



XVII Conference
Burgos (Spain), 1-7 September 2014

Session A6a

Human Occupations in Mountain Environments

(afternoon, Monday, 1 september 2014)

PROGRAM and ABSTRACTS

	Time	Chairman	Title	Authors
1	14.30-14.45	Estela Mansur	Prehistoric frequentations in the Alps: the Project Survey Alta Val Sessera (Piedmont - IT)	Francesco Rubat Borel, G.Berruti, D.Berté, S.Daffara, L.Scoz
2	14.45-15.00		Site detection in the Appennines: two case studies	Martijn van Leusen
3	15.00-15.15		Prehistoric copper pyrotechnology in the Swiss Alps: approaches to site detection and chaîne opératoire	Philippe Della Casa, R.Turck, L.Naef
4	15.15-15.30		Caucasia top down – A multi disciplinary project using GIS and remote sensing to analyse a LBA high mountain cultural landscape in the North Caucasus (Russia)	Sabine Reinhold, A.B. Belinskij, D.S. Korobov
5	15.30-15.45		Place-Based detection of the transition to agropastoralism from colluvial sediments of the French Western Pyrenees mountains	David S. Leigh, T.L.Gragson, M.R.Coughlan
6	15.45-16.00		Research prospects of single platform micro-Unmanned Aerial Vehicles (UAVs): uncovering the upland zone archaeological heritage of the Mirkovo basin, Bulgaria	Helen King, J.Chapman, B.Dumanov, B.Gaydarska, J.Entwistle, N.King
Discussion and Coffee break				
7	16.30-16.45	Philippe Della Casa	A “Total Archaeology Project” on the uplands of San Vito di Cadore (Belluno Dolomites, Italy)	Francesco Carrer, F.Cavulli, F. Fontana, D.Visentin, P.Cesco Frare, C.Mondini, A.Pedrotti
8	16.45-17.00		Surface surveying in high mountain areas, is it possible? Some methodological considerations	Ermengol Gassiot Balbe, I.Clemente Conte, D.Garcia Casa, N.Mazzucco, L.Obea Comes, D.Rodriguez Anton
9	17.00-17.15		Uncovering the Frozen Past: surveying & monitoring glacial archaeological sites	Martin Callanan
10	17.15-17.30		Missing elements in cultural understanding of hydrothermal landscape of Carpathians in Middle Paleolithic	Magda Ciesla, P.Valde-Nowak
11	17.30-17.45		Middle-Late Pleistocene mountain human occupations in the karst of Pinilla del Valle (Spanish Central System)	Theodoros Karampaglidis, A. I.Ortega, A. Perez-Gonzalez, S. Barez, J. I. Alonso, L. Sanchez-Romero, J. L. Arsuaga, E. Baquedano
12	17.45-18.00		Mountainous settlements modalities during Palaeolithic in the Lesser Caucasus (Republic of Armenia)	Davide Colonge, C.Montoya, D.Arakelian, A.Balasescu, R.Ghukasyan, J.Jaubert, S.Nahapetyan, V.Ollivier, B.Gasparian, Ch.Chataigner
13	18.15-18.30		The Mesolithic with geometrics in the south of “Picos de Europa” (Northern Spain)	Ana Neira Campos, M.N.Fuertes Prieto, D.Herrero Alonso
Discussion and Coffee break				
14	19.00-19.15	Stefano Grimaldi	A new stone age transit route across the main ridge of Austrian Alps	Walter Leitner
15	19.15-19.30		Hunting and farming in the mountains: two Neolithic sites in the northeastern Italian Alps	Fabio Santaniello, A. Pedrotti, S.Grimaldi
16	19.30-19.45		Early pastoral activity in the eastern Cantabrian mountains. Palaeoenvironmental approach	Sebastian Perez Diaz, J.A.Lopez-Saez, D.Galop, X.Pontevedra-Pombal, M.Souto, M.I.Fraga
17	19.45-20.00		Lithic resource management in mountain environments. Discussion based on the case of the Andean sector of Tierra del Fuego	Maria Estela Mansur, H. De Angelis
18	20.00-20.15		Indigenous Knowledge and skills of the Bhotiya women of Uttarkashi, Himalayas	Subhadra Channa
19	20.15-20.30		El Almogaren de Risco Caído: el Templo perdido de los antiguos canarios.	Julio Cuenca Sanabria, J. de León Hernandez
Discussion				

Prehistoric frequentations in the Alps: the Project Survey Alta Val Sessera (Piedmont - IT)

