotion of external trade at the same time. The results of their successes in these respects can be seen in the extension of coastal places such as Phaleron and Peiraios and neighbouring Xypete. On the other hand, if there had been an Athenian state before the establishment of tyranny, the evolution of the settlement system points out that its influence possibly could not have extended far beyond this kernel area.

Evolution and typology

Both the measure of stratification and the measure of integration in the settlement system are of particular importance in addressing the question of which level of social-political organisation this settlement system really represents. Considering Athens as the centre of all of Attica (centrality being defined according to the central place theory), we may speak of a four-tier hierarchy. This kind of centrality for Athens, and consequently the four-tier hierarchy, however, is not very obvious. On the regional level the settlement hierarchy has two or three tiers. A three-tier pattern is evident in the more important districts of Attica; two-tier systems perhaps can only be observed in the mountainous southeast and in the district of Aixone, between the Hymettos and the coast. Here in particular the medium position of *demes* with 4 to 6 *bouleutai* is obvious. The region surrounding Athens is not only the most highly evolved, but is also the most integrated. Both its centre and its medium 'local' centres (Alopeke, Phaleron, Peiraious, Xypete) have a rather large size when compared with settlements in the rest of Attica. The 'second-level' places in the district of Athens have the same size, generally, as the 'first-level' ones in the other districts. Besides, the whole southwestern coastal district from Peiraious to Anaphlystos is conspicuous because of its relatively greater *deme* sizes. That in my opinion is the main explanation of why the various size categories or hierarchical levels overlap each other and cannot easily be discerned. This may imply that the predominance of Athens is *perhaps* too accentuated and that we must therefore use caution when considering this settlement system as a four-tier fairly integrated whole with Athens as the common centre.

The question of the evolution and development of the Attic settlement system untill the end of the sixth century BC is a complicated one and has several aspects. First, we must consider and reconsider the connections between the later settlement system and the pattern of the earlier settlement in the Geometric period as well as the situation of the oldest settlements with respect to their natural environment. This directly involves our idea of a general penetration, settlement and exploitation of Attic land from the beginning of the Geometric period, starting from Athens and its immediate neighbourhood with a few coastal settlements. Generally it is assumed that this evolution was a continuous movement, but it will be shown that this supposition should actually be re-examined.

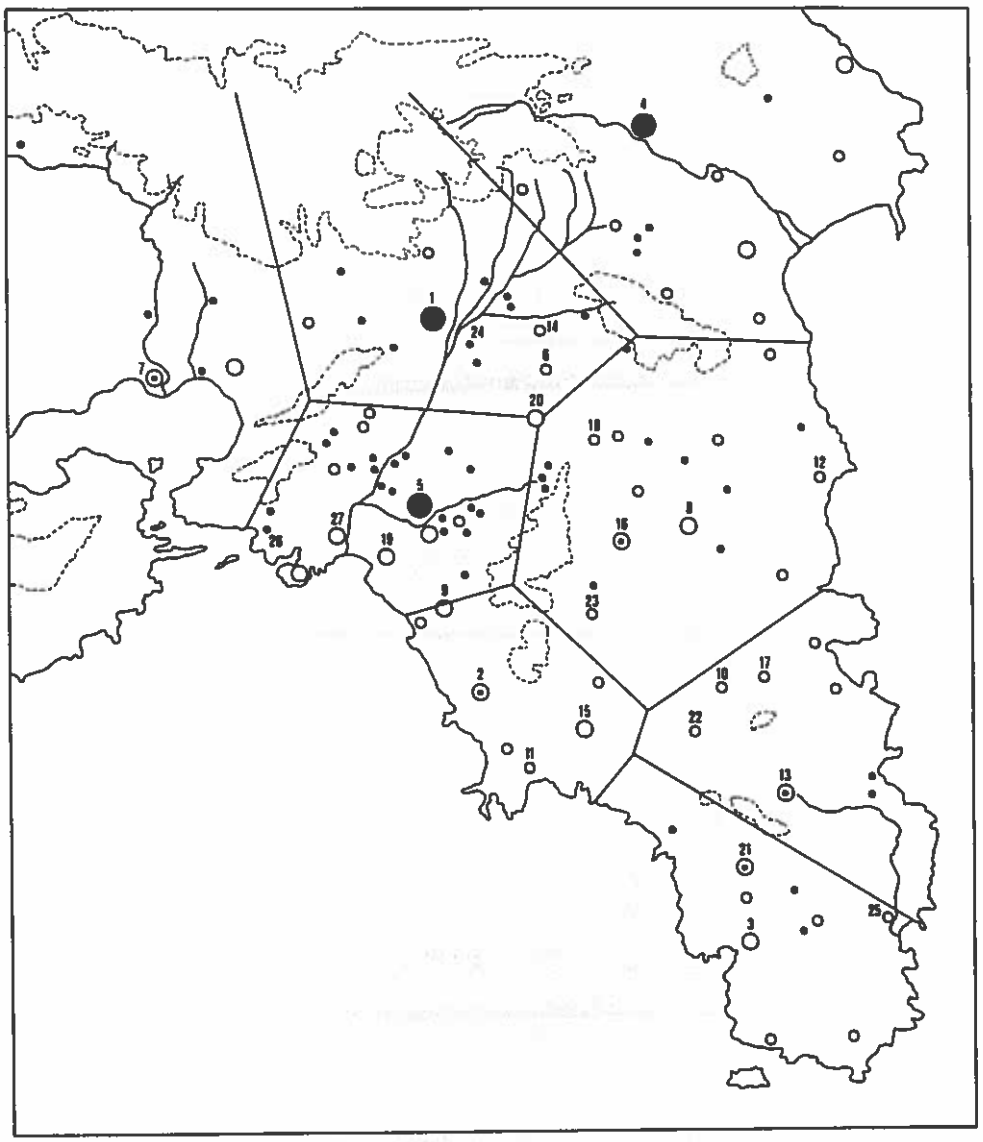


Figure 3. *Thiessen-polygons on modelled local or regional centres (based on Trail 1975)*

1. Acharnai	*10. Hagnous*	*19. Phaleron*
2. Aixone	*11. Halai Aixonides*	*20. Phlya*
3. Anaphlystos	*12. Halai Araphenides*	*21. Phrearrhioi*
4. Aphidna	*13. Kephale*	*22. Prospalta*
5. Athens	*14. Kephisia*	*23. Sphettos*
6. Athmonon	*15. Lower Lamptrai*	*24. Sypalettos*
7. Eleusis	*16. Lower Paiania*	*25. Thorikos*
8. Erchia	*17. Myrrhinous*	*26. Thymaitadai*
9. Euonymon	*18. Pallene*	*27. Xypete*

First, we can relate the location of Geometric settlements as they are given by Coldstream with *deme*-sites from the Classical period.[7] Second, we can study the geographical situation of these early settlements as well as of the later *deme*-sites with respect to their natural environment, in particular the suitability of its soils for Mediterranean agriculture (cereals, vines, olives), and, especially, pastoralism. This may, to begin with, offer the best explanation for both the diversity and hierarchy of the settlements, supposing that the earlier settlements as well as the later centres are found at the more favourable locations for agriculture. Other factors, however, do complicate this (Osborne 1985, 37-42; Whitehead 1986). Third, we may consequently suppose and observe that diversity, dependency and hierarchy evolved on various levels: ecological (subsistence goods), social (stratification), and ritual (cults). This idea is derived from the model of the origin of social inequality, state and the Asiatic mode of production, that has been proposed by Friedman and Rowlands (1977; Service 1975, 72-80, fig. 1), and although it does not strictly apply to early Greece, a correlation does exist between some Early Geometric settlements, fertile soils, and the presence of cults either obviously ancient or associated with fertility.

After the Mycenaean period, Attica appears to have been virtually depopulated, with the exception of a few settlements at the site of Athens and on the coast (Thorikos in particular; Coldstream 1977). The evolution of the settlement pattern in the Early Geometric and Geometric period shows that the initial preference for locations were either on the coast (sometimes at sites with a limited agricultural catchment) or, in the interior, sites with both directly available arable land and a good water supply. The area of these first choice locations, however, did not always offer sufficient space for a growing population and an extension of settlement. Thus we observe that in a number of cases those apparently favourably situated ancient settlements did not become local or regional centres in the sixth century. The settlement near Draphi offers a good illustration. It is most likely the site of the later *deme* of Pambotadai (Miller 1993), which in the Classical period provided at the most one *bouleutes* annually. From an environmental perspective its situation, however, seems very favourable, in a fertile valley amidst a mountainous

[7] Coldstream (1977), esp. 134, fig. 43. I propose the following identifications of Geometric sites with *deme* sites (the earlier sites are in italics):

Eleusis-Eleusis
Liossia-? Kropidai
Menidi-Acharnai
Koukouvaones-Sypalettos
Kephissia-Kephissia
Marathon-Marathon
Aigaleos-Kettos/Hermos
Hag. Paraskevi-Phlya
Kallithea-?
Analatos-?
Palaia Kokkinia-Thymaitadai
Phaleron-Phaleron
Trachones-Euonymon
Helleniko-Halimous
Aliki -? Aixone
Vouliagmeni-Halia Aixonides
Vari-Anagyrous
Draphi-Pambotadai (see note x)
Spata-Erchia
Brauron-Philaidai
Merenda-Myrrhinous
Koropi-Sphettos
Markopoulo-Hagnous
Kalyvia-Prospalta
Keratea-Kephale
Kaki Thalassa-Potamos Deiradiotes
Thorikos-Thorikos
Anavysos-Anaphlystos
Laurion-? Sounion

To be added: Palaia Fokea, near Anaphlystos (see note 13).

district and with a good water supply (Milchhöfer 1889, 37). The surrounding mountains, however, seriously hampered its possibilities for further growth or expansion. Yet it is obvious that a fai amount of larger sized *demes* are found on locations of early settlement (see Fig. 1). Furthermore, in some places there is a remarkable continuity in the cultic pattern, especially concerning the cults of the divinities and in particular the goddesses of the earth and the fertility of the land.

At Phlya we find the old and venerable cults of the Semnoi Theoi, and especially of Ge and Zeus Ktesios together with cults which point to a link with Boiotia, those of Demeter Anesidora, Tithrone Athene, a Kore Protogene, Artemis Selasphoros, and Apollo Daphnephoros. This compares well with the nature of the gods who were venerated at Kephissia, a Mother of the Gods, and Poseidon (not so surprising considering the numerous springs found there), and with the cults of a Mother of the Gods and the Anakes at the ancient coastal site of Vari-Vouliagmeni. At Eleusis the fertility of the countryside as well as the antiquity of its habitation and of the cult of Demeter and Kore are also obvious. In this respect it is also remarkable that a cult of these same divinities under the same archaic name (a *dualis*) existed at another one of the most ancient settled sites of Attica, at Thorikos and Kephale.[8]

On the whole, the distribution of the cults of Demeter, of Demeter and Kore, or of Kore alone correspond with the early settlement pattern. Apart from Eleusis, Thorikos and Phlya, Demeter and Kore together were revered at: Kalyvia/Prospalta at the southern end of the Mesogeia; Demeter alone at Merenda and probably Spata/Erchia; along the west coast of Attica near Cape Kolias at Haliki and Halimous (Demeter Thesmophoros and Kolias); and at Phaleron; and Kore alone at Thymoitadai near Palai Kokkinia and at Pikermi/Teithras. Somewhat less significant but still in agreement with this same pattern is the distribution of the cult of Artemis, mostly Kolainis: at Brauron, of course, Merenda/Myrrhinous, Pikermi/Teithras, Kalyvia/Prospalta, and on the west coast (A. Mounychia at Cape Kolias).[9] Antiquity of sites thus sometimes coincides with the presence of a cultic place, but not always with central functions concerning a wider region. From this perspective, however, the distribution of sanctuaries and cult places which are connected with a pastoral economy and way of life (on hill tops in mostly barren and rugged districts) have until now not been considered, and unjustly so, in my opinion. Besides, the places for the worship of Apollo at the edge of the settled and cultivated areas, such as the ancient sanctuary on Cape Zoster, are a separate case.[10]

The remark by Kirsten, that people settle not on but near arable soils (or their pastures) is of course absolutely correct (Kirsten 1952, 971-1064, esp. 1005). Essentially, it is also right to point out that we cannot explain the evolution of the Attic settlement system exclusively by the arability of its soils (Osborne 1985, 38-41). On the other hand, the correspondences of the Attic settlement pattern in the Classical period both with that of earlier (the Mycenaean age) and later periods (the second half of the 19th century before the effects of the modernisation encroached upon the Greek society and its countryside) cannot be overlooked. This is considering that the technological constraints of pre-

[8] The cults at Phlya, Pausanias I, 31, 4; see further Solders (1931); on the *dualis* at Thorikos and Kephale esp. 49, and Milchhöfer (1883), 36-37.

[9] Artemis Kolainis, see Solders (1931), 26-27.

[10] Osborne (1985), 23-24; see Solders (1931), 17, 20. At this place is also a spring: Philippson (1952), 945.

industrial (Greek) Mediterranean agriculture (including the choice of products grown) did not differ essentially between the Classical and later periods, and I see no serious reason to doubt that, the choice of site locations in all these periods appears to have been determined in the first place by the conditions of soil, water-supply, and local climate.[11]

The history of the Mesogeia is a good example thereof, with its settlements at Spata, Markopoulo, and Keratea which surround its central area. The comparison of the settlement pattern in the Geometric period with that from the Classical age (as my model represents it) shows a gradual movement of population inwards from the coastal districts (Vari-Kitsi/Lamptrai-Koropi/Sphettos-Liopesi/Paiania); from Thorikos through the valley to Kephale, Keratea in the direction of Kalyvia/Prospalta and Markopoulo/Hagnous) or from the plain of Athens and the valley of the Kephissos (Phlya, to Draphi, Erchia and Pallene) until gradually the entire country was occupied. Both in the Mycenaean age and in the Classical period, as well as today, the main settlements are situated near the relatively softer and thus better arable soils, in a circle and on somewhat higher locations.[12]

We might, thus, expect that the process of the 'internal colonisation' of Attica since the Dark Ages would have been resulted in a pattern of settlement wherein the greater and more important settlements would be simultaneously the earliest and ecologically the most favourable located settlements. That, however, does not or does not obviously occur. A number of Geometric sites correspond with the locations of later smaller or less important *deme* sites (Koukouvaones/Sypalettos; Liossia; Aigaleos), and a remarkably large number is situated on the coast (Palaia Kokkinia, Kaki Thalassa; Aliki, Vouliagmeni and Vari and surroundings; Anaphlystos, Palea Fokea[13]). The earlier settlements in the Mesogeia are found along the edge (Markopoulo, Merenda, Koropi, Spata), a sign of gradual penetration and not necessarily of choice agricultural spots. Later these are *deme* sites primarily of local importance (Spata/Erchia 6 to 7 *bouleutai*; Koropi/Sphettos: 5 *bouleutai*; Merenda/Myrrhinous: 6 *bouleutai*; Markopoulo/Hagnous: 5 *bouleutai*), but no more than that.

Apart from the peculiar case of Thorikos, with its ancient mining facilities and the later coastal and harbour place of Phaleron, the connection of well arable soils, early settlement, and evolution to a *deme* site in the Classical period of more than local importance can be shown in the case of Athens itself, Menidi, Eleusis, Trachones, Hagia Paraskevi, and Keratea. Phlya, near Chalandri and Hagia Paraskevi is alos such a site because of both its ancient traditions of the cults of the Earth and fertility, which were attended by the *genos* of the Lykomidai (Plutarch, *Themistocles* 1, 3), and its early settlement.

All in all, the conclusion seems justified, that the Attic settlement system, as it is reflected by the *bouleutai* quota in the Classical period, did not evolve in a gradual and uninterrupted process from the end of the Submycenaean period or the Dark Ages. The correlation between the Geometric settlement and later *deme* sites, in particular those of some importance, is not sufficiently obvious. Other factors than the suitability of the

---

[11] But see also the critical remarks by Halstead (1987), 77-87.

[12] For geological formation and settlement location on arable soils in the Mesogeia, see Philippson (1952), 815-21.

[13] For the site at Palea Fokea, see Chronique des Fouilles 1992, *BCH* 117 (1993), 778.

natural environment for agricultural exploitation, such as pasture and routes of communication in the first place, but also political factors, obviously contributed to the evolution of this settlement system as well. An interruption may have had much impact on the evolution of the settlement pattern in the course of the seventh century BC. The abandonment of settlement sites or a temporary return to a subsistence economy more dependent on pasture could have characterised this interruption, perhaps caused by a period of drought that seriously disturbed normal living conditions. This implies, and apart from any possible explanation this observation seems obvious, that the sedentarisation or internal colonisation of Attica at least partially had a new start in the course of the seventh century. The evolution of the settlement system and that of the social-political system, i.e. the state, must therefore have had a new start by then. At the moment, however, data on details of such an interpretation are lacking.

Integration[14]

We may observe as a general rule that the various regions with their respective centres which can be discerned in this model derived from the bouleutic quota, do agree with the division of Attica into natural regions.[15] The centres distinguish themselves by their somewhat more favourable situation within their environment (if we depart from the prerequisites of agriculture, in addition to the presence of usable pastures at a not too far distance) and in a few cases by their greater antiquity (Acharnai, Athens, Kephale). That this settlement system, however, was obviously not fully integrated is already apparent by the difficulty of the definition and indentification (by bouleutic numbers) of the hierarchical levels of this settlement system. Its evolution apparently depended as well on other factors. Two of these are obvious, one of which can be deduced directly from the map; this is the factor of communication and the course of the natural routes of communication in particular. This concurs with the mentioning of market-places on the frontier by Drako's law on homicide,[16] obviously meeting-places for the exchange of goods, products, and information. The second factor is the influence of the political system: the yet rudimentary evolution of Athens and Attica into an integrated polity by the end of the sixth century. The Early State, created by the tyrants, did affect the evolution of the settlement system and the form of its hierarchy, but its influence did not reach to its roots. This observation rather informs us about the level of political evolution which the state of the tyrants had achieved.

The uneven distribution of settlements of equal size reflects the inequality of integration. The region of Athens is much more densely populated or settled, further integrated, and contains on the average settlements of a larger size than the other parts of Attica. The impact of its development, however, reaches farther, into the terrace between the Hymet-

[14] The best introduction to the use of the Attic landscape in ancient times in my opinion is still provided by the observations of Philippson (1952), and Curtius & Kaupert (1881-1900), with the Hefte *Erlautemder Text* by Arthur Milchhöfer, as well as descriptions of Athens and its natural environment in the nineteenth century like Leake (1844).

[15] See on the natural regions of Attica, Kirsten (1952), 984-88.

[16] See above and note 6.

tos and the coast, from Phaleron to the neighbourhood of Vari. This we may consider as a third factor which complicates the structure of the settlement hierarchy, but there are more. This district is not the only one where the pattern of the settlement hierarchy seems blurred as a consequence of a relative concentration of larger settlements. A similar phenomenon occurs in the 'triangle' between the valley of the Kephissos, the Hymettos and the Pentelikon (Phlya, Athmonon, Pallene, etc. with 5 to 6 *bouleutai* each).

Differentiation, from a geographical perspective, can be observed both between and within regions. While the area around the town of Athens seems primarily to have been used for agriculture (cereals and olives on the alluvial soils along the Kephissos, vines on less suitable soils, such as were grown in the nineteenth century in the marshy country of the deposits near its mouth),[17] the stretch between the Hymettos and the coast apparently was preferred for pasture. The situation of this area in the nineteenth century (barren country, overgrown by shrubs, pasture) would suggest this,[18] although the projection of this scenario back into Classical antiquity could be erroneous. One should note Philippson's repeated remarks on remains of deserted settlements in districts which were in his time overgrown by shrubs and the like and were visited only by herdsmen. We should therefore be careful when extrapolating the ancient land use from more modern parallels (Philippson 1952, 832, 839, and 875). Yet the evidence seems sufficient to support the supposition that in a broader view the region of Aixone (including that of Trachones) was mainly pastoral land. The centre of Mesogeia which is now planted with vines but in the nineteenth century was used as pasture, appears in the Classical period also to have primarily functioned as pasture land.[19]

The importance of Aphidna, but also that of Eleusis, however, appears to have been the result of the availability of another valuable resource, fresh water. The significance of this also as a general factor cannot be easily overestimated. The location of Trachones and the extension of its *deme* appear to derive from the presence of springs.[20] The presence of large settlements along the coast, both between Phaleron and Vari (Halai Aixonides) and on the northeast coast (Halai Araphenides) can be explained by the opportunity of exploiting the coast with salines.[21] I am convinced that we should not underestimate the importance of salt production and trade for the development of the Athenian economy and the basis of the evolution of the Athenian state. The presence of larger settlements without a clearly marked hierarchy in the 'triangle' between Kephissia -Phlya-Pallene and the Pentelikon in my opinion can be explained by the equal distribution of arable soils, a good supply of fresh water (springs), and a natural route of communication connecting Athens with the Mesogeia on the one side and on the other the east coastal district to the Marathonian plain.[22] The situation in antiquity here (as

[17] Philippson (1952), 876-77; see Leake (1844), pl. V; Curtius and Kaupert (1883), Heft II, Blatt III.

[18] Philippson (1952), 901 ("einsam") and 904; but see Milchhöfer (1883), Heft II, 29: "fruchtbare Ebene", and also Curtius and Kaupert (1900), IX, 3 and 6.

[19] Philippson (1952), 815. See for the distribution of cult-places of Hermes around the Mesogeia and at Euonymon, Solders (1931), 54-55, 56.

[20] Milchhöfer (1883), Heft II, 29; see Philippson (1952), 902, n. 1.

[21] Philippson (1952), 762, 812, 819, 904. Also near Peiraios: 829.

[22] Philippson (1952), 797-800, 874, 885-89. See Curtius and Kaupert (1900), II, Bl. V with Milchhöfer (1883), Heft II, 33-35, and Milchhöfer (1896), 2065; Bölte (1921), 224-25.

in the immediate neighbourhood of Athens) strongly resembles that at the end of the nineteenth century.

The importance of Paiania/Liopesi as the central place of the Mesogeia region in my opinion remains an unsolved problem. The only period in which this place was conspicuous is the Classical period (and in the model constructed here). Its cause is the size of the *deme* of Lower Paiania. We could suppose that the settlement proper was smaller due to a dispersion of the population, but that is contradicted by the presence of Upper Paiania, with one bouleutes, in its immediate neighbourhood. We might expect that Spata/Erchia, which is situated at a junction of natural routes of communication, would instead have emerged as the central place of this district. As far as I know Paiania/Liopesi is not distinguished by a particular environment, except for the presence of marble quarries on the neighbouring slopes of the Hymettos (Philippson 1952, 809). That, however, is not enough to explain its outspoken prominence. Neither is the site one of the earliest settlements. Furthermore, the archaeological finds from the Bronze Age untill the Classical period indicate a place of smaller importance than, e.g. Spata (again) and Koropi in its near neighbourhood.[23] Obviously, the *deme* in the Classical period was not distinguished by the presence of a particular cult, nor by the possession of mythical or legendary traditions (such as the story of Kranaos, which is linked with Lamptrai) or the claim of being the place of origin of a genos that called itself eupatrid. Perhaps further research, before it has for ever been precluded by the construction of the new airport of Athens, will clarify this.

On the other hand, the oral tradition as reported by Herodotus linked Paiania with the establishment of the rule of Peisistratos. The girl who dressed up as the goddess Athena and accompanied him on his second march to power, came from Paiania (Herodotus V, 62). This also agrees with his main supporters as coming from 'beyond the hills'. The size of Paiania in the Classical period could then be the most explicit witness of the political factor in the evolution of the Attic settlement system in the sixth century B.C. The strongest force behind the entire process of integration, however, was political: the unification and integration of Attica by and within one state. This process, however, was obviously not yet completed by the time the Peisistratid tyranny fell from power.

Conclusion: settlement and political evolution; warnings

Although the process of social stratification resulting in political and economic tensions of various kinds and on various levels appears to have gone so far in Solon's lifetime that the rise of a state-like political system in Athens had become a real possibility, the factors supporting such a development seem still to have been too weak. This can clearly be seen through the evolution of the settlement system in ancient Attica. It is presumed that in processes of state formation a strong correlation exists between social stratification leading to a division of society in 'rulers' and 'ruled', and the evolution of a hierarchical settlement system based mainly on the environmental differentiation of settlement location. Even

[23] Hope Simpson & Dickinson (1979), F30-F32a and F37 (Markopoulo), F40 (Koropi), F41 (Paiania/Liopesi), F42 (Spata).

at the end of the sixth century we can hardly speak of a fully integrated settlement hierarchy encompassing the whole of Attica. In the age of Kleisthenes (± 510-500 BC) Athens had become the centre of Attica in several important respects, political and religious. Its growing urban character and the development of other urban functions also gave it a position of economic centrality. But on the other hand the growth of Athens which was mainly caused by its function as a political centre, had not yet resulted in the evolution of a balanced settlement hierarchy including the entire Attic settlement system. The situation during Kleisthenes is not only characteristic of incipient evolution of settlement hierarchies in processes of state formation, but also indicates that the beginning of this evolution had occurred in a not very remote past.

