

A NOTE ON SETTLEMENT NUMBERS IN ANCIENT GREECE

INTRODUCTION

IN August 1968 the Athens Centre of Ekistics (ACE) launched a large-scale study of settlements within the territories of city-states in ancient Greece. The aim of the project is 'to come to a better understanding of the problems of human settlements by the study of their past', their evolution through time and their relationships with total space (physical, economic, cultural), so that solutions may be offered 'to many of the problems related to human settlements, from which humanity is at present suffering'.¹ A method is being employed which synthesises the researches of archaeologists and historians with the work of architect-planners and topographers in an attempt to test by sample studies the validity of eight hypotheses about ancient settlements which have been advanced by C. A. Doxiadis on the basis of 'general ekistic experience'.² Doxiadis, an architect and planner of wide experience and considerable insight, has formulated the inter-disciplinary scientific study of human settlements and called it *Ekistics*.³ His hypotheses about ancient settlements are given at length in the first annual report on the Ancient Greek Settlements Project,⁴ but they may be summarised as follows.

A. *The Basic Settlement*

- A1. The basic type of settlement in Greece is the village, ranging in size from a few hundred to just over 1,000 inhabitants.
- A2. Within the boundaries of the modern Greek state there has always been space for 6,061 basic settlements, 'i.e. as many as the present total of all settlements'.
- A3. The average territory (land and sea) available to each settlement amounts to 29.68 km².
- A4. Settlements have increased in number without decreasing the average size of their area to an important degree.
- A5. The structure of ancient settlements was similar to that of today's villages.

B. *Hierarchical Development of Settlements*

- B1. Settlements are arranged in a hierarchy so that every seven basic settlements includes a central settlement ('a small town'). One out of every seven small towns is a higher order central place ('a regular city') and a group of seven cities gives rise to one large city.
- B2. The hypothesis that Greece contains places for 6,061 basic settlements allows the calculation of the number of settlements composing each level of the hierarchy.
- B3. Calculation of the average amount of territory available to a single basic settlement allows the further calculation of the size of territories subordinate to each of the higher order centres.

Doxiadis modestly disclaims any originality in these hypotheses and has published them with the intention of provoking discussion. Some of them have already been modified as the results from the studies of individual city-states have become available. For example, the average amount of territory available to each basic settlement has been reduced to

¹ C. A. Doxiadis, *Ancient Greek Settlements: Science of Human Settlements* (London, 1968).

Second Annual Report, *Ekistics*, 33 (1972), pp. 76-89.

² *Ibid.*

³ C. A. Doxiadis, *Ekistics. An Introduction to the*

⁴ C. A. Doxiadis, *Ancient Greek Settlements, Ekistics*, 31 (1971), pp. 4-21.

24.4 km², whilst the term village has been clarified in the way outlined below (p. 164).⁵ Interest within the project has moved recently to the calculation of ancient populations and has produced the controversial conclusion that the total inhabitants of the area of modern Greece was higher in antiquity⁶ than it is today (8.7 million in 1971). The project is not yet complete, though 23 monographs and four annual reports had been produced by the end of 1974.⁷ Together these contain a vast synthesis of material bearing on ancient and even prehistoric settlements in Greece. Although the potential value is considerable, this corpus urgently requires evaluation by scholars who are independent of the project.

GENERAL CRITIQUE OF HYPOTHESIS A2

The present note has the more limited purpose of discussing hypothesis A2. This seems to offer the student of ancient, or even prehistoric Greece with a tool to *postdict*⁸ the number of settlements likely to have been found in any region of the country between the Palaeolithic and Roman periods.

Hypothesis A2 is dependent upon hypothesis A1, which deals with the nature of the basic settlement form in Greece. Doxiadis originally asserted that this was the village, 'whose inhabitants are engaged in cultivating the soil, rearing livestock or fishing'.⁹ Village is a vague term in both English and Greek (*χωριόν*), but the initial formulation was clarified in the second annual report on the Ancient Greek Settlement Project. It now appears that a village 'can consist of several very small settlements dispersed within farmland but operating as a single social and economic community, sharing common facilities comparable to our present-day school, church and local administration. Such a community may consist of one or more built-up settlements'.¹⁰ 'Later it came to correspond to the size of the

⁵ C. A. Doxiadis, *Ancient Greek Settlements: Second Annual Report, Ekistics*, 33 (1972), pp. 76–89.

⁶ C. A. Doxiadis, *Ancient Greek Settlements: Third Report, Ekistics*, 35 (1973), pp. 7–16; N. Faraklas, 'Some Observations on the Population of the North-Eastern Peloponnese in Antiquity', in *Ekistics*, 35 (1973), pp. 40–1.

