Agricultural Terraces in Classical and Hellenistic Greece

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Abstract

Agricultural terraces have been a necessary element in the landscapes of Classical and Hellenistic periods in many areas of the Greek world. These terraces, formed by long terrace walls, shaped the slopes in the proximity of the farmhouses in order to facilitate exploitation of the land by the farmers, providing all the necessary conditions for efficient and effective cultivation of olive trees, grains, vines and almost any other crop. Various sites with agricultural terraces in the area of Attica, especially in the territory of the ancient deme of Atene (such as PH 2 in Aghia Photini and TH 18/42 in Thymari) as well as the Cycladic islands (Delos and Kea) dated to the Classical and Hellenistic period, are provided in this paper as some very characteristic examples of ancient terraced systems. Despite the thorough discussions about the dating of agricultural terraces in previous years, the issue of dating them back to ancient years remains an existent question for some scholars. Nevertheless, the sites mentioned here offer fairly good evidence for a dating in the fifth or fourth centuries BC. Furthermore, all these cases seem to share a common factor: their construction results from or is related to demographic criteria, such as the population growth of every area.

Keywords: Terraces, Agriculture, Rural, Greece, Classical landscape

Introduction

Every landscape is an active space, which results from the constantly redefined, unique relationship between a society and its natural environment. The way in which a landscape is formed by humans reflects the special characteristics and historical needs of each society. Terraces, which can be found among the most prominent elements of the ancient Greek topography and are sometimes still startlingly obvious, are an architectural interference which intrudes upon the landscape on a large scale yet also upgrades it through human craftsmanship. The need for the creation of artificial terraces was present in many places of the ancient Greek world and the terraces served a variety of purposes. In the sanctuaries, for instance, terraced slopes are a common feature, created in order to shape the available space according to the best possible placing of the temples and other structures, and occasionally the aim is to create a certain visual impression on the visitor. The terraced slopes incorporated in rural landscapes on the other hand, clearly served more practical needs.

More specifically, the agricultural terrace systems constitute one of the most characteristic elements of the Mediterranean rural landscapes and were a widespread practice in many regions. As a growing number of agricultural terraces from many areas of the Greek world has come to light during the last decades from both survey and excavation, their study has become imperative. At the same time, questions are raised about how these terrace systems contributed to the shaping of the topography of a region and, mainly, how these can be interpreted according to their historic and social context.
Terminology and Purposes of Agricultural Terraces

For many years the search of a suitable ancient Greek word to describe the terraces proved to not be an easy task (Brunet, 1999: 24-27; Foxhall, 1996: 45-52; Krasilnikoff, 2000: 181; Rackham & Moody, 1992: 128). In 2005, the important study of Price and Nixon (2005: 666-68) undoubtedly shed some more light on the issue of terminology of the ancient terraces, though it did not manage to totally convince everyone dealing with this particular field of research (Foxhall, 2007: 66-68). However, haimasia could also refer to other two physical objects: first, it can refer to a freestanding dry-stone wall, which usually enclosed a specific land area. Secondly, it can also be identified with the area of land itself, which is enclosed by a dry-stone wall (Price & Nixon, 2005: 666-68).

In contrast to the terraces that occur in the sanctuaries and the urban landscapes, the agricultural terraces are not intended to impress or just create more free public space, but to satisfy a series of very specific functional needs for the individual farmer and the process of cultivation. Shaping the rural landscape this way, some very basic purposes were achieved, all related to the efficiency of the agricultural work. To start with, the main – and more obvious – reason to create such terraced systems with terrace walls, whose outline follows the direction of the hill, is no other
than reforming a steep surface to a gentler one. Apart from this, a series of other reasons have been suggested, all related to the efficiency and quality of the cultivation, such as redistribution of the sediment (especially in the cases of limestone where fertile soil tends to occur in small pockets on the ground), increasing root penetration, controlling the sheet and gully erosion, increasing absorption of water by the soil in cases of heavy rain and making a wall out of the stones which would interfere with cultivation (Rackham & Moody, 1992: 124). The latter is also known from Columella (Rust. 2.2.12):