Francesco Rubat Borel, G.Berruti, D.Berté, S.Daffara, L.Scoz

Val Sessera is an underpopulated Italian alpine valley located in the northeastern Piedmont between the provinces of Biella and Vercelli. We expose here the data obtained during the first and the second year of the project "Survey Alta Val Sessera" held in 2013 and in 2014 that had as its purpose the identification of mesolithic frequentations. The interpretative scheme employed starts from the one developed for Trentino and the South Tyrolean region by Broglio and Imbrota. During the campaigns surveys have been carried out using the patterns of settlement and mobility in the alpine environment developed by K. and N.M. Kompatscher, in order to identify the most interesting areas to investigate. In the considered areas were made samplings in each place that answered to at least two of the four parameters set by K. Kompatscher and N.M. Kompatscher about the mesolithic occupations in high altitude areas. The samples were carried out by performing the decortications of the turf surfaces on an area of 50x50 cm and the subsequent restoration of the previous environmental situation. Along the paths and in the areas where the turf was relieved or removed by the passage of cattle, we carried out intensive surveys. Preliminary results indicate that the valley of the Sessera creek was occupied by human groups using knapped lithic industries. The activities carried out led to the identification of nine sites characterized by the presence of lithic industry made of local quartz. These frequentations should be placed chronologically after the Late Glacial Maximum. The findings, though the technological study suggests their Mesolithic belonging, have no diagnostic elements for a more precise chronological collocation. The importance of the data obtained from these first two years of the project consists in having successfully tested a method of research aimed at identifying human frequentations at high altitude also in this part of Piedmont. The data will be compared with those coming from the other alpine regions in attempt to obtain a more complete picture of the Mesolithic occupation of the alpine environment.

Notes

Site detection in the Appennines: two case studies

Martijn van Leusen

The problem of detecting human occupation in mountain areas has been the object of investigation by the Department of Classical and Mediterranean Archaeology of the University of Groningen (NL) in several research programs since 2005. Here I would like to present two case studies, both conducted in the Italian Apennines, that illustrate the approach developed and the kinds of results obtained. Case study 1, on the Monti Lepini (anti-Appennine chain, Lazio region), will focus on the re-interpretation of legacy site data in the light of modern systematic surveys; case study 2, on the Pollino massif (on the border of Calabria/Basilicata regions), will focus on the detection and interpretation of ephemeral/seasonal occupation traces. It will be argued from these two cases that a substantial concerted research effort is needed to build the comparative methodological perspective advocated by the session organizers.

Notes

Philippe Della Casa, R.Turck, L.Naef

It has been known for decades that prehistoric copper pyrotechnology was performed in the Oberhalbstein valley (Grisons, Switzerland). However, this copper deposit is among the least explored ancient mining areas of the Alps so far, though various hypotheses on the importance of the copper produced in the valley since the Early Bronze Age have been repeatedly expressed. A new project by the Dept. of Prehistoric Archaeology at the University of Zurich now focuses on a systematic evaluation of the research situation within a Central and Eastern Alpine framework: surveys, datings, ore analyses, analyses of slags and residues, chaînes opératoires of copper production and use, as well as local Bronze Age settlements with traces of metal working are at the heart of this new research. Recent fieldwork has provided very promising results: structured slag heaps and production areas with a smelting furnace dating to the beginning of the Iron Age were documented. The contribution will focus on methodical approaches to site detection (survey) and reconstruction of operational sequences.

Notes

Caucasia top down. A multi disciplinary project using GIS and remote sensing to analyse a LBA high mountain cultural landscape in the North Caucasus (Russia)

Sabine Reinhold, A.B. Belinskij, D.S. Korobov

The Caucasus is Europe's highest fold mountains systems, geographically similar to the Pyrenees or the Alps. With a much less intensive modern infrastructure as e.g. in the Alps, site localisation is task to specific survey projects. This overview will present the results of 10 years of multidisciplinary research by a joint Russian-German project in the North Caucasus. This scaled landscape archaeological research focused on the reconstruction of the economic and social parameters of a high mountain community. Using high resolution aerial photos, satellite images and systematic field survey a complete cultural landscape with more than 260 sites on a remote mountain plateau up to 2400 m asl was documented with an accurateness, that has few parallels in European landscapes. This is due to a nearly intact environment and a high visibility of ancient sites on remote sensing images. Downscaling the site location process, we focused on microregions and single sites, using geophysical prospection, soil analysis and excavation to reveal activity areas in the sites, especially the precise localities of animals. As a result a complete mountain agricultural system can be reconstructed in its economic as well as its social and ideological aspects. It date to the local Late Bronze Age, i.e. the second half of the 2nd millennium BC and is one of the earliest real Almwirtschafts-systems known.