⁷ a. Annual Reports: *Ekistics*, 31 (1971), pp. 4–21; 33 (1972), pp. 76–89; 35 (1973), pp. 7–16; 38 (1974), pp. 308–44.

b. ACE Monographs: *Ancient Greek Cities*:

1. A. Toynbee, *An Ekistical Study of the Hellenic City-State* (1971).

2. C. A. Doxiadis, *The Method for the Study of the Ancient Greek Settlements* (1971).

3. M. Sakellariou and N. Faraklas, *Corinthia-Cleonaia* (1971).

4. S. Dakaris, *Cassopaia and the Elean Colonies* (1971).

5. D. Lazaridis, *Thasos and its Peraia* (1971).

6. D. Lazaridis, *Abdera and Dikaia* (Greek, 1971).

7. D. Lazaridis, *Samothrace and its Peraia* (Greek, 1971).

8. N. Faraklas, *Sikyonia* (Greek 1971).

9. D. Theocharis, *Prehistory of Eastern Macedonia and Thrace* (1971).

10. N. Faraklas, *Troezenia, Calauria, Methana* (Greek, 1972).

11. N. Faraklas, *Phleiasia* (Greek, 1972).

12. N. Faraklas, *Epidauria* (Greek, 1972).

13. D. Lazaridis, *Amphipolis and Argilos* (Greek, 1972).

14. N. Faraklas and M. Sakellariou, *Megaris, Aigosthena, Ereneia* (Greek, 1972).

15. S. Dakaris, *Thesprotia* (Greek, 1972)

16. D. Lazaridis, *Maroneia and Orthagoria* (Greek, 1972).

17. I. Travlos, *Athens, Ekistic Elements—First Report* (Greek, 1972).

18. A. Zois, *Crete—Stone Age* (Greek, 1973).

19. N. Faraklas, *Hermionis-Halias* (Greek, 1973).

20. D. Lazaridis, *Philippi—Roman Colony* (Greek 1973).

21. M. Petropoulakou and E. Pentazos, *Attica, Ekistic Elements—First Report* (Greek, 1973).

22. J. W. Sperling, *Thera and Therasia* (1973).

23. A. Petronatis, *Megale Polis in Arkadia* (Greek, 1973).

⁸ Term used by H. C. Prince, 'Real, Imagined and Abstract Worlds of the Past', in C. Board, R. J. Chorley, P. Haggett and D. R. Stoddart (eds.), *Progress in Geography*, Vol. 3 (London, 1971), pp. 1–86.

⁹ C. A. Doxiadis, *Ancient Greek Settlements, Ekistics*, 31 (1971), p. 6.

¹⁰ C. A. Doxiadis, *Ancient Greek Settlements: Second Annual Report, Ekistics*, 33 (1972), p. 76.

Christian parish'.¹¹ Doxiadis has admitted that this hypothesis has not been proved, but he has also observed that no contradictory evidence has been found.¹²

In introducing hypothesis A2, Doxiadis asserted that the way of life in basic settlements did not change appreciably from Neolithic times until the beginning of the twentieth century. He went on to suggest that the size of villages did not change either and that Greece continued to have the same number of places for villages, though these places would have been filled or left vacant according to the size of population in the country and the general conditions of life. Doxiadis then put the number of basic settlements at 6,061, 'i.e. as many as the present total of all settlements'.

The hypothesis was tested with data from completed studies of the city-states Cassopaia, Corinthia, Cleonea, Sicyonia and Thasos.¹³ The ancient and modern number of settlements on Thasos coincided exactly, but elsewhere there were differences between the number found today and that established by archaeological and historical research for some period in antiquity. The differences led Doxiadis to suppose

1. that, when the number of modern settlements was greater than that established for antiquity, the whole of the available space was not occupied at the earlier date;
- or 2. that the ancient settlements were larger than those found in the same unit of space today;
- or 3. that several ancient settlement sites still have to be found;
- or 4. that his hypothesis was wrong.

The two subsequent annual reports have continued to maintain the idea of space for a maximum of about 6,061 basic settlements, though at the beginning of the third report Doxiadis admitted that we do not know just how many basic settlements may have existed in ancient times. Nonetheless, both the second and third reports seem to favour suppositions 2 and 3, a position which is in harmony with the conclusion produced by the ACE project that ancient population was larger than that found today. We are concerned here simply with supposition 3 since it seems to offer what many scholars would welcome, namely a way of calculating the number of settlements existing in every region of ancient Greece.