If we are to consider the model of the Attic settlement system which we constructed on the map as a reasonable approach of a historical reality, we must be fairly certain that the locations on the map on which it is based actually do correspond with an actual existing situation at a given moment in time. In other words, this map must not be drawn with data from various periods combined, thus suggesting an image that never really existed as such. The essential contemporaneity of the basic data is a fundamental supposition. It is also an entirely reasonable supposition, if we accept that the Kleisthenic system constructed at the end of the sixth century was based on a real existing situation and that it was reviewed (or only in unimportant detail) for a long period thereafter. This applies to the relative sizes of the bouleutic quota. The precise location of the various *demes* is another case. The map of the *deme* locations is based on data from late fifth- and fourth-century sources, and we have no reason to assume as self-evident that the population centres of the *demes* remained in the same place within the course of a century. They may have shifted and moved. Osborne has argued this in referring to Lohmann's researches in the area of the *deme* of Atene (Osborne 1991, 231-53). Yet we may reasonably expect that this occurred only on a minor scale in the major *demes*, in my terms the regional and local centres, and that this thus does not or only slightly affect the essence of the model. But we should remain aware that the shifting of population centres may influence the construction of the Thiessen-polygons and therefore the sizes of the regions of the various centres which they represent in this model. The map must be viewed with this restriction in mind.

The supposition that we may identify the *deme* centres as centres of settlement and population involves a greater problem. I have departed from the assumption that the *demes* can be put on a par with villages, smaller and greater settlements. This equalization is accepted in the older literature as essentially correct because of the repeated affirmation by written sources that *demes* and *komai* (villages) are the same thing. Contrary to this is the more recently declared opinion that the *demes* in the first place were predominantly administrative centres with particular functions in the newly created Kleisthenic system.[24] They may have been, of course, and most of them probably were connected with existing population centres, but that is not necessary nor must it be considered as a general phenomenon. On the other hand, it can be imagined that such administrative centres subsequently became centres of population. It is far from improbable that this occurred in a number of cases, but anyhow we must be cautious in interpreting the *deme* map as

[24] Ober (1989), 70, n. 38, with ref.

a map of the spread of dispersion of the population. It must be emphasized, however, that this 'administrative' hypothesis does not very well account for the great varieties in the sizes of bouleutic quota. I think that the historical reality was varied. What was possible, also did occur somewhere. The question then is, which one of the suggested situations is the most plausible, and that question only can be answered by further research.

Another problem that is similar but not the same, is that of the dispersion relative the nucleation of the settlement pattern. It can very well be imagined that a *deme* was not a nucleated settlement but that its population lived dispersed on farmsteads in the area. This kind of situation was more likely to occur in the smaller *demes* (those with 3 *bouleutai* or less), in valleys in hilly or mountainous countryside, but the possibility cannot be excluded that greater *demes* were also formed by a nuclear settlement (a village) surrounded by dispersed population at some distance from it. Such a situation might explain the extraordinary size of an apparently agrarian *deme* like Acharnai and Aphidna. On the other side, archaeological research seems to have unambiguously shown the identity of *deme* centre and nuclear settlement in the case of Halai Aixonides near Vouliagmeni (Lohmann 1992, 29-57, esp. 35). When we assume the reality of a varied situation, then as the model would imply we see that first, the dominating position of the town of Athens becomes more prominent, and, second, that the number of settlements from the category of the smallest size increases. Consequently, a number of regional centres become less prominent, and a few local ones will even disappear.

The main question is whether or not these reservations affect the essence of the structure of the model which I have constructed and presented here. We should not forget that a model is always a generalised representation of structural features, and not the picture of an existing reality. These structural features are the measure of stratification of the settlement pattern (a three- or four-tier hierarchy), its level of integration, and the geographical situation of both its centre and the regional centres. I am not convinced that this essence is affected by the aforementioned reservations, and that is, I think, the most important. If the image evoked by this model should be corrected, and doubtlessly it must to be, then it will most probably be in the sense that it is a too evolved or complex view of the situation. Perhaps this will lead to the conclusion that the Athenian state and society at the end of the sixth century were less complex and less evolved than we initially thought. That, however, only can be resolved by further research, in particular on a regional scale, of the evolution of habitation, the exploitation of the landscape, and the growth of local centres. I hope thereby that the model presented here can be useful as a point of reference and that it offers a sufficient basis.

September 1994

E.Ch.L. van der Vliet
Department of Ancient History
University of Groningen
The Netherlands

References

Adams, R.McC. 1981. *Heartland of cities: surveys of ancient settlement and land use on the central flood plain of the Euphrates*. Chicago.

Bölte, [F.] 1921. Kephisia. *PW* XI, 1: 224-25.

Coldstream, J.N. 1977. *Geometric Greece*. London.

Curtius E. & J.A. Kaupert 1881-1900. *Karten von Attika*, I-X. Berlin.

Dalton, G. 1981. Anthropological models in archaeological perspective. In: I. Hodder, G. Isaac & N. Hammond, eds. *Pattern of the past. Studies in honour of David Clarke*, 17-48. Cambridge.

Earle, T.K. 1987. Chiefdoms in archaeological and ethnohistorical perspective. *Annual Review of Anthropology* 16: 279-308.

Friedman, J. & M.J. Rowlands 1977. Notes towards an epigenetic model of the evolution of "civilization". In: J. Friedman & M.J. Rowlands, eds. *The Evolution of Social Systems*, 201-76. London.

Haggett, P., A.D. Cliff & A. Frey 1977. *Locational models*. London.

Halstead, P. 1987. Traditional and ancient rural economy in Mediterranean Europe: plus ça change? *JHS* 107: 77-87.

Hope Simpson, R. & O.T.P.K. Dickinson. 1979. *A Gazetteer of Aegean Civilisation in the Bronze Age. I. The Mainland and Islands*. Göteborg.

Johnson, G.A. 1977. Locational analysis and the investigation of Uruk local exchange systems. In: J. Friedman & M.J. Rowlands, eds. *The Evolution of Social Systems*, 285-339. London.

Johnson, G.A. 1981. Monitoring complex system integration and boundary phenomena with settlement size data. In: S.E. van der Leeuw, ed. *Archaeological Approaches to the Study of Complexity*, 144-88. Amsterdam.

Kirsten, E. 1952. Beiträge zur historischen Landeskunde von Attika und Megaris. In: A. Philippson, *Griechischen Landschaften*, 971-1064.

Langdon, M.K. 1988. The topography of coastal Erechtheis. *Chiron* 18: 43-54.

Leake, W.M. 1844. *Topographie Athens*, Uebersetzt von J.G. Baiter und H. Sauppe, 2nd edition. Zürich.

Lohmann, H. 1989. Das Kloster von H. Giogios ('Ereneia'). In: *Marburger Winckelmann-Programm 1988. Attische Festungen*, 43-66.

Lohmann, H. 1992. Agriculture and country life in Classical Attica. In: B. Wells, ed. *Agriculture in Ancient Greece*, 29-57. Stockholm.

Maisels, C.K. 1990. *The Emergence of Civilization. From Hunting and Gathering to Agriculture, Cities, and the State in the Near-East*. London.

Milchhöfer, A. 1883. *Karten von Attika. Erlauternder Text*, Heft II. Berlin.

Milchhöfer, A. 1889. *Karten von Attika. Erlauternder Text*, Heft III-VI. Berlin.

Milchhöfer, A. 1896. Athmonon. *PW* II, 2: 2065.

Milchhöfer, A. 1907. Erchia. *PW* VI, 1: 398-99.

Miller, S.G. 1993. Pambotadai found?, *BCH* 117: 225-31.

Nissen, H.J. 1983. *Grundzüge einer Geschichte der Frühzeit des Vorderen Orients*. Darmstadt.

Ober, J. 1989. *Mass and elite in democratic Athens. Rhetoric, ideology and the power of the people*. Princeton, NJ.

Osborne, R. 1985. *Demos: the Discovery of Classical Attica*. Cambridge.
Osborne, R. 1991. The potential mobility of human populations. *OJA* 10: 231-53.
Peebles, C.S. & S.M. Kus 1977. Some archaeological correlates of ranked societies. *American Antiquity* 42: 421-48.
Philippson, A. 1952. *Die griechischen Landschaften*. Band I, Teil III, *Attika und Megaris*. Frankfurt am Main.
Renfrew, C. 1975. Trade as action at a distance. In: J.A. Sabloff and C.C. Lamberg-Karlovsky, eds. *Ancient Civilization and Trade*, 3-59. Albuquerque.
Rihll, T.E. & A.G. Wilson 1991. Modelling settlement structures in Ancient Greece: new approaches to the polis. In: J. Rich & A. Wallace-Hadrill, eds. *City and Country in the Ancient World*, 59-95. London and New York.
Service, E.R. 1975. *Origins of the State and Civilization. The process of cultural evolution*. New York.
Solders, S. 1931. *Die ausserstädtischen Kulte und die Einigung Attikas*. Lund.
Traill, J.S. 1975. *The political organization of Attica. A study of the demes, trittyes, and phylai, and their representation in the Athenian council*. Hesperia Supplement XIV. Princeton, NJ.
Traill, J.S. 1982. An interpretation of six rock-cut inscriptions in the Attic demes of Lamptrai. In: *Studies in Attic Epigraphy, History and Topography. Presented to Eugene Vanderpool*. Hesperia Supplement XIV, 162-71. Princeton, NJ.
Trail, J.S. 1986. *Demos and trittys. Epigraphical and topographical studies in the organization of Attica*. Toronto.
Whitehead, D. 1986. *The demes of Attica 508/7 to ca. 250 B.C. A political and social study*. Princeton, NJ.

VELOUCHOVO-KALLIPOLIS 1993

Simon C. Bakhuizen

THE archaeological survey of the ancient urban site of Velouchovo, Aetolia, Greece, was continued in September 1993. The Dutch project had begun in 1976 as part of an international effort to investigate and publish this important terrain, the lower part of which was to disappear -in 1979- into the lake created by the Mornos dam; years of work were 1976, 1977, 1988, 1991, 1993 (publications of the survey so far: Bakhuizen 1977 [1984]; 1989; 1991; 1992a; Vroom 1993). In the early period of our activities (1976; 1977) attention was drawn mainly to the fortifications, both those from Antiquity and those from the Middle Ages. In more recent years we concentrate on the character of habitation on Velouchovo Hill. In 1993 observation of ancient remains was facilitated by dry weather conditions; and the low level of the water of the Mornos reservoir laid bare part of the Greek and French emergency excavations of 1976-1979, which had been drowned after the Mornos dam was completed. This brief report consists of three parts: (1) the ancient city of Kallipolis; (2) the medieval settlement which lies on the acropolis of the ancient city; and (3) the new local museum at Lidoriki.

The ancient city of Kallipolis

As to the survey map of the interior of the city, which is not yet finished and which has not yet been published, checks and additions could be made. It has become clear that the present system of terraces does not bear any relation to the ancient system, evidence for which is restricted to the low-lying zone I (see Fig. 1). Both the locations and the

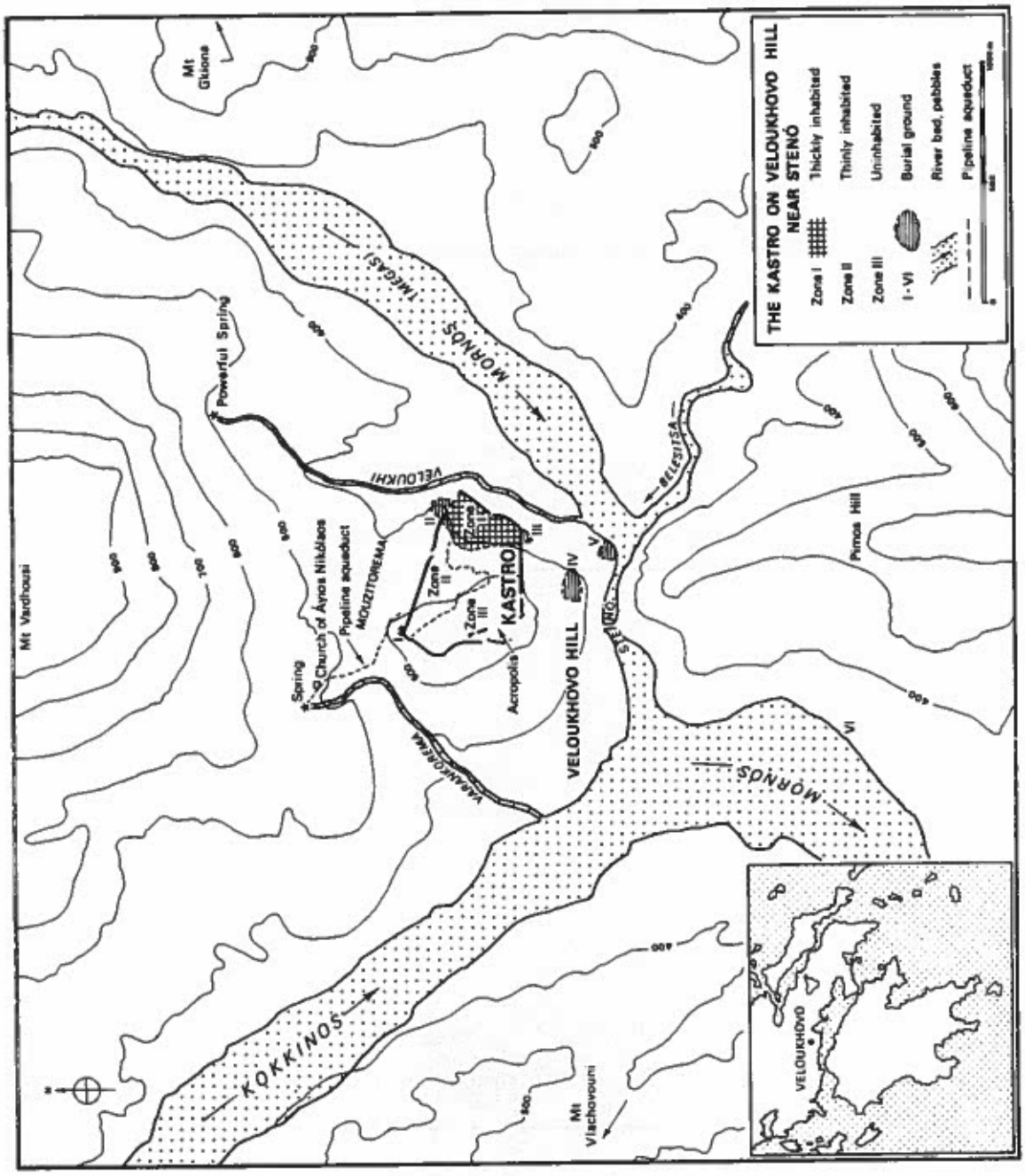


Figure 1. *The area of Velouchovo in Aetolia*

construction method of the modern terraces are different. The supporting walls that date back to Antiquity consist of large, finely-cut blocks that fit neatly; modern walls consist simply of piled up field stones. Orthogonality of streets and housing blocks is not in evidence on the site. From its very urban beginnings as a fortified town -in the fourth century BC (probably second half)- the lay-out of buildings inside the Kastro derived its bearings from the undulating configuration of the hillside; for the use of Velouchovo Hill before the Kastro was built see Vroom 1993. It is debatable to what extent Kallipolis was a city in the modern sense of the word. Though monumental constructions have been ascertained in four places in zone I, the size of the town can probably in no way be compared to that of roughly contemporary cities such as Kassope (Hoepfner & Schwandner *et al.* 1986[1], 75-140 [1994[2]: 114-79) or Goritsa (Bakhuizen 1992b); chronological horizon: fourth century BC, second half for both cities. The greater part of the Kastro was uninhabitable (zone III) or thinly occupied (zone II). The town itself was apparently confined to the low-lying, terraced zone I. In Roman-Byzantine times the same zone I was used for habitation; in that age architecture used other techniques than in the Hellenistic epoch. An important Palaeochristian church stood in the Roman-Byzantine town in a spot that is still being referred to as *Episkopi* by the former villagers of Kallion. In this context it is relevant to note that for the communities in the vicinity of Steno, at the cross-roads of communications in the mountain world of Eastern Aetolia, bishops (*episkopoi*) are on record from the tenth century up to the nineteenth.

Exploration of the stone producing hill slopes was continued and important new evidence became available. In contrast with Goritsa, where building stone was usually extracted in proper quarries, exploitation at Velouchovo Hill was haphazard. The technique of extraction can be documented in detail, though. The best stone was apparently found in the highest parts of the hill within a fairly narrow strip inside and to the east of the acropolis but also extending further south, outside the Kastro as far as the highest section of the Steno Cemetery (IV, V in Fig. 1). Thick-bedded, hard limestone could be obtained inside this strip (see Fig. 2). I have not been able to identify artificial embankments made for transporting stone. Stone was also extracted from a number of secondary outcrops of limestone further down the slope.

Knowledge of the Hagios Nikolaos pipeline aqueduct to the Kastro was increased considerably. As the inundated village of Kallion largely re-emerged from the lake in 1993, a terracotta pipe segment excavated by the villagers after World War II in order to be re-used at the time as a chimney pipe of an oven -it was measured by me under an awkward angle in 1977- could now be retrieved from the debris of the collapsed oven. The ancient pipe segment proved to be still intact; it was taken to Lidoriki, where a new drawing was made, see Fig. 3. Along the trace of the aqueduct as indicated to us by the villagers in the years 1976-1977 (Fig. 1) fragments of terracotta pipes and complete pipes were now observed in three places, in two of them somewhat out of position but in the talus of a *revma* still *in situ* (more than one pipe; length measurable on the inside: 1.12 m). The length of the aqueduct from the spring of Hagios Nikolaos to the Kastro wall was approximately 700 m. The pipes must have lain in a trench, just under the surface of the earth. The pipeline entered the Kastro roughly halfway along the north wall. Its trace inside the Kastro is not known. For the time being I do not make any statement as to its date.

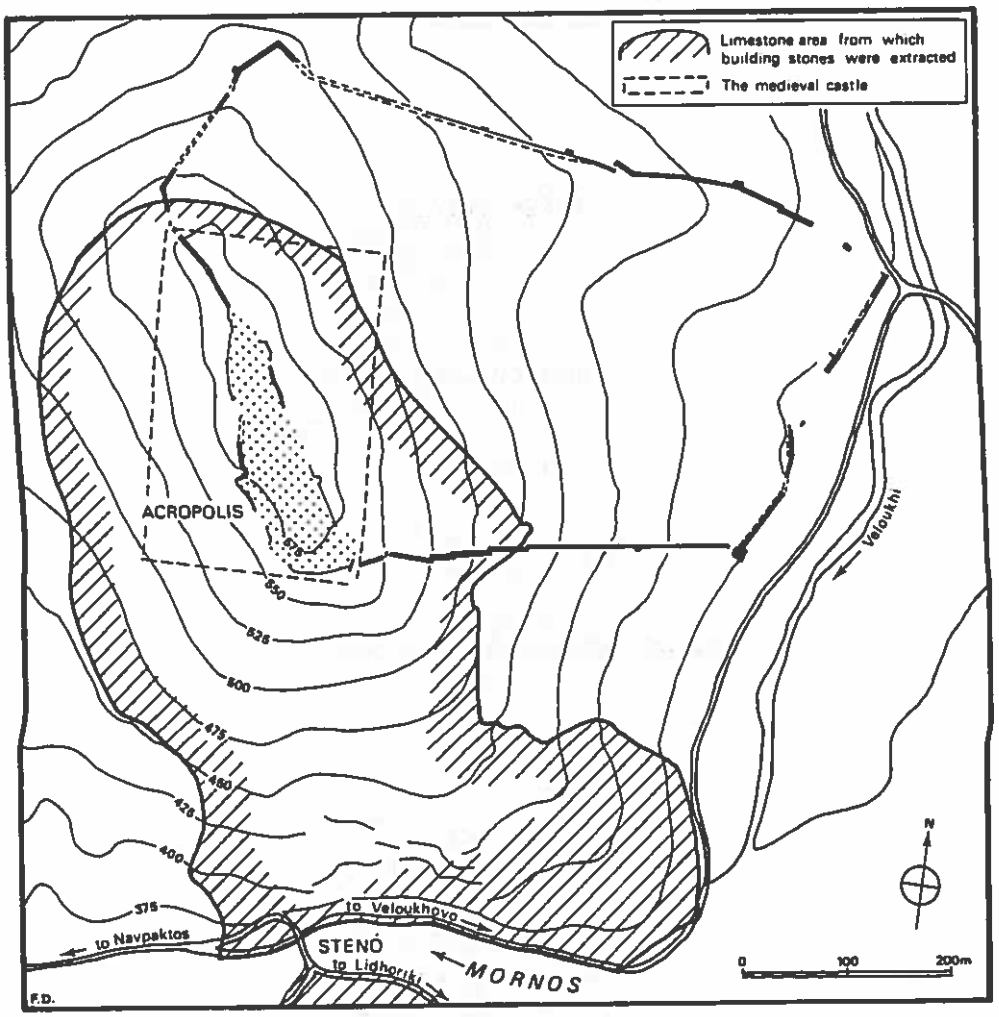


Figure 2. *The Kastro of Velouchovo*

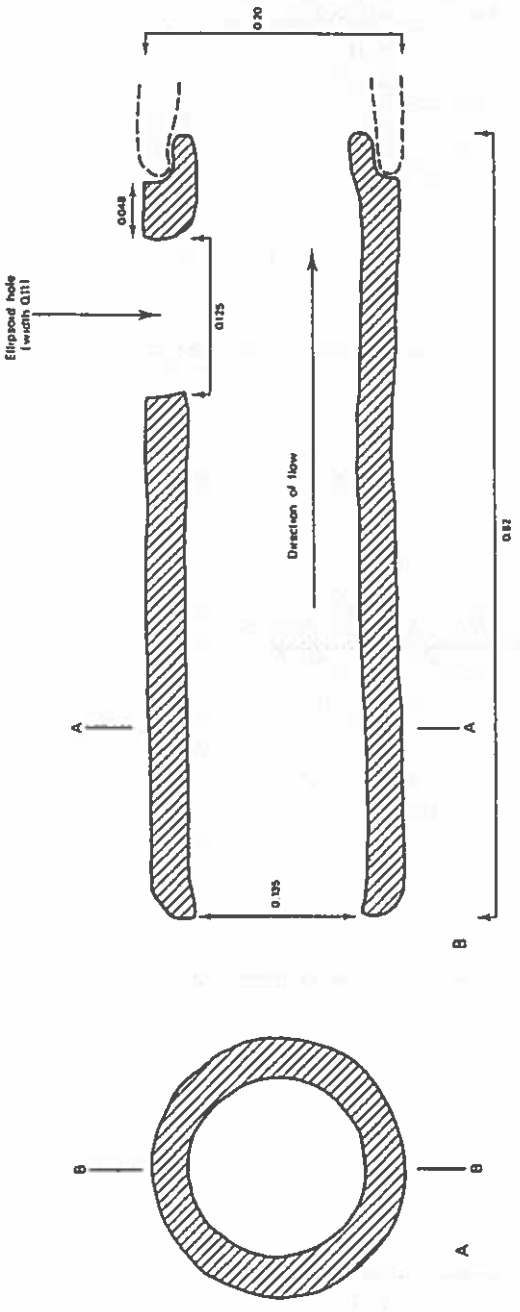
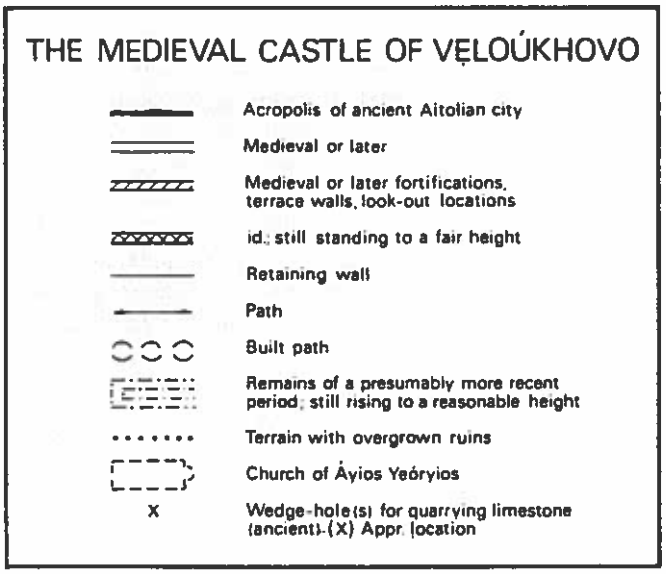


