

THE ETHNOLOGICAL SURVEY OF PASTORAL TRANSHUMANT SITES IN THE GREVENA REGION, GREECE

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What are the origins of specialized pastoral transhumance in Mediterranean Europe? This question concerning the long-distance, twice yearly movement of herders and their sheep and goat flocks between upland summer pastures and lowland winter pastures in Greece and other areas of the Balkans has been the subject of on-going archaeological debate. The debate has been fueled by comparisons drawn from historic and contemporary pastoral groups living in the mountainous regions of the Mediterranean. Yet despite the numerous conjectures attempting to either prove or disprove the existence of historical continuity between contemporary and prehistoric pastoral transhumance, the evidence for specialized pastoralism (e.g. sites, artifacts, fauna remains) has yet to be found in the archaeological record.

The ethnoarchaeological survey of contemporary pastoral sites in the Grevena Nomos of Greek Macedonia is a first step toward developing a diachronic model for the pastoral exploitation of upland areas in the eastern Pindos Mountains. Our survey transect cross-cuts two environmental zones of the eastern flank of the Pindos Mountains, ranging from 1540 m to 840 m in elevation and includes a total of 87 modern-day pastoral sites. Ethnographic information includes data on animal husbandry practices, mobility strategies, and length of site occupation (seasonal length and occupational sequence over several years) of herders from the Grevena Region. Archeological data such as site location variables, site contents (architecture, artifacts, and ecofacts), and site visibility and abandonment processes at pastoral encampments have been collected for transhumant sites.

INTRODUCTION

The question of when Mediterranean long-distance, seasonal pastoral transhumance first occurred in prehistory has been debated by archaeologists (Lewthwaite 1981, 1984; Halstead 1981, 1987; Sterud 1978; Geddes 1983; Greenfield 1988; Sherratt 1981, 1983). By and large, explanations have been based upon the environmental and ecological

conditions under which long distance, seasonal movement between upland summer pastures and lowland winter pastures might have been possible from the Neolithic through Iron Age Periods, and later historic periods in Mediterranean Europe. On the one hand, some archaeologists (Geddes 1983; Sterud 1983; Greenfield 1988) argue in favor of Neolithic and/or post-Neolithic origins of pastoral transhumance, while others (Halstead 1981, 1987; Lewthwaite 1981, 1982) contend that Mediterranean pastoral transhumance is a recent historical development.

Both Halstead (1981) and Lewthwaite (1981, 1982) repeatedly caution archaeologists against the simplistic use of analogy. They argue that the actual occurrence of long-distance transhumance would have been dependent upon large-scale deforestation and hence creation of pasture lands. According to their speculations, there is no paleo-climatic evidence that supports such processes of deforestation.

Sherratt (1981, 1983) and Greenfield (1988) suggest that long-distance seasonal transhumance (sheep, goats, cattle) might have arisen after the advent of the secondary-products revolution when animal husbandry included dairying as well as meat consumption. Greenfield (1988) contends that pastoral transhumance as a specialized mobility strategy arose at different periods in the Balkan peninsula, in relation to socio-economic conditions of exchange (markets) and marked differences between semi-arid and temperate climatic conditions. He specifically focuses on the zoo archaeological evidence for the development of specialized animal husbandry and diversification of animal species herded during the Post-Neolithic Periods in the Central Balkans of former Yugoslavia.

Halstead (1987) examines the environmental and climatic parameters extant in the Grevena Region of Northern Greece where historic populations of Vlach herders have moved twice yearly with sheep and goat flocks between the upland Pindos Mountains and the Thessaly Plains. He (1987) argues that the economy of these historic pastoral transhumants is parasitic upon lowland market economies. Because these herders today rely upon winter grazing in areas of bare following (an extensive, rather than intensive land use strategy) and therefore the overall grazing potential of the lowlands is low, Halstead (1987:79) believes that long-distance transhumance results in the increased separation between the pastoral sector and the agricultural sector. In late prehistoric and early historic periods, dispersed settlements and intensive agriculture were more typically examples of cereal/pulse rotation rather than bare following. According to this conjecture, prehistoric and early historic pastoralism consisted of the husbandry of small flocks of sheep and goats (50 to 100 head) typical of Greek village-based pastoralism today (cf. Koster 1977). He also argues that historic pastoral transhumance is a predatory economic system, that is to say, the highland pastoral economy has been subsidized by market and exchange relations in the lowlands. Large flock numbers are in fact what makes the long-distance transhumance profitable.