A variety of serious objections may be raised against this attractive notion. First, though agricultural techniques in Greece may not have shown much improvement over several millennia, itself a doubtful assumption, economic organisation has certainly changed greatly and, in particular, the degree of commercial orientation in farming has probably fluctuated widely.¹⁴ Secondly, hypothesis A2 supposes that there is an optimum number of settlements for each unit of territory and that this number is somehow in harmony with unchanging local resources. Such a view has several defects. Not only does it appear to be inconsistent with hypothesis A4, in which an increasing number of settlements is postulated, but it almost appears to contradict the established fact that settlement numbers have varied over time in both an upward and downward direction.¹⁵ Doxiadis tries to avoid this particular criticism by advancing suppositions 1 and 2, even though these might

¹¹ C. A. Doxiadis, *Ancient Greek Settlements: Third Report*, *Ekistics*, 35 (1973), p. 7.

¹² C. A. Doxiadis, *Ancient Greek Settlements: Second Annual Report*, *Ekistics*, 33 (1972), pp. 79.

¹³ C. A. Doxiadis, *Ancient Greek Settlements*, *Ekistics*, 31 (1971), pp. 7-9.

¹⁴ J. A. O. Larsen, 'Roman Greece', in T. Frank (ed.), *An Economic History of Ancient Rome*, Vol. 4 (Baltimore, 1938), pp. 259-498; M. I. Rostovtzeff, *The Social and Economic History of the Hellenistic World*, 3 vols., (Oxford, 1941); T. Stovianovich, 'Land Tenure and Related Aspects of the Balkan Economy,

1600-800', *Journal of Economic History*, 13 (1953), pp. 298-411.

¹⁵ H. Antoniadis-Bibicou, 'Villages désertés en Grèce—un Bilan provisoire', in Ecole Pratique des Hautes Etudes—VI^e section, Centre de Recherches Historiques, *Les Hommes et la Terre*, XI, *Villages Désertés et Histoire Economique XI^e-XVIII^e Siècles*, (Paris, 1965), pp. 343-417; P. Topping, 'The Post-Classical Documents', in W. A. McDonald and G. R. Rapp (eds.), *The Minnesota Messenia Expedition: Reconstructing a Bronze Age Regional Environment*, (Minneapolis, 1972), pp. 64-80.

be considered to weaken the original statement of hypothesis A2. More important is the lack of attention paid to two geographical problems inherent in the formulation of both hypotheses A1 and A2. The spatial units occupied by basic settlements are nowhere defined, though an average area has been estimated on rather dubious grounds. The implication is that the units are to be recognised on the basis of local homogeneity in the terrain and differences in relief between one area and another. If this is correct, the units are of the type employed in classic regional geography. In that case, it must be pointed out that the arts of recognising and defining such units are imprecise, perhaps too imprecise for the purposes envisaged, and that the choice of the state of Greece as the macro-region is rather curious, since it is a political unit which is far from being a single physical or 'natural' region. The other geographical problem is the failure to appreciate that local resources have changed appreciably as a result of the gradual clearance of woodland, the erosion of soil from cleared land, the aggradation of river valleys, and the silting up of bays and inlets. In detail, even the physiographic regions of Greece—and hence their settlement potential—have changed through time, especially since the Roman period.¹⁶

The third defect in the formulation of hypothesis A2 amounts to a serious misinterpretation of modern settlement data. Although Doxiadis revealed no source for the total number of basic settlements said to be found in Greece at present, a check with the available statistical sources shows that it is probably derived from the number of *démi* and *kinótites* with some adjustment to take account of the subdivisions of Greater Athens. In 1968, when the ACE project began, Greece was divided into 256 *démi* (37 in the Greater Athens area) and 5,811 *kinótites* (21 in Greater Athens), making a total of 6,067.¹⁷ *Démi* and *kinótites* are units in an administrative structure devised near the beginning of the present century simply for administrative convenience, though there is a firm belief amongst Greek scholars that this represented a recognition of fundamental social units with long histories.¹⁸ These units, however, do not necessarily bear any direct relationship to earlier administrative units. Neither do they consist of just one settlement. In addition to *démi* and *kinótites*, modern administrators and census-takers recognise a lower order unit, the *oikismos*. No less than 11,692 *oikismí* were used for the national census of 1971. These were grouped into 256 *démi* and 5,805 *kinótites*,¹⁹ giving exactly the total originally suggested by Doxiadis for the number of basic settlements, but also allowing the simple calculation that each village contained an average of 1.9 *oikismí*. Doxiadis may have sought to accommodate this anomaly in hypothesis A1 by recognising that a basic settlement in Greece could consist of one or more individual settlements. But *oikismí* themselves do not always consist of a single settlement; many contain several spatially distinct clusters of houses, each frequently carrying a personal name.²⁰ It is probably debatable whether the *oikismos* constitutes a 'single social and economic community' in the way postulated by Doxiadis