At saxosum facile est expedire lectione lapidum, quorum si magna est abundantia, velut quibusdam substructionibus partes agri sunt occupandae, ut reliquae emundentur; vel in altitudinem sulco depressa lapides obruendi. Quod tamen ita faciendum erit, si suadebit operarum vilitas (It is easy to clear stony ground by gathering up the stones; and if there is a great quantity of them, parts of the field must be used for building them into piles of some sort, so that the other parts may be cleared off, or the stones will have to be buried in a deep-dug trench. This should be done, however, only if the cheapness of labour makes it advisable).

Furthermore, a less mentioned purpose for the creation of such kinds of terraces is the heat absorbing effect of both terraces and the soil behind it (Krasilnikoff, 2000: 181), something very convincing for the arrangement and the orientation of the terraced systems of many sites, especially for the ones belonging to the territory of the ancient deme of Atene in southern Attica.

Attica

Although a large part of the land across Attica in the Classical period was dedicated to exploitation by farmers, the vast majority of the agricultural terraces occur in the southern part of the peninsula. The shaping of the landscape with agricultural terraces from the southern slopes of Mount Hymettus to the south up to the territory of the ancient deme of Atene had been a prominent characteristic of the topography of the area, which reflects very clearly the social and historic conditions of the fifth and fourth centuries BC; at that time Attica experienced a remarkable growth of its population (Hansen, 1986). Apart from this fact, the high appreciation of olive oil, especially during the fourth century BC, led the local population to intensify olive cultivation and thus to the suitable formation of the landscape by means of these terraces (Lohmann, 1992: 51). The remains of a remarkably comprehensive abandoned system of terraces on the western slopes of Mount Hymettus, which dates back to ancient times, were first identified based on aerial photographs during World War II by Bradford (1956). In the years that followed even more similar terraces came to light in other parts of Attica, usually in the environment of some isolated farmsteads. Particularly significant was the fieldwork of Lohmann (1993), who identified and mapped the territory of the ancient deme of Atene. In this area during the fourth century BC in the valleys of Thymari, Charakas and Aghia Photini, large areas were formed into terraces, whose main use was for growing olive trees. However, at the end of the fourth century BC the valleys of the deme of Atene, like other rural areas of Attica, were depopulated and became barren, without any significant rural activity during the Hellenistic period (Lohmann, 1992: 56).

The arrangement of the site PH 2, located in the northeastern part of Aghia Photini valley, is one of the most characteristic examples of terraced farmsteads (fig. 1). Occupying a space of 3,600 m², it can be counted as one of the biggest in Attica. It contains a square tower (A) which measures 5,35 x 5,35 m, a large threshing floor (H) 28,30 m in diameter and various auxiliary buildings (B, C, D, E, F and G). The spatial distribution of these installations across the occupied area is interesting because it makes clear the effort of the farmer to utilise the surrounding landscape to the maximum in order to cultivate and exploit the land as much as possible. The slopes in the south and west of the agricultural buildings are formed by
small clusters of terraces dedicated to the cultivation of olive trees. More precisely, to the south of the farm buildings the terrace walls K1 and K2, measuring 26 and 38 m respectively are located, creating suitable space for 12 olive trees. The terraces which are formed by the walls L1, L2 and L3 are located to the southwest of the farm buildings and their length respectively is 47, 43 and 32 m. The terraced area formed by these walls occupies 4050 m² and could host about 70 to 75 olive trees. To the northwest of the walls L, to wit to the west

Fig. 2. Thymari (South Attica). Classical farmhouse at site no. TH 18 and agricultural terraces, site no. TH 42 (after Lohmann, 1993: 171, fig. 40).
Fig. 3. Aghia Photini (South Attica). Classical farm estate at site no. PH 33 and agricultural terraces, site no. PH 36 (after Lohmann, 1993: 207, fig. 62).
Fig. 4. Houhli, Kea. Agricultural terraces and round tower (after Doukellis, 1998: 325, fig. 9).
of the farmhouse, the walls M1, M2 and M3, with lengths of 7, 38 and 69 m respectively, shape another slope suitably for cultivation with 30-40 olive trees. Also, similar arrangement can be observed on the slope at the northwest of the farmhouse, with the walls N1, N2 and N3, measuring 35, 41 and 17 m respectively (Lohmann, 1993: 409-14).