Halstead's (1987) conjectures provide us with much food for thought. First, for the Pindos Mountains and the accompanying lowland plains of Phessaly, we need to determine

what Bronze Age and early historic settlements systems were like. Then, it is necessary to address how various environmental and socio-political conditions may have resulted in different farming and herding strategies. Halstead (1987) claims against the antiquity of pastoral transhumance in Grevena and the Thessaly Plains have yet to be tested by archaeological data. The Grevena archaeological survey has recorded Bronze Age, Roman, Hellenistic sites at 1000 m or above in the historic and contemporary zones of seasonal summer transhumance (Nancy C. Wilkie, personal communication 1990=). Whether these sites are indicative of the antiquity of seasonal pastoral transhumance in the uplands has yet to be confirmed. Also we concur with Halstead (1987:81) when he says that prehistoric occupation of upland areas is far from concrete evidence for pastoral transhumance.

In this paper, we contribute to this debate by using data collected from contemporary pastoral sites from the Grevena Region of Northern Greece, the same region studied by Halstead (1987). Both transhumant pastoralism and village-based pastoralism will only be visible in the archaeological record when archaeologists understand how pastoralists use Mediterranean landscapes. Ethnoarchaeological survey is the first step in this process. What a pastoral site is, how it is affected by site formation processes, and what makes it visible in the archaeological record are questions that can be best answered through ethnoarchaeological research.

What are the key attributes of a pastoral site and how do we recognize these attributes on the archaeological landscape? What material evidence for pastoral sites is visible on an archaeological landscape? How are pastoral activities and organizational features of seasonal transhumance expressed in locational, architectural, and artifact patterning at sites?

ETHNOGRAPHIC BACKGROUND

The Grevena Province has a range of pastoral mobility strategies; at the high elevations of the Pindos Mountains summer transhumance is prevalent, while at the lower elevations (900 m or below) in the Grevena Basin, year-round village pastoralism and winter transhumance are practiced. This continuum of pastoral mobility strategies in Grevena is distributed among different ethnic groups. Long-distance, seasonal transhumance is a predominant strategy among Vlach (Aroumani-speaking peoples), a group of historically nomadic Sarakatsani (Greek-speaking peoples) and Kutpashar (Greek-speaking, Hellenized Vlach peoples). Transhumant Vlach herders with sheep and goat flocks of 300 to 1000 head spend from May to September or October on the eastern slopes of the Pindos Mountains in the summer villages of Samarina, Perivoli, Avdella, and Smixi (Wace and Thompson 1971 (1914), Sivignon 1968). Kutpashar villages are found at elevations from 1200 m to 900 m in the lower slopes and foothills of the Pindos Mountains (Wace and Thompson 1971 (1914)). Before World War II, these villages were year-round residences

with an additional summer population of transhumant herders. Today, both Vlach Kutpashar transhumant herders reside in winter villages where they rent or own grazing lands in lowland plains near Kozani, Ellassona, Tirnavo, Larissa, and Volos. Sheep flocks predominate and where mixed flocks (sheep and goats) exist, sheep are found in higher proportions.

Grevena herders consider animal husbandry a full-time occupational specialization. The majority of herding households own individual flocks, although a very small percentage employ hired shepherds. Transhumant herders tend to have large flocks, ranging from 250 to 600 head, while village herders have smaller flocks, usually under 100 head. Today, men are primary herders of flocks, although women and children often tend animals as well. Many transhumant herders milk their flocks twice a day well into the month of July. Milk is collected in 55 kilo containers and transported to village or Grevena cheese factories. Milk is then processed into feta cheese. Herding households will also produce small quantities of their own *feta*, (goat or sheep cheese) and yogurt. Today, the typical herder owns his own small pick-up truck, and only a few herders rely upon donkeys, mules or horses for milk delivery. The herder, s hut (known as a *kalivi* or *konaki*) is used less as people choose to spend evenings in their village homes.

