Landscape Archaeology between Art and Science
Guttmann-Bond, Erika, Kluiving, Sjoerd J.

Published by Amsterdam University Press

Guttmann-Bond, Erika and Sjoerd J. Kluiving.
Landscape Archaeology between Art and Science: From a Multi- to an Interdisciplinary Approach.

Amsterdam University Press, 2012.
Project MUSE. muse.jhu.edu/book/66303.

For additional information about this book
https://muse.jhu.edu/book/66303
3.2 Connecting lowlands and uplands: An ethno-archaeological approach to transhumant pastoralism in Sardinia (Italy)

Author
Antoine Mientjes

Research Institute for the Cultural Landscape and Urban Environment, VU University Amsterdam, Amsterdam, The Netherlands
Contact: ac.mientjes@gmail.com

ABSTRACT

Historical and geographical studies have stressed the pivotal role of plains (particularly coastal plains), valleys and mountains and their interconnections in Mediterranean history. However, many landscape archaeological studies have tended to focus one-sidedly on the recording of archaeological structures and artefacts in the lowlands. Allegedly, the ‘poor’ character of material culture and related to this the difficult retrieval of archaeological remains have discouraged landscape archaeologists from studying the mountainous regions of the Mediterranean. This is regrettable, because the relation between plains, valleys and mountains has been a central feature of Mediterranean rural life, especially in regions in which pastoral economies (i.e. sheep herding in particular) have figured prominently. In this article, I will discuss landscape archaeological studies of pastoral economies in the Mediterranean, with particular attention to transhumant patterns of mobility. i.e. seasonal movement of shepherds and their flocks between different regions. I will show that most studies to date have adopted ethno-archaeological approaches in order to aid archaeological interpretations of pastoral economies and their spatial features during prehistoric, classical and medieval times. I will present my ethno-archaeological research on pastoral landscapes in Sardinia, with a focus on how these landscapes have changed over the last 200 years. My contention is that it is possible to study transhumant pastoralism through archaeological methods. In addition, I will show how a landscape archaeological approach in particular can shed new light on the ways in which shepherds inhabited and exploited the countryside.

KEYWORDS

mountains, lowlands, ethno-archaeology, pastoralism, transhumance, pastoral settlements
INTRODUCTION

He tends to linger over the plain, which is the setting for the leading actors of the day, and does not seem eager to approach the high mountains nearby. More than one historian who has never left the towns and their archives would be surprised to discover their existence. And yet how can one ignore these conspicuous actors, the half-wild mountains, where man has taken root like a hardy plant; always semi-deserted, for man is constantly leaving them? How can one ignore them when often their sheer slopes come right down to the sea’s edge? The mountain dweller is a type familiar in all Mediterranean literature. According to Homer, the Cretans were even then suspicious of the wild men in their mountains and Telemachus, on his return to Ithaca, describes the Peloponnese as covered with forests where he lived among filthy villagers, ‘eaters of acorns’. (Braudel 1972, 29-30)

This quote from Fernand Braudel’s work shows that the mountains should occupy an important place in any historical study of the Mediterranean landscape. Seemingly, Braudel accuses his fellow-historians of neglecting the mountains and their influence on the large currents of Mediterranean history. However, his book La Méditerranée et le Monde Méditerranéen à l’Époque de Philippe II was first published in 1949. Since then many historical and geographical studies have appeared which have given particular attention to the history, geography and ecology of the Mediterranean mountains and their connection with the lowlands, for example McNeill (1992) and more recently Horden & Purcell’s (2000) influential book The Corrupting Sea: A Study of Mediterranean History.

By contrast, archaeological studies and especially large-scale regional archaeological surveys in the Mediterranean have focused predominantly on (proto-)urban sites and their rural hinterlands in the inland plains, coastal plains and valleys until the present-day. Classical examples are the South Etruria Survey in the Tiber Valley to the north-east of Rome, and the Biferno Valley project in the region of the Molise in central Italy (Barker 1995; Potter 1979). Moreover, those surveys and other archaeological research projects, which also included mountainous areas, have tended to document predominantly monumental sites such as rural sanctuaries or road networks, which connected urban centres in different regions (e.g. Lloyd 1995; Maaskant-Kleibrink 1987, 1992).