Notes

Place-Based detection of the transition to agropastoralism from colluvial sediments of the French Western Pyrenees mountains

David S. Leigh, T.L.Gragson, M.R.Coughlan

We detect transition to agropastoral occupation in a mountain landscape by radiocarbon dating physical and geochemical signatures of conversion from native forest to pasture within colluvial stratigraphic sections. Our study sites are located on hillslope benches, toeslopes, or depressions immediately beneath zero-order hollows draining few to several hectares in the commune of Larrau (Pyrénées Atlantiques, France). Sample sites are chosen to maximize likelihood of spatially and temporally uniform sedimentation (primarily by slopewash). This constitutes a place-based strategy of deciphering the chronology of agropastoral activities within individual fields, which is applicable to other mountain ranges of the world. Stratigraphic columns are augured in contiguous sample levels with decadal to centennial temporal resolution. We find that the colluvial sediments contain evidence of fires that initially cleared and subsequently maintained pastures. Natural or non-anthropogenic fires are very rare in this environment. We therefore interpret the unusually high concentrations of charcoal, rapid sedimentation rates, and high levels of magnetic susceptibility evident in colluvial strata as evidence of intentional fire use. The relative abundance of n-alkane carbon chains (C31/C27) across levels further discriminates sediment that accumulated under forest versus pasture. Results from a limited number of sections thus far indicate that intense burning and clearing occurred during the late Holocene, starting at about 4000 cal yr BP, but sporadic and limited fires also occurred on the landscape during the early and middle Holocene. After 4000 cal yr BP the sedimentation rates increased at least twofold, constituting “legacy” sediment. Elsewhere, similar shifts in fire regimes and vegetation assemblages are found in direct association with anthropogenic proxies (e.g. agricultural pollen taxa, fungal spores of sheep dung, and archaeological sites). Consequently, our method may provide a good indicator of human presence and land-use activities for mountainous areas where archaeological sites are sparse and artifact assemblages are limited.

Notes

Research prospects of single platform micro-Unmanned Aerial Vehicles (UAVs): uncovering the upland zone archaeological heritage of the Mirkovo basin, Bulgaria

Helen King, J.Chapman, B.Dumanov, B.Gaydarska, J.Entwistle, N.King

Autonomous sensor platforms such as unmanned airborne vehicles (UAVs) are becoming an established technology in many fields of monitoring and their use is steadily increasing, including in the field of cultural heritage. This paper presents the output achievable by a micro-UAV for the rapid generation of aerial imagery, digital terrain models (DTM) and broadband vegetation indices for archaeological prospection from a single platform. Combined, these datasets can be used in the rapid survey of areas of interest that would not normally be considered practical due to time and cost implications and to identify archaeological features that are not readily visible in aerial imagery alone. The adoption of a single platform with a dual camera set up was used to generate a suite of datasets covering an area of 10km² in seven flights. This study provides a work-flow protocol for the deployment of a micro-UAV in terms of data acquisition and processing that can be used for site prospection and site investigation. Real-time processing of the aerial imagery and generation of well established broadband indices (e.g. normalized vegetation index (NDVI), false colour composites, NDVI colour composites) enabled in-field decision making and planning to maximise the best use of researchers in the field. The time spent post-processing data was significantly reduced as all data was sourced from one platform. The single platform also enabled a high resolution of output (~5cm and 10cm DTM) and aided in the identification of features, such as palaeochannels, pits, remains of buildings and other structures, and relict field layouts and boundaries. The datasets generated provided new insights into the wider context of known sites and highlighted additional areas of (human) disturbance for field reconnaissance. This research has made the Mirkovo Basin one of the best-mapped upland basins in the Balkans. The results have made significant improvements to the Heritage Mapping aims of the District Council.

Notes

A "Total Archaeology Project" on the uplands of San Vito di Cadore (Belluno Dolomites, Italy)

Francesco Carrer, F.Cavulli, F. Fontana, D.Visentin, P.Cesco Frare, C.Mondini, A.Pedrotti

In the paper we will report the first results of the ongoing archaeological survey project developed in the uplands of San Vito di Cadore (Dolomites, Belluno province, 1800-2700 m a.s.l.) from 2011 to 2013. The adoption of a "total archaeology" approach has enabled to record different types of evidence without chronological limits, from prehistoric sites - Late Palaeolithic and Mesolithic - to present day structures, thus allowing a diachronic perspective on human occupation in this area. The methodology adopted has implied a multi-scale analysis. During the survey different categories of data have been recorded, such as single artefacts (micro-scale) and wall structures (macro-scale). The position of every evidence has been recorded with an handheld GPS. Moreover written and photographic documentation has been filled up directly on the field. The final step was the creation of a webGIS for the analysis of all the collected data (<http://laboratoriobagolini.it/ais/>). The archaeological evidence recognised consists of six main categories: 1. Prehistoric sites represented by lithic artefacts which mostly refer to an occupation of the area by Mesolithic hunter-gatherer groups; 2. agro-pastoral sites, like small dry-stone structures (huts), boulders for the distribution of salt to the livestock (called "massi del sale", literally "salt boulders"), rock-shelters, small and large dry-stone enclosures; 3. mining exploitation; 4. rock engravings, like boundary cross-shaped markers, writings and cup marks; the circular engravings are a specific feature of this territory and can be preliminarily interpreted as border markers; 5. World War I structures: trenches, presumed structures for artillery and platforms for military campsites; 6. isolated hearths and rock shelters that testify the modern and contemporary presence of hunters and hikers. Although this research is still at a preliminary stage, results obtained so far highlight an intense human occupation of this upland territory since prehistoric times. The present Alpine landscape of this gorgeous sector of the Dolomites is the result of several thousand years of human influence. Human occupations and modifications occurred over time and are still active, frequently overlapping one another. According to these considerations, new research and dissemination perspectives should be taken into consideration. First of all the adoption of a "total archaeology" methodology seems to be essential in order to fully understand the evolution of the cultural landscape in this territory. Moreover collected data represent a promising starting point for the creation of tourist itineraries capable of merging naturalistic and archaeological aspects in such a peculiar environment as the Belluno Dolomites.