Another good example of the intense exploitation of the landscape of Attica is to be found again in the south, at Thymari valley. The farmhouse TH 18, on the southern part of Souvlero hill, exploited the terraces of the site TH 42, which occupied the hillslope to the north of the farmhouse (Lohmann, 1993: 470-71; 482) (fig. 2). The arrangement of farm buildings and the terraces here differs from the aforementioned case of the site PH 2. While in the previous case the terraces fill up the available space around the main buildings, here the farm buildings are incorporated into the layout of the terraces. From this arrangement it is evident that agricultural buildings TH 18 and terraces TH 42 were designed like a unit.

Apart from this, many other farmsteads in the territory of the ancient deme of Atene in south Attica had terrace systems available for exploitation in their vicinities. Such cases are known from the sites CH 33 (Lohmann, 1993: 375-76), PH 33/36 (Lohmann, 1993: 431-35) (fig. 3), TH 1 (Lohmann, 1993: 459-61) and LE 16 (Lohmann, 1993: 513-15). Other sites containing terraces and terrace walls, with or without visible remains of ancient farmhouse, such as in the areas of Vati – Varkiza (Kasimi-Soutou, 2006: 222) and Kaisariani (Dekoulakou, 1983: 46) could be added to those of Atene. Although these excavations are fragmented and limited to some specific plots unlike Lohmann’s widespread field research, in some cases the outline of the terrace walls can be observed and outlined, adding in this way new knowledge about the terrace systems.

**Cyclades: Cases from Kea and Delos**

Numerous well-constructed ancient agricultural terraces have been identified in the islands of the Aegean during the previous decades by various extensive surveys and also excavation programs (Price & Nixon, 2005: 671). In Kea, exploitation of the land in the Classical period was intense, and this is reflected in the many agricultural terraces across the island, constructed in order to secure a greater expanse of the cultivable land (Mendoni, 1994: 157). In many cases, the terrace walls were built according to the pseudo-isodomic or pseudo-trapezoidal system, as for example in Pigadaki sta Havouna and Houhli. Both sites provide good and adequate dating evidence. More specifically, in the site of Pigadaki sta Havouna the slopes of the site, which also contains a tower (with least two storeys), are shaped by the terraces. The terrace walls were constructed by schist and local marble and follow closely the geomorphology of the slopes (Doukellis, 1998: 316-17; Mendoni, 1998: 281). Similar arrangements can be found at the site of Houhli. The agricultural terraces coexist with two towers of the fourth century BC, one square with the dimensions 11x11 m, and one round 7,46 m in diameter, the latter being connected to the terrace wall (Doukellis, 1998: 313; Mendoni, 1998: 281) (fig. 4). As was the case in Attica, the creation and exploitation of the agricultural terraces of Kea can also be correlated with the demographic development that occurred from the end of the Archaic period to the beginning of the Hellenistic, and especially, in the fourth century BC. Nevertheless, with the formation of new political conditions (such as the transfer of hegemony from Attica to Macedonia), the territory of Kea underwent a gradual decline in population and a relative depopulation was observed in the first decades of the third century BC (Doukellis, 1998: 318).

In Delos, abandonment of the island in the seventh century AD offers the advantage of a minimum deterioration in the rural landscape, which thus becomes less vulnerable to change and easier to be observed today. The agricultural terraces of the fourth and third centuries BC defined the topography in the northern and southeastern part of the island (fig. 5). The extended network of the terraces were exploited by a number of the few
Fig. 5. Delos. Map depicting the extent of the terraces (after Brunet, 1990: 6, fig. 1).
individual farms that existed on the island, none of which had a tower, and which belong to the Classical and Hellenistic periods (Brunet, 1990; 1999: 12-23).