Figure 3. *Ancient pipe segment from Kallion*

The medieval site on the acropolis

In 1988 and 1991 major progress had been made in the survey measurings of the impressive remains of the fortified medieval settlement, particularly of its interior (see Fig. 4). The fortification wall had already been measured and described in 1977. The medieval site consists of three sectors, each of them lying on a different level. The lord of the settlement lived on the wind-swept top level in a *donjon* or *keep,* the lower part of which is well preserved. In 1993 a detailed drawing of one side of this *donjon* was made. The middle sector of the fort did not contain habitation, but there was a cistern. I now found that there were perhaps cisterns also in the other two sectors. The spacious lower sector was fairly thickly occupied. A number of these shelters were hardly more than huts, but substantially larger structures occurred too. In order to arrive at an interpretation of the character of the site I visited a number of well-preserved medieval fortified sites in Greece, some of them in 1994: Rogoi, Angelokastro, Hypati (Neo-Patras), Kastelli Gravias (Pyrgos), Amphissa (Salona), Verva Distomou (1994), Levadia, Phylla (near Chalkis, 1994), the Rizokastro (Milaki Aliveriou, 1994), Hagios Vasilios, Kiveri, Geraki (1994), Smerna (1994), and the well-preserved free-standing towers at Politika, Psachna (1994), Vasiliko (1994), the Duo Pyrgi near Phylla Chalkidos (1994), the towers of Velos Aliveriou, Thebes (Boiotia) and Haliartos. In all these places attention was paid to the location of the towers and the forts and to the possible reasons for their construction, and -where present- to



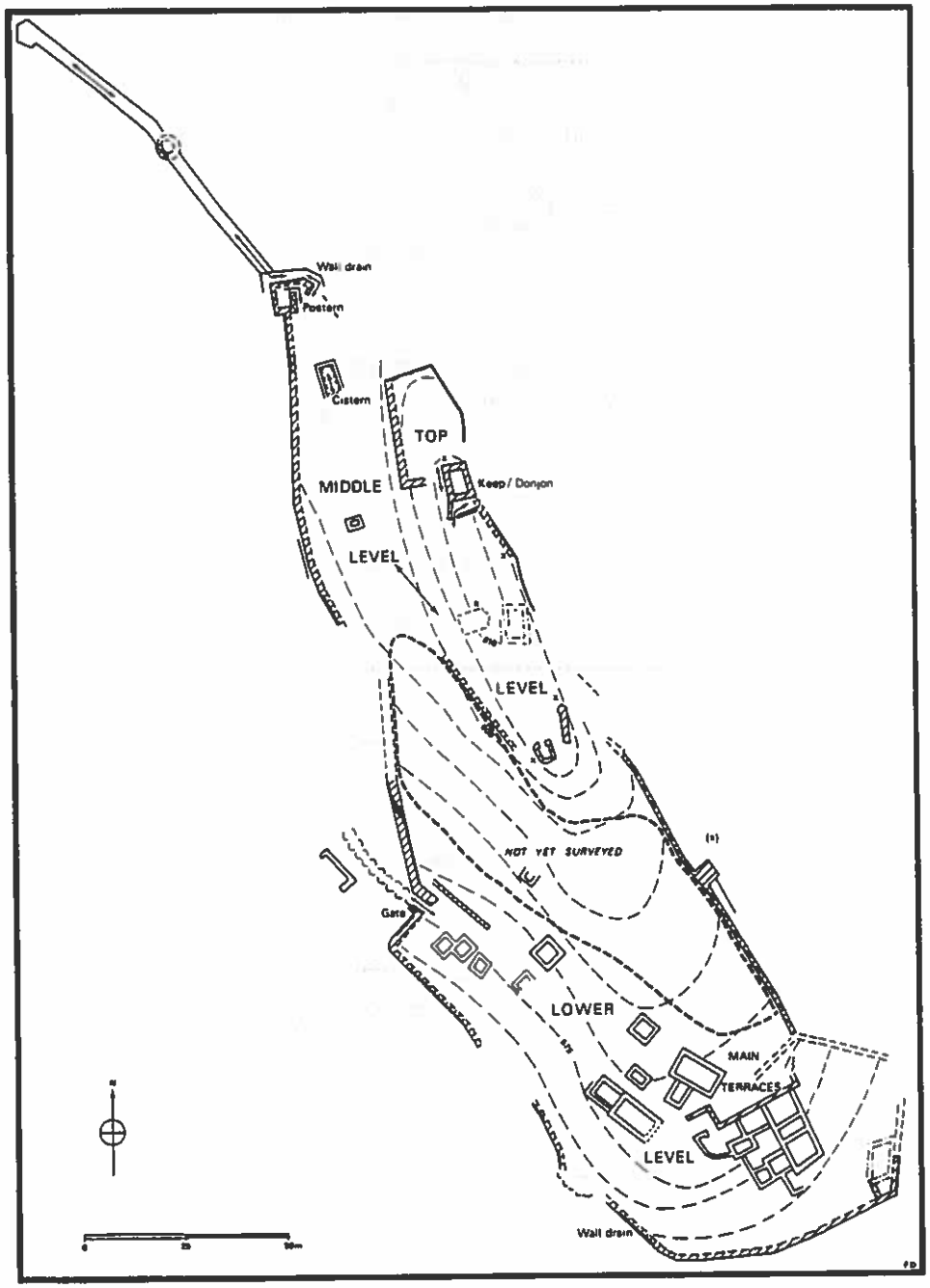


Figure 4. *The medieval castle at Velouchovo*

the civilian medieval habitat. The epoch concerned is the thirteenth and fourteenth centuries. The recent view that not only the high-positioned *donjons* in castles, but also the isolated towers were tower-houses meant for habitation (Lock 1986) is a reasonable one in my eyes, and I adopt it. Lords, seigneurs, usually wished to live in conspicuous places. The closest parallels to the Velouchovo medieval site are Kastelli Gravias (Pyrgos), Hagios Vasilios and Kiveri. In these three places the archaeological picture leaves hardly any doubt: the fortified hilltop settlements were not only castles where a lord lived with his family and some servants or soldiers, but also fortified villages. Consequently, the medieval fort on Velouchovo Hill may possibly be interpreted as a small, poor, but strongly fortified mountain hamlet controlled and administered by a knight who had concentrated some inhabitants of nearby spots into a new fort on a commanding hilltop, inside the remains of the ancient Kastro. Though other hypotheses can be entertained my explanations do not seem to contradict the impression that the medieval high-lying *donjon*-commanded site of Velouchovo Hill fits into the tradition of European military architecture of the age, as exemplified in Greece by the medieval sites described by A. Bon (1969; see also 1936; 1937).

This settlement must have been the medieval Loidorix. According to S. Bommeljé and R.P. Fagel (in preparation; for the proposition see Bommeljé & Doorn 1987, 85) that place was situated here, and not on the site of present day Lidoriki. This must have been the spot that was occupied by Catalan knights in the fourteenth century AD. When the Catalans left, the site was probably given up as a habitat.

A new museum in Lidoriki

In the near future some of the results of the emergency excavations at Kallipolis 1971-1979 will be presented to the public as a small permanent exhibition in the former village school at Lidoriki. This building has recently been renovated with the purpose of housing a local museum. The Dutch Aetolia-Kallipolis team contributes plans, enlarged photographs and two posters offering topographical and archaeological information on ancient Kallipolis and on the medieval site on its acropolis.

June 1994

S.C. Bakhuizen
c/o The Netherlands Institute at Athens
Alex. Soutsou 24, 106 71 Athens

Acknowledgements

The Museum at Delphi, responsible for the archaeological monuments of this region, kindly supported our work; Dr. E. Pentazos, *ephoros*, and Ms. Rozina Kolonia and Mr. Photis Dasios, took a great interest in the progress of the survey. The field study was made possible by a generous travel allowance from the Netherlands Organization for Scientific Research (NWO). In the nearby town of Lidoriki lodgings were offered in a friendly gesture of hospitality. I wish to thank everyone for their help and understanding.

References

Bakhuizen, S.C. 1977 [1984]. Veloukhovo (Kàllion). *ArchDelt* 32, Chronika: 115-118.

Bakhuizen, S.C. 1989. Veloukhovo-Kallipolis 1988, A Fieldwork Report. *Newsletter of the Netherlands Institute at Athens* 2: 3-6.

Bakhuizen, S.C. 1991. Veloukhovo 1991: A Fieldwork Report. *Newsletter of the Netherlands Institute at Athens* 4: 13-15.

Bakhuizen, S.C. 1992a. The Town Wall of Aitolian Kallipolis. In: S. van de Maele and J.M. Fossey, eds., *Fortificationes Antiquae*, 171-184. Amsterdam.

Bakhuizen, S.C., ed. 1992b. *A Greek City of the Fourth Century B.C. by the Goritsa Team.* Rome.

Bommeljé, S. & P.K. Doorn, eds. 1987. *Aetolia and the Aetolians, Towards the Interdisciplinary Study of a Greek Region.* Studia Aetolica I. Utrecht.

Bon, A. 1936. *Corinth*, III, Pt. 1: *The Medieval Fortifications of Acrocorinth and Vicinity*, Cambridge, Mass.

Bon, A. 1937. Forteresses médiévales de la Grèce centrale. *BCH* 61: 136-208; cf. *BCH* 62 (1938): 441-42.

Bon, A. 1969. *La Morée franque, Recherches historiques, topographiques et archéologiques sur la principauté d'Achaïe (1205-1430).* BEFAR 213. Paris.

Hoepfner, W. & E.-L. Schwandner with contributions of K. Gravani, M. Oikonomidou and J. Boessneck 1986[1]. Kassope, Bericht über die Ausgrabungen einer spätklassischen Streifenstadt in Nordwestgriechenland, In Zusammenarbeit mit S. Dakaris, K. Gravani und A. Tsingas. In: W. Hoepfner & E.-L. Schwandner unter Mitarbeit von S. Dakaris, G. Konstantinopoulos, K. Gravani, W.J. Brunner, U. Juch-Neubauer und A. Tsingas, *Haus und Stadt im klassischen Griechenland*, 75-140 [1994[2]: 114-79]. Wohnen in der klassischen Polis I. Munich.

Lock, P. 1986. The Frankish Towers of Central Greece. *BSA* 81: 101-23.

Vroom, J.A.C. 1993. The Kastro of Veloukovo (Kallion), A Note on the Surface Finds. *Pharos* 1: 113-38.

AUS DER ARBEIT AN DER NEUEN STRABONAUSGABE

S.L. Radt

ALS wir gegen Ende des Jahres 1981 im Klassischen Institut der Groninger Universität ein Forschungsthema suchten an dem sich nicht nur die Philologen, sondern auch die Vertreter der kulturhistorischen Disziplinen würden beteiligen können, schlug Marianne Maaskant-Kleibrink Strabon vor. Der Gedanke leuchtete sofort ein—wir besitzen ja keine Strabonausgabe die den Anforderungen der heutigen Wissenschaft genügt—, und als sich herausstellte dass an eine Fortsetzung der von Wolfgang Aly und Francesco Sbordone begonnenen Ausgaben nicht zu denken war, entschlossen wir uns zu einer von Grund auf neuen Ausgabe mit Übersetzung und Kommentar. Die Arbeit, an der ausser Gräzisten auch Althistoriker, Archäologen und der Geograph W.J. van den Bremen beteiligt sind, ist inzwischen zur Hälfte bewältigt und kann, wenn Verfasser dieses sich weiterhin einer guten Gesundheit erfreuen darf, im Jahre 2000 abgeschlossen sein (die Veröffentlichung des Ganzen, vermutlich 10 Bände, wird dann noch etwa 10 Jahre dauern).

Für weitere Information sei auf den Artikel in der *Mnemosyne* (IV 44, 1991, 305-26) verwiesen, im dem das Unternehmen zum ersten Mal vorgestellt wurde (er enthält auch ein kleines Spezimen der Ausgabe; eine grössere Probe ist in den *Studia Troica* 3, 1993, 201-31 erschienen). Stattdessen sollen hier an ein paar konkreten Beispielen Ergebnise unserer Arbeit vorgeführt werden, die die Leser dieser Zeitschrift interessieren könnten.

1. Für die Bücher VIII und IX ist die Überlieferungslage des Strabontextes recht prekär. Wir verfügen hier nur über *eine* vollständige Handschrift, den Parisinus A, der aber schon im Mittelalter von Mäusen angefressen worden ist, so daß sein Text gerade in diesem Teil, dem Schluß der Handschrift, zahlreiche Lücken hat. Alle übrigen Handschriften—

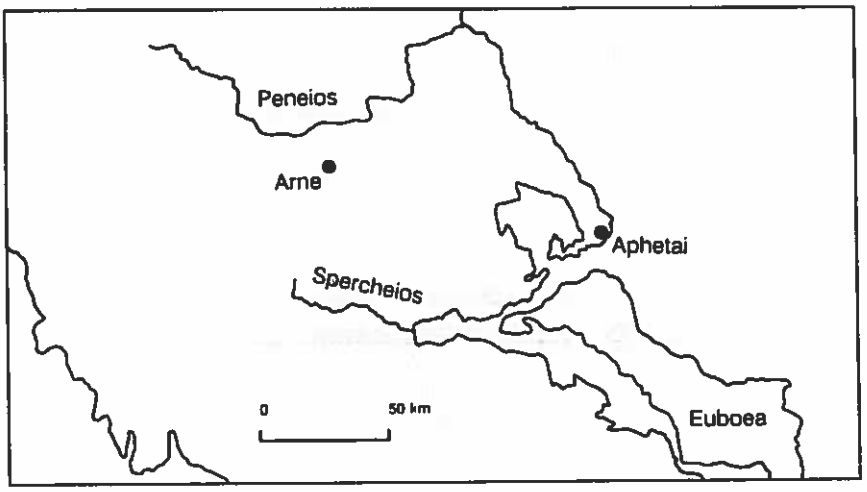


Abb. 1.

abgesehen von dem nur sehr fragmentarisch erhaltenen und oft nicht sicher zu lesenden vatikanischen Palimpsest—bieten in diesen beiden Büchern einen etwas gekürzten Text (man nennt sie deshalb *decurtati*). Das bedeutet dass wenn eine Lücke des Parisinus A mit einer Weglassung in den *decurtati* zusammenfällt, wir die Lücke—falls der Palimpsest nicht zu Hilfe kommt—nur durch Konjektur schliessen können. Ein solcher Fall ist z.B. IX 5, 18, p. 439 C., wo Strabon von dem bei Homer (*Il.* 2, 735) genannten thessalischen Berg Titanos ('Kalk') —den man mit der Kalkhügelreihe zwischen Larissa und Karditsa identifiziert[1] — sagt Τίτανος δ' ἀπὸ τοῦ συμβεβηκότος ὠνομάσθη· λευκόγαιον γάρ ἐστι τὸ χωρίον ὕπαρνης πλησίον καὶ [c.6]τῶν 'Titanos hat seinen Namen von seiner besonderen Beschaffenheit: der Ort, in der Nähe von Arne und [ ], hat nämlich weissen Boden'. Die Lücke enthielt etwa sechs Buchstaben; danach ist noch die Endung des Namens -τῶν erhalten. In allen Ausgaben seit Kramer wird dies in der Nachfolge von Groskurd zu [τῶν Ἀφε]τῶν 'Aphetai' ergänzt, was zwar ausgezeichnet zu dem Umfang der Lücke und der erhaltenen Endung passt, aber—auch wenn die Lokalisierung des homerischen Titanos zwischen Larissa und Karditsa falsch sein sollte—mit der geographischen Wirklichkeit ganz und gar unvereinbar ist, wie ein Blick auf die Karte (Abb. 1) lehrt: Aphetai kann in diesem Zusammenhang niemals neben Arne genannt gewesen sein, von dem es mehr als 100 km entfernt ist. Man wird die Lücke also bis auf weiteres offen lassen müssen.

2. Ein anderer Fall wo man versäumt hat, einen Blick auf die geographische Karte zu werfen, ist IX 5, 13 p. 435 C. αἱ..Θερμοπύλαι τοῦ μὲν Κηναίου διεστᾶσιν ἑβδομηκονταστα-δίῳ πορθμῷ, παραπλέοντι δ' ἔξω Πυλῶν τοῦ Σπερχειοῦ ὡς σταδίους δέκα 'die Thermopylen sind von dem Kenaion durch einen siebzig Stadien breiten Sund getrennt und vom Spercheios, wenn man ausserhalb des Tores <d.h. der Thermopylen> an der Küste

[1] Vgl. Stählin, *RE* s.v. Titanos (1); Hope Simpson & Lazenby (1970), 142f.

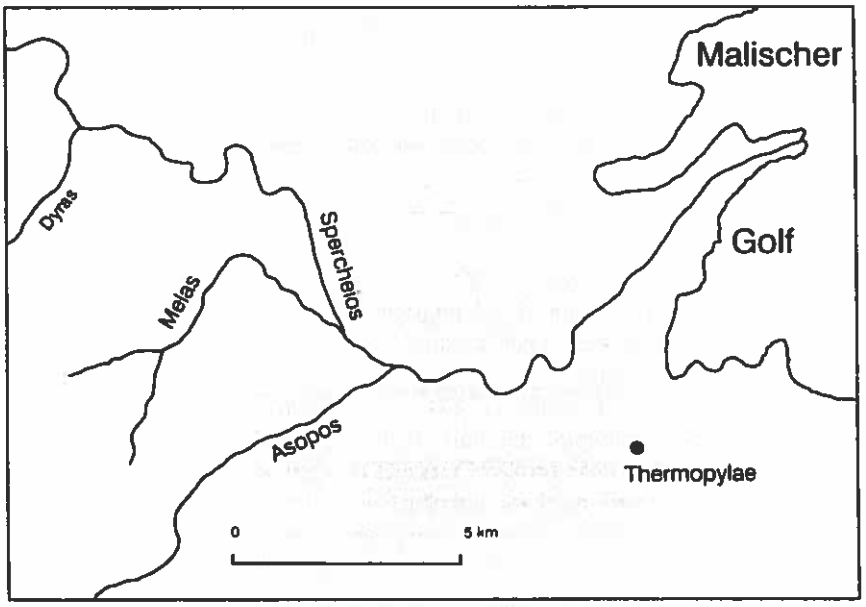


Abb. 2.

entlang schifft, etwa zehn Stadien entfernt.' Die Lage der Thermopylen wird hier vom Blickpunt eines in den Malischen Golf Hineinschiffenden angegeben (Strabons Quelle war demnach hier wohl sicher das nach Art eines Periplus[2] angelegte Werk des Artemidor von Ephesos): vom Kenaion—der nordwestlichen Spitze Euboias—sind es siebzig und von den Thermopylen bis zum Spercheios (d.h. seiner Mündung) etwa zehn Stadien. An der Zahl 'zehn' wird in allen Strabonausgaben seit Kramer gezweifelt. Urheber dieses Zweifels ist der treffliche Christoph Gottlieb Groskurd, ein Gymnasiallehrer aus Stralsund, der in den dreissiger Jahren des vorigen Jahrhunderts eine äusserst gewissenhafte, mit vielen ausgezeichneten kritischen Anmerkungen versehene deutsche Übersetzung von Strabons Werk veröffentlicht hat. Groskurd hielt 'zehn' für unmöglich weil Strabon in einem früheren Abschnitt (IX 4, 14 p. 428 C.), der auf Herodot (VII 198, 2 ff.) zurückgeht, sagt dass es zwischen den Thermopylen und dem Spercheios noch drei andere Flüsse gibt: den Asopos, den Melas und den Dyras; Groskurd ersetzte deshalb 'zehn' durch 'sechzig' und brachte eine entsprechende Änderung auch an einer anderen Strabonstelle (IX 4, 17 p. 429 C.) an, wo es heisst dass 'ausserhalb des Tores <d.h. der Thermopylen> gleich die Mündung des Spercheios kommt' (ἔξω δὲ Πυλῶν εὐθὺς ὁ Σπερχειὸς ἐκδίδωσιν): hier ersetzte er das Wort 'gleich' (εὐθύς) durch 'nach sechzig (Stadien)' (ἐν ἑξήκοντα). Auf diese Art glaubte er den Widerspruch zwischen den drei Stellen beseitigt und genügend Platz für die drei Flüsse zwischen den Thermopylen und dem Spercheios geschaffen zu haben.

---

[2] Zu dieser Gattung der geographischen Literatur vgl. Gisinger *RE* s.v. Periplus (2); Güngerich (1950).

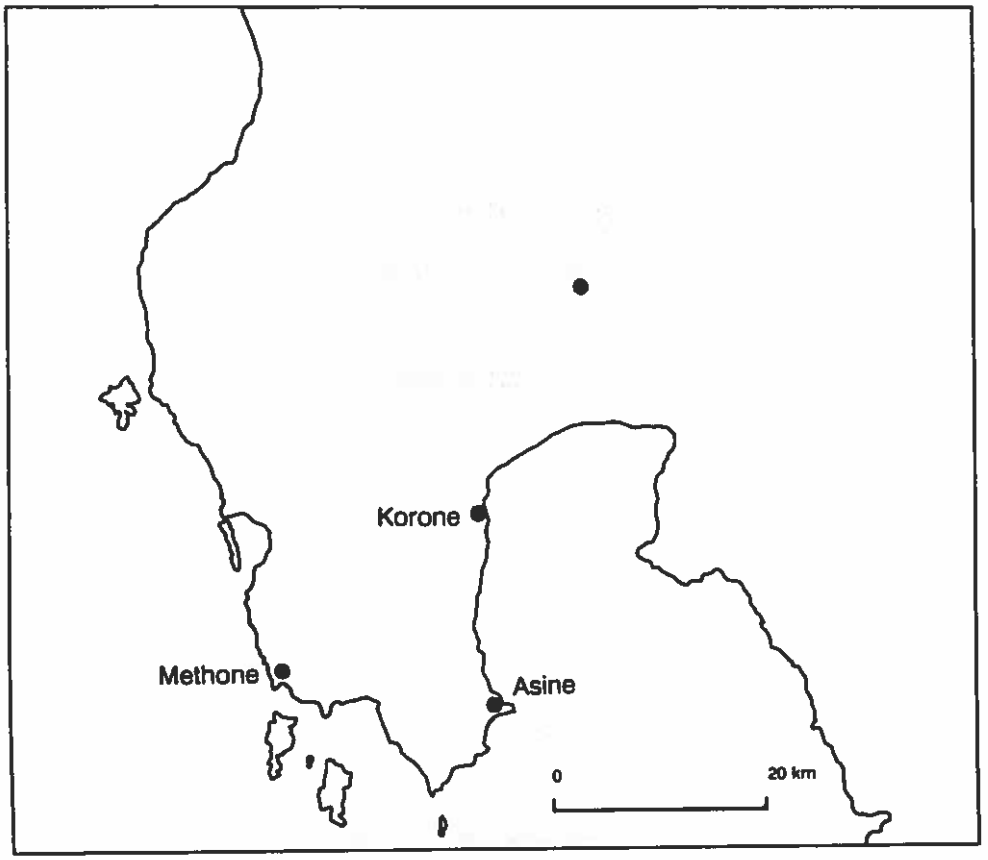


Abb. 3.

Nun ist es schon an sich keine Empfehlung für eine Konjektur dass sie es nötig macht, den Text auch an einer ganz anderen Stelle zu ändern. Und in diesem Fall zeigt ein Blick auf die Karte (Abb. 2)[3] dass beide Konjekturen überflüssig sind, da das Problem das sie lösen sollen, überhaupt nicht existiert. Die drei Flüsse zwischen den Thermopylen und dem Spercheios sind nämlich keine selbständigen Flüsse, für deren Mündungen in den Malischen Golf zwischen den Thermopylen und der Spercheiosmündung Platz zu schaffen wäre, sondern Nebenflüsse des Spercheios, die ihren Strom kurz vor seiner Mündung mit ihm vereinigen. Groskurd hat den an sich begreiflichen Fehler gemacht, die auf Herodot zurückgehende Stelle IX 4, 14 unwillkürlich so zu lesen als stamme sie aus einem Periplus, wo der Anlaß zur Nennung von Flüssen immer ihre Mündung ins Meer ist (infolge der Benutzung von Artemidors Werk—vgl. oben—gibt es bei Strabon viele Küstenbeschreibungen in diesem Stil, vgl. z.B. VII 5, 7-8 p. 316 C. fr. 20. XIV 3,4-7 p. 665-66 C. 4, 1-2 p.

[3] Die Karte zeigt den heutigen Zustand der Spercheiosmündung; im Altertum lag sie viel näher an den Thermopylen, so dass Strabons 'zehn Stadien' (knapp 2 km) gut stimmen könnten (die 70 Stadien für die Entfernung Kenaion - Thermopylen dagegen sind viel zu wenig).