Notes

Surface surveying in high mountain areas, is it possible? Some methodological considerations

Ermengol Gassiot Balbe, I.Clemente Conte, D.Garcia Casa, N.Mazzucco, L.Obea Comes, D.Rodriguez Anton

Until the last twenty years or so, the high mountain areas were almost excluded from the archaeological research. Firstly, because it was assumed that above 2.000 m.a.s.l. in Europe climatic and environmental settings preclude any stable human settlement. Secondly, because the steep slopes and the rugged terrains typical of the mountain areas make difficult to implement systematic surface surveys. However, this latter point is only partly true. Sampling strategies for flat terrains are difficult to apply in abrupt mountain areas. Nevertheless, recent projects of research in high mountain Alpine and Pyrenean areas have been applying new sampling strategies, which allow to surveys extensive surfaces in this kind of environments. This presentation discusses the methodological organization of the systematic surveying of mountain areas between 1.700 and 2.900 areas in Central Pyrenees, more specifically in the National Park of Aigüestortes i Estany de Sant Maurici. This debate involves not only the field organization of survey and the sampling strategies, but also other problematic: e.g., how to record disperse but continuous evidences over the space. As a result of these new surveys in high-altitude environments, unexpected humanized past landscapes are emerging. New images that challenge the historical reconstructions and the visions of the mountain areas traditionally proposed from archaeology.

Notes

Glacial archaeological sites are usually located in remote mountainous regions. Many of these sites are now melting and retreating due to warming climates. Managing heritage sites in ice patches, glaciers and in permafrost is particularly challenging for a number of reasons. Firstly, they sometimes contain fragile organic artefacts and eco-facts of great scientific value that need to be recovered quickly. Secondly, the melting processes are uneven and occur over long periods of time, making long-term monitoring necessary. Thirdly, the remoteness of many of these sites means that there are often serious logistical issues to be addressed before archaeological surveying and monitoring can begin. As global climates look set to continue to warm up, sites will continue to degrade and new artefacts and sites will be exposed. This is the case both in glacial archaeological regions already identified and in several regions around the world where targeted surveys have yet to be organised. For this reason it is important to undertake a review of the surveying and monitoring methods currently employed within this field. In this presentation, we will look at examples of glacial archaeological sites from around the world and at some of the artefacts and information they have produced about how humans have used remote mountain landscapes in the past. We will also review the different surveying and monitoring approaches that have been employed in the different regions.

Notes

As soon as in 1950', when the excavations at Middle Paleolithic sites in Slovakia (such as Ganovce, Horka-Ondrej, Beharovce or Bešenova) had begun, the correlation between archeological inventories connected with microlithic Taubachian and presence of travertine (sedimentary rock, formation of which in many cases is related to hydrothermal activity) was observed. Connection between two phenomena, cultural and geological, has never played a major role in the discussion of Neanderthal presence in Central Europe, as many sites outside of the Carpathians have not displayed any connection with travertine or thermal waters. Nevertheless, new analysis of data leads to the conclusion, that in light of some new evidence, this problem should be discussed again, especially in context of layer XIX of Obłazowa Cave.

Notes

Middle-Late Pleistocene mountain human occupations in the karst of Pinilla del Valle (Spanish Central System)

Theodoros Karampaglidis, A. I. Ortega, A. Perez-Gonzalez, S. Barez,
J. I. Alonso, L. Sanchez-Romero, J. L. Arsuaga, E. Baquedano

