



CNR (Consiglio Nazionale delle Ricerche - National Research Council)  
Sala Convegni – Piazzale Aldo Moro, 7 (Entrance through Via dei Marrucini)  
00185 – Rome – Italy

*Organizers: S. Biagetti & F. Lugli*

Associazione Italiana  
di Etnoarcheologia  
Roma



*associazione più eticamente*



**CNR - Consiglio nazionale delle Ricerche**

**Wednesday, 25 November 2015**

*9:30 Registration*

*10.15 - Prof. E. Janulardo*

**10.30 - Welcome address**

*S. Biagetti and F. Lugli*

**10.50 - Multiple Approaches to the Study of Ancient Farming**

*P. N. Kardulias*

This paper provides an overview of how archaeologists study ancient agriculture through excavation, survey, ethnoarchaeology, and ethnographic analogy. The work involved the excavation of ancient farming communities in Greece and Cyprus and the analysis of the remains, with a focus on the various implements farmers have used. Some of the tools and methods of food production have changed little for several thousand years, so a second phase of the research entailed interviews with present farmers in the regions and the examination of tools which only recently went out of use. With some modification, various stones could make extremely useful implements for cutting, scraping, drilling, incising, and abrading, grinding, or crushing various materials, even when compared to tools provided by new technologies. Indeed, both flaked and ground stone tools persisted even as new materials and technologies were introduced because their relatively low cost and high durability provided substantial value and utility for people. Among the implements with significant durability are millstones for the grinding of grains, and threshing sledges. Finally, in order to better understand how farmers worked in the past, the study involved some experimentation in an effort to reconstruct these ancient practices. The central perspective which weaves all of this research into a cohesive fabric emphasizes the strategic planning in which all farmers, past and present, must engage. In doing so, I challenge the notion of “traditional” farmers as inflexible, and wedded to outdated practices and tools. Instead, it becomes clear that agriculture requires a fine balance between conservative and innovative approaches to the essential task of providing the daily bread. Furthermore, the tools and practices that farmers employ have a significant impact on local identity, which is examined in terms of world-systems analysis. This effort brings ethnoarchaeology into the conversation concerning the development of broad-based social theory.

**11.10 - Precolumbian granaries and modern barns in the heart of the Bolivian highlands regions of Uyuni and Coipasa. How ethnographic data can help us to understand the technical of storage of precolumbian villages of Tiwanaku tradition (500-1200 AD.), in Bolivia**

*P. Lecoq*

The regions of Coipasa and Uyuni, located at 3700 m above sea level, in the southern part of the Bolivian highlands, contain the largest salt flats in the Andes, and are one of its main centres of production for quinoa (*Chenopodium quinoa*). These volcanic areas, characterized by arid and cold climate, are today occupied by Aymara agro-pastoral populations, with a poorly known history. But some years ago, prior to the strong impact of tourism on the area, the majority of its economic resources were derived from quinoa agriculture, as well as camelid and ovine husbandry and salt extraction. Transported each year by llama caravans from the sterile high plateaus to the fertile lowland of the Amazonian foothills, salt was bartered by the highland inhabitants for products such as corn, coca, pepper, wood, honey and other foods that could not be produced locally