The systematic collection of archaeological artefacts at the surface in mountainous regions, in which particular attention has been also given to so-called off-site distributions (e.g. Alcock et al. 1994; Annis et al. 1995; Dommelen 1998; Foley 1981), has been rare to date for two main reasons. Firstly, the rough character of mountainous areas in the Mediterranean makes a field-walking method rather difficult to adopt. The vegetation of scrub and woods makes many mountainous areas difficult to walk, and moreover hinders the visibility of archaeological artefacts at the surface. Secondly, there is a common view among landscape archaeologists that mountainous areas would be characterised by a ‘poor’ material culture in both the distant and recent past. This is to say that tools and other objects were made from materials directly available and easy to transport, and therefore mostly organic materials such as wood. For instance, Joanita Vroom (1998) has eloquently shown that the rural communities in the Aeolian Mountains in central Greece knew an aceramic tradition during early modern history, and most objects such as dishes were made of wood. She even documented that before the 1950s skins of onions were often used as spoons. Evidently, these kinds of materials do not last very long in archaeological contexts, and rapidly decay at the surface. As a consequence, few large-scale regional archaeological surveys have
been set up to date in the Mediterranean mountains, with studies focusing instead on extensive archaeological sites such as hill-top settlements and their geographical distribution.

This state of affairs is regrettable, because many Mediterranean (pre)histories cannot be analysed adequately if the relations between mountains, valleys and plains are not fully considered. Therefore, this article will discuss an ethno-archaeological approach to pastoral landscapes in mountain and lowland regions in Sardinia. Pastoralism, i.e. the chief reliance on herded domestic animals such as sheep, goats and cattle for subsistence as well as market production, has occupied an important place in (early) modern rural economies in the Mediterranean. Distinctive characteristics of Sardinian pastoralism have been transhumant patterns of seasonal mobility and pastoral settlements, and the admittedly ephemeral and perishable nature of much pastoral material culture, both artefactual and architectural. In spite of this latter problem, I will contend that types of pastoral settlements and their geographical settings can inform us about the integration of lowland and upland economies in the past.

**ARCHAEOLOGICAL APPROACHES TO ANCIENT AND RECENT PASTORALISM IN THE MEDITERRANEAN**

Since about the 1970s, a substantial body of archaeological studies has appeared which has attempted to detect pastoralism and other forms of animal husbandry during Mediterranean (pre)history, such as pigs held on farmsteads. One strand of archaeological research has focused on excavated faunal remains, i.e. animal bones and teeth, and ecofacts such as mineral and botanical residues often present in sheep and goat faeces (e.g. Chang & Koster 1986, 97, 107-9; Payne 1973; Reid 1996). This kind of research has been helpful in determining domestic animal species and identifying animal enclosures. However, a serious problem is the poor preservation of animal bones and teeth and ecological data at archaeological sites in the open air which are not waterlogged. As a result, this type of research has mostly been confined to cave sites such as the Grotta dell’Uzzo (i.e. Uzzo Cave), which is a well-known Mesolithic and Neolithic site in north-west Sicily, used in recent history to pen sheep (Brochier et al. 1992). Moreover, faunal and ecological evidence alone often does go beyond the mere observation of the presence or absence of architectural structures to pen domestic animals. In other words, this evidence does not give us much detail about different strategies in pastoral production and the occupation and exploitation of rural landscapes.