667 C.); die Kontrolle an einer geographischen Karte hätte ihn eines besseren belehren können.

3. In dem Abschnitt über Messenien spricht Strabon auch von der Identifizierung der sieben Städte—Kardamyle, Enope, Hire, Pherai, Antheia, Aipeia und Pedasos—die Agamemnon in der Ilias (9, 149-56 ~ 291-98) dem Achilleus verspricht. Über Aipeia und Antheia heisst es dort (VIII 4,5 p. 360 C.) ἡ δ' Αἴπεια νῦν Θουρία καλεῖται... . Ἄνθειαν δ' οἱ μὲν αὐτὴν τὴν Θουρίαν φασίν, Αἴπειαν δὲ τὴν Μεθώνην, οἱ δὲ τὴν μεταξὺ Ἀσίνην —τῶν Μεσσηνίων πόλεων οἰκειότατ' ἂν 'βαθύλειμον' λεχθεῖσαν—, ἧς πρὸς θαλάττῃ πόλις Κορώνη 'Aipeia heisst jetzt Thuria... . Antheia ist nach Manchen identisch mit eben diesem Thuria und Aipeia mit Methone, nach Anderen dagegen mit dem dazwischen gelegenen Asine —das von allen messenischen Städten am treffendsten als 'mit üppigen Wiesen' <das Epitheton mit dem Antheia bei Homer a.a.O. 151 = 193 versehen ist> bezeichnet werden dürfe—, an dessen Meeresseite die Stadt Korone liegt.' Hier hat man bisher das Problem übersehen das die zwischen Thuria und Methone gelegene Stadt Asine stellt. Wir kennen in Messenien zwar einen—auch von Strabon (VIII 4,4 p. 359 C.) erwähnten—Ort Asine,[4] aber der liegt nicht zwischen Thuria und Methone (siehe die Karte Abb. 3.); auch implizieren die Worte 'an dessen Meeresseite die Stadt Korone liegt' (ἧς πρὸς θαλάττῃ πόλις Κορώνη; zur Syntax vgl. XVI 2,8 p. 751 C. πρὸς θαλάττῃ τούτων 'an der Meeresseite von diesen' und siehe Schwyzer-Debrunner, *Griechische Grammatik* 2, München 1950, 96. 4a) dass dieses Asine im Binnenland zu suchen ist (was ja auch zu der Angabe 'zwischen Thuria und Methone' stimmt), während das uns bekannte Asine direkt am Meer lag; und schliesslich könnte es von diesem Asine,das am Eingang des Messenischen Golfs lag, auch niemals heissen dass an seiner Meeresseite Korone liege, eine Stadt die tief im Inneren dieses Golfs lag. Falls hier also kein Missverständnis Strabons oder seiner Quelle im Spiel ist, muss es mitten in dem Hügelland der Messenischen Halbinsel westlich von Korone noch ein Asine gegeben haben, das den bereits bekannten fünf Orten dieses Namens hinzuzufügen ist.

S.L. Radt
Zuidveld 12, NL - 9755 TM Onnen

4 Vgl. Meyer *KP* und Oberhummer *RE* s.v. Asine (2); Müller (1987), 751f.

Literatur

Groskurd, C.G. 1831-34. *Strabons Erdbeschreibung in siebenzehn Büchern*. Berlin-Stettin.
Güngerich, R. 1950 [1975^2]. *Die Küstenbeschreibung in der griechischen Literatur*, Orbis Antiquus 4. Münster.
Hope-Simpson, R. & J.F. Lazenby 1970. *The Catalogue of the Ships in Homer's Iliad*. Oxford.
Müller, D. 1987. *Topographischer Bildkommentar zu den Historien Herodots. Griechenland*. Tübingen.
Radt, S.L. 1991. Eine neue Strabonausgabe. *Mnemosyne* IV 44: 305-26.
Radt, S.L. und J.W. Drijvers 1993. Die Groninger Neuedition von Strabons Geographika, vorgestellt anhand des Abschnittes über Troia. *Studia Troica* 3: 201-31.

ARCHAEOLOGICAL INVESTIGATIONS AT LAVDA IN ARCADIA, 2

LAVDA. OUTSIDE THE CIRCUIT WALL

Yvonne C. Goester

DURING the years 1984-88, the slopes of Lavda hill were surveyed with regard to investigate the presence of concentrations of sherds and/or building remains outside the circuit wall. This survey was carried out in view of a qualitative analysis of the finds. No counting of the sherds was done; the extensions of the concentrations were roughly indicated. Their locations are described below. The majority of the sherds found were tiles. The few pottery fragments of coarse and fine ware were so small and so worn that they could not be determined more accurately. Recognizable finds are, however, mentioned explicitly. This makes it also clear that dating the finds is very difficult indeed. The black gloss and other sherds can only give a rough indication of the period from which they date. Sherds of clearly later periods are mentioned explicitly.

Seen from the east, the profile of Lavda hill is most characteristic: a sharp top, a steep northern face and a more sloping southern face. Some 200 m below the top the northern slope is intersected by the modern road. This construction forms an unnatural boundary. When walking the slopes it becomes clear that the terrain below the road is greatly disturbed which makes it no longer possible to make observations of ancient remains here. Some 60 metres below the northeastern circuit wall the terrain widens to a largish plateau on which many walls can be seen. A comparable plateau can be found outside the southwestern corner of the circuit wall.

The slopes of the hill gently descend until they reach a saddle in the east, connecting with the hills of Ano Kotilio, the stream Soultina in the south, and the connecting saddle of Matesi hill in the west. The slopes are formed by broad, gentle ridges intersected by wide gullies.

In order to improve the water supply of the modern village of Thisoa, a pumping station has been built over a spring on the right bank of the Soultina. The water is now pumped through a pipeline that thas been dug into the western shoulder of the hill.

Description of the slopes (Figure 1)

Western slope

Coming up from the village the path takes a sharp turn to the southeast after some ten minutes walking. When one leaves the path here and starts climbing due east one passes two small plateaus before reaching the northwestern tower. Under the lower plateau two black gloss sherds and a broken handle of coarse ware were found (no. 1 on Fig. 1). Concentrations of coarse ware sherds and tiles were found on the lower as well as on the upper plateau (no. 2). In between sherds were also found. Considering the terrain it is likely that the sherds on the lower plateau were washed down from the settlement. Some sherds on the upper plateau could have come down from the northwestern corner of the settlement. The fact that a clear concentration is noticable, however, does not make this probable. Immediately below the northwestern tower a rim fragment from a pithos and a broken handle were found. Here a reasonable number of washed down sherds are lying about. To the east the terrain outside the northern circuit wall gets to steep for sherds to stay.

Immediately below the western circuit wall there is no concentration of sherds, such as below the southern and eastern wall. Two yellowish-green glazed sherds, possibly from a wide flat bowl (yellowish clay with red cores, rather large red en black inclusions) were found here. These clearly date from a later period of occupation of the Kastro.

Southern slope

The southern slope of Lavda hill is cut into two, as it were, by a long gully, starting some 100 m below the circuit wall. Sherds from the settlement have been washed down the slope across a distance of about 100 m on the western part and some 250 m on the eastern part. The first 50 m under the circuit wall are thickly covered with sherds along the whole width. One rectangular spool-like loomweight was found here. These are clearly all sherds washed down from the settlement.

On leaving the Kastro by the southeastern corner tower and going towards the Southeast one sees an easily recognizable knoll halfway down the slope. While descending one passes by a smooth round block, which could have been a column drum. On the small knoll a clear concentration of tile sherds was found (Diam. ca. 30 m) (no. 3 on Fig. 1). To the southeast of this spot the terrain forms a rather steep ravine. A larger knoll further down (no. 4 on Fig. 1) shows a concentration of sherds on its southern edge and scattered sherds elsewhere. Going up from here one comes to another small plateau. Here a black gloss base was found (no. 5 on Fig. 1).

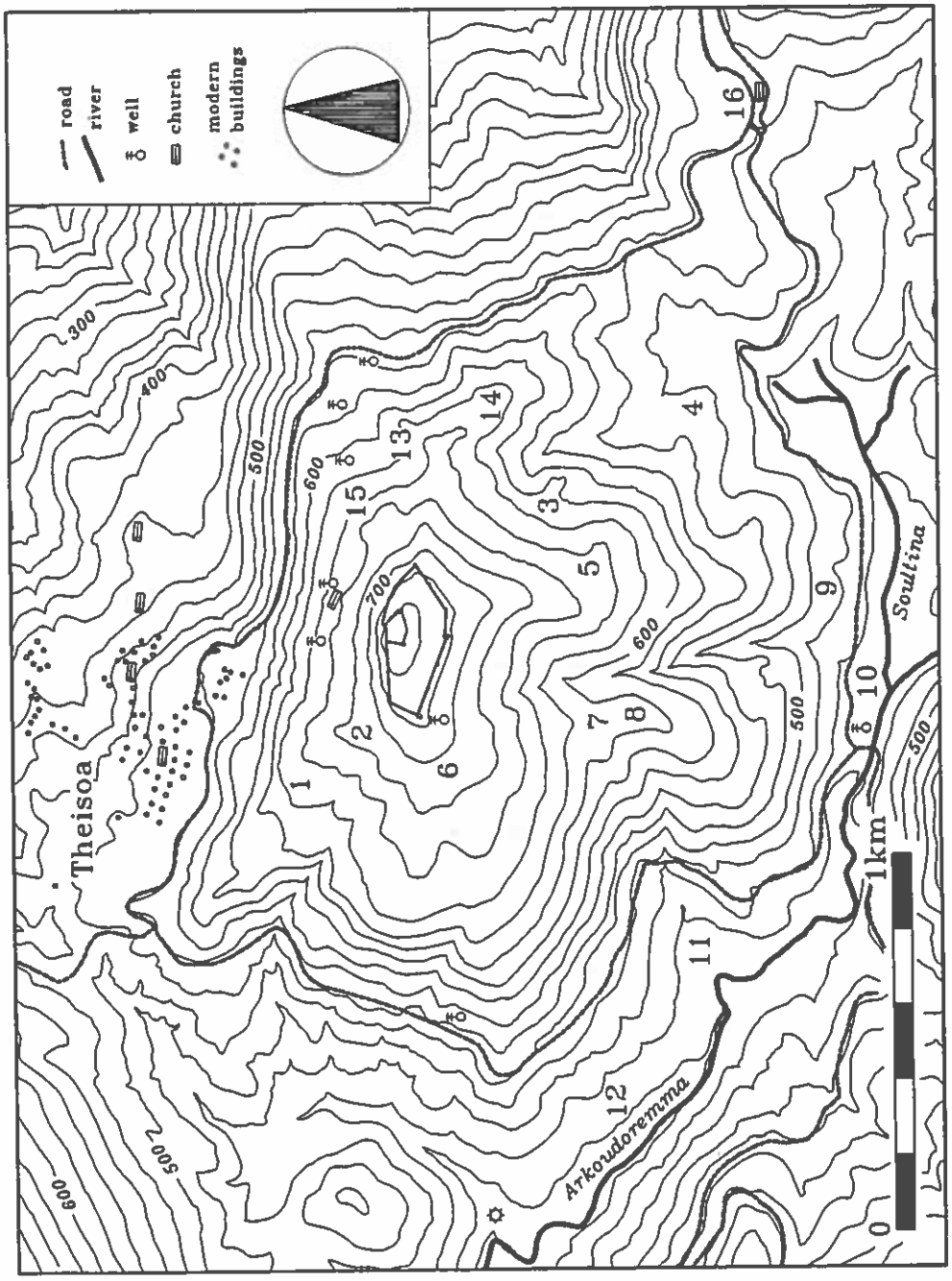


Figure 1. *Lavda, sites with ancient remains and wells outside the circuit wall*

Below the rubble heap south of the western gate a block with *Randschlag* was found. Another one is lies near the small spring here (see below). In the gully some 150 m below the circuit wall, two large marble capitals were found. These fragments will be described by J.J. Feije in a later issue of the Lavda series.

Some 40 metres below the western gate the slope forms a rather level terrain (6). In this area four ancient walls were located (the lengths of which are 7, 6, 3 and 24.75 m). All over the plateau sherds of tiles, coarse and fine ware were found, in a greater concentration near these walls. The walls are lying far apart and do not form any recognizable building. It looks as if this plateau had been built upon, although hardly as densely as on the northern plateau (see below).

Going down the hill along the ridge, west of the large gully on the southern slope, one comes to a knoll with a few small trees. Here relatively many very small sherds were found (no. 7 on Fig. 1). On the next knoll scattered sherds are lying about (no. 8 on Fig. 1). The boundaries of these findspots are not clear.

Almost at the foot of the southern slope east of the gully there is a long plateau, some twenty metres above the old road where telephone poles now stand. Not far above this plateau a small wall and a rock face cut at right angles to the wall were found. Here also were six hewn blocks, among which was one with a round depression resembling a small press. Another low wall was found, running east-west, with a length of 19.60 m. All over this area sherds, tiles, and coarse and fine ware, are scattered (no. 9 on Fig. 1). It is difficult to imagine that these blocks and sherds originated from the settlement which is situated high above this spot.

Some years ago, the Ephorate of Elis conducted a small excavation some metres to the east of the modern bridge crossing the Arkoudoremma. A wall of single large blocks was found. To our knowledge this excavation has not yet been published (Papachatzis 1980, 346-47, pl. 356).

During the construction of the modern road and its access to the modern bridge some small ancient walls were cut through on the northern side of the road (no. 10 on Fig. 1). The remains are now to be seen in the profile alongside the road at the height of about 2.00 m above the asphalt. The largest distance between the (now outer) walls is 39.50 m. The walls are built of smallish stones resting on earth. On both sides of the walls level with the underside of the stones, one can see a layer in the profile consisting of tile fragments, coarse and fine ware, and earth and small stones (thickness ca. 0.25 m).

On the right bank of the Arkoudoremma, off the second bend in the road when coming from the bridge, and at a distance of about 75 m from the water east of a small gully, fragments of tiles were found. The concentration measures ca. 15 x 15 m and does not show a high density (no. 11 on Fig. 1). A little further to the west scattered fragments of tiles (no. 12 on Fig. 1) were found which continue up to the spot where the Arkoudoremma meets a dry bed at a modern, but now abandoned, watermill. Here one can cross the stream over a modern foot bridge.

Eastern slope

Leaving the ancient settlement by the eastern gate and walking due east one comes to a knoll where, contrary to our expectations, no sherds were found. There were sherds, however, on a knoll more to the northeast among which was one black gloss (no. 13 on Fig. 1). On the next knoll walking to the east very few sherds were found (no. 14 on Fig 1). Visibility here was very low though. Soon after this one reaches the spot where the old road forks off to the south. At the same spot the modern road to Ano Kotilio branches off to the southeast. Here stands the little church of Hagia Eleni. It is said that architectural remains were built into this church (no. 16 on Fig. 1), although we have not been able to verify this statement (Tselalis 1979, 151).

Northern slope

On the western part of the northern slope of the hill, few blocks and very few sherds seem to have come down from the circuit wall. Immediately below the wall the slopes become very steep indeed, however. Below the akropolis wall and a little to the west lies a rubble fan in which many tile fragments can be found. Somewhat lower down, the terrain is marked by extremely large pieces of rock, tumbled down from the top of the hill. Still further down where the slope is less steep, sherds do appear again. They are found as far down as the plateau on which the chapel of the Profitis Elias is stands. During the 1985 campaign, in one of the modern terrace walls near the church a fragment from a statue of a female figure was found (Height ca. 0.25 m.) The head and feet are missing. This torso will be described in a following publication.

During the measuring campaign in 1978, it had already been observed that on the more level eastern part of the northern slope, sherds reach down to the modern road. Also several walls had been noticed on a largish plateau below the eastern gate (no. 15 on Fig. 1). Insofar as the terrain would permit these ancient remains were mapped during the 1984 campaign (Fig. 2, where in order to present a uniform picture only the ancient walls are shown, outside as well as inside the circuit wall).

We begin the short description of these remains at the little church of Profitis Elias. Below this church lies a wall with a length of about 2.50 m. More ancient blocks are lying around here. To the east of the church runs an ancient wall some 20 m in length. Here a modern terrace wall divides the plateau of the church from a somewhat higher plateau to the east. A threshing floor, no longer in use, is clearly recognizable. On this plateau several ancient walls were located. Most walls are built of fairly large blocks. However, they do not rise more than a few centimeters above the surface level, so nothing can be said about their construction. Near the threshing floor a base was found, not *in situ*. Near this base two rock cut edges (Height ca. 0.20 m) were found, clearly the remains of quarrying activities. Further north to the edge of the plateau more traces of quarrying can be found. On a lower terrace four more small walls were mapped. Here also a fragment of a stone rubber was found.

At the eastern edge of the plateau one finds a very small square modern building. The door posts consist of two reused ancient blocks. These blocks are smoothly hewn, a bit

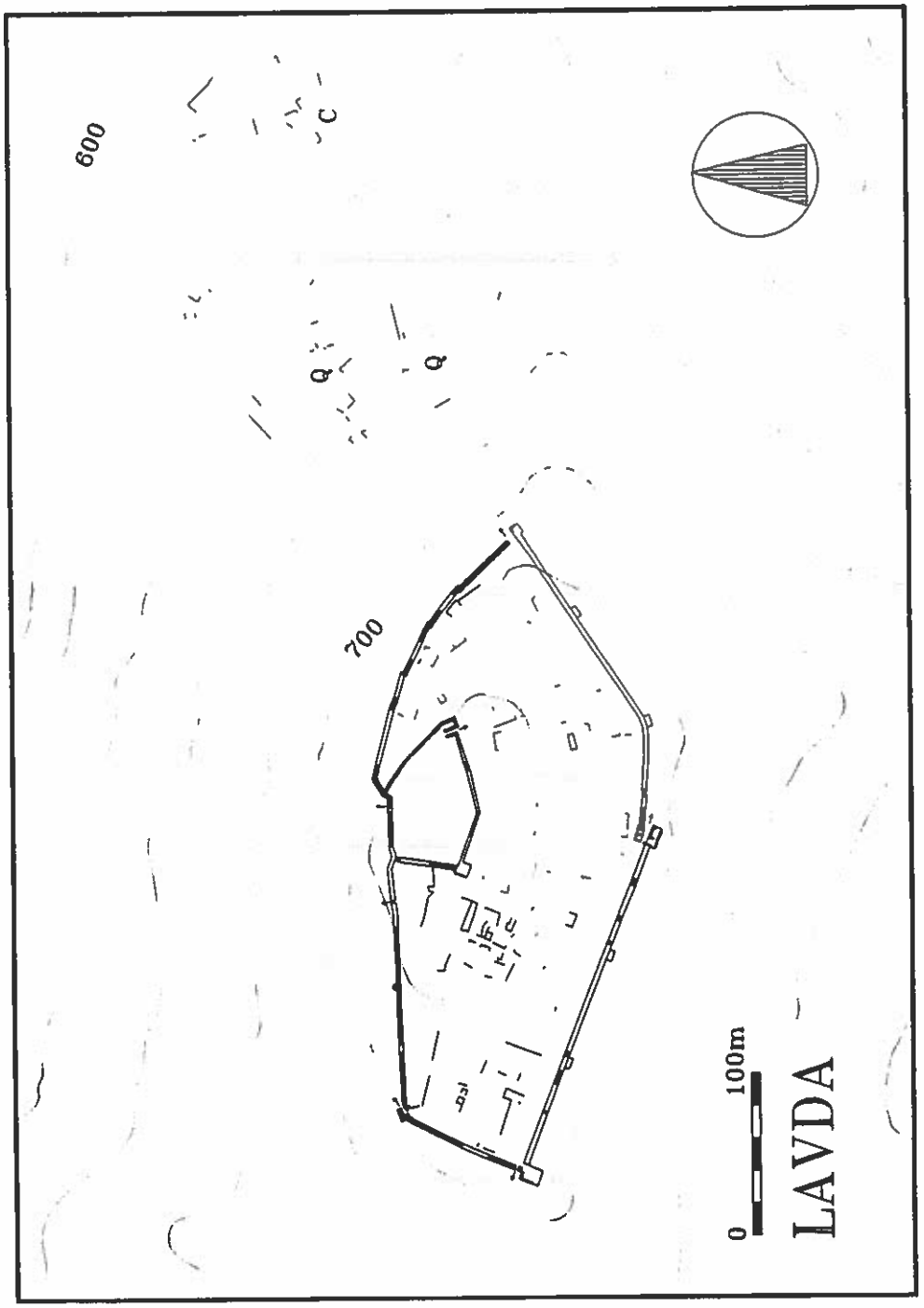


Figure 2. *Lavda, plan of the settlement and remains of walls on the northern plateau*

curved on one side (comparable to the blocks used to narrow the eastern gate) and show *anathyrosis* on one side. In this neighbourhood traces of quarrying were also seen. All over the plateau sherds of tiles can be found.

Going down the slope to the northeast, another concentration of walls were found. A long stretch of wall near a tree looks rather botched, but seems to be ancient. Higher on this part of the slope, under the tree close to a spring (see below), two parallel walls can be seen. To the south and a little higher, several walls give the impression of belonging together. At a distance of 1.90 m and a few metres higher yet are the remains of a large container hewn in the living rock (Fig. 3). Two sides are still standing to a height of more than one meter. The two other sides have been broken away, leaving only a narrow ridge. The container itself measures about 1.20 x 0.70 m. The floor slopes gently to one of the short sides to end in a circular depression 0.25 m deep. This depression seems to indicate that the container was meant to hold liquid from which impurities could settle to the bottom. Taking the *in situ* position of the container into account with the nearby walls, its exact function, however, remains uncertain.

It is very difficult to give an explanation of the remains on the slopes of Lavda hill outside the circuit wall. The single concentrations of sherds may be interpreted as small buildings, refuges or the like. As only tile fragments were found, dating is not really possible. The remains on the western slope outside the western gate and on the northern slope present even more problems. One must assume a rather developed upon area outside the eastern gate. Not only the many walls and other remains point in this direction. The large amount and good quality of the sherds also testify to this effect. At the present state of knowledge, however, the finds give little indication of the character of this building activity.

Water (Figure 1)

On the southern slope, in a direct line from the west gate to the gully some 100 m south of the circuit wall, a small well can be found. The spot is marked by fresh green grass and can easily be seen from the circuit wall. In recent times the well has been adapted by a short metal pipe for the convenience of sheep and goats.

Immediately northeast of the wall of the church of Profitis Elias there is a constructed well. The opening has been filled up, but one can hear water running. Some 50 m west of this church there is a spot where very little water comes to the surface. A small 'fountain' has been built to regulate the flow.

Halfway down the northern slope there is a little spring near a tree. The slope to the south of this spot seems to have collapsed. In the profile (height ca. 3 m) it looks like as if two walls about one metre apart can be recognized which form an arch. This however is not at all clear and it is in no way certain that these presumed walls are associated with the water. Few sherds are present.

At the foot of the northeastern slope, some ten metres above the modern road, is a place where three fig trees grow. Here fresh water comes from a small fountain built to regulate a spring. A remarkable flat round stone lies here at surface level. Also, remains of a small rectangular building can be seen, the date of which cannot be ascertained.