Since 1982, European Common Market funds have affected the nature of rural livestock production over the Grevena landscape; this is apparent from the number of concrete watering troughs found dispersed throughout the grazing areas, a small number of concrete *mandri* (animal shelters) at higher elevations for housing livestock during bad weather, and the presence of cement platforms and sorting docks at upland villages, which are used for loading livestock on trucks during the spring and fall migrations. Herders receive subsidized veterinary services, credit and loans, subsidized truck transport, and market subsidies.

THE ENVIRONMENTAL SETTING

The Grevena Province (Fig. 1), approximately 75 km by 45 km, is bordered by Epirus to the west and Thessaly to the south. Our ethnoarchaeological survey covers two environmental zones in the upland region or the Pindos Mountains which form the western border of the province. The climate is best described as sub-Mediterranean, that is to say, summers are hot and dry, typical of other regions of Greece and winters are cold, subject to heavy rains and considerable snowfall (1 m or more) at elevations above 900 m. Vegetation at the highest elevations, 1600 m to 1300 m consists of pines, spruce, firs, and beech forests interspersed with grasslands. At 1000 m to 1300 m, forests are predominantly oak, juniper, and pine, scrub lands, which were frequently cleared for upland cereal cultivation (wheat and barley). Abandoned agricultural fields have recently reverted to bracken ferns or wild grasses.

Based on his 1987 and 1988 observation, Koster (1987) divided the entire province into eight provisional environmental zones of pastoral and agricultural land use. For the purposes of our survey, we selected a sample of villages along a secondary drainage of the Venetikos Rives for examination of pastoral systems in these environmental zones. The provisional environmental zones chosen for the survey are defined as; (1) the High Pindos - upland summer pasture area with high to moderate stocking rates, (2) the Lower Pindos - upland summer pasture area, with historic evidence of upland cereal cultivation and some year-round herding, with a high stocking rate. The pastoral sites found in Zone 3, the Pindos Foothills - where year round village pastoralism and subsistence cultivation are prevalent have been discussed elsewhere (Chang in press)¹.

SURVEY STRATEGY

The survey transect through two environmental zones of the Pindos Mountains includes the modern village communes of Perivoli, Avdella, Panorama, Polyneri and Lavdas (Fig. 2). The locations of pastoral sites were recorded on 1:20,000 scale topographic maps. Significant location variables such as elevation, aspect, surrounding vegetation, and distance to water sources and agricultural resources were recorded. Over 87 sites were recorded during the 1989-1990 seasons, an estimated 80 per cent of the total number of herding facilities in these villages. Summer transhumant sites found during the fall of 1989 were re-visited again in the summer of 1990 as part of an on-going program designed to monitor seasonal vs. long-term abandonment of these sites.

THE SUMMER TRANSHUMANT PASTORAL SITE

In the Grevena Province of Greece, the summer *stani* (Fig. 3) is composed of the following features: (1) *korda* - holding pen or corral constructed of brush, upright posts, wire fencing, or wooden fencing, (2) *strunga* - milking pen, also constructed of brush, or upright posts and wire mesh fencing, with two stones that form the *mati* (eye) of the pen, where herders sit and milk the does and ewes, (3) *kalivi* or *konaki* - the hut, made of plastic covering over saplings, concrete blocks, stone, tin, etc. The winter or year-round pastoral site is called the *mandri* (Fig. 4). The *mandri* consists of the animal fold often built of stone or concrete, and barns used for storing fodder. In this paper, we concentrate on the transhumant pastoral sites (*stani*).

¹ In 1988, we conducted a systematic survey of village-based pastoral sites (*mandri*, *strunga* sites) found in the village of Megaro, located at 900 m.

In recent years, the enclosures have been constructed of upright posts, wire fencing or brush. We have also recorded several historic *korda* constructed of dry laid stone walls. When historical stone wall enclosures have been found, they are always situated near rock outcrops. At most sites the *mati*, or eye of the milking pen is made of two rocks about 5 m apart, where herders sit during milking as the ewes/does pass through one by one. The *konaki*, or huts are less substantial than the stone masonry *kalivi* of settled village herders. The most prevalent ecofact is compacted animal manure, not animal bones. Manure can be removed from the enclosures to be used as fertilizer.