Palynological evidence is a second category of archaeological material, which played an especially prominent role in discussions about the rise of mainly large-scale and transhumant pastoral economies during prehistoric and early historical times (e.g. Halstead 1996). The clearance of large tracts of lowland and upland woods could indicate extensive grazing and the frequent and regular movement of shepherds and their flocks between regions with different altitudes. But instances of large-scale woodland clearances in the Mediterranean are mostly absent from the botanical evidence for periods before the Late Middle Ages (e.g. Edwards et al. 1996; Willis & Bennett 1994). Secondly, the evidence for deforestation does not go beyond suggesting the presence or absence of a considerable role for pastoralism in ancient rural economies. Forest clearance in both lowlands and uplands does not necessarily point to transhumant or other patterns of pastoral mobility.

The outlined problems demonstrate that we need a different approach, especially if we want to study distinctive strategies in pastoral production and land use, which connected plains, valleys and mountains
in the past. Therefore, a landscape approach seems to offer more potential by studying pastoral structures and their landscape context. This has also been argued by Claudia Chang in her ethno-archaeological study of recent pastoral economies in the Argolid on the Peloponnese and the Pindos Mountains in northern Greece (Chang 1992, 66). Chang’s studies are among the best examples to date of archaeological research on pastoral landscapes in the Mediterranean. Her analysis concentrates on pastoral site locations in the total landscape, in which animal enclosures are regarded as the principal structures of pastoral production. However, there are other relevant categories of sites entirely or partly related to pastoralism, including huts, grazing areas, wells, cisterns and springs, trails for animals (including transhumance routes), and barns and bins (e.g. for storage of animal fodder). In the case of the Argolid pastoral settlements are distributed in a circle around the village on the periphery of a low basin and the beginning of the mountains (Chang 1981, 9). Factors in pastoral site location are access to, and control of pasture, climate and the availability of water (Chang 1981, 42).

In the Pindos Mountains Chang’s research has observed a different geographical pattern of pastoral settlements and land use (Chang 1992, 1993). In relation to altitude, four environmental zones can be distinguished related to their location and herd pressure on resources, and the relationships with other rural activities, principally cereal and other types of cultivation (Chang 1992, 78-79). In the highest upland zone pastoral settlements are highly dispersed to prevent conflict over grazing land. In the three lower zones pastoral structures are more diverse functionally and are clustered together near natural pasture or cultivated land, which can be used as temporary grazing land after the harvest. Pressure on grazing resources is more intense in these zones, and consequently there is more competition among shepherds and between pastoral and agrarian groups.

However, it is evident that this type of research has not yet fully developed. To date, most landscape archaeological studies of pastoralism have adopted ethno-archaeological approaches, which means the investigation of recent historical and modern material culture aimed at the creation of methodologies useful in the study of the archaeological past. Likewise, my research in Sardinia, which will be discussed below, focused on recent pastoralism (Mientjes 2004, 2008a, 2008b). Here, I want to acknowledge that it is difficult to directly observe distinctive strategies in pastoral production and patterns of pastoral mobility in the archaeological record. Nonetheless, it will be shown that a detailed archaeological analysis of types of pastoral settlements and their geographical locations in plains, valleys and mountains can inform us about functional and social aspects of pastoral practices and seasonal transhumance between regions with different altitudes. This seems a promising approach, in particular when it is used in combination with other types of evidence such as historical maps, land registries, deeds, aerial photographs and ethnographic accounts from local people. Secondly, I will argue that archaeological studies of pastoral landscapes need to highlight the social and political dimensions of herding economies, contra Chang, who has predominantly followed a functional and ecological approach (Chang 1992, 76).

---

Page 253

Figure 1. The island of Sardinia (Italy) with the village territories of Fonni and Solarussa in the central mountains (so-called Barbagia) and the northern Campidano Plain, and other zones and places mentioned in the text.
TRANSHUMANT SHEPHERDS AND THEIR PASTORAL SETTLEMENTS IN SARDINIA

Introduction: the study areas
Sardinia has been renowned for its pastoral economy, i.e. of predominantly sheep herding, during recent history. For example, in 1985 Sardinia had a density of about 105 sheep per square kilometre and 25,000 active shepherds out of a total of 70,000 workers in the agricultural sector generally, and an area of pasture which covers almost half of the entire island (Angioni 1989, 12-13). Moreover, Sardinian sheep are considered among the best milk-producing species in the Mediterranean, and the cheese made from their milk is even sold in the United States.