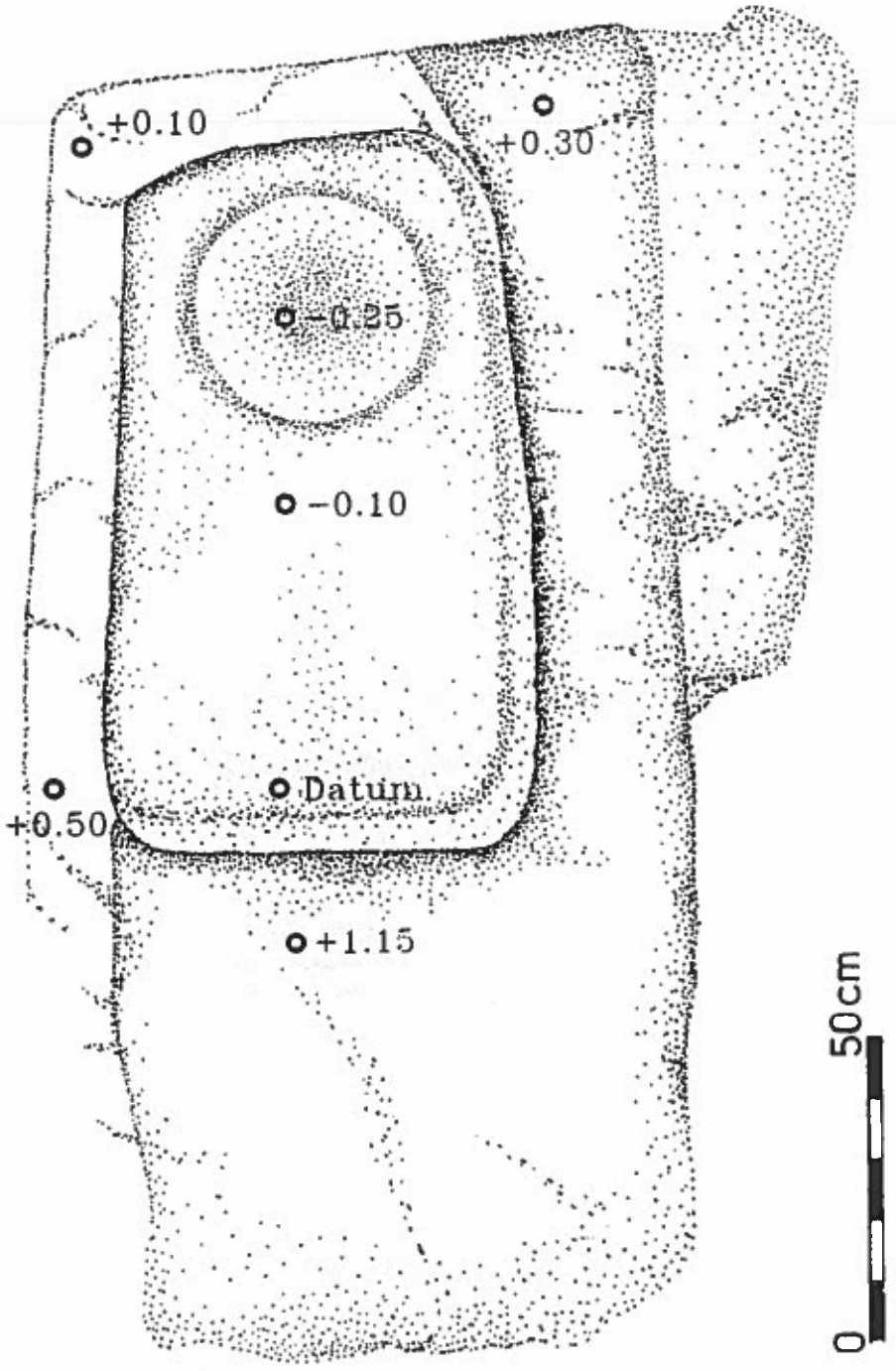


Figure 3. *Lavda, rock cut container on plateau on the northern slope (top view)*

Another fountain can be found along the road to the east around the bend. On the western side of the hill next to the road there is also a fountain.

By far the most powerful source of water is the well on the right bank of the Arkoudoremma some 100 m to the east of the modern bridge. The modern village of Theisoa takes its water from this well, which is brought to the other side of the hill by a pipeline.

The above survey of the presence of water on the hill is a description of the present situation. It must be borne in mind, however, that the ancient situation may have looked different due to changes in the structure of the hill by earthquakes and/or other natural causes.

Postscriptum

During a visit to the site in 1991 after our investigations had been finished, it appeared that a new path had been bulldozered meandering along the eastern part of the northern slope of the hill to enable visitors to reach the church of Profitis Elias more comfortably. Because of this disturbance many sherds have come to the surface. Below a necessarily incomplete and brief description of some selected pieces is presented:[1]

- very many tile fragments
- fragment of a black gloss vase with vertical ribs
- fragment of a kantharos, black gloss with vertical ribs
- base fragment of a kantharos? (H. 0.023, W. 0.046, Diam. ± 0.055, Th. 0.008; gloss exterior black with red band W. 0.025, interior black and red; clay light beige-rose)
- fragment of a lid (max H. 0.035, W. 0.05, Th. wall 0.006, Th. rim 0.006, W. rim. 0.007; H. rim 0.006, Th. consistent 0.005. The fragment gives the impression of a steep, pointed lid with a rim. On the exterior of the lid a thin line has been left without gloss, W. 0.007. Gloss interior and exterior black; clay soft, greyish beige).
- knob of a lid from a pyxis (fragment L. 0.037, W. 0.037, H. knob 0.023, top missing, Diam. knob 0.019, gloss dark red and black, Th. lid 0.005-0.008; soft clay very pale beige)
- rim fragment, black gloss
- fragment of a mold-made bowl
- fragments of loom weights: 1 triangular, 2 spool-like with quadrangular ends
- fragment of a thin bronze sheet (max. L. 0.055, W. 0.028) with pattern of stamped dots; one hole for a nail.

An extremely large amount of sherds below the northern terrace with the walls (Fig. 1, no. 15) could now be seen. Immediately after crossing the imaginary line (the eastern circuit wall continuing down the slope to the north) towards the east the sherds disappear. It seems likely, however, that the sherds lying on this part of the northern slope down to the modern road came from this plateau and not from the settlement on the top of the hill.

December 1994

Y.C. Goester
Kramsvogellaan 52, 3722 ZE Bilthoven
The Netherlands

[1] Measurements are in metres; abbreviations used are H - height; L - length; W - width; Th - thickness; Diam - diameter; frg - fragment.

References

Papachatzis, N.D. 1980. Παυσανίου Ελλαδάδος περιήγησις, Αχαϊκά και Αρκαδικά. Athens.
Tselalis, A. 1979[2]. Ολυμπιακά. Athens.

LAVDA. THE SITE, THE WALLS

J.J. Feije

LAVDA, or Theisoa as it was rebaptized in 1915, is a small village in western (ancient) Arcadia. It is situated on the left bank of the Alpheios halfway between Andritsaina and Karytaina. Theisoa lies on a plateau between 460 and 540 metres above sea level on the northern slope of a hill above the river bed of the Alpheios, which is between 160 and 180 metres above sea level (Goester, te Riele, Vermeulen Windsant, 1981, cartes II and III). On top of this hill, between 720 and 757.32 (top) metres above sea level, are the remains of an ancient settlement which has been the subject of investigation from 1984 to 1988 (Figs. 1 and 2).[1]

After 1915, however, the hilltop itself retained the old name of Lavda and is still referred to as Lavda in modern scientific literature (e.g. Bon, Felten, Jost). The name Lavda will also be used here to refer to the (remains of the) ancient settlement on the hilltop in keeping with modern publications and to prevent the confusion of modern Theisoa with ancient Thisoa. Pausanias (VIII. 27. 4, cf. VIII. 38. 9) mentions a "Thisoa on Mount Lycaeus" (Frazer 1898, IV. 386-389) and the name of this ancient settlement is sometimes given to the ruins on the hill; in fact the christening of the old and historic name of Lavda into modern Theisoa in 1915 was based upon a presumed identification with this ancient Thisoa (te Riele 1993, 177).

---

[1] For the previous report, see *Pharos* 1 (1993), 177-207. Preliminary reports of the 1984-1988 campaigns: Feije, et al. (1988); Feije (1989a); Feije (1989b, in Dutch); Feije (1993b, in Dutch). See also *AR* 1986/87, 21; 1987/88, 23; 1988/89, 33; and *BCH*, (*Chronique des fouilles*), 110 (1986), 693; 111 (1987), 532; 112 (1988), 631-32; 113 (1989), 614-15.

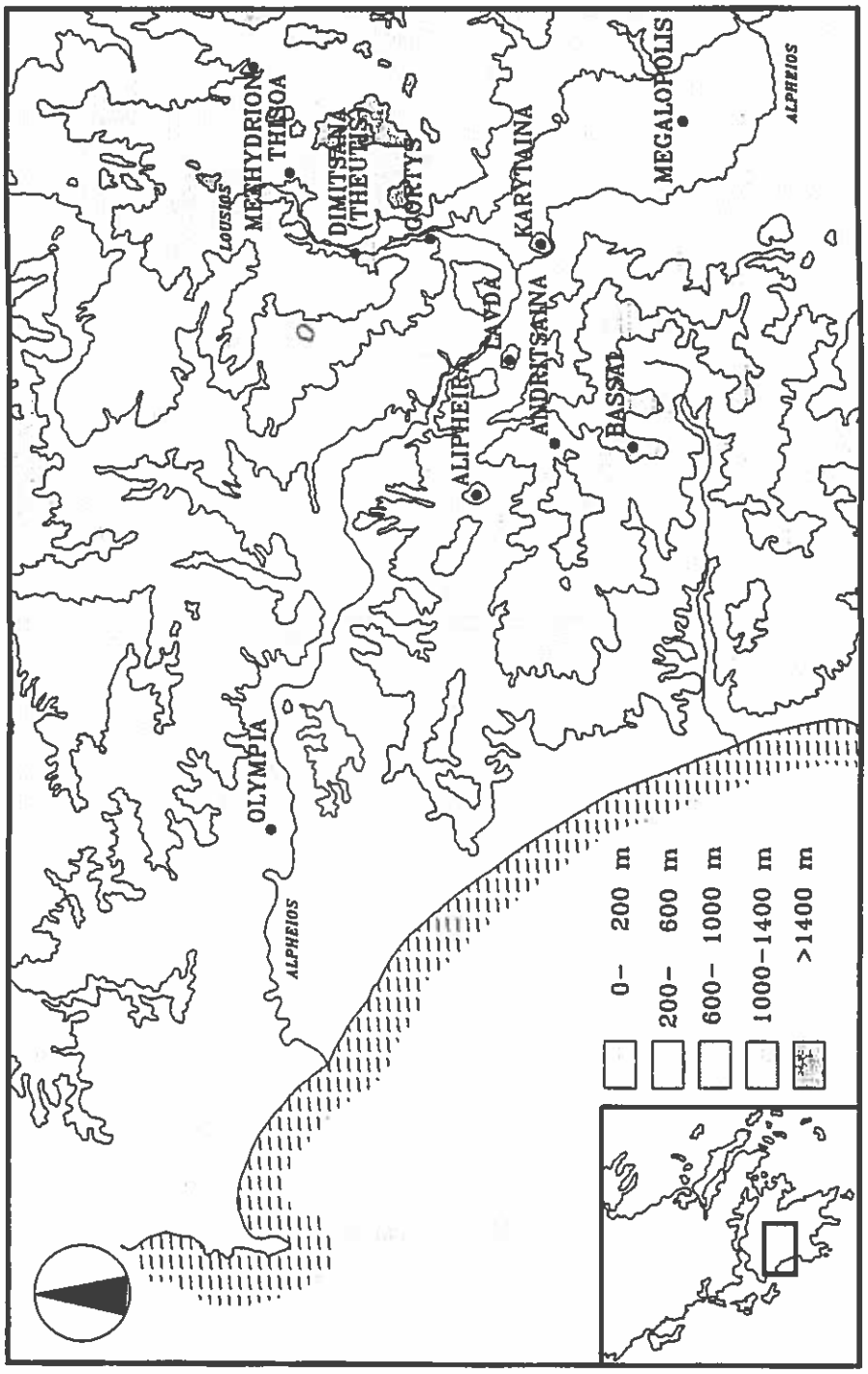


Figure 1. *Western Peloponnese*

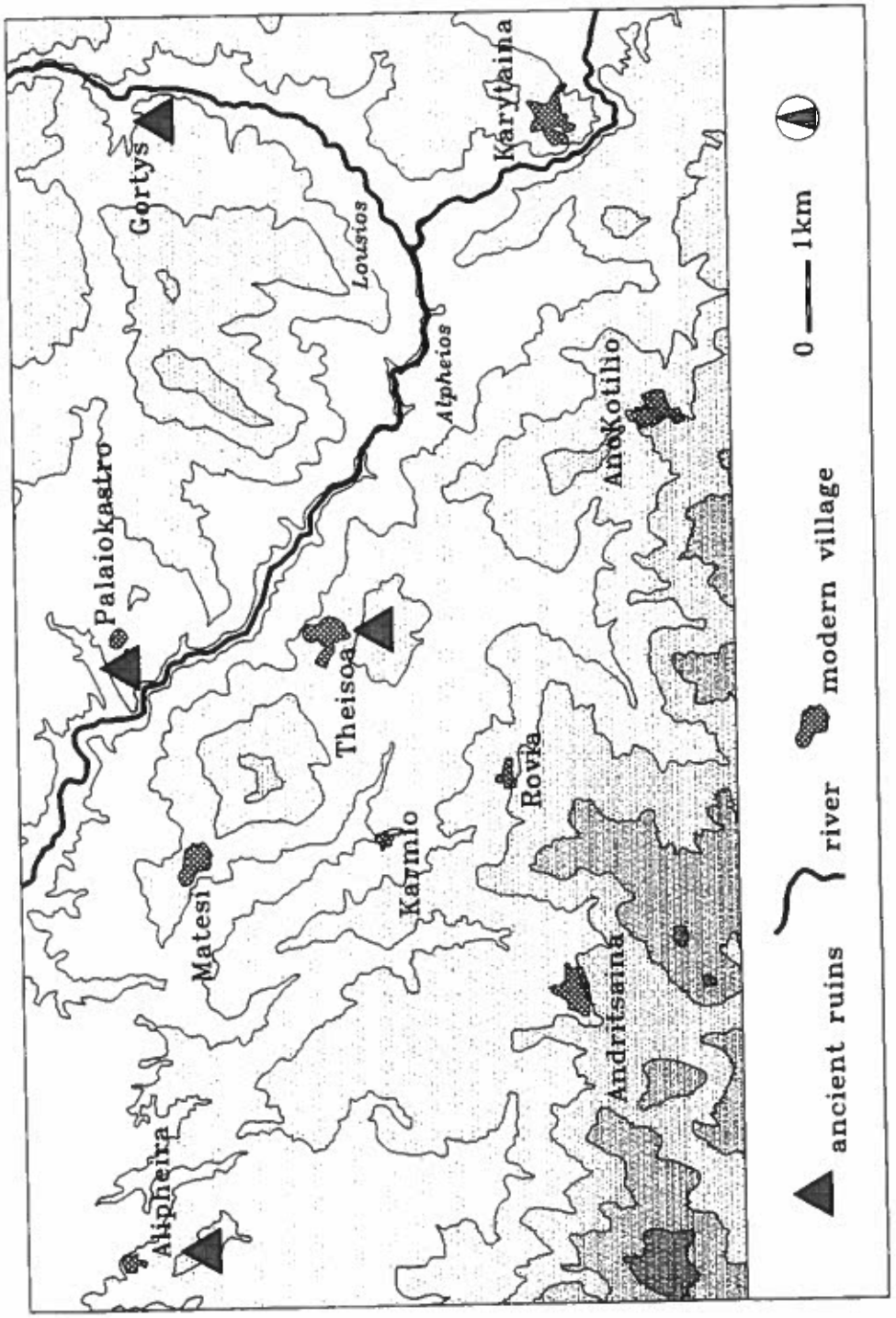


Figure 2. *Western Arcadia between Alipheira and Karytaina*

Theisoa

Since the days of Frazer, who presented the first systematic (short) description of the ruins in 1898, nothing seems to have changed drastically on or around the hill. (Frazer 1898, IV. 386-389). Actually, Theisoa appears to have fallen back into the old situation of more than a century ago when Leake counted about forty houses in Lavda (Leake 1830, 19). Although at present there are more than forty houses, the number of inhabitants continues to drop ominously from 484 in 1928 to 355 in 1940, 286 in 1961, 134 in 1981, and nowadays seemingly to even less than 100; in 1989 we were informed that there were 85 inhabitants left. A Venetian document from 1689, which appears to be the oldest reference to Lavda, still listed 189 inhabitants for Lavda whereas at that time "Andrizzena" only had 163! (Bon 1969, 386, note 3). This recent decline in population can be observed throughout all of Arcadia in this period: in 1940 Arcadia had 171,062 inhabitants whereas by 1971 this number had dropped to 111,262 (Eckschmitt 1979, 231).[2]

Theisoa lies far away from the mainstream of tourism and modern development. There are no extensive building activities - nor have there been in the past - which might threaten the ancient ruins. On top of the hill, the situation is apparently the same as that which was described in the 19th century, e.g. by Leake in 1805 and by Frazer in 1895. On the slopes beneath the top, that is beneath the ancient settlement or "Kastro", there are two modern intrusions which, however, do not drastically alter the situation as they are located at some distance from the Kastro. On the northern slope, a path to the chapel was bulldozered very recently (after the summer of 1988), and on the southwest slope a narrow trench for a water pipe-line was dug around 1976 (Goester 1993, 203).

In Theisoa itself, the most recent major building activity was the construction of a new church after the last earthquake in 1965. After this earthquake, the houses of Theisoa were rebuilt somewhat higher up, near the modern asphalt road.

Modern Theisoa, then, is a small quiet village which is connected to Andritsaina and Karytaina by a modern asphalt road which runs along the western and northern side of the hill (Fig. 3).

Lavda

A glance at the geophysical map shows that the 'natural' connection between Andritsaina and Karytaina would not include the Lavda hill but would run through the narrow plain of the Soultina stream at the southern foot of the Lavda hill; the asphalt road would then continue its eastward course from the point where it crosses the Arkoudoremma stream. About 100 metres upstream and east of the modern bridge across the Arkoudoremma still lies the old 'petrogephyro' (Papachatzis 1980, 350, fig. 355), testifying to the old road - known to us from the writings of 19th century travellers: on their way from Andritsaina to Karytaina they saw the Lavda hill on their left when they came around the bend by Rovia, travelling along the southern slope (Feije 1993, 183-185) (Figs. 2 and 3).

---

[2] For information concerning modern Theisoa, see the Greek encyclopedias, e.g. ΥΔΡΙΑ (1983), 27, 120, where the decision for the official name change of 29 May, 1915 is mentioned.

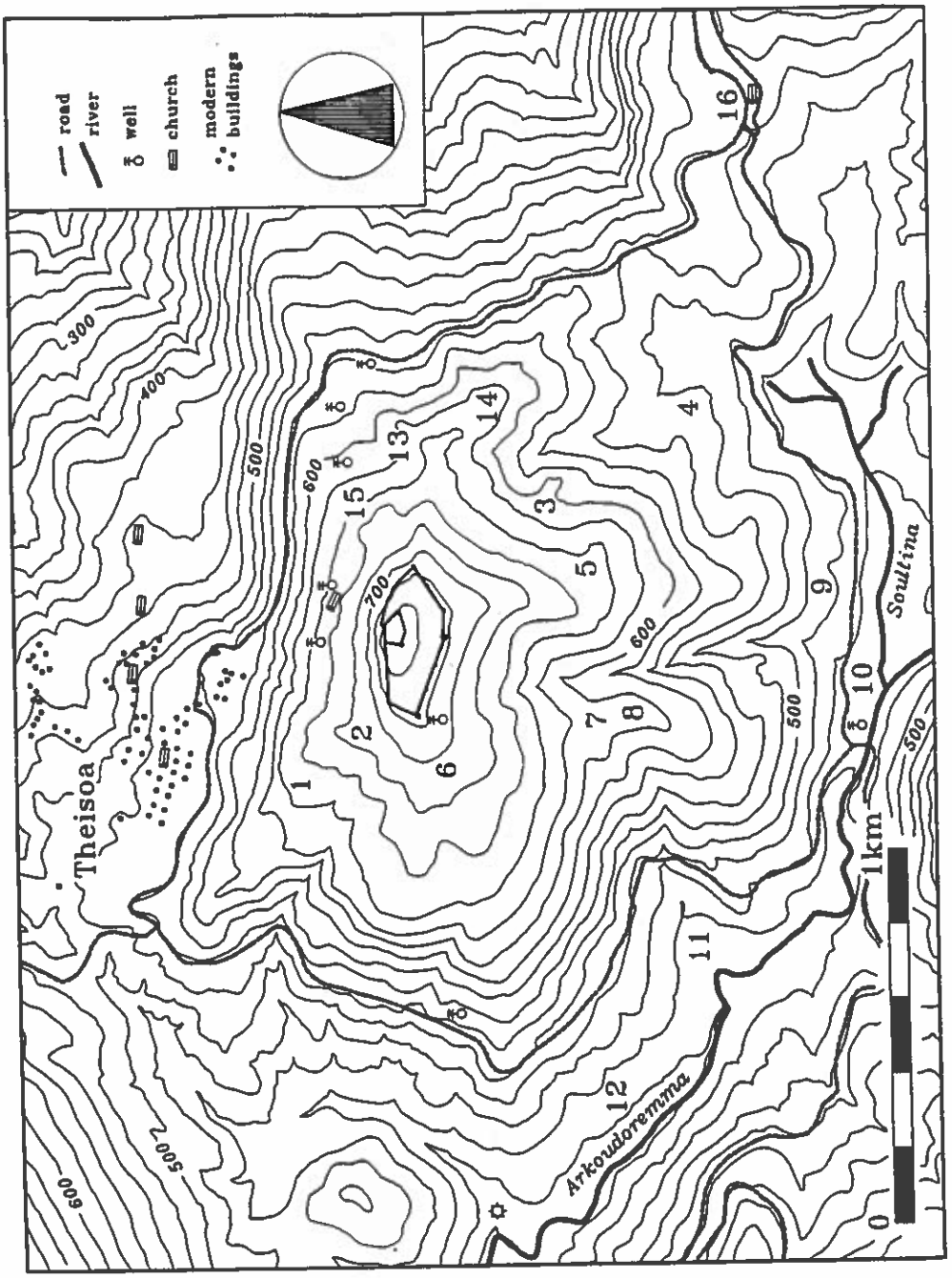


Figure 3. *Contour map of the hill of Lavda*

This 'southern' route must have been the normal thoroughfare in the pre-motorized era, before modern construction techniques permitted the disregard of the natural impositions of the terrain.

We can then assume that in antiquity a road also passed along the southern slope which connected the capital (Megalopolis) to the western outskirts of Arcadia, via Lavda and Alipheira, the settlement to the west of Lavda. In antiquity, therefore, Lavda was approached from the south.

Considering the conditions of the terrain, however, this ancient route along the southern slope must have been a secondary road (Philippson 1959, 201, cf. 355); the valley of the Alpheios did not allow for the major thoroughfare one would expect here connecting the plain of Megalopolis with that of Elis (and Olympia!). This main road between Megalopolis and Elis ran north of the Alpheios. The 'southern' road, i.e. the road that ran along the southern slope of Lavda, joined the Megalopolis - Olympia main road through the ancient road which connected Alipheira to Heraia. (Pausanias VIII. 26. 8; Frazer 1898, IV. 303-304; Charneux & Ginouvès 1956, 522; Pritchett 1980, 250-52; Papachatzis 1980, fig. 144).

It is a remarkable coincidence that on all the modern tourist maps of the Peleponnese this 'ancient' situation is still recorded. On the map one finds a red line (= motor road) along the southern part of the hillside, where, in reality, only the remains of a gravel path lie, impassable for cars; contrary to the maps, a motor road runs only around the northern side of the Lavda hill, the same asphalt road mentioned above from Andritsaina to Karytaina which, after some 15 kilometres, passes through Theisoa (Fig. 3).[3]

The difficult accessibility of the Lavda hill is, however, strategically ideal as it commands the western entrance to the Alpheios gorge. Its eastern counterpart is Karytaina, where the Alpheios leaves the spacious plain of Megalopolis to enter a deep and rather narrow gorge which continues for some 15 kilometres until it widens under Lavda (Goester 1993, 201; cf. Philippson 1959, 286: "...das Durchbruchstal des Alphios ist zwar keine eigentliche Schlucht, doch immerhin so gestaltet, dass seiner Sohle kein antiker und kein neuerer Verkehrsweg folgt."; 355:"... am Engtal des Alphios entlang zieht sich ein Flächenniveau von 600-700 m; an dem steilen Hang, der von diesem zum Tal herabstürzt, führt die Fahrstrasse Megalopolis - Andritsaina entlang und benutzt dan ein Joch von 600 m, von dem aus ein höherer Rücken nach NW gegen das Alphios-Tal vorspingt. Dieser trägt beim Dorf Lavda einen kegelförmigen Berg (738 m) mit den Resten des antiken Ortes Theisoa 'am Lykaion'. Weiter hinaus erhebt er sich in einer Kuppe zu 834 m"). (Fig. 2: the asphalt road from Andritsaina to Karytaina generally keeps just to the left of (= above) the 600 m contour line).