**Dating the Agricultural Terraces**

Dating of the terraces remains an issue that has not received the consensus of all scholars. In many cases, the lack of an adequate quantity of pottery and the absence of other buildings in proximity to the terraces, to which the terraces could be linked or correlated, are the main reasons displayed as a riposte to not dating the farming terraces at specific ancient periods. Foxhall had suggested in the past that both archaeological and literary evidence are not sufficient to allow us to “see” the terraces (Foxhall, 1996: 44-45). Also, another main reason, according to her, that ancient terraces cannot be identified today is the fact that the landscape has been reworked constantly since antiquity, resulting in the terraces being either obliterated or incorporated into modern terraces (Foxhall, 1996: 45). However, Foxhall does not deny the existence of the agricultural terraces in classical times at all, but suggests that these must have been constructed more often by small-scale, poor farmers, while the wealthier preferred to exploit their lands using a system of cultivation with trenches and ditches (Foxhall, 1996: 53-60; 2007: 68).

Nevertheless, the terraces of the ancient deme of Atene in Attica cannot be dated at a period other than the Classical, due to the fact that in this area major farmsteads belonging to later periods have not been identified. One of Lohmann’s basic criteria for dating the terraces in classical times is the ceramic evidence, as the majority of the ceramic material found in the terrace systems of Atene belongs to the Classical period (Lohmann, 1993: 330-31, tab. 19). Furthermore, in some cases, as for example in aforementioned site TH 18/TH 42, the arrangement of the terrace systems, which seems to be unified and connected to the classical farm buildings, is also a strong argument for dating the terraces in specific times (Lohmann, 1993: 204).

Apart from the sites belonging to the ancient deme of Atene investigated by Lohmann (1993), there is a growing list of sites in many of the southern suburbs of Athens excavated by the Greek Archaeological Service during the last years, where terraces can be dated by the ceramic evidence to the fifth and fourth centuries BC. A good example of these recently discovered terraces, which offers datable ceramic material, is to be found in the area of Varkiza (Kasimi-Soutou, 2006: 222).

Moreover, in the case of the agricultural terraces of Kea, installation of the terraces can be dated to the Classical period mainly from their style of construction. In at least two cases, as in the aforementioned sites of Pigadaki sta Havouna and Houhli, terrace walls are closely connected to the walls of towers located there and have a similar construction style (Doukellis, 1998: 313, 316-17). Also in Houhli, ceramic material of the fourth century BC has been found, indicating the period of use of these terraces (Doukellis, 1998: 313). In Delos the terracing is similar in construction style to ancient houses on the island. Also, both epigraphic and pottery evidence from excavated terraces dates them to Classical and Hellenistic times (Brunet, 1990).

Ultimately, a synthesis of the existing dating criteria, as summarised by Price & Nixon (2005: 670) can be a truly useful guide for every future research in this field. Beyond these, we cannot exclude the socio-historic aspect in our attempt to interpret the creation and the dating of the agricultural terraces. Based on demographic and population criteria, as mentioned above, it is a fact that for none of the cases presented has there been another historical period to justify an intensification of agricultural production and landscaping with terraces: only the Classical period for Attica and Kea, and the Classical and Hellenistic for Delos.
Conclusions

Agricultural terraces form the topography of the area they occupy, thoroughly redefining the landscape. The form of rural landscapes changes through human intervention and emerges in response to the needs of a society and its population. In all three cases examined here, Attica, Kea and Delos, the terraced systems were created in the Classical and/or Hellenistic times, when the population expanded and the production needs increased. Apart from a strictly archaeological approach for the dating and interpretation of such types of landscapes, social and historic parameters are of great importance. The common denominators in all these cases, Attica, Kea and Delos, is an increasing population and the economic buoyancy. The organisation of the landscape with terraces for agricultural uses was one solution entirely appropriate to serve the growing needs of maintenance and marketing of a human community, and at the same time, an image that reflects aspects of the society.

References


Dekoulakou I, 1983: Κασιαριανή, Αρχαιολογικό Δελτίο, 38, B, 46.