LOCATION ATTRIBUTES OF TRANSHUMANT SITES

Key location attributes of transhumant sites have been documented. These include elevation and aspect, vegetation and land form. Table 2 lists surveyed sites by village and two location variables, elevation and aspect. These data indicate that southeast, northeast and east exposures are predominantly chosen as site loci, however, north-facing slopes are also suitable exposures if sufficiently protected by ridges and other features. Herders locate sites on eastern exposures because they are able to use the early morning sunlight for the first milking of the day. As Table 2 shows, there is considerable variation from village to village regarding aspect. This is in part a result of the different topographic settings.

In the two Vlach villages (Perivoli and Avdella), both situated in the high elevations of the Pindos Mountains, there are no sites found with northwest, north and western exposures. Here the high ridges of the Pindos are exposed to prevailing winds and occasional rain; sheltering flocks on easterly slopes protects them from undue exposure. In the villages of Panorama and Lavda, there is a high percentage of sites situated on the north, northeastern, eastern exposures. This is because both villages are situated on the northern slope of a large upland basin. Polyneri, in contrast, is situated on the southern slope of the same upland basin, therefore over 50 percent of the transhumant sites are found on southeastern exposures. Whenever possible, herders who use the *stani* for protecting and sheltering flock animals during the night and occasionally during rainy weather situate their sites in protected ravines, colluvial fans or toe slopes below ridge tops.

The transition from upland pastoral transhumance to year-round pastoralism occurs in Zone 2 (Panorama, Lavda, and Polyneri). The break between these two strategies is gradual. In 1989 and 1990, in these three villages, there is only one individual herding household in each village that stays year-round. Historically there were always summer transhumant pastoralists as well as year round agro-pastoralists who usually kept much smaller numbers of sheep and goats (under 50 head). Ethnographic informants who remember the pre-War (1940s land use) describe the presence of both year-round pastoralism and seasonal transhumance.

A set of historical conditions outline some of the changing patterns of land use in Zones 1 and 2 which took place from the mid 19th century onward. Wars, up-risings against Ottoman rule, and the demise of large *chiflik* (Ottoman owned and administered land-holding units) in the winter pasture areas of Thessaly adversely affected Vlach herding (Wace and Thompson 1971 [1914]). As lowland pastures became increasingly difficult to obtain after Macedonia became incorporated into the Greek state in 1913, some herders left pastoralism. During the 1920s, oral histories from Ziakas (a village in Zone 3) document a period of failing market economy, increased subsistence agriculture, high demographic pressure, and major deforestation (Riki van Boeschoten, personal communication 1991). In Zone 2, especially surrounding the village of Polyneri, we have observed many abandoned terrace and considerable evidence for deforestation of the oak and pine forests.

Major de-population of upland villages during the Greek Civil War and the consequent resettlement during the post-war period has altered former strategies of mixed farming and herding systems in Zones 2 and 3 (Aschenbrenner, personal communication 1990). This demographic dynamic has had enormous impact upon pastoral and agricultural land use. As upland cereal and tree crop/vineyard cultivation has abandoned in the post-war period, there was an increase in the amount of available pasture lands for sheep, goats, and cattle. Informants from these three villages sat that historically upland areas had more intensive crop cultivation and greater flock numbers. We remain puzzled about their accounts that flock numbers were higher or equal to what exists today, since it appears that Zone 2 is now used primarily by herders who have over-stocked this area. It is, however, clear that as cultivated lands were abandoned in the post-1940s area, herders moved into this empty niche.

SITE VISIBILITY AND SITE ABANDONMENT PROCESSES

As a result of two intensive field seasons during Fall 1989 and Spring 1990, we have been able to document site visibility and abandonment processes at transhumant *stani*. The most provocative case for site visibility of summer transhumant sites is Avdhella #11. Ethnographic information on the use-history of this location by shepherds has also been collected. This site in 1990 appears as a series of overlapping occupation surfaces as indicated by very thick manure stains (5-20 cm in thickness). Where manure stains exist for the 1988 and 1989 occupations, natural re-vegetation has only begun. This palimpsest of occupation surfaces should be archaeologically visible if geoarchaeological techniques are employed which can identify the heavily compacted manure deposits (Chang and Koster 1986). The occupation surface of repeated manure deposits, if preserved in the archaeological record should leave its own geo-chemical signature. Figure 5 illustrates the site plan view, also documents the remains of *stani* outlines from the 1988 and 1989 occupations, and represents a palimpsest of occupation.