The strategic importance of the position at one of the entrances to the Alpheios gorge is clearly illustrated at the eastern end by the Frankish citadel at Karytaina, which dominates the landscape far and wide. One should imagine a similar scheme at the western end of this cleft. The western entrance was also fortified, and here the Frankish château Sainte-Hélène was built on top of the ancient ruins of Lavda precisely because of their

[3] This refers to the official maps, such as the 1:200,000 maps of the Nomos Elis or Nomos Arcadia, published by the National Institute for Statistics at Athens: on these Nomos maps one can see the ancient situation with the thoroughfare along the southern slope.

strategic position. The castle, however, was destroyed in 1302 by the rebellious Greeks, who penetrated the area through the Alpheios gorge (Bon 1969, 179, 379, 388, 662, cf. 385-86).[4] "... Am Eingang des Engthals steht wie ein hoher Wartburg der Felskegel von Karitena ... die Wichtigkeit des Platzes für die Beherrschung der inneren Halbinsel und namentlich der unwegsamen Alpheiosslucht, die im Mittelalter Skorta hiess..., Lavda ...hat im Mittelalter zur Beherrschung des Skortapasses gedient; es waren díe Vorwerke von Karitena, dessen Schloss von hier sichtbar ist" (Curtius 1851, 348, 359; Papachatzis 1980, 306, fig. 297). A similar situation in antiquity can be found directly across from Lavda; on the other side of the Alpheios is Palaiokastro, a site which controlled the western edge of the mountain range directly north of the Alpheios (Charneux, Chantraine 1956, 523-538; Martin 1944, 107; cf. Jost 1985, 76).[5]

The strategic position of the Lavda hill, however, is not the only reason for its settlement; it was clearly chosen for the agricultural potential of (especially the upper parts of) its slopes, as we noticed on our daily climbs up the hill. When we visited the area for the first time in 1976, a (small) number of fields on the western slope and on the hilltop, i.e. within the ancient walls, was still in use, but in 1991 it was apparent that the small and greying community of Theisoa had given up agriculture completely; terrace walls were no longer repaired and threshing floors were overgrown. Currently the hill is being rather intensively grazed by flocks of goats and sheep instead. The modern somewhat desolate situation, however, gives the wrong impression of the agricultural possibilities of the slopes; because of the drastic decline in the number of inhabitants, which are also ageing (the school has been closed down for years), and because they grow only a few crops for themselves close to home, it is no longer necessary to exploit the fields on the slopes. In earlier years, however, - according to oral reports from Theisoa (1988) - crops such as tobacco (until 1930), cotton (before 1940), figs, almonds and other nuts were grown here. There were also vineyards and olive groves, both of which practically vanished after the large forest fire of 1981. At the moment, however, only livestock is raised: there are nine shepherds with a total of ca. 1150 sheep.

The barren impression one now receives of the hill reflects more the modern social circumstances rather than the actual agricultural potential of this area. The agricultural potential of Lavda is in fact remarkable when compared with the other slopes in the direct vicinity. The slopes of Lavda are, in general, gently rolling, especially the highest part around the Kastro. The northern slope forms the only exception: this slope is quite steep directly north of the ancient settlement and can neither be worked nor cultivated. The slope drops 77 metres over an aerial distance of 100 metres, from 757.32 m at its highest point to the 680 m contour line to the north. Compare this with the western slope where the same drop of 77 metres is measured across a distance of 350 metres, from the top

[4] Remains from the early Christian-Byzantine-Frankish periods in and around Lavda were studied by P. Velissariou in 1985; we refer to his reports (forthcoming).

[5] This is not the place to delve further into this site; Palaiokastro is referred to by Jost (1985, 76) as 'une forteresse antique', following Charneux and Ginouvès who published the site in 1956; they further mentioned the remains of a triglyph and two Doric capitals - in 1989 we found a third(?) Doric capital on the western slope; although we did not find the triglyph fragment which was reportedly mortared into the walls of the chapel on the top of the hill, we did see a fragment of a geison built into the same chapel. Cf. Felten, 1987, 44, who includes this site as well as Lavda in a review of *Neugründen von arkadischen Stadtanlagen* (Felten 1987, 74 and fig. 73). Cf. also Coppa 1981, fig. 231, where a fortezza is shown on the site of Lavda.

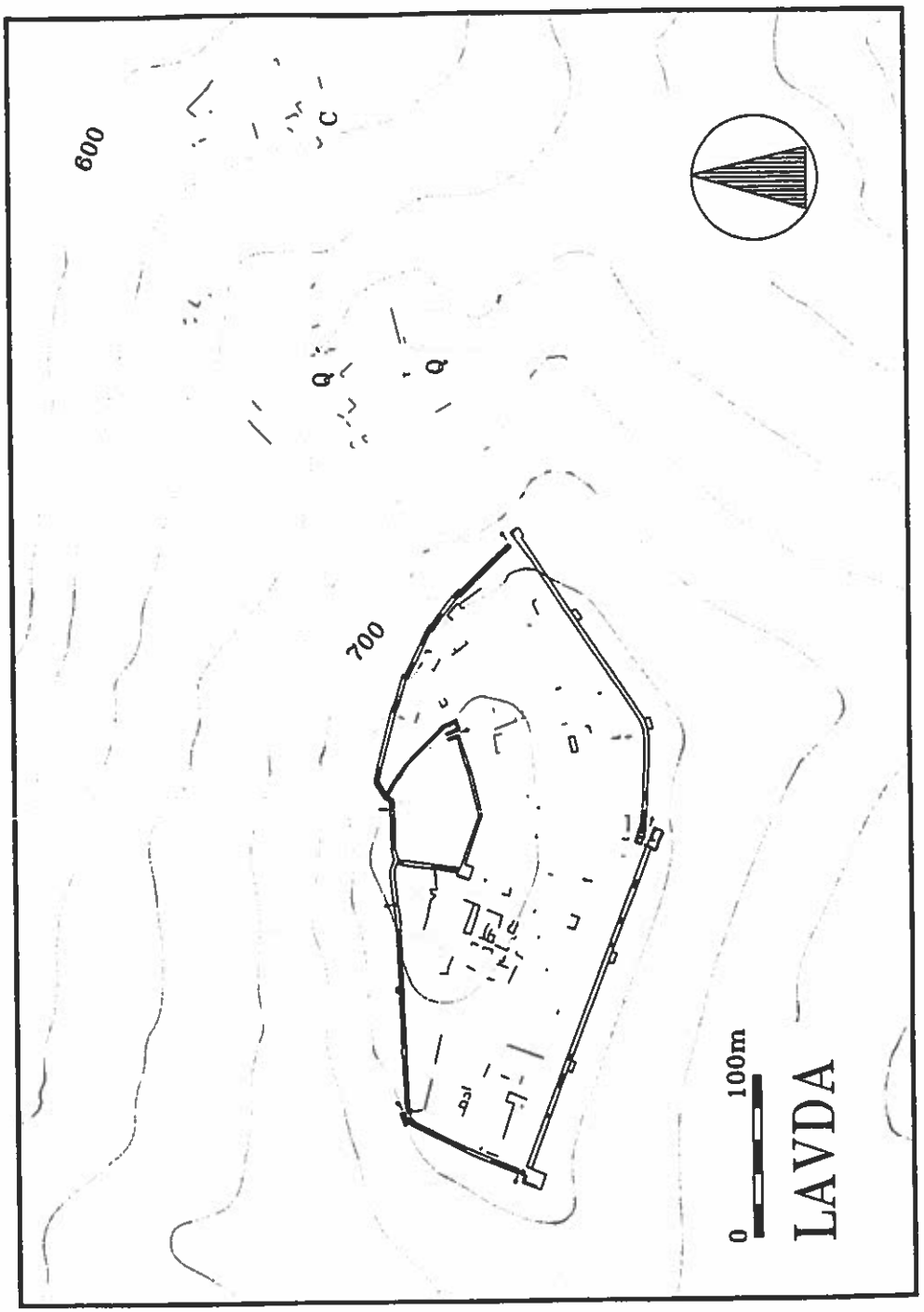


Figure 4. *Ancient wall construction on the hill of Lavda*

along the northwest wall to the contour line of 680 m, and the southern slope where the 77 m drop is spread over almost 250 metres, measured along the western wall of the acropolis (Figs. 2 and 3). The resilient northern slope contains only two level areas: a small plateau directly north of the Kastro where remains of ancient walls lie (see Goester above), and the plateau where old Lavda and modern Theisoa are situated. The difference between the aloof northern slope of Lavda and the affable southern slope is quite clear, for example, when the rivers next to them are taken in account. On the north side, the drop from the top (757.32 m) to the bed of the Alpheios (180-160 m) spans a distance of 600 metres, whereas on the southern side one has to descend only about 300 metres to reach the bed of the Soultina (at 450 m). From this comparison it is clear that the northern side of Lavda is also its protective back side. One can then better visualize the aforementioned approach to Lavda along the southern side of the hill.

For today's traffic, the Alpheios still forms an obstacle due to the deep V-shape of its bed between Karytaina and Lavda. In this part of the gorge there is only one bridge, now abandoned, ca. 5 km west of Karytaina. Across the Alpheios, there is nowadays only a bridge near Karytaina (a modern bridge and the old bridge, Papachatzis 1980, figs. 298-299); the next bridge downstream is at Sekoulas (near Alipheira).

Apart from the northern slope, the three remaining slopes are fairly moderate. It is precisely this combination of a strategically located and defensible hilltop which is somewhat flat with a reasonable radius of arable land around the top which makes Lavda so remarkable in comparison with the other slopes in the vicinity.

Viewing the environment from the Kastro, the most prominent feature directly to the west is the hill of Matesi (834 m), which presents a steep profile towards Theisoa with hardly any fields; linked to this hill and across the other bank of the Arkoudoremma in the southwest are much more precipitous hills, as can be seen by the hairpin curves in the asphalt road, with the sheer and conical Chelmos (789 m) directly to the south. East of this is a small triangular plain where the Soultina meets the Arkoudoremma, beyond which the hills begin again abruptly to rise, e.g. Tsouka with its top at 872 m, continuing towards the southeast where the hairpin road winds its way to Kotilio. To the north and northeast of Lavda there are no surrounding hills: here the slope evenly drops down to the Alpheios at 180-160 metres.

The Alpheios forms a natural boundary here. On its other side across from Lavda is a steep and barren hill, Kalogria (Philippson 1959, 286), the top of which, at 941 m, is almost 200 metres higher than that of Lavda (757.32 m); this corresponds to the lofty hill of Matesi in the west, and the Chelmos and Tsouka to the south and southeast which are both foothills of higher mountains, such as the mountain of Andritsaina at 1226 m which continues into the Lykaios (top at 1421 m). From Lavda, then, one sees a semi-circle of mountains surrounding and enclosing Lavda with, for that matter, a splendid view of the neighbouring sites of Alipheira and Palaiokastro and the plateau of Karytaina/Brenthe(?). Generally it is assumed that the ancient settlement of Brenthe lay near Karytaina. Traces of this settlement have until now not been found, although on the spot one cannot imagine that this strategic place would not have been fortified (Pausanias VIII. 28. 7; Frazer 1898, IV. 313; Papachatzis 1980, 306 and figs. 296-302 with reused blocks which would have come from Brenthe; Jost 1985, 201).

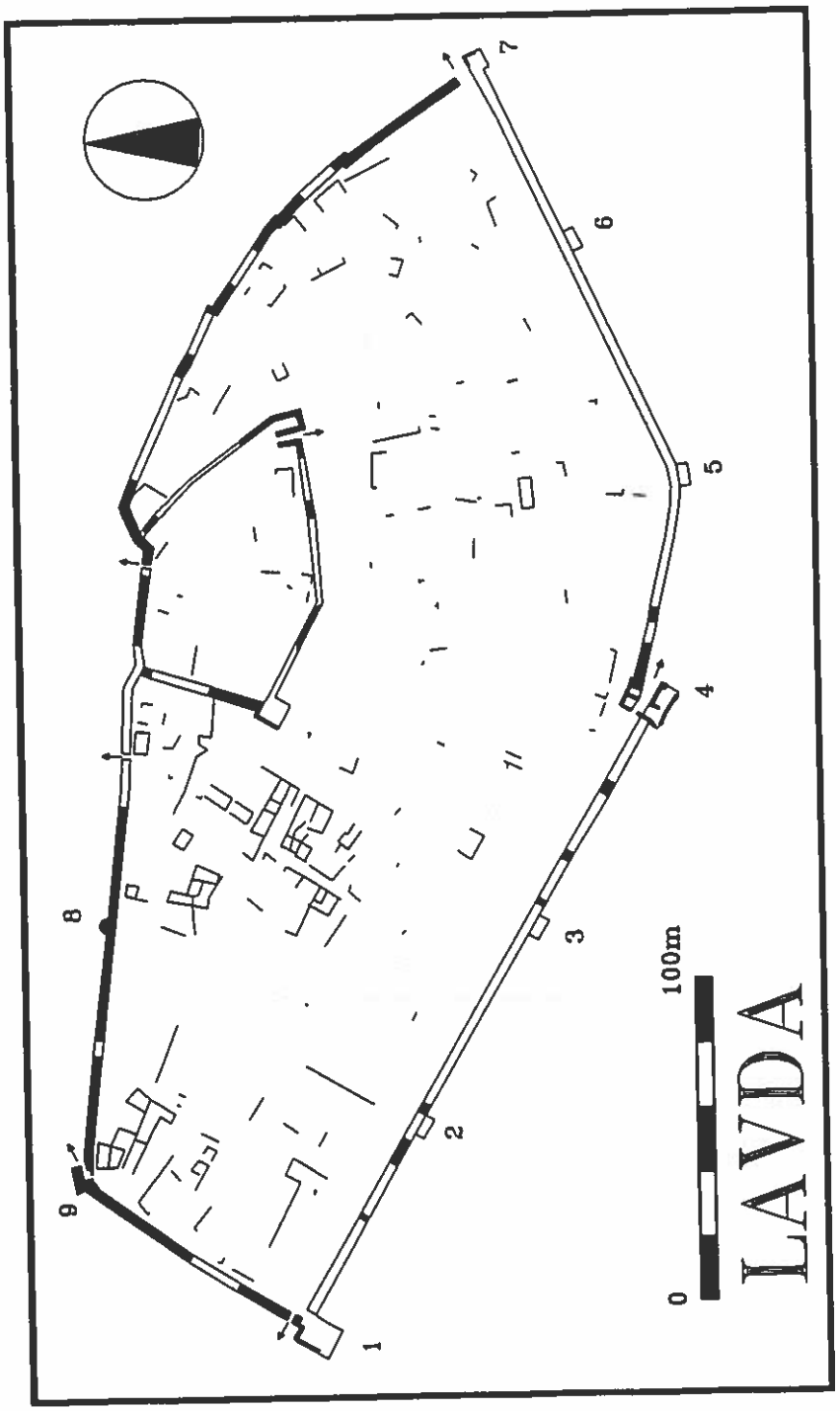


Figure 5. *The "Kastro" with walls and gates*

It seems primarily obvious that the basic existence of the Lavda settlement must have been agriculture, as was the case with nearly every Greek polis (Hodkinson and Hodkinson 1981, 265-66). The rather isolated position of the Lavda settlement makes an alternative economic base highly improbable; even as a military base, Lavda cannot have functioned without an economic base.

For an idea of the agricultural potential of the hill in antiquity, the evidence from the modern physical environment is highly conclusive, although the condition of the land is certainly not *a priori* equivalent to that in antiquity; both the extent and the quality of soil cover may have changed since then, but even so the hillsides are - or rather were until very recently - still a potentially important resource today.

This is not the appropriate place to further explore this problem, for which a number of tests should be conducted in smaller relevant areas of the Greek landscape. A (far from complete) anthology of studies shows a diversity of opinions as to possible changes in climate, erosion, and deforestation.

Traditionally it was believed, on the one hand, that there have been shifts in the climate over the course of time, and on the other hand, that large-scale erosion has also taken place (deforestation is still postulated for post-ancient periods); yet now it is believed that climatic shifts did occur but long before the historic period. Recently "... a consensus has developed among ancient historians that the climate of Greece in the 5th and 4th centuries BC was identical to the present-day climate" (Sallares 1991, 391; cf. Hodkinson and Hodkinson 1981, 266; Meiggs 1982, 40; Rackham 1991, 88; Crouch 1993, 79).

'Ancient' erosion (as a consequence of human intervention) is in general now also less pessimistically seen (Rackham 1991, 110). Concerning deforestation, the scientific opinion is divided as to whether human intervention generally leads to deforestation or not (Sallares 1991, 35, and notes 44 and 234).

A highly important feature of the modern cultivation of slopes is terracing, but it is uncertain - or rather not proven - whether this technique was also applied in antiquity. Unequivocal evidence for ancient terraces has seldom been found (Bradford 1956). In general it is assumed that in antiquity terraces were also constructed (Osborne 1987, 28 "...terraces had to be built before cereals or tree crops could be grown here", cf. 30-31, 39, 44; Crouch 193, 80), but we have only scraps of information as to how the Greeks actually managed their landscape (Rackham 1991, 103-104).

At any rate one can say of the Lavda hill that it offers sufficient agricultural possibilities, as until recently has been proven. In this introduction to the site, only a few of the most prominent features of the topographical situation can be mentioned, a more detailed review will follow at a later stage.

The walls

Introduction

The easiest ascent to the ancient site starts from the plateia of Theisoa (alt. ca. 533) and runs along the western slope to the ruins on top of the hill, which lie between ca. 725 m and the top at 757.32 m (Goester, te Riele, Vermeulen Windsant 1981, carte III shows

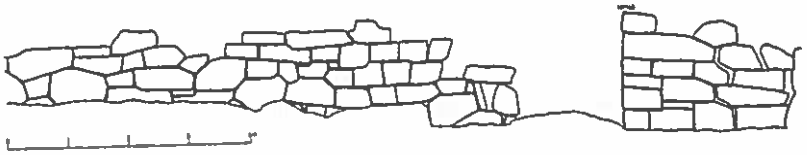


Figure 6. *The west wall*

a path, which had not completely fallen into disuse in 1976, on the western slope continuing to the south; for a visit to Lavda, one can still use this path until just past the point where it crosses the 620 m contour line - from this point one must veer to the east).

Another option in approaching the ruins is by way of the northern slope, where a path has recently been bulldozered from the road to the chapel (cf. Fig. 3); from the highest point of this path, one must make a short but steep climb to the north wall with the east gate on the left hand. One then has, however, access to the least prospective view of Lavda, where the ruins furthermore are in the worst condition.

The present description shall therefore begin on the western side, where one is most likely to approach the ruins from Theisoa. The western side furthermore offers the best view of the site and in the western area the ruins are also in the best condition. The towers have hence been numbered from the west, following the direction of the description which runs from the west counterclockwise to the north.

The enceinte

As appears from the 19th century travel descriptions, the walls obviously form the most conspicuous ensemble of ancient remains on the summit of the hill, "... It is enclosed by a double line of fortifications, an outer and an inner, of which the latter formed the citadel..." (Frazer 1898, IV. 387) (Figs. 4 and 5).[6]

On the west, south, and southeast side, the wall runs roughly parallel to, although a bit higher than, the 720 m contour line; from the eastern corner, the wall runs across a distance of ca. 150 m sharply upwards together with the profile of the hill, from 720 m to the top at 757.32 m which lies just inside the walled area, and from that point continues over a distance of 155 m in a straight line and at right angles to the contour lines, descending to the northwest corner which lies just above the 720 m contour line.

[6] Some inaccuracies concerning the cardinal points apparently intruded into Frazer's description.

Plate I. *The west wall*

The greatest length of the walled area, the distance between the western and eastern gates, amounts to about 385 metres, the distance from the north wall across to the south gate amounts to about 150 metres; the corresponding measurements of the acropolis are ca. 85 metres in length and about 50 metres in width.

The walled area is oblong and comes to a point on the east side, roughly repeating the outline of the acropolis which shows the same form, protracted and ending in a point on the east side. On the west side, directly inside the west wall, lies an area which is remarkably flat in comparison with the eastern area, which more or less evenly sharply ascends from the east gate to the acropolis (cf. Goester, 1993, fig. 1). The acropolis shows the contrary image of a flat area in the east which runs sharply up in the northwest towards the top of the hill (757.32 m). The top lies roughly in between the western and eastern gates.

Of the entire wall, the portions in the north and west are in the best condition. On the southern side, primarily the (south) gate is preserved; the rest of the south wall between the gate and tower 1 is in poor condition while the portion between the gate and tower

5 is even worse. Of the southeast wall, hardly any blocks are *in situ*. The northeast wall sporadically remains standing.[7]

Whereas the actual remains of the south and southeast wall are no longer extant, the course of this wall can, however, clearly be followed in the terrain as a division between the flat area, which is inside the wall, and the sloping area, which is on the outside of the wall; this is again stressed by a row of debris from fallen blocks, especially clear when one views the site at a distance from a high place, e.g. from Rovia to the southwest, or from the southeast on the road to Kotilio. One can then see the track of debris as a conspicuous horizontal band running around the south and southeast side of the hill. The course of the entire wall can therefore be retraced with certainty.[8]

The west wall

Directly north of the west gate lies the best preserved portion of the entire wall; in other places either the inner or outer face is missing. Only directly east of the south gate is the complete thickness of the south wall also intact, albeit along a shorter distance and height.

The portion of the wall directly north of the west gate is reasonably well preserved for a length of 18 m. Figs. 6 and 7 show as an example of the wall the intact portion with a length of 11.50 m, where both faces are still extant.

The wall is constructed in the usual manner with an outer and an inner face, the core between the faces consisting of rubble and earth. The thickness varies between 2.55 and 2.65 m, the height of the outer face is at the most 1.50 m over 4 layers, and on the inside 0.40 m at the most.

The blocks in the outer face are larger and strongly vary in size: measured from the north, the length of the uppermost blocks are 0.80 m, ca. 0.60 m , ca. 0.90; over 1.00 m; nearly 0.70 m; 0.70 m; four smaller blocks which together are ca. 1.20 m long; ca. 0.62 m; 1.05 m; 0.65 m; 0.45 m; 0.35 m and over 0.70 m.

The blocks vary in thickness as well: the blocks in the outer face spring inwards 1.05 m at the most (only 4 blocks spring inwards). The northernmost block in the inner face shows the largest inward spring in this face, ca. 0.80 m, allowing at least ca. 1.00 m between the inner and outer faces; no compartments were formed, the wall here crosses a very level area of the terrain (cf. the west wall of the acropolis for the opposite situation). The blocks are rather irregularly polygonal or oblong/trapezoidal and were not laid in courses; the front face is finished to a rough bossing, while the inward face is entirely unworked, ensuring a stronger bond between the facings of the blocks and the core which consists of rubble and earth (Plate I).

The wall must originally have been higher as is implied by the finishing on the top of the blocks, e.g. on the uppermost block carvings in the stone are visible, indicating at least

[7] In short, the wall here refers to the circuit wall: the south wall is the segment between towers 1 and 5, the southeast wall between towers 5 and 7, the northeast wall between tower 7 and the point where this wall meets the north wall of the acropolis, from this point to tower 9 is the north wall, and the west wall is between towers 9 and 1.

[8] Figures 4 and 5 present in some minor points a correction of the groundplan as this was published after the preliminary research of 1978: Goester, te Riele, Vermeulen Windsant (1981), carte IV.

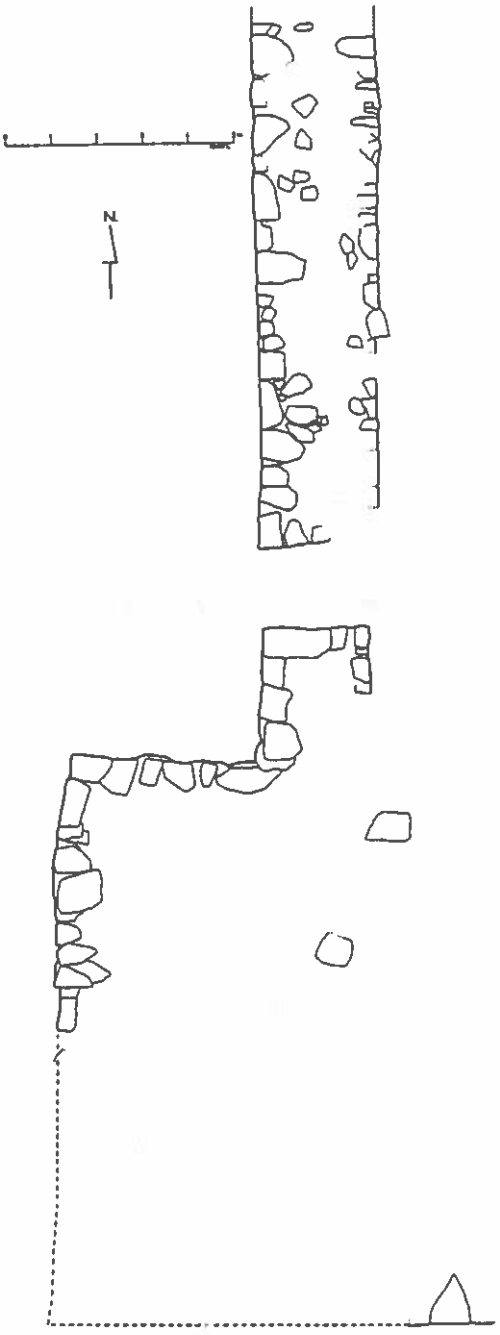


Figure 7. *The west gate*

one more layer of blocks on top of these; furthermore the core is still visible, so that the top of the wall cannot yet have been reached at this point (which is also the case with the rest of the walls of Lavda). That one can expect at least a few more layers on top is evidenced by the rubble heap of large rectangular hewn blocks, extending from 4 to 5 m beyond the wall.

The west gate

The situation by the west gate permits no more than the observation that it must have been a simple narrow passage through the wall with a width of 1.75 m (Fig. 7). It is an axial type of passage (Maier 1961, II.101; Winter 1971, 209, 222 = type I). Debris which has fallen in obstructs a good visualization of the passage itself.