Figure 2.
Transhumance routes between Fonni and various lowland areas in Sardinia, which includes the village territory of Solarussa.
Two regions have been studied in detail, i.e. the village territory of Fonni in the central mountains (called Barbagia) and the village territory of Solarussa in the northern Campidano Plain (fig. 1). Both regions were connected by transhumance routes until about the 1970s, when mechanisation (cars and tractors) and agricultural modernisation caused the widespread development of a settled form of pastoral production. In practice, before the 1970s shepherds from Fonni with their flocks of sheep moved twice a year to various lowlands on the island (mainly coastal), which included the village territory of Solarussa (fig. 2). More specifically, the transhumance to the lowlands covered the winter to early spring months (November-April) and the late summer to early autumn months (August-October). In these periods shepherds and their flocks travelled between 80 and 150 kilometres, and various scholars have therefore defined this type of seasonal mobility between Fonni and the (coastal) plains as long-distance transhumance (e.g. Le Lannou 1979, 171-176).

From the historical and ethnographic sources some detailed information has been collected on the transhumant pastoral economy of Fonni and its development during approximately the last 200 years. Archival documents show that shepherds from Fonni were already travelling with their flocks to other village territories and the Campidano Plain during the first half of the nineteenth century (source: State Archive of Nuoro: ‘Atti dei notai della tappa di Oliena’, years 1820-1840). Statistical data indicate that the community of Fonni counted circa 40,000 sheep in the year 1838 (Angius 1834-1856, 723), a substantial number which suggests a well-established market economy. The actual numbers of sheep have since grown, with an estimated sheep population of 63,317 in the 1980s (E.R.S.A.T. 1987, 6), but the overall pattern indicates continuity in the economy and transhumance patterns. It is not a surprise therefore that Fonni has frequently been considered as one of the classic examples of transhumant pastoral economies in Sardinia, together with communities such as Desulo, Ovodda, Gavoi and Ollolai in the interior mountains (fig. 1).

Shepherds interviewed at Fonni specified that the transhumance route between Fonni and Solarussa passed the villages of Ovodda, Tiana, Austis, Neoneli, Busachi, Fordongianus and Villanova Truscheddu (fig. 2). As a rule, field roads were followed (in Sardinian dialects called utturu); they had stone walls on both sides in order to protect the surrounding crop fields against the intrusion of domestic animals (fig. 3). Generally, field roads in village territories were laid out in such a way that shepherds and their flocks
did not need to pass the village centres, although local shepherds and farmers used these roads more frequently. It appears that the intermediate communities attempted to control the movement of the transhumant flocks in this way, together with the appointment of country guards. Moreover, shepherds were obliged to announce their journey in advance to the village communities on the route (cf. Caltagirone 1986, 32). However, in spite of this ethnographic information it was impossible to identify transhumance routes between Fonni and the lowlands by means of archaeological methods alone. The combined archaeological, ethnographic and historical evidence demonstrate that transhumance routes have been an integral part of the general rural infrastructure in Sardinia. In other words, roads in the countryside were travelled by a variety of people, and no single route was used exclusively by transhumant shepherds and their flocks. Historically the only example encountered of a field road constructed on purpose for transhumant movements is located in the wooded region of the Sarcidano (fig. 1). Rich landlords originating from Milan constructed this road around World War II to prevent shepherds and their sheep from disturbing their hunting parties in this zone.

As a consequence, other archaeological signatures in the countryside had to be found which testify to ways in which shepherds have occupied, exploited and travelled through the landscape. I will contend

Figure 4. Zone of Monte Novu in the south-eastern part of the village territory of Fonni with the five extensive pastoral settlements indicated.
below that certain types of pastoral settlements at Fonni and Solarussa provide some clues to the transhumant organisation of Sardinian pastoralism during the nineteenth and earlier twentieth century.