In historic periods, the construction of the *korda* consisted of brush or wooden fencing. Today the *korda* is usually built from upright posts or stakes and mesh wire fencing. Often the upright posts and wire fencing are removed when the *stani* is abandoned in early fall. The visible indications of the *stani* after abandonment are: (1) the manure deposits inside the pen, (2) the milking stones or *mati* (eye of the milking pen), (3) the post-molds of upright posts, (4) fireplaces or hearths, (5) structural remains of the *kalivi* or *konaki* (herder, s hut), and (6) a thin artifact scatter.

At abandoned *stani*, we often noted that artifact scatters consisted of milking equipment, wooden staffs, goat/sheep brass or copper bell, pieces of felt capes, wooden saddle parts, clothing, medicine vials, rope, and scattered trash including some sheep/goat bones. Most artifacts appeared to be worn-out, broken, and unusable. During departure, herders took most of functional artifacts. At one site, a metal bed frame left in the Fall of 1989, was no longer there when the abandoned site was re-visited in Summer 1990. We also noted at several *stani*, herders even removed the wire fencing and upright stakes of the *korda* and *strunga* during their fall departure.

The visible remains of a modern-day *stani* after seasonal, periodic abandonment suggests that archaeological sites typical of pastoral production activities must be identified on the basis of a total assemblage including artifacts, fauna remains, manure deposits, soil compaction, post molds, huts, fireplaces, and possibly stone outlines of corrals or enclosures. Given that this is the ethnoarchaeological evidence for site visibility of transhumant pastoralism, it is hardly surprising that the archaeological record for mobile, seasonal pastoralism is so slim.

Site visibility, especially with respect to soil discoloration and the identification of old manure stains, is highest during the late summer and early fall when the grass has turned brown and has been eaten and trodden down by livestock. Site visibility is low during the early spring and summer when grass is most abundant. We also identified archaeological materials unrelated to contemporary pastoral use at 7 transhumant sites where animal trampling and removal of vegetation in enclosures expose surface scatters of pottery. This observation indicates that contemporary animal husbandry activities may provide "windows" into past archaeological landscapes. The Grevena archaeological survey team also noted that in unploughed areas, sherd and lithic scatters were most highly visible in late summer and the fall (Nancy Wilkie personal communication 1990).

CONCLUSIONS

Mediterranean archaeologists need to design regional surveys in upland regions where specialized pastoral transhumance could have occurred in antiquity. Moreover, the archaeological survey of upland areas is the most logical place to find evidence for pastoral transhumance, since these regions consist of elevation/environmental zones where cereal

and tree crop cultivation are marginal. One unsolved question in the archaeological study of Mediterranean pastoral transhumance is whether man-made or natural agents of deforestation have been responsible for creating upland meadow for livestock grazing.

Although we have stressed the importance of ethnoarchaeological and archaeological survey research in upland regions we also recognize that long-distance pastoral transhumance during historic and modern periods has been integrated into larger state-level economic and political systems. The analogy between present day pastoral transhumance in Grevena and what happened prehistorically must be considered carefully. Here we are in agreement with Halstead (1987:81) when he cautions archaeologists not to accept the facile premise that the prehistoric occupation upland areas is an indicator of the presence of long-distance transhumance.

Pastoral transhumance occurs in a certain socio-political milieu, in which specialization and separation between the agricultural and pastoral sectors has occurred. Therefore the socio-political dynamics by which members of peripheral populations have held pivotal positions as middlemen and traders in environmentally diverse regions may also serve as a useful analogy for examining what roles pastoralist specialists might have had in the development of early complex societies. When, where, and under what circumstances pastoral transhumance became a viable economic strategy in Mediterranean prehistory are questions that will require archaeologists to adopt a diversity of research methodologies. The ethnoarchaeological survey of transhumant pastoral sites in several upland environmental zones in Grevena is but one step toward developing the requisite methodologies for addressing the origins of specialized pastoral production.

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ARCHITECTURE:

Korda (holding pen) - usually the main architectural feature, built of upright posts and mesh wire. At Vlach sites, often made of split rail fencing. Before wire fencing, these *korda* were constructed of brush fences and/or stone footings.

Strunga (milking pen) - incorporated within the *korda*, or as a separate feature. Often oriented so that the animals are driven up-slope through the *mati* (eye) for milking. At some sites, the *strunga* is found without a larger holding pen.