The karst system of Calvero de la Higuera (Pinilla del Valle) formed in Late Cretaceous limestones and dolomites at the Upper Lozoya valley pop down located in the Eastern part of the Spanish Central System at the Guadarrama mountain range. The archaeological fieldworks, started in 2002, revealed the presence of a middle elevation mountain (1,100 m asl) fossil multilevel karst modeled by lithological-structural controls and Quaternary local base lowering. At least three levels of subhorizontal caves detected hanging above the current thalweg of the Lozoya River. The whole karst system dismantled as result of bed rock weathering and surface processes, and istotally infilled by Middle-Late Pleistocene alluvial sediments, with debris and colluvium deposits. The systematic fieldwork shown Middle-Late Pleistocene human activity and carnivores inhabitants at the complex karstic system composed by the caves of Buena Pinta, Camino, Des-Cubierta and Navalmaillo rock shelter. Camino and Buena Pinta sites were identified such as carnivores inhabitants where the paleontological record summary includes human remains (*Homo neanderthalensis*). At the upper level (Des-Cubierta cave) was identified Middle-Late Pleistocene human activity with important paleontological remains. Finally in the Navalmaillo rock shelter recognized like as Neanderthal site with abundance artifact records.

Notes

Mountainous settlements modalities during Palaeolithic in the Lesser Caucasus (Republic of Armenia)

Davide Colonge, C.Montoya, D.Arakelian, A.Balasescu, R.Ghukasyan,
J.Jaubert, S.Nahapetyan, V.Ollivier, B.Gasparian, Ch.Chataigner

If the Great Caucasus is a strong border in the isthmus between Black and Caspian seas, the Lesser Caucasus, with its piedmont with volcanic plateaus, is looking like an area more opened and crossed during Palaeolithic; however, it remains a mountainous region, close of a “middle stage mountain” in Western Europe, with strong topographic and climatic factors. Recent works in Republic of Armenia allow us to compare very different strategies of settlements and economic exploitations: the set of Middle Palaeolithic sites in the Kasakh middle valley (Aparan district), the Kalavan 2 site Mousterian layers and the Kalavan 1 Epigravettian settlement (Gegharkunik district). At first, we will explain how these sites have been spotted: a large survey based on geomorphologic problematic with specified goals versus diachronic survey in the known area of a prospector. Then, we will suggest the patterns we have built with our results: to try to get further than the classical dichotomies Neandertal-residential versus anatomically modern human-logistic mobility systems, we are going to try to define these patterns and may be nuancing them also, by examining choices and modalities of these mountainous settlements. We will end by discussing the geographic dynamic of these lithic techno-complex in front of the Great Caucasus border.

Notes

The Mesolithic with geometrics in the south of “Picos de Europa” (Northern Spain)

Ana Neira Campos, M.N.Fuertes Prieto, D.Herrero Alonso

In this work we present the main features of a Mesolithic that we have called “Mesolithic with geometrics”. It appears in two caves, El Espertín and La Uña (levels III and IV), both located in the south versant of Cantabrian Range, and their chronology go from the second half of VII mil. cal BC until the end of the VI mil. cal. BC. This work will be focus on two main issues, the GIS analysis of the sites, and the analysis of the lithic industry. As for the last one, the petrographic characterization of the raw materials will let us examine its acquisition patterns. Also, a techno-typological study of the lithics, focusing on the retouched tools, will be presented. Some similar traits of these caves are its altitude over sea level (more than 1200 m in both cases) and the small size of the sites. As for the lithics, the raw materials used and the scarcity of geometrics are much the same, and also they share a lithic industry with deeply rooted archaic features linked to the Upper-Paleolithic/Azilian regional tradition. Nevertheless, there are also some differences between them, as for the geographic situation of the caves and the osseous industry.

Notes

A new stone age transit route across the main ridge of Austrian Alps

Walter Leitner

In the course of an Interreg IV-project between Austria and Italy a new prehistoric alpine transit route frequented and prospected by hunters, gatherers and sheperds could be detected. The track area is to be considered very important on the one hand as a hunting and meadow ground and on the other hand as a mining district where Rock Crystal and soapstone has been quarried out. Especially the excellent quality of quartz leads to the cognition that this material had a remarkable economic value and played a significant role in the early countertrade of the Alps.

Notes

Hunting and farming in the mountains: two Neolithic sites in the northeastern Italian Alps

Fabio Santaniello, A. Pedrotti, S. Grimaldi

Lithic assemblages coming from two northeastern Italian Neolithic sites have been techno-functionally analyzed. The open air early Neolithic site of Lugo di Grezzana, Verona ("Fiorano" facies, 5300-4900/4700 BC cal) is located in the Monti Lessini, a region rich in flint formations. La Vela open air site, in the Adige valley, provides a stratigraphic sequence ranging from the early Neolithic ("Gaban" facies, 5000 – 4700 BC cal) to the middle Neolithic (Square Mouth pottery, VBQ I, ca.4700 BC cal, and VBQ II, 4500/4440-4300 BC cal). The research will focus on lithic raw material procurement/production/functional strategies which have been adopted in these sites. The early-middle Neolithic transition is characterized by environmental, economical, and social changes such as the increasing presence of bovines among the domesticated animal species, and an observed variability in settlement strategies. Results show that early Neolithic lithic production is characterized by a high presence of unidirectional blades while, during the two VBQ phases, the production is characterized by the presence of flakes. Differences in raw material provenance as well as in functional purposes are also noticed.