**Common land and pastoral settlements at Fonni**

In the south-eastern part of the village territory of Fonni, five extensive pastoral settlements have been identified in a zone called Monte Novu (literally meaning: ‘New Mountain’). The names of these recently abandoned settlements are (from west to east): *Riu Funtana Fritta, Su Pisargiu, Cuile sa Mela, Cuile su Seragu* and *Cuile sas Iscalas* (figs. 4, 5). The five pastoral settlements are characterised by the extensive layout of stone-built shepherds’ huts, small sheds, milking pens and other animal enclosures. A good example of the structural features of these pastoral settlements is *Su Pisargiu*, which comprised three stone-built huts, three animal enclosures and two more recently added huts of corrugated iron and wooden beams (fig. 6). As such, the extensive pastoral settlements at Monte Novu significantly deviate from the typical pastoral settlements found in the countryside, which usually consisted of one stone-built shepherd’s hut and one or two animal enclosures constructed of wooden branches or cane.

Monte Novu is a markedly different zone within the Fonni territory, in that the land has been communally used for grazing sheep and other domestic animals since the early nineteenth century until the 1990s. The zone covers an area of 3,621 hectares and has a mountainous character with altitudes varying between 1,100 and 1,800 metres above sea level. Locally, Monte Novu is also called Comunale, which can be translated as the ‘Commons’. The zone was managed by the village council of Fonni, and a system of common-use rights to land was applied, which in the Sardinian literature is referred to by the term *ademprivi* (e.g. Masia 1992, 18-9; Solmi 1967, 126). The general rule underlying these common rights of use to land was that membership of a rural community was the exclusive condition granting access to certain zones inside a village territory (Meloni 1988, 134). In practice this rule gave the residents the unlimited...
right to pasture sheep and other domestic animals, to collect acorns as fodder for pigs and wood for fuel and building (Le Lannou 1979, 120). In the case of Monte Novu, shepherds from Fonni had the right to enter and graze their flocks in this zone between the months of April and December, i.e. the period in which they returned from the lowlands.

The Comunale at Fonni has also an interesting history, which is relevant to this argument. Before the nineteenth century the area witnessed severe conflicts between the village communities of Fonni, Villanova Strisaili and Villagrande Strisaili, which are located in the region of the Ogliastra and to which the zone of Monte Novu juridically belonged and still belongs (fig. 1) (Lai 1988, 196-97; Mereu 1978, 236-37). Various historical reasons are mentioned for the disputes between these villages, but the most convincing one appears to be population growth at Fonni, especially during the eighteenth century, and the related increase in sheep numbers. New pasture had to be acquired for the flocks, which had to be sought outside the official territory of Fonni. Between the second half of the seventeenth century and the year 1811, in which a final settlement was attained, a history of violent clashes between the three communities is documented. In the year 1800, for example, a large group of men from Fonni with horses and dogs attacked and murdered shepherds from Villanova Strisaili and Villagrande Strisaili and looted their sheep pens at Monte Novu. The cause of this violent clash was the reoccupation of pastoral settlements in part of Monte Novu, which according to the people of Fonni had been assigned to their community by the regional authorities in the preceding year.

It is important to note that in these inter-village conflicts, claims on land were made according to traditions of use. One of the arguments was that pastoral settlements were always those of shepherds from the villages in the Ogliastra (Mereu 1978, 238). In this context they often claimed customary rights by speaking of ‘da tempo immemorale’ signifying that things belonged ‘since time immemorial’ to their villages (cf. Lai 1988, 193). The crucial notion is that rights to common land had to be constantly established between pastoral households and between shepherds and farmers by use on a daily, seasonal, yearly, life-
time and also generational basis. This enabled access to certain grazing grounds in areas which in theory were open to every member of the local community. The cessation of use by a shepherd or group of shepherds even for a brief period could allow others to take ‘possession’ of the abandoned structures and disused grazing ground. It is illustrative in this context that certain pastoral settlements were used by several shepherds, but that the one who constructed the pastoral structure had the first right to use it, after which others could follow.