It is possible that this gate was also later closed, an observation based on the similar conditions of the other gates: in the south gate and the acropolis gate one can see that the actual entrance has been obstructed by a sloppy wall of apparently reused blocks; the east gate has been obstructed as well. The current situation allows no further observations. There is not a single indication for the ancient street level. South of the gate passage, the wall continues another ca. 2.95 m until it reaches the large tower (tower 1), which projects ca. 4.40 m from the wall. Only the northwest corner of the tower is still standing and shows drafted edges (Reinders 1988, 74; Lawrence 1979, 241-42; Adam 1982, 31). A meagre 6.20 m of the west front remains, but it would have continued further towards the south; from this point a huge pile of debris extends ca. 13 m to the south and ca. 12.50 m across (Plate II). This rubble heap consists of rectangular hewn blocks which certainly belonged to the higher layers of the tower.

The height of the tower is uncertain: the west front, 6 layers of which still stand, is ca. 2.15 m higher than the rubble. Blocks south of the passage have carvings on their top sides to secure at least another layer of blocks so that the tower must have been a few layers higher. Amidst the fallen blocks, a few blocks seeming to lie *in situ* show an east-west course and thereby seem to indicate the southern front of the tower (the terrain south of this concentration becomes much steeper) and hence the north-south width of the tower: ca. 12.50 m; the east-west width is not entirely certain, but the same blocks *in situ* indicate that the tower projects at least ca. 2.50 m from the inner face of the wall, suggesting a maximal width of ca. 9.60 m. The extent and position of the tremendous pile of debris on the spot indicates at least a tower of large dimensions, the exact form of which can no longer be determined. The connection with the south wall is missing, but further to the east a few blocks from the inner face lie here and there; in perspective, these blocks can be seen to lie in a straight line to the west wall and tower 1. Up against the connection with the tower lies a slightly curved wall, the loosely piled construction of which clearly shows that it is not ancient.[9]

[9] At first sight it looked more like the support wall of a threshing floor, very appropriately constructed on this exposed spot (in 1976 inhabitants of Theisoa still cultivated their cornfield within the walls, especially on the flat terrain along the south wall), but there is no pavement.

Plate II. *The west gate seen from the east*

The maximum width in relationship to the ideal (in perspective) line of the inner face is over 7.00 m (cf. Goester, te Riele, Vermeulen Windsant 1981, carte IV, where the curved line of the wall is still indicated). We assume that the ancient southern wall lay more to the north and joined the tower at right angles. The tower would then project ca. 4.50 m from the wall.

The tower is very strategically positioned on a natural 'corner' in the terrain (Goester 1993, fig. 1). From this tower, one has an unrestricted view across the gently rolling western slope from the northeastern edge of the mountain range, where one approaches the hill from Theisoa, and further across the adjoining part of the southern slope. The northern hills of the Lykaion form the background towards the south. To the west one can see the Matesi hill (834 m) beyond the western slope, and north of this, Palaiokastro on the other side of the Alpheios; south of the Matesi hill one can see in the distance (the hill of) Alipheira.

Plate III. *The south gate*

The south wall

The south wall between tower 1 and the south gate is in very bad condition, but the location of the wall can easily be seen in the terrain: to the east the trace of the wall stands out as a clear line demarcating the remarkably flat area on the inside of the wall as against the sloping exterior wall with its track of debris (Plate III), where at regular intervals two larger piles of debris can be discerned - the rubble deposit is thicker there and protrudes further to the south - indicating the positions of towers 2 and 3.

The thickness of tower 2 is no longer preserved, although the pile of rubble suggests a width of ca. 7 m; 3 blocks which still lie *in situ* indicate the southern front of the tower; the tower projects ca. 3.50 m from the wall. The width is reconstructed as ca. 6.65 m based on an analogy with tower 3 (see below).

From this tower green vegetation is visible southwest of the wall, indicating the presence of water (see Goester above).

A few fragments from the west and east sides of tower 3 remain standing; the maximum width is ca. 6.65 m, and the rubble pile shows the same 'form' as that of tower 2. One would expect that this tower would have been of the same model with similar dimensions

Plate IV. *Towers of the south wall*

to tower 2, so that the projection by tower 3 from the wall can here also be reconstructed at ca. 3.50 m; vice versa, one could expect tower 2 to have the same width as tower 3.

From tower 3, towers 2 and 4 can clearly be seen (Plate IV); the towers lie at roughly equivalent distances from each other: between towers 1 and 2, towers 2 and 3, and towers 3 and 4, are the respective distances of 60, 65, and 70 m.

Between towers 3 and 4 only a minimum of wall portions remain; one part is ca. 2.85 m wide with the now preserved height of the outer face at 2.80 m in 7 layers, giving an idea of the original height, which must have been higher.

The south gate

The south gate is the most monumental gate of Lavda. It is a gate of the tangential type (Maier 1961, II. 101; Winter, 1971, 215, 222 = type II) where the southern overlap is here formed by the projecting tower, which protects the gate passage on the outside - and to the left of the attacker (Fig. 8). The passage is now partially closed by a low wall made of reused ancient blocks (Plate V). In the passage is a spur wall on the south side which seems bonded with the tower; the corresponding spur on the opposite side is difficult to see. A second set of spur walls may exist which, however, are now hidden under the

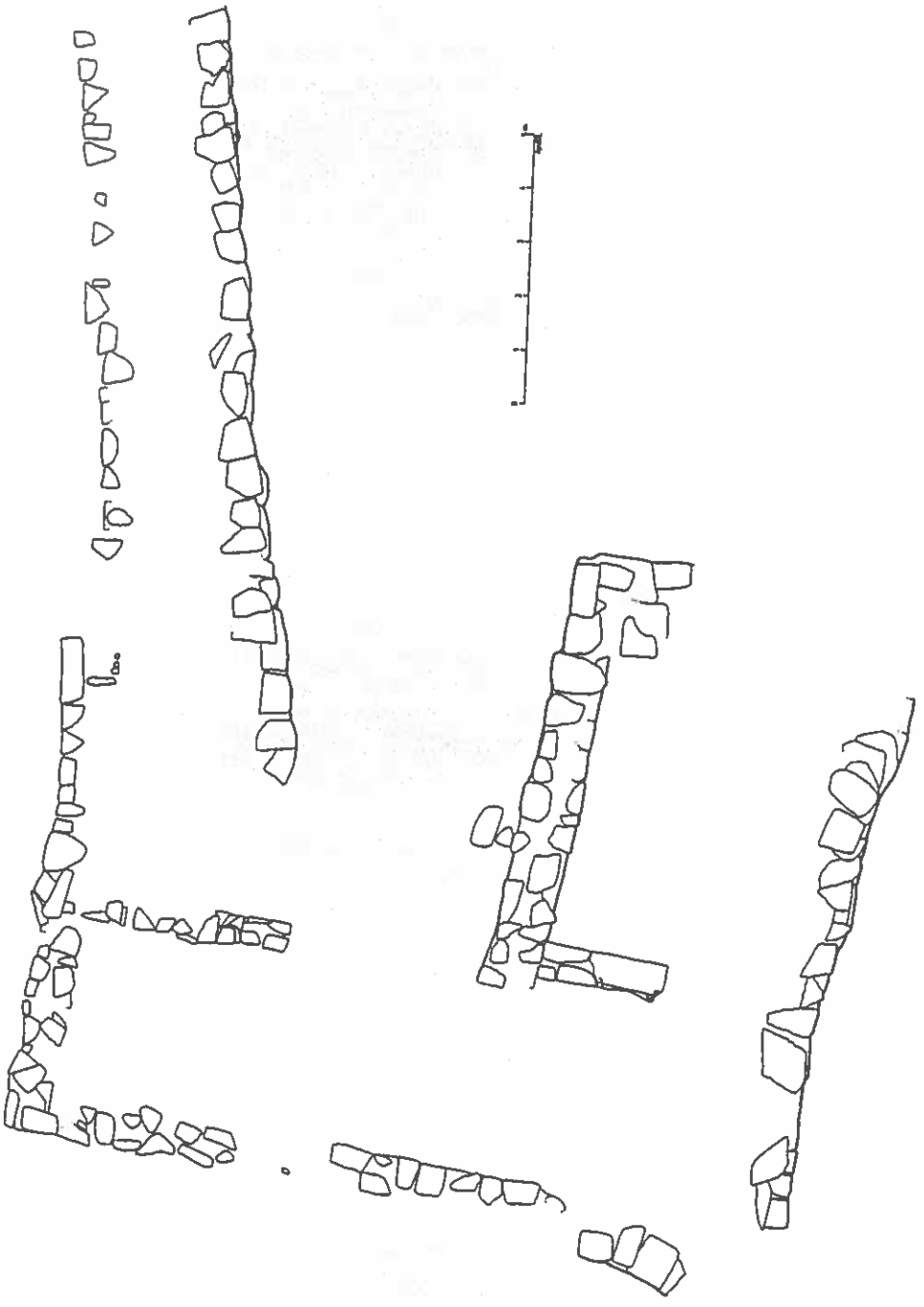


Figure 8. *The south gate*

Plate V. *The south gate*

obstructive wall (cf. Bakhuizen 1991, fig. 33).

Because the overlapping walls are not entirely parallel, the gate passage tapers towards the interior: the width on the exterior is ca. 5.50 m in contrast to ca. 4.00 m directly in front of the spur walls; the two spurs of ca. 0.75 m decrease the width of the passage to ca. 2.50 m.

The form of the western and southern portions of the gate is uncertain due to the fragmentary condition and possible disturbances and/or later construction. What is certain is that the southern overlap is formed by a tower (drafted edges in the northeast corner). The northern overlap is attested until the spur wall. The dimensions can only be given in rounded figures since the walls, especially of the tower, have sagged somewhat towards the outside (i.e. towards the south).

Tower 4 is only partially preserved, with fragments from the south wall, the north wall with the northeast corner which has drafted edges. The two outer corners have been disturbed. The southern wall is still *in situ* for a length of ca. 9.40 m, and a preserved height of ca. 2.15 m in the west to ca. 2.60 m in the east (Plate V). The western wall, although somewhat sagging, is partly preserved. The width of the southern overlap is ca. 13.00 m; the projection from the wall is ca. 4.50 m. The walls of the tower are double

faced; the thickness on the northern side is 0.90 m, ca. 1.80 m on the eastern side, and on the southern side the width is apparently ca. 1.70 m.

The tower did not, however, occupy the entire surface of the southern overlap; on the west side is apparently an open area from where one could enter (the ground floor of) the tower: a threshold lies here *in situ*, implying the presence of an open space before the tower. The construction of the western end of the northern overlap, which has a somewhat different orientation, is uncertain.

From tower 4 one has a good view across the whole southern environs of Lavda with the foothills of the Lykaios in the background, and in the middle the round mountain, Chelmos, behind which lies Tsouraki; to the extreme west one can see Alipheira.

When one enters through this gate, one sees along the inside of the southern wall an even path which slowly rises up towards tower 3 (Goester 1993, fig. 1); from this point the terrain gently descends again towards tower the western corner, and towards tower 1.

To the east, and towards tower 5, an even path also runs along the inside of the southern wall.

Directly east of the gate, both the inner and outer faces of the southern wall are still standing, although the inner face is no higher than the ground so that only the top side of this part is visible.

Directly north of the gate is a fragment of ancient walling with a length of ca. 9.50 m. In the outer face of the south wall, a drain which measures ca. 0.25 m x 0.30 m is visible, and is positioned at ca. 1.30 from the top side of the wall, giving an indication of the ancient street level. Through piercement this gutter was found to be 3.00 m deep. The gutter therefore extends through the entire thickness of the wall, which at this point is ca. 2.80 m, and appears to resurface roughly opposite the eastern corner of the aforementioned walling, indicating thereby the corner of a (north-south) street.

The remainder of the southern wall towards the east is in very poor condition; there are a few scattered blocks which together form the trace of the inner face; the outer face is either non-extant or is not ancient: in a few places it was filled in with a later piled construction which reused ancient architectural parts such as a column fragment with a dowel hole.

The features of the terrain are, however, the same as that west of the southern gate: an edge in the terrain at the transition from the level ground to the sloping ground outside the wall, marked by a track of rubble which here has a width of ca. 10.50 m. Among the rubble are fragments from two large marble capitals.

The wall ran in a straight line to the southeast corner. At the point where the south wall bends towards the southeast is a large rubble mass which, as by towers 2 and 3 (but less than by tower 1), indicates the location of a tower: tower 5; two large blocks lie here which are reconstructed as belonging to the inner face of the wall of the tower - with regard to the southern wall, these blocks appear to be slightly turned towards the south-east. Otherwise nothing can be said of this tower with certainty, except that it must have been comparable in size to towers 2 and 3.

The southeast wall is in the poorest condition of the entire site: the outer face of this wall is virtually gone, but a straight trail of rubble directly under the conspicuous edge in the terrain is a sure indication of the trace of the wall; furthermore a few singular

Plate VI. *The east gate*

blocks from the inner face are still in place so that it is clear that the southeast wall formed a straight connection between towers 5 and 7.

Roughly 75 m east of tower 5, a small mass of rubble seems discernible which would indicate the presence of a tower. A second indication is the relief in the flat strip of land along the inside of the wall: at this place in between towers 5 and 7 the land reaches its highest point, and here the 725 m contour line crosses the trace of the wall (Goester 1993, fig.1); from here the terrain gradually slopes down to tower 7: the distance to tower 7 is ca. 60 m and to tower 5 ca. 75 m. This point is therefore roughly in the middle between towers 5 and 7. At this place we have reconstructed a tower (tower 6), comparable - in position and dimension - to towers 2 and 3. From tower 6, both the tower at the eastern gate (tower 7) and the tower in the southeastern corner (tower 5) are clearly visible.

The east gate

The southeast wall ends in a large mass of debris in a 'corner' of the terrain, which from this point steeply descends to the north (Plate VI); the shape of the terrain and the large

Plate VII. *The northeast wall*

rubble pile both indicate a tower of (much) larger dimensions than towers 2 and 3 (and towers 5 and 6); it is more reminiscent of tower 1.

The east gate is a simple passage way of the axial type which is defended in the southeast corner by a tower (tower 7), which has largely been destroyed.

Only the northern side of tower 7 is (partially) preserved, the northeast corner shows drafted edges: on both sides is a smoothed band 0.12 m wide; the lowest block does not show this and is therefore an indication of the ancient street level; the rest of the northern front of the tower is preserved for ca. 7.00 m so that the tower can be seen to project from the northeast wall and the southeast wall.

From this tower one has a view of the Lykaios to the southeast, the plateau of Karytaina to the east with the Alpheios far below (ca. 180-169 m); the difference here in altitude is ca. 540 m. On the other side of the Alpheios is a steep bald mountain which, directly north of Lavda, reaches a height of 941 m; finally, to the west one can see Palaiokastro, also across the Alpheios, and one can just see where the river bed starts to become wider.

The slopes northeast of the tower still display some terrace walls, which, however, are becoming more and more overgrown.

From the tower one also has a good view of the north plateau on the northern slope, whereas northeast of the gate, at a lower point on the slope, a few fig (?) trees indicate the location of a spring.

Plate VIII. *The north wall*

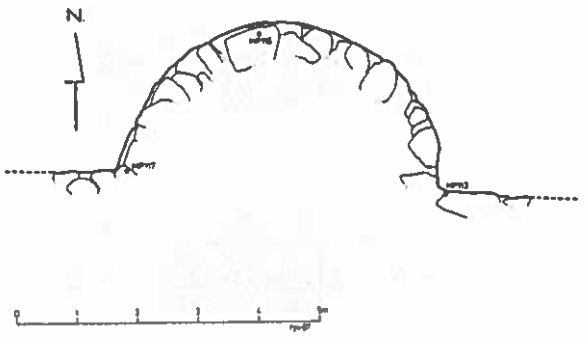


Figure 9. *Tower 8*

The northeast and north wall

The northeast wall has no towers but follows an indented trace.[10] The terrain in this area slopes down outside of the wall. The northeast wall curves slightly from tower 7 to the top of the hill: the only part of the wall that is not perfectly straight. The indented trace, however, does divide the wall into smaller straight-lined portions which - seen from the east gate - seem ever slightly more oriented towards the northwest (Plate VII). In this way the wall can follow the curved trace imposed by the terrain while maintaining its defensive character by allowing for flanking fire along the wall, a condition which simply necessitates straight-lined curtains.

In a few places the outer face is preserved to a height of over two metres: to ca. 3.20 m in 7 layers directly north of the gate, and to ca. 2.80 m, also in 7 layers, by the first jog. This first jog projects ca. 1.50 m, the second at ca. 1.40-1.45 m, the third ca. 1.80 m where the wall has a maximal height of 2.05 m in 5 layers, the thickness of the wall is ca. 2.20 m.

The wall is ca. 1.30 m thick at the point where it changes course towards the acropolis; the wall appears here to consist of two parallel faces, but without the fill in between, as far as the vegetation permits such observations.

The necessity for the wall to continue in straight line, as an independent wall, ends at this point: in front of the wall is an elongated plateau, which continues further along the north wall of the acropolis and still further until just beyond the western postern in the northwest wall. This plateau ends in an abrupt and steep northern edge which makes further defensive measures superfluous. After the point where the wall changes its course, it ascends towards the northern wall of the acropolis, which lies ca. 5.00 m higher, and

[10] The rendering of the northeast wall in Figs. 4 and 5 is a bit too flattering considering the state of preservation of this wall; the course, however, of the indented trace of the wall is certain.

Plate IX. *Tower 8*

continues at that height further towards the west.

The narrow plateau in front of the wall can be reached by means of a narrow postern (ca. 1.30 m wide) in the north wall, which has a preserved height of ca. 1.75 m on the east side and 1.80 m on the west side of the postern (perhaps this postern was later obstructed).

The north wall rests directly on the rock (the bedrock of the plateau) which was vertically hewn so that the lower portion forms the wall, which here is ca. 3.80 high.

The situation directly north of the top of the hill is unclear, only a few vague carvings in the rock remain; possible remains of the ancient wall will have disappeared with the construction, or destruction in 1302, of the Frankish tower which was built precisely on the top of the hill: some blocks still show the remains of mortar (Bon 1969, 179, 662; the outline of this Frankish tower could be reconstructed in 1985 by P. Velissariou).

The first part of the north wall west of the top does not consist of blocks but of a vertically worked rock ridge, which has been partially levelled on the top side; the maximum height of the ridge is ca. 2.25 m. The wall would appear to be double-faced here: there are two parallel rows of rock carvings; in the rock carving are indications of a postern, which provides access to the elongated plateau in front of the wall; this plateau

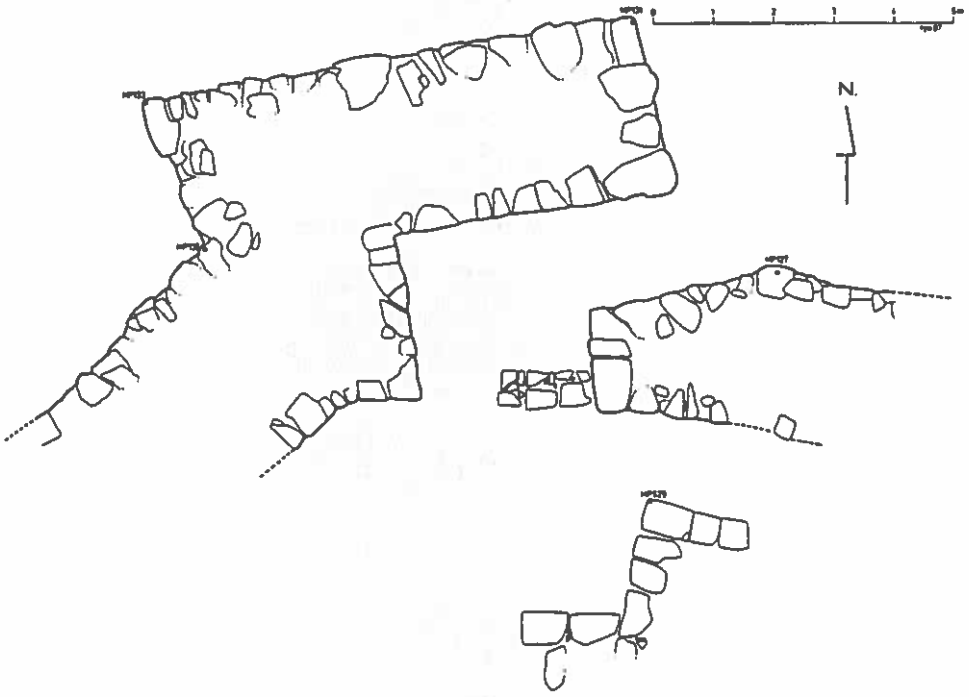


Figure 10. *Tower 9*

ends roughly by the transition of the rock carvings of the north wall into a constructed wall, the outer face of which is almost completely intact. The outer face is preserved to a maximum height of 2.00 m in 6 layers, but, as with the rest, nowhere is the complete height of the wall extant. The trace of the outer face clearly forms a straight line to the northwest corner. Ca. 75 m from the northwest corner lies a half round tower which projects ca. 2.55 m from the wall (Tower 8 - Fig. 9, Plate IX). The tower, with a diameter of ca. 5.20 m, is slightly eccentric. At the place in the terrain where the contour lines make a gentle bend, the wall veers off towards the south (cf. Goester 1993, fig. 1). At this point lies tower 9 (Fig. 10, Plate X), which is not at right angles to the wall, such as towers 1 and 7, but is slightly turned (cf. the reconstruction of tower 5). Tower 9 has a postern (1.70 m wide) in its north wall, which shows drafted edges on the northeastern corner.

A description of these towers will later be given in combination with the report of the excavation carried out in this tower.

South of tower 9, the wall is reasonably well preserved, with a thickness of ca. 2.60 m, and continues (through the area described above) to the west gate and tower 1.

The Acropolis

The acropolis exists of a prolonged flat area which in the northwest steeply ascends to the highest point of the hill, at an altitude of 757.32 m.

Diagonally across from the highest point is the entrance to the acropolis in the southeast corner through a gate which is protected by a tower in the corner; the southwest corner is also protected by a tower in the corner and there seem to be traces of a tower in the third, i.e. northwest, corner.

From the southeast tower, one has a command of the terrain on the eastern side of the city, from the southwest tower one has a view across the entire western area, and from the south wall the southern circuit wall is clearly visible.

The top offers a splendid view from the hill of Alipheira in the west to Karytaina in the east. Perhaps it should be stressed that Megalopolis is *not* visible from Lavda, but remains hidden behind the foothills of the Lykaios (Fig. 1).

Of the encompassing acropolis wall, only the west wall is mostly preserved, as well as part of the south wall and finally the southeast corner. In those places, however, where the wall is no longer *in situ*, a rubble path just under the acropolis indicates the presence of the missing parts, so that the entire course of the acropolis wall can be traced with certainty.