Notes

Sebastian Perez Diaz, J.A.Lopez-Saez, D.Galop, X.Pontevedra-Pombal, M.Souto, M.I.Fraga

The conceptual and methodological bases of modern archaeology demand collaboration between different disciplines to achieve the same objective: to explain adequately the mechanisms of change and evolution in past cultures. In this multidisciplinary context, the study of botanical remains and geochemical record from different deposits helps to characterize past societies, from the standpoint of social and economic development. In this case, we focus our attention on the studies carried out in the Eastern Cantabrian Range (Ordunte Mountains, Northern Iberian Peninsula). We present a multiproxy study of the peat bog of Zalama (1330 m. asl). This is a very special place, because is an ombrotrophyc (rain fed) and blanket bog formed through paludification of the summit plateau. These kinds of deposits are extremely infrequent in the Iberian Peninsula, and this case, Zalama peat bog, is probably the most south-westerly recorded example of blanket bog in Europe. The studies carried out determine the use of this area related to pastoral activities in a relatively early chronology. As mentioned, is located in the northern atlantic area of the Iberian Peninsula, with oceanic climatic conditions. This area has been considered a marginal area for Neolithic technocomplex. Continuity between the Mesolithic and the Neolithic was assumed, with a long duration of hunting-gathering practices even when some Neolithic materials were available. Further, archaeologists also assumed there would be difficulty in the adoption of neolithic way of life due to the geographic conditions of the Atlantic valleys. The results presented herein, with other from nearby archaeological sites documents the use of this area by the first farmers-cattle rangers of the atlhantic area of the Iberian Peninsula.

Notes

Lithic resource management constitutes one of the most important variables for the technological organization of hunter-gatherer societies. As essential resources for the manufacturing of tools that are themselves involved in processing and consumption of different types of resources, rocks constitute the starting point of all production processes. Consequently, the whole technological organization relies on aspects of lithic resource management: identification, collection, processing and use/consumption. In this work, we present a discussion on lithic resource management in mountain and piedmont environments, from new research conducted in the Andean area of Tierra del Fuego. The materials studied correspond to a regional project on the exploitation of resources and population dynamics in the central area of Isla Grande de Tierra del Fuego. In this project surveys were conducted in different environments, with location of sites, delimitation and excavations. Lithic analysis was conducted following a technofunctional perspective that includes the interrelated study of the technological (raw materials and manufacturing techniques) and functional aspects (microscopic analysis) of the lithic series. Materials belong to sites located in different topographic and environmental positions and with different functionalities, such as camp sites, ceremonial sites, etc. The raw materials used in the lithic assemblages come essentially from two geological formations, the Lemaire formation (Jurassic) and Yaghan formation (Cretaceous). However, the mountain slopes are covered by subantarctic forest, which produces a very low visibility, hinders access to lithic raw material sources and difficult raw material extraction. Besides outcrops, there are areas associated with lacustrine bodies, mainly located at piedmont sectors, where raw material is accumulated in secondary supply sources. Lithic analysis shows predominant exploitation of materials from secondary sources. Those most commonly used are rhyolites and cinerites, and in lesser measure shales, characterized by their good knapping quality, mainly depending on rock particle size. Usually the best knapping quality rocks are cinerites and shales, although rhyolites are the most abundant. Another characteristic of the assemblages is the predominance of local materials, although there are some allochthonous materials, coming from sources located at different distances, such as a silicified tuff from a primary outcrop located at more than 250 km. From the results obtained, it is possible to discuss some more general aspects regarding the exploitation of lithic resources in mountain regions. These landscapes may seem, at a first glance, as ideal provision places for hunter-gatherers because of abundance of rock materials. However these are not always accessible in terms of visibility and possibility of exploitation. On the other hand, not all rocks can be used for the manufacture of all types of tools. We can then propose that hunter-gatherer societies that highly depend on lithic resources seek to exploit outcrops where visibility and accessibility are high, but that also search for a variety of raw materials with different characteristics that allow manufacturing of different artifacts. From these data, it is possible to discuss mobility and seasonality of hunter gatherer groups, in relation to raw materials, availability of other resources and the fuegian ethnographic model.