The foregoing discussion suggests that a critical element in establishing rights of use was the actual use of pastoral settlements and the surrounding grazing areas. I therefore argue that the extensive layout of the pastoral settlements at Monte Novu and – most importantly – their enduring material character, can be connected to strategies by shepherds geared to the continuance of access to land within communally-used zones. This conclusion is strengthened by the fact that on average groups of seven, eight or more shepherds used to join their flocks and work together at the extensive pastoral settlements, which was a type of pastoral co-operation described locally as (semmos) a unu (literally meaning: ‘(we are) together’). Likewise, this pastoral collaboration can be connected to shepherds’ strategies to secure access to pasture in zones which in theory were open to every member of the local community. I will explain the relation between these forms of pastoral co-operation and transhumant pastoralism more thoroughly in the final section below, which describes one particular pastoral settlement at Solarussa. This settlement has been used by shepherds from Fonni or other shepherds from the interior mountains of Sardinia during recent history.

Admittedly, the presence of common land for grazing flocks of sheep and other domestic animals provides no direct proof of transhumant patterns of pastoral mobility between mountains, valleys and plains. However, large-scale and specialised pastoral economies, which are often also transhumant, can only develop when extensive areas of pasture are available and accessible with considerable ease. The outlined system of common-use rights to land provides for this need. The argument therefore corresponds with the current view among many archaeologists and historians that transhumance is connected with the development of large-scale, market-oriented and often state-sponsored forms of specialised pastoral economies in the Mediterranean since the Late Middle Ages (e.g. Delano Smith 1979; Halstead 1987), of which the Mesta in central Spain and the Dogana delle Pecore in the region of Apulia in southern Italy are the best known historical examples (Braudel 1972, 89, 91). These scholars claim that transhumant patterns of pastoral mobility are primarily a function of the search for sufficient pasture in the context of drastically increasing numbers of sheep or other domestic animals. Consequently, they largely reject, in the same way as I do, the ecological perspective in which transhumance is predominantly seen as a highly effective adaptation and therefore almost natural response to the substantial annual fluctuations in the Mediterranean climate at different altitudes (e.g. Barker 1989; Skydsgaard 1974).

**THE EXTENSIVE PASTORAL SETTLEMENT AT NURAGHE MEDDARIS, VILLAGE TERRITORY OF SOLARUSSA**

Finally, one pastoral settlement at the northern border of the village territory of Solarussa helps to reinforce my line of argument about the connection between transhumant pastoralism and extensive pastoral settlements (fig. 7). This pastoral settlement consists of four stone-built huts and seven animal enclosures (fig. 8), and is located at the edge of a basalt plateau (at about 170 metres above sea level) and moreover
Figure 7. Village territory of Solarussa with the extensive pastoral settlement at Nuraghe Meddaris to the north.

Figure 8. Plan of extensive pastoral settlement at Nuraghe Meddaris, village territory of Solarussa.
next to Nuraghe Meddaris, which is a well-preserved Bronze Age tower (second millennium BC) (fig. 9). Both the extensive layout of this settlement and its location imply occupation by transhumant shepherds and their flocks in the recent past. It is uncertain if these shepherds came from Fonni, but the relatively large amount of pasture acquired by shepherds from Fonni in the territory of Solarussa from the 1940s onwards, according to the cadastral information, is remarkable in this respect (source: State Archive of Oristano: ‘catasto nuovo’).

Firstly, the peripheral location at the northern edge of Solarussa’s territory corresponds with historical and ethnographic information on the seasonal dwelling of transhumant shepherds from the interior mountains in the (coastal) lowlands. Since before World War II, shepherds operated as ‘self-sufficient’ units – even for example bringing bread provisions for several months from the interior mountains – and tended to seclude themselves from the lowland communities with whom relationships were often strained. Therefore, shepherds were also inclined to occupy the peripheral zones of the village territories in the valleys and (coastal) plains. As such, it is possible to view the spaces in which transhumant shepherds operated in the (coastal) lowlands as ‘enclaves’, whose defining characteristic was a lack of social integration with the local communities (cf. Caltagirone 1989, 48). Significant in this context are the related and interchangeable words s’isvèrrare (‘to hibernate’) and s’istrangiare (‘going among unknown people’) to indicate the journey from the familiar mountain villages to lowland areas during winter and early spring (Murru Corriga 1990, 29).