¹⁶ J. L. Bintliff, 'Sediments and Settlement in Southern Greece', a paper presented to the 'Symposium on Sediments in Archaeology' held at Southampton University, 15–16 December, 1973; H. C. Darby, 'The Clearing of Woodland in Europe', in W. L. Thomas (ed.), *Man's Role in Changing the Face of the Earth* (Chicago, 1956), pp. 183–216; T. R. Glover, 'The Greek and the Forest', in his *The Challenge of the Greek and Other Essays* (Cambridge, 1942), pp. 20–50; D. R. Harris and C. Vita-Finzi, 'Kokkinopolis—A Greek Badland', *Geographical Journal*, 134 (1968), pp. 537–46; E. Huntington, 'The Burial of Olympia', *Geographical Journal*, 36 (1910), pp. 657–86; V. B. Proudfoot, 'Man's Occupance of the Soil', in R. H. Buchanan, E. Jones and D.

McCourt (eds.), *Man and His Habitat. Essays Presented to Emyr Estlyn Evans* (London, 1971), pp. 8–31; C. Vita-Finzi, *The Mediterranean Valleys: Geological Changes in Historical Times* (Cambridge, 1971).

¹⁷ National Statistical Service of Greece, *Statistical Yearbook of Greece, 1969* (Athens, 1969), Table 1.12, pp. 13–14.

¹⁸ I. T. Sanders, *Rainbow in the Rock: The People of Rural Greece*, (Cambridge, Mass., 1962), p. 221; D. A. Zakythinos, 'La Commune Greque', *L'Hellénisme Contemporain*, 1948, pp. 295–430.

¹⁹ Office National de Statistique, *Population de la Grèce au recensement du 14 mars, 1971* (Athens, 1972), Table 1, p. 13.

²⁰ A. Beuermann, 'Typen ländlicher Siedlungen

for basic settlements, though on *a priori* grounds the chances would seem better than for démi and kinótites.

AN EXAMPLE

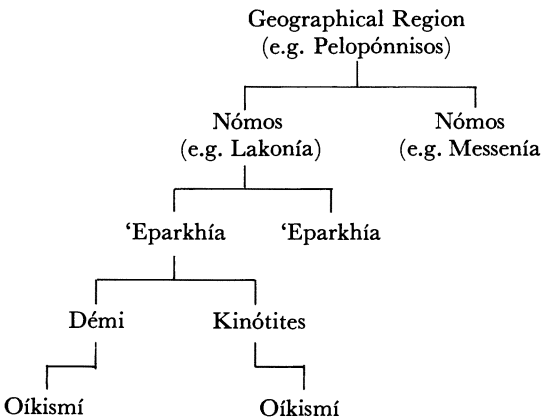
Lakonía and Messeniá appear to have been omitted from the ACE project, probably because the Spartan state was constituted differently from the classic city-state region. However, if Doxiadis' ideas are correct about the way in which the number of basic settlements or settlement spaces could be calculated from modern data, they ought to apply in these regions, too. They should apply even in the southern part of the Máni peninsula, a region which coincides with the modern 'Eparkhías of Oítilon and Yíthion in the Nómos of Lakonía.²¹ This is a physically difficult, somewhat remote and rather peculiar region,²² but it is fortunate in being one of the very few regions of Greece for which, in the present state of Hellenic studies, settlement information is available over a period of several millennia (Table 1).

Table 1: Settlement Numbers in the Southern Máni

Date	Number of Settlements
c. 3000-1900 B.C. ²³	4
c. 1900-1600 B.C. ²³	9
c. A.D. 174 ²⁴	23
c. A.D. 1618 ²⁵	61
c. A.D. 1700 ²⁶	47
c. A.D. 1830 ²⁷	129
A.D. 1879 ²⁸	197
A.D. 1907 ²⁸	176

in Griechenland', *Petermanns Geographische Mitteilungen*, 100 (1956), pp. 278-85.

²¹ An 'eparkhía is a higher order administrative unit, a subdivision of the nómos, and roughly equivalent to a nineteenth-century English *hundred*. The administrative structure of Greece may be represented as follows:



²² J. N. Andromedas, *The Inner Maniat Community Type* (Columbia University Ph.D. Thesis, 1962; University Microfilms, Ann Arbor, 1966); P. L.