Notes

The women of the pastoral sheep herding communities on the upper Himalayan ranges have nurtured skills of wool processing, knitting and carpet weaving from the distant past. They have developed skills passed down the generations for making beautiful items out of raw wool that is given to them by the men of their community, who herd sheep and go long distance trading as a livelihood. The women, who are tabooed from going to the pastures, receive the wool in the village and know how to process, spin and dye the wool and then either knit or weave carpets out of them. They have nurtured these skills as household work and are today able to use it for commercial purposes and find a ready market for many of their items. This transition to market is giving them cash income and is supportive of their social transactions such as gift giving. The women are able to sustain their traditional role playing and augment it in the changing circumstances while keeping alive their traditional crafts and skills. Although they sell their products in the market, every item of production is still collected by them from primary sources and is part of their natural environment. This community is one of the several that have traversed the natural geographic barriers of the Himalayan range for centuries, ferrying resources from one region to another, using the natural passes made by the river gorges. These age old practices have continued till almost the present times but are today threatened by climate change and manmade changes in the environment. Field work was done in the Uttarkashi region of the Himalayas on the pastoral community of the Bhotiyas who have also been transborder traders engaged in the Tibetan salt trade. The data is mostly primary in nature collected by interviews and observations spread over about three years, intermittently. Some secondary sources have also been consulted from archives and books. The work is ethnographic and descriptive so no specific conclusions exist, only a discussion is undertaken in the conclusions. This paper will discuss the interface of indigenous knowledge, traditional skills and a cash economy in the back drop of a subsistence mode of living and long sustained life worlds that have evolved in relation to a particular habitat and livelihood patterns. It will also touch upon the transformations brought about by climatic and technological changes.

Notes

En el año 1996 se descubrió en las tierras altas de la vertiente noreste de la isla de Gran Canaria en el Archipiélago Canario, el Almogaren de Risco Caído, un extraordinario complejo arqueológico de carácter religioso y astronómico de los antiguos canarios. El complejo cultural de Risco Caído, se localiza a 1000 m sobre el nivel del mar, en la localidad de Barranco Hondo, el municipio de Artenara, formando parte de un poblado de cuevas excavadas, muchas de ellas de tiempos históricos, deshabitadas desde principios del siglo XX. Dos de estas cuevas, las de mayor tamaño y complejidad constructiva, presentan manifestaciones rupestres grabadas en bajo relieve en las paredes interiores y en el suelo. Siendo la figura del triángulo píbico femenino la más representada, siempre asociada a las cazoletas o cúpulas, que tanto se encontraron en las paredes como excavadas en los suelos de toba volcánica. Si bien estos grabados poseen una gran importancia dentro de las culturas de los antiguos canarios, por su valor ideográfico y porque apenas se identifican en unos pocos lugares de la isla, lo más sorprendente y singular de este conjunto, es la construcción de una de las cuevas, que representan un hecho sin parangón en la arqueología del Archipiélago y de los contextos culturales de donde eran originarias aquellas poblaciones, tanto por la técnica constructiva, como por los fenómenos arqueoastronómicos y simbólicos asociados a dicha construcción. Todos los indicadores arqueológicos parecen apuntar a que se trata de un antiguo monumento religioso de los aborígenes canarios, sobre el que no se tenía conocimiento. El hecho de que estas cuevas fueron utilizadas como pajero hasta tiempo muy reciente, ayudó a que pasaran desapercibidas para la arqueología, hasta que el arqueólogo, especializado en el estudio de la religión de los antiguos canarios, Julio Cuenca Sanabria, las descubrió durante los trabajos de prospección arqueológica que llevaba a cabo en ese territorio montañoso de Gran Canaria. En el año 2011, La Consejería de Cultura y Patrimonio Histórico del Cabildo de Gran Canaria, ante el interés científico y patrimonial del Sitio Arqueológico, que presentaba un precario estado de conservación, debido a los derrumbes del escarpe donde se sitúa el complejo de cuevas excavadas, procedió a iniciar un ambicioso programa de recuperación del yacimiento. Este amplio programa ha consistido en la realización de un diverso tipo de intervenciones, tanto de obras de conservación, como de investigación, de restauración y protección, empleándose las últimas tecnologías de reproducción, diagnóstico y análisis, de esta obra prodigiosa de los aborígenes canarios, para concluir, con la adquisición de dichas cuevas, en su puesta en valor, acondicionando el yacimiento a las visitas. Actualmente se trabaja en la construcción de un Centro de Interpretación en la localidad de Artenara, en cuya demarcación se localiza el monumento arqueológico, que servirá de apoyo y complemento a este extraordinario monumento arqueológico. Risco Caído y los santuarios de montaña de Gran Canaria. Risco Caído, se enmarca en un espacio cultural más amplio, vinculado al mundo de las creencias de los antiguos habitantes de la isla. El prodigioso y espectacular relieve del interior de Gran Canaria sirvió para construir y dar apoyo a una singular forma de practicar sus cultos religiosos, que tiene su máxima representación en una serie de santuarios de montaña, en ocasiones asociados a construcciones singulares excavadas o construidas en lugares casi inaccesibles, que parecen situarse en rutas predeterminadas. Aunque, posiblemente existieron diferentes rutas, siguiendo el eje costa- cumbre, en una isla surcada por grandes barrancos, será en el macizo central de Gran Canaria, en torno a lo que fue una gran caldera de explosión (Caldera de Tejeda), donde se identifican algunos de los santuarios más espectaculares de los antiguos canarios, siendo Risco Caído, vinculado a una importante ruta centro noroeste, el que alcanza la mayor complejidad y perfección constructiva y simbólica. En ese contexto, la investigación arqueológica vincula una relación funcional entre este templo-calendario aborigen de Risco Caído, y lo que denominamos el Santuario de Risco Chapín, a escasos kilómetros, ubicado en el Pinar de Cueva Caballero y la Montaña de Los Moriscos (1772 m), donde se localizan los yacimientos rupestres de Cueva Candiles, Cueva Caballero y Cueva del Cagarrutal, un complejo de cuevas excavadas que presentan en sus paredes interiores la misma tipología de grabados, con representaciones de triángulos píbicos y cúpulas. Este extraordinario complejo cultural se excavó en la vertiente Sur-Suroeste del escarpe que conforma la pared norte de la Caldera de Tejeda, en el centro montañoso de la Isla. Desde este conjunto, donde se divisa el complejo arqueológico y, también cultural, de la Sierra del Bentayga, se bajaba a la cabecera del gran barranco de Agaete, pasando por el santuario o Almogaren de Risco Caído, como hito principal de lo que fue uno de los lugares de peregrinación más importantes de la isla de los antiguos canarios. Según nos relatan las primeras crónicas tras la conquista, a estos lugares de culto, acudía la población a celebrar los rituales cuando era convocada por el estamento religioso. El relato simbólico de la luz. Los trabajos arqueológicos que se vienen realizando desde comienzo del año 2012 en este complejo cultural, han permitido identificar ciertos elementos excepcionales y novedosos, en relación al conocimiento del que se disponía hasta ahora, sobre la cultura de los antiguos canarios. Elementos que, en buena medida, cuestiona la idea preconcebida sobre el grado de desarrollo de aquellas sociedades, tanto en conocimientos y habilidades técnicas como en el del pensamiento abstracto y simbólico. Actualmente se trabaja en determinar el significado de alguno de los fenómenos que se producen en el interior de la cueva principal de Risco Caído. Quizás el elemento más excepcional, único en el archipiélago canario y sin precedentes en los contextos culturales de donde eran originarios los aborígenes de las islas, es la cueva de planta circular, algo prácticamente único en la arquitectura aborigen, con techo abovedado y con un orificio o ventanuco en su parte media por donde entra la luz solar en ciertas épocas del año, bañando, precisamente, los citados grabados píbicos y proyectando una sucesión de imágenes cambiantes entre equinoccio y