A second reason for the location of pastoral settlements and grazing areas in the outer zones of village territories relates to patterns of landed property. The peripheral areas frequently comprised large estates, which were owned by wealthy nobles and bourgeois landlords. During recent history, leasing lowland estates – mostly of a low soil quality from an agricultural perspective – to groups of transhumant shepherds was a profitable business for large landowners. As a response to expanding markets for sheep cheeses since the late nineteenth century, the value of leases had increased steadily and often reached
more than half the value of the total milk production a flock (Angioni 1989, 179; Olla 1969, 30-31). Additionally, the wealthy landlords forced shepherds to introduce the maximum number of sheep an estate could support in terms of nutritious pasture. A good historical example of this practice is found in the zone of Salto di Cirras in the village territory of Santa Giusta, at a short distance to the south-west of Solarussa (fig. 1). It was said that one person from Fonni leased this zone from a rich family residing in the island capital of Cagliari in the decades around World War II, and in turn seasonally sub-let pasture to shepherds from the interior mountains. The area was divided into five separate sectors of which each could sustain about 2,000 sheep. This situation compelled transhumant shepherds to collaborate in large groups in order to deliver the amount of milk demanded by the primary lessee.

The large forms of pastoral co-operation in the lowlands show similarities with the ones observed in the zone of Monte Novu at Fonni. Likewise, in the valleys and plains transhumant shepherds had to collaborate and merge their flocks to secure access to grazing areas in which the type and size of landed properties was the determining factor. Therefore, I contend that the extensive pastoral settlement at Nuraghe Meddaris provides convincing evidence for large forms of pastoral co-operation among transhumant shepherds in the lowlands. Finally, the robust stone construction and enduring character of the huts and animal enclosures at this settlement can perhaps be related to collective strategies among shepherds to make long-term claims on grazing areas for years, decades and possibly even longer periods.

**CONCLUDING REMARKS**

In an attempt to link mountains, valleys and lowlands in the Mediterranean region, I proposed that landscape archaeological studies of pastoral economies and patterns of mobility offer one promising field of research. Since late medieval times and also partly for Roman Italy there is a wealth of historical (and for modern periods also ethnographic) evidence for large-scale, specialised and often state-sponsored forms of transhumant pastoral economies (e.g. Campbell 1964; Frayn 1984; Pasquinucci 1979). Despite the existence of historical and ethnographic information on the importance of sheep herding and other forms of animal husbandry in many Mediterranean regions, archaeological research into ancient pastoralism has been rare and has encountered many methodological and interpretative problems. Therefore, most archaeological studies of pastoral landscapes have been undertaken within the field of ethno-archaeology with the aim of developing better methods and interpretative models to detect and analyse types of ancient pastoralism. In the context of my own research project in Sardinia I have claimed that settlements of shepherd’s huts and animal enclosures and their geographical locations in lowlands and uplands can inform us about the nature of pastoral landscapes, their development, and (transhumant) patterns of pastoral mobility. Crucially, the case studies from Sardinia showed that transhumant pastoral economies are structured by dynamic networks of social and political relationships between shepherds and with outside persons and groups such as wealthy estate owners and village councils. Likewise, the modes of access to grazing areas, which included common-use rights to land, played a pivotal role in the ways in which pastoral landscapes developed and patterns of mobility were conditioned. Surely, the landscape archaeological and (ethno)historical evidence demonstrates that transhumant patterns of pastoral mobility are predominantly the product of particular historical circumstances, instead of a natural response to allegedly ‘unchanging’ environmental factors in the Mediterranean region.
REFERENCES