Kalivi or *Konaki* (hut) - a hut made of tin sheeting, saplings which support plastic coverings, or cement walls and tin roof. Usually there is a small hearth inside as well as a sleeping area (even bed).

Tsarkos (kid or lamb pen) - a small pen attached to holding pen with roofed area and protected sides for sheltering young kids and lambs during the day when herder is away, as well as at night.

Windbreak - associated with the herder's hut or hearth area.

Hearth - used for cooking, boiling milk, roasting meat, etc.

FEATURES:

Feeding troughs - supported by pairs of upright posts fastened together with wire. A large triangular shaped trough is used to feed animals supplemental feed such as cottonseed.

Fourka - upright wooden post with forked top, used for hanging milking equipment, capes, etc. A short *fourka* is designed for holding individual sheep or goat heads during shearing.

Tethering places - stakes driven in the ground outside of pens, used for tethering one or two livestock animals, or draught animals.

Dog shelter - sometimes a small brush shelter is built for keeping the guard dog at the site while herder is away.

Mati and Accompanying Shelter - the eye of the milking pen consists of two stones used by herders for sitting while milking the ewes/does. Above the milking sites is a plastic covering supported by four upright posts. This shelter protects herders from rain and also is a storage area for milking equipment.

ARTIFACTS:

Milking equipment - metal milking pans, milk cans for taking milk to cheese factory, metal strainers, funnels, spoons.

Herding equipment - herder's staff, goat of sheep bells, black felt capes, raincoats, shoes.

Clothing - clothing used for milking animals: old pants, shirts, rubber boots, etc.

Watering vessels - 5 kilo tin cans re-made into vessels for carrying water, plastic containers.

Camping equipment - oil lamps, blankets, bedding, pots, pans, etc., reading material - books, magazines, household rubbish - tin cans, plastic, glass, and paper.

Pick-up trucks and other equipment associated with trucks.

ECOFACTS:

Faunal Material - usually scant and associated with hearth or meat-roasting area. We only observed faunal remains at 3 of the 37 sites recorded in detail (Horn cores, body parts of sheep and goats).

Animal Manure - inside pens, it is thick, heavily compacted - in 4 month period, a deposit ranges in thickness from 15-20 cm thick.

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ETNOARHEOLOŠKI PREGLED PASTORALNIH TRANSHUMANTNIH
PREDJELA POKRAJINE GREVENA U GRČKOJ
Sažetak

U ovom članku autori daju svoj pogled na dugotrajnu raspravu arheologa o podrijetlu transhumantnog stočarstva u Grčkoj i u drugim dijelovima Balkana. Njihovo se mišljenje da se današnji transhumantni stočari nadovezuju na one čiji su arheološki ostaci nađeni na ovom području temelji na trogodišnjem terenskom istraživanju. Analizirajući etape seobe suvremenih transhumantnih stočara dolaze do prvog dijakronijskog modela tog tipa stočarstva, konkretno ovčarstva. Proučavajući istočni dio planina Pindos, čija je nadmorska visina od 1540 do 840 metara, ukupno su našli 87 staništa sa svom opremom. Služili su se i etnografskim, između ostalog podacima o oruđu, stanovima i sl, te ekološkim i arheološkim podacima. Osim toga, objašnjavaju termine transhumantnog ovčarstva tog dijela Grčke, kao što su *stani*, *korda*, *strunga*, *kalivi/konaki*, *mati* itd, koji su prisutni na većini današnjih transhumantnih staništa. Kao glavni uzrok najnovijih promjena u strukturi grčke transhumacije navode demografske promjene, tj. napuštanje obradivih zemljišta 40-ih godina 20. stoljeća, što je rezultiralo većim brojem raspoloživih pašnjaka.

Autori naglašavaju povezanost negdašnjih i današnjih transhumantnih ovčara, kao i činjenicu da je takav način uzgoja ovaca bio integriran u ekonomske i političke sustave ne samo na užem, regionalnom, već i na širem, državnom nivou, te se ne može promatrati izdvojeno. Za proučavanje nastanka, razvoja i funkcioniranja prapovijesne transhumacije arheolozi će morati razviti nove metode kojima će obuhvatiti širi kontekst.

Sažela Sanja Kalapoš