equinoccio. La investigación que se viene realizando sobre lo que ocurre en el interior de esta cueva a lo largo del año, debido a la proyección de la luz solar entre equinoccios y durante el solsticio de invierno por la entrada de la luz de la Luna llena, puede dar lugar a un descubrimiento sin precedentes sobre las prácticas culturales de las culturas que vivieron en las canarias antes de la conquista, y que representa, por sus características, una manifestación única no sólo en ámbitos culturales insulares, aislados durante muchos siglos, y muy limitados desde el punto de vista de los recursos estratégicos. Tampoco a nivel internacional no son muchos los ejemplos en que más allá de que la luz juegue el papel de marcador, pueda, además representar un relato simbólico perfectamente diseñado. Lo que no cabe duda, es que la cúpula que se eleva a cinco metros del suelo y la ventana construida en ella, fueron diseñadas y construidas para que funcionaran, y aún hoy lo hace, como un gran proyector de imágenes en movimiento, que cambian de formas, según pasan los días y los meses, entre los Equinoccios de Primavera y Otoño, siendo el momento culmen de ese recorrido el Solsticio de Verano. En los estudios realizados se ha podido comprobar cómo la entrada de los rayos de luz del Orto Solar en el interior de la cueva y la proyección de la imagen lumínica en los grabados rupestres conforma lo que parece ser un relato que podría tener que ver con la fertilidad de la tierra. Así durante al menos los seis meses del año comprendidos entre Marzo y Septiembre, en el interior de esta cueva se produce una secuencia de imágenes logradas entre la figura proyectada por la luz solar al atravesar el conducto artificial, y los grabados realizados en la pared Oeste de la Cueva, que podría corresponder con un relato, una historia que nos habla de las prácticas culturales de aquellas poblaciones que ha llegado hasta hoy, posiblemente vinculada al control del ciclo agrícola, a través no sólo de un calendario de una enorme perfección y precisión sino de la secuencia de imágenes que adquieren diferente tipología, en ocasiones recordando figura antropomorfas.

Notes