Fermor, *Mani: Travels in the Southern Peloponnese* (London, 1958).

²³ H. Waterhouse and R. Hope Simpson, 'Pre-historic Laconia', *Annual of the British School at Athens*, 55 (1960), pp. 67-108; 56 (1961), pp. 114-78.

²⁴ J. G. Frazer, *Pausanias's Description of Greece* (London, 1898), Vol. 4, pp. 375-400; *Annual of the British School at Athens*, 10 (1903-4), pp. 158-66; 13 (1906-7), pp. 219-65, 55 (1960), pp. 67-108; 56 (1961), pp. 114-78; *Bulletin de Correspondance Hellenique*, 85 (1961), pp. 206-35; 89 (1965), pp. 358-82.

²⁵ J. A. Buchon, *Nouvelles recherches historiques sur la Principauté française de Morée et ses hautes baronies*, T. 1 (Paris, 1843), pp. 283-86.

²⁶ A. Pacifico, *Breve Descrizione Corografica del Peloponneso o' Morea*, (Venice, 1700 and 1704). The identifications are for the *Territori di Zarnata e Maina Bassa* and were largely made by F. Sauerwein, 'Das Siedlungsbild der Peloponnes um das Jahr 1700', *Erdkunde*, 23 (1969), pp. 237-44.

²⁷ Commission Scientifique de Morée, *Relations du Voyage de la Commission Scientifique de Morée*, T. 2, Pt. 1 (Paris and Strasbourg, 1834), pp. 89-92; *Atlas* (Paris and Strasbourg, 1835), Carte de la Morée.

²⁸ M. Χουλιάρáκη, *Γεωγραφική, Διοικητική καὶ*

Although mountainous and rocky terrain make archaeological exploration difficult, nearly two hundred years of field investigation have produced a maximum number of twenty-three settlements for antiquity. More sites are likely to be discovered using modern search techniques, such as aerial photography. In the meantime, the third supposition made by Doxiadis to explain the differences between ancient and modern settlement numbers suggests that precisely nineteen ancient sites remain to be discovered. This figure is calculated on the basis of the one *démos* (Yíthion) and forty-one *kinótites* through which the region was administered at both the 1961 and the 1971 censuses.²⁹ However, the administrative structure was different in the past and would have produced different results. In 1920, for example, there were thirty-eight *kinótites* but no *démos* in the region but in 1907 the region was still divided into the seven *démi* imposed on the region in 1841.³⁰ The actual number of settlements at the beginning of the twentieth century was about 200 (Table 1). Roughly 226 can be counted on wartime British Staff maps compiled from Greek originals of the late 1930s, whilst the number of *oíkismí* used for the census of 1940 was 139.³¹ The totals of *oíkismí* and settlements just quoted not only differ one from another but also fail to agree with figures derived from sources of pre-census date (Table 1), though these are not absolutely accurate.

This example illustrates the difficulties of using Doxiadis' ideas to postdict the number of settlements found in antiquity. The number of *démi* and *kinótites* used for the latest census is an unreliable guide to earlier situations. These units do not necessarily bear any relationship to the number of settlements found in a particular region. This information is not readily available even today, but settlements listed in the census of the late nineteenth century might be a better guide to the maximum number of settlements possible, since the sources were produced at a time before the massive emigration from the countryside to Athens and the U.S.A. got under way. But even this document is no guide to the actual number of settlements which may have existed several centuries earlier. If postdiction is at all justifiable, then a sound empirical basis is required. Moreover, it must be one which takes adequate account of changes in terrain and local resources, as well as the actual form and number of modern Greek settlements.

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Πληθυσματική 'Εξέλιξις τῆς 'Ελλάδος, 1821-1971,
Τ. Α', μ. ΙΙ (Athens, 1974), pp. 92-5, 301-5.

²⁹ Office National de Statistique, *Population de la Grèce au recensement du 19 mars, 1961* (Athens, 1962), pp. 121 and 125; *Population de la Grèce au recensement du 14 mars, 1971* (Athens, 1972), pp. 117-18, 121.

³⁰ 'Εθνική Στατιστική 'Υπηρεσία τῆς 'Ελλάδος,

Πληθυσμός τῶν 'Επαρχιῶν Γυθείου καὶ Οἰτύλου κατὰ Δήμους, κοινότητας καὶ Οἰκισμούς 'Απογραφαί 1920, 1928, 1940 καὶ 1951, (A population abstract kindly prepared for the author by the National Statistical Service of Greece in 1962); Χουλιαράκη, *op. cit.*

³¹ *Ibid.*