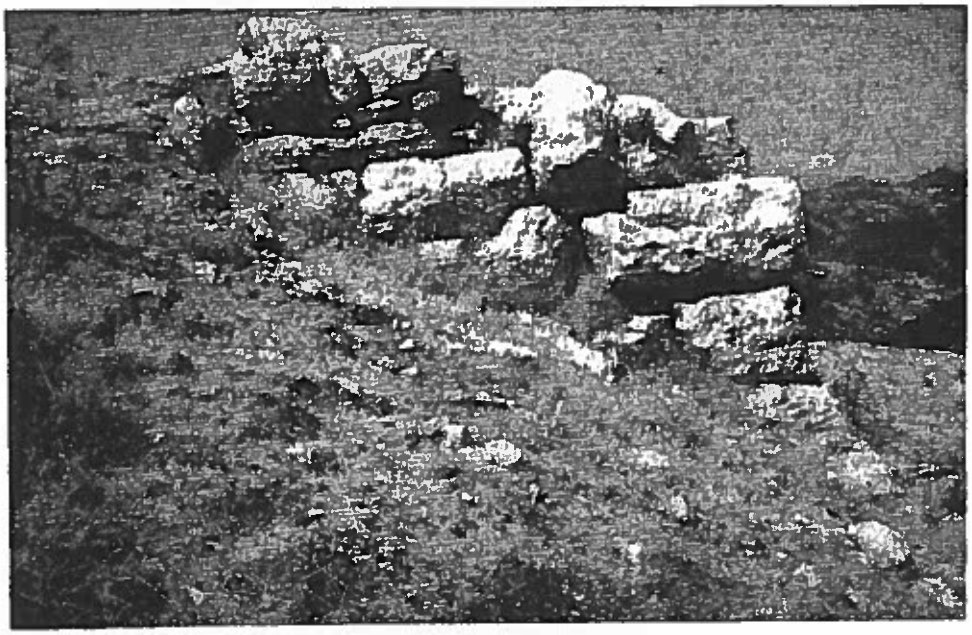


Plate X. *Tower 9, the west bastion*

Plate XI. *The west wall of the acropolis*

The west wall

The western side is the best preserved part of the acropolis wall with the two faces of the wall clearly visible, the outer face being preserved up to a maximum height of ca. 4 m, while the inner face reaches a height of ca. 1.25 m at the most; the thickness of the wall is ca. 2.90 m (Fig. 11, Plate XI). The wall rests on the rock bottom which rises to the north where it forms the lower part of a constructed wall (cf. joining part of the north wall). The situation directly behind (east of) the wall is unclear since the ancient situation has in all probability been disturbed by the construction and/or destruction of the tower from the Frankish castle (Bon 1969, 385-386). It would be most plausible to postulate a tower at this point. North of this point and outside the wall lies the elongated plateau, which ends in a very steep edge and which therefore had no access from the outside (below), but could only be reached from the inside through two posterns. Blocks from both faces of the wall reach deep into the core so that compartments are (almost) formed to relieve the sidewards pressure; the wall runs down to the south in a step-like fashion towards the tower in the southwest corner, which projects some 3.75 m from the west wall. The southwest corner is recognizable by the drafted edges, which are preserved to ca. 1.70

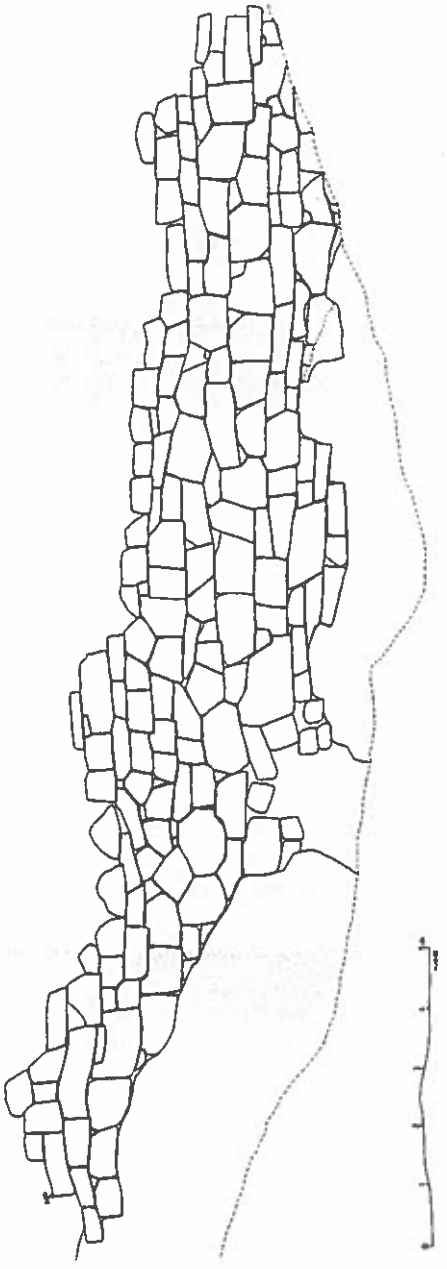


Figure 11. *The west wall of the acropolis*

m above the present ground level. The length of the tower (length of the western front) is ca. 7.65 m.

The south wall

Directly east of the tower the ancient situation has been disturbed: the connection between the tower and the south wall is no longer there; in that place a wall now lies of looser piled construction which incorporates a few ancient fragments, e.g the fragment of a column. This more recent part however does seem to follow the trace of the ancient wall; one might expect the later piled construction to have been built on top of the ancient walls (Bon 1969, 386, 662).

It is clear that the tower projects ca. 0.80 m east of the west wall, allowing a reconstruction of the width of the tower as 7.45 m, when one adds this 0.80 m projection to the 2.90 m thickness of the west wall and the 3.75 m projection of the tower west of the west wall. Roughly 20 m east of the tower is a section of the authentic wall which is ca. 18.00 m in length, the outer face remains standing to a height of ca 3.00 m, and the

Plate XII. *The south wall of the acropolis*

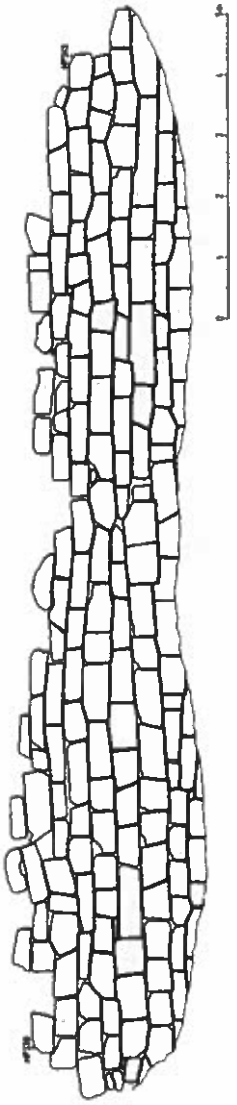


Figure 12. *The south wall of the acropolis*

Plate XIII. *The south gate of the acropolis*

thickness of this section ca. 1.40 m (Fig. 12); the top side of the inner face is flush with the ground. Unusual about this wall, or rather the area directly south of it, is that it shows relatively little debris compared with the areas directly to the west and east, where the ancient wall hardly survives but where a large rubble mass lies (Plate XII). This would seem to indicate that the original height of the wall cannot have been much greater than it now is.

This ca. 18.00 m long section continues until the crook in the wall; east of this the wall is severely damaged, judging from the large rubble pile which among other things contains fragments of triglyphs and metopes (Plate XII). As mentioned above, the entrance to the acropolis lies in the southeast corner; the passage, 2.40 m wide, is flanked on the eastern side by a tower which measures 9.00 x 6.50 m (Plate XIII). The ca. 7.00 m long passage is obstructed by ancient blocks, among which are a triglyph and metope, as was observed by Frazer (Frazer 1898, IV. 388), and a second row of ancient blocks, which lie slightly more towards the interior.

The east wall of the tower remains standing to an utmost height of 2.80 m (Plate XIV). In this east wall is a drain (0.40 x 0.40 m) which could be pierced to a length of ca. 2.80

m (Plate XV); the drain continues through the wall (here 1.90 m thick) to the place on the inside which we have tentatively identified as a cistern.

The north wall

Although this wall is mostly ruined, its course can be traced from the track of debris under the edge at the transition from the flat terrain of the acropolis to the steep northern slope. This breach ends in a wall of later date, judging from the loose piled construction in which ancient blocks have been incorporated, such as the column shafts and fragments of a marble geison (Plate XVI). The joint with the north wall is, however, ancient (see further the north wall above). The top was fortified in the Frankish period and recently Velissariou has been able to reconstruct its outline.

The corners of the wall, as was shown above, are fortified with towers 1, 5, 7, and 9. A tower would seem to be missing at the corner where the northeast wall meets the north wall of the acropolis; this corner, however, literally lies under the protection of the north wall of the acropolis - some 5 metres lower - and so is well protected. Moreover, the situation of the terrain is not precarious: in front of the wall lies the elongated plateau which ends in the abrupt and steep northern edge; perhaps this point was actually further reinforced with a tower on or next to the top of the hill. Through the placement of (smaller) towers in between the corner towers, the wall is divided into smaller stretches: from tower 1 to tower 2, 2 to 3, 3 to 4, 4 to 5, 5 to 6, and 6 to 7, then the indented stretch and plateau in front of the wall, and then again divided from west of the postern to tower 8, from 8 to 9, and from tower 9 to tower 1; the individual stretches are pretty much equal in length.

An overall view of the gates shows that Lavda was clearly oriented towards the south: there are only three passages in the circuit wall, in the extreme west, in the extreme east, and one in between: the tangential southern gate, more elaborate in form than the other two, which are just simple openings in the wall.

The construction of such an impressive and costly circuit wall raises of course the question of what it was behind these walls that needed so much protection.

The preliminary results of the survey, which was conducted both inside and outside of the walls, have already been published as far as the ceramics are concerned (Goester 1993, and Goester above). Concerning the *architectonia*, there are especially inside the walls many fragments from ancient wall construction and a remarkable number of loose architectural fragments. Fig. 4 shows the total of ancient walls inside as well as outside the circuit wall.[11] These walls, however, are generally in very poor condition, and are often difficult to see: they hardly protrude above the ground, usually one or two layers at the most, and even then they are often overgrown by *phrygana* or are hidden underneath piles of blocks or broken stone.

Within the circuit wall, only two portions of walls of a greater height are still *in situ*, although these do not represent the ancient height. Because a complete description of

[11] Compared with the original publication of the site (Goester, te Riele, Vermeulen Windsant 1981, carte IV), there are walls which we no longer consider with certainty as ancient.

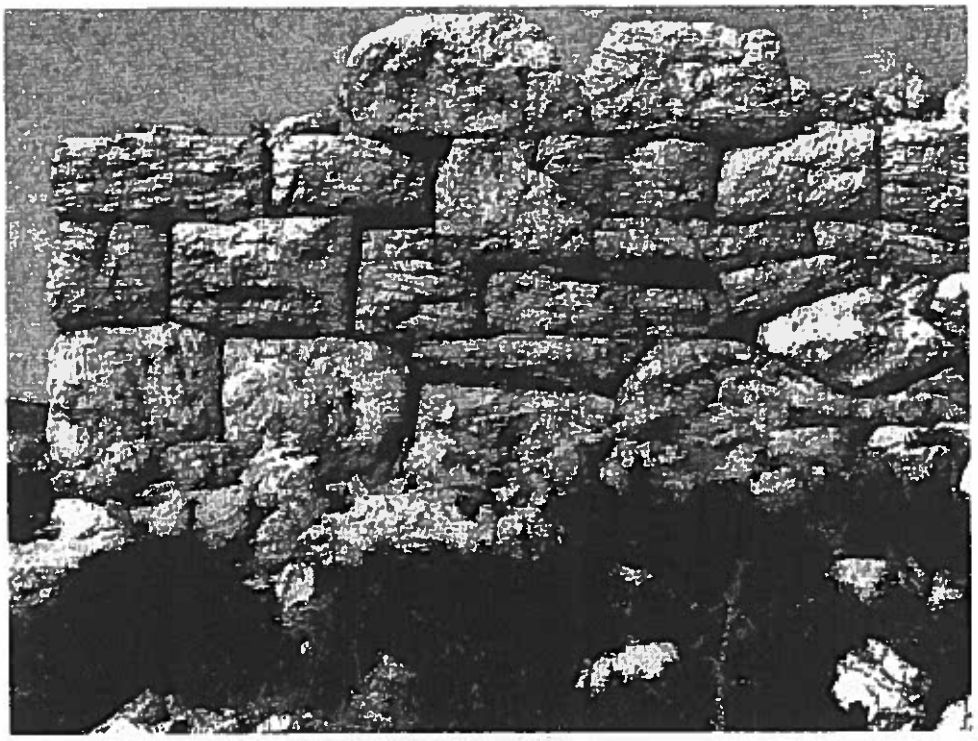


Plate XIV. *The southest corner of the acropolis*

these walls falls outside the scope of this paper, only the position of these wall sections will, for the sake of thoroughness, be mentioned: directly north of the south gate is a section of wall construction which has a maximum preserved length of ca. 9.80 m. The second fragment lies east of tower 9 and consists of two separate (?) fragments, which are more or less in line with a maximum preserved length of ca. 50 m (Fig. 4).

The walls are made of local limestone, in different parts traces of quarrying can be seen, e.g. along the northern edge of the level part west of the acropolis, and along the north wall directly west of the top.

Besides portions of actual walls, however, there are also many loose architectural fragments inside the walls which add more colour to the picture: most of these are amorphous and more or less damaged fragments from large rectangular (or at least oblong) blocks of local limestone which must have once belonged to walls. But there are also a large number of identifiable fragments showing completely different forms: fragments of Doric architecture such as column shafts, capitals, architraves, triglyph-and-metope friezes, and geison fragments. Apart from these there are also fragments of thresholds, of *louteria* (or *perirhanteria*?), of bassins, and of an olive press (Goester, te Riele, Vermeulen Windsant 1981, dessins VI-X).

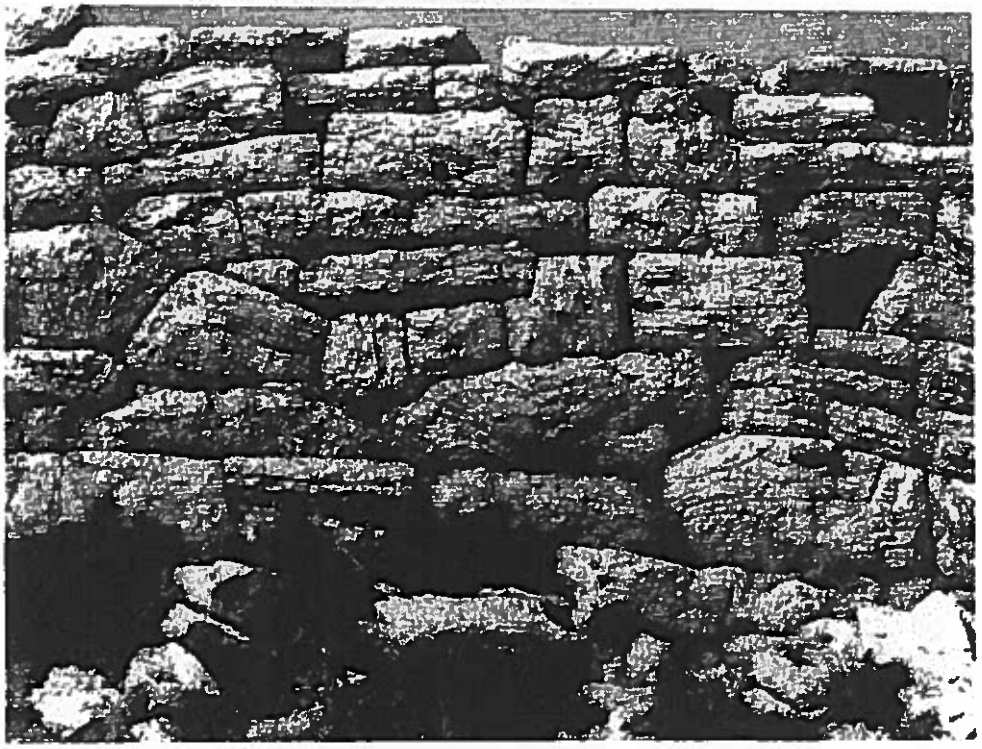


Plate XV. *The east wall of the acropolis with drain*

These fragments were carved either from the local limestone or from marble; there are furthermore many small amorphous fragments of white marble; also of white marble is the sculpture fragment found, as it was, beyond the Kastro: P. Velissariou spotted in a terrace wall on the northern slope a fragment of a draped female statuette.

The row of nine Doric columns on the acropolis also aroused attention from the 19th century travellers, who enthusiastically concluded, "...a temple, of which the lower parts of seven [*sic*] Doric columns... are still standing in their original position" (Leake 1830, 18-19; cf. Feije 1993a, 183-188, 192-194, plate II). Frazer, however, had already pointed out a problem with this, " ... a temple may have stood here, but this is doubtful...they may have been transferred to their present situation and used in the construction of some medieval building (Frazer 1898, IV. 388). When we started in 1985 with the localization of the most diagnostic finds, it became apparent that some fragments were no longer *in situ*; most obvious were those elements which had been reused as these were found in the more recent wall parts (recognizable by the loose piled construction) of the south wall

Plate XVI. *The north wall of the acropolis with the geison block*

and of the north and south wall of the acropolis.[12]

Also beyond the site, i.e. outside the wall, lie similar fragments. For example, deep in a ravine in the southern slope lay two large marble capitals, which a shepherd pointed out to us. It seems obvious to us that these two large and heavy fragments, due to their weight and round form, rolled down from the top. Otherwise, there are also fragments on the slopes outside the walls which, based on their position, nature, and dispersal, cannot be assumed to have rolled from the top to their find-spots: these fragments still lie *in situ* (cf. the wall remains from the north plateau, see Goester above). Within the rubric of this paper, only the presence of the architectural fragments and the question of their dispersal can be signalled.

This preliminary signal, however, does point to the presence of a settlement of a certain allure and importance on the hill of Lavda, and therefore poses other questions: what kind of settlement lay here and when was it functional?

---

[12] A dispersal map of these fragments is in the making and will appear in one of the next issues of Pharos.

The date is crucial for the answer to these questions, yet this in turn raises old problems once more. The dating of circuit walls is a well known problem: the date can only be given by external factors such as textual evidence, epigraphic evidence, or technical-constructive considerations in lieu of a stratigraphic date (Maier 1961, 93-99; recently Bakhuizen 1991, 163-64).

The dates provided by the survey of Lavda give a very general picture which begins in the period of black gloss pottery and continues through the period of molded ware (the so-called Megarian ware), hence, in broad terms, from the 4th to the 2nd/1st centuries (?) BC (cf. Goester 1993, and Goester above), a chronological horizon which seems to find a parallel in the excavation.[13]

Roughly speaking, then, the subject here is the Hellenistic period, a period for which the archaeological and historical data for this remote corner of Arcadia are scarce. In the first half of the 4th century, however, there is the historical defeat of Sparta in 371 BC in the battle of Leuktra. The consequences of this battle were far reaching: a ring of fortresses appeared extending from Argos to Messene in order to enclose Sparta; fortified cities were built, or rebuilt, including Mantineia, Messene, and Megalopolis, capital of the newly founded Pan-Arcadian league.

Lavda, within easy reach of Megalopolis, must have heavily felt the consequences of the drastic change in the local relations: the foundation of Megalopolis proved to be a traumatic experience for its broader environment: Pausanias (VIII. 27. 4) mentions the foundation of Megalopolis at the cost of 39 poleis which were forced to abandon the homes of their fathers in the synoecism from which the new capital Megalopolis arose, around 370 BC (cf. Jost 1985, 168). Pausanias divides Arcadia into a number of 'cantons' and lists per 'canton' the cities that agreed to participate in the synoecism - it is not an exhaustive list of all Arcadian places; Brenthe for example is not listed among the participants. The 'canton' Lavda would belong to what Pausanias calls the Arcadian Kynourians with as participants: Gortys, Thisoa on Mount Lykaios, Lykaia and Alipheira (cf. Jost 1985, 201-10).

The problem is whether the decree (of the foundation of Megalopolis) was carried out strictly and promptly: did the participating cities in fact clear out completely and immediately after 370 (there was much animosity towards the forced removal and there were attempts to return to the old hearth cities)? And if they did clear out straight away, what happened in the vacated places? Megalopolis could not have functioned on its own with its suddenly increased population, while the defense of the immense territory posed another serious problem (Coppa 1981, 342, fig 231). The preliminary results of the survey in the plain of Megalopolis show that habitation did not stop completely; a few centres continued to be occupied into the Roman period.

The investigation of the Lavda settlement may provide an idea of (the quality of) Arcadian life in the shadow of Megalopolis.[14]

---

[13] It must be stressed here that this represents solely the chronological opinion of the author, who in no way wishes to precede the reports of the excavation and/or survey.

[14] In the following issues, the architectural fragments will be presented; the stylistic analysis of these and the study of the circuit wall and the other walls can then better be accommodated within the chronological horizon which the excavation may produce.

Acknowledgments

The maps, made by D. van de Vrie, and the drawings, made by H. Waterbolk, are based upon drawings in the field made by D. Letema (1985) and H. Waterbolk (1986-1988, assisted in 1986 and 1987 by K. Waterbolk-Broekema).
This text was translated by Ms. Christina Williamson.
Students from the Universities of Amsterdam, (the Free University and the University of Amsterdam) Groningen, Leiden, Nijmegen and Utrecht participated in the research; we would like to thank explicitly all the students who through their enthusiastic participation made the research and the excavation possible:

In 1985: Antoinette van Duin, Manon Huisman, William Lelieveldt, Diura Thoden van Velzen, Ger Wieberdink, Lia Zomer,

In 1986: Manon Huisman, Regina Horbach, Brandt Klooster, William Lelieveldt, Allard Mees, Linda Mol.

In 1987: Gerda Balk, Tanja Blokland, Martin de Leeuw, Allard Mees, Linda Mol, Marieke de Roode, Eveline Schapelhouman, Eric Strijbos, Marja Vink.

In 1988: Gerwin Abbingh, Frank de Boer, Ydo Dijkstra, Elvira Groenewoud, Els Lems, Keimpe Miedema, Gerard Tichelman, Marja Vink, Monique Vos, Gerard van Wijngaarden. In this year we were very helpfully assisted by two workman from Theisoa: Theodoros and Nikos Angelopoulos.

J.J. Feije
Department of Archaeology
University of Groningen
Poststraat 6, 9712 ER Groningen
The Netherlands

References

Adam, J. 1982. *l'Architecture militaire grecque*. Paris.
Bakhuizen, S. 1992. *A Greek City of the Fourth Century B.C.* Rome.
Bon, A. 1969. *La Morée franque*. Paris.
Bradford, J. 1956. Fieldwork on aerial discoveries in Attica and Rhodes, part II, *Antiquaries Journal* 36: 172-80.
Charneux, P. & R. Ginouvès. 1956. Reconnaissance en Arcadie. Fortifications de Paliocastro, Saint-Nicolas et Hellenico. *BCH* 80: 522-46.
Coppa, M. 1981. *Storia dell'urbanistica. Le età ellenistiche*. Rome.
Crouch, D. 1993. *Water Management in Ancient Greek Cities*. New York/Oxford.
Curtius, E. 1851. *Peleponnesos I. Eine historisch-geographische Beschreibung der Halbinsel*. Gotha.
Eckschmitt, W. 1979. *Fahrten auf dem Peleponnes*. Berlin.
Feije, J. e.a., 1988. The research of an ancient settlement on Lavda-hill. *Newsletter Netherlands School of Archaeology at Athens* 1: 28-38.

Feije, J. 1989a. Lavda, the 1988 campaign. *Newsletter Netherlands School of Archaeology at Athens* 2: 7-15.
Feije, J. 1989b. Een Nederlands onderzoek in Arkadië. *Mededelingen Nederlandse Archeologische School te Athene* 1: 2-17.
Feije, J. 1993a. Lavda. History of the site. *Pharos* 1: 183-99.
Feije, J. 1993b. Een stadje in Arkadie. *Paleoaktueel* 4: 100-104.
Felten, F., ed. 1988. Arkadien. Antike Welt, Sondernummer 1988.
Frazer, J. 1898. *Pausanias' description of Greece translated with a commentary*, IV. Londen.
Goester, Y.C., G.J.M.J. te Riele, & C. Vermeulen Windsant. 1981. Lavdha 1978. *BCH* 105: 651-65.
Goester, Y. C. 1983. The Landscape of Lavda. *Pharos* 1: 201 - 207.
Hodkinson, S. and H. Hodkinson. 1981. Mantineia and the Mantinike: Settlement and Society in a Greek Polis. *BSA* 76: 239-96.
ΥΔΡΙΑ, Ελληνική και Παγκοσμία. Μεγαλή Γενική Εγκυκλοπαιδεία 1983. s.v. Θεισόας Athens.
Leake, W. 1830. *Travels in the Morea*, II. Londen.
Jost, M. 1985. *Sanctuaires et cultes d'Arcadie*. Paris.
Lawrence, A. 1979. *Greek Aims in Fortification*. Oxford.
Maier, F. 1959, 1961. *Griechische Mauerbauinschriften. I. Texte und Kommentare. II. Untersuchungen*. Heidelberg.
Martin, R. 1944. Sur deux enceintes d'Arcadie. *RA* 21: 97-114.
Meiggs, R. 1982. *Trees and Timber in the Ancient Mediterranean World*. Oxford.
Osborne, R. 1987. *Classical Landscape with Figures*. Londen.
Papachatzis, N.D. 1980. Παυσανίου Ελλαδάδος περιήγησις, Αχαϊκά και Αρκαδικά. Athens.
Philippson, A. 1959. *Die griechischen Landschaften*, III. Frankfurt.
Pritchett, W. 1980. *Studies in Ancient Greek Topography*, Part III. *The Roads*. Berkeley.
Rackham, O. 1991. Ancient landscapes. In: O. Murray & S. Price eds. *The Greek City from Homer to Alexander*, 85-111, Oxford.
Reinders, H. 1988. *New Halos, a Hellenistic Town in Thessalia, Greece*. Utrecht.
Riele, G. te 1993. Pourquoi des recherches à Lavda? *Pharos* 1:177-81.
Sallares, R. 1991. *The Ecology of the Ancient Greek World*. London.
Winter, F. 1971. *Greek Fortifications*. London.

TAANTA

PROCEEDINGS OF THE DUTCH
ARCHAEOLOGICAL AND HISTORICAL SOCIETY
VOLUMES XXIV — XXV / 1992 — 1993

Editors:
D.W. SMIT, J.P. STRONK, F.C. WOUDHUIZEN

CONTENTS

---

224 pages — Price: Dfl. 75,- — ISBN 90720670503
DAHS, c/o Van den Berghlaan 285, NL-2132 AH Hoofddorp, The Netherlands.
Telephone/Fax (0)20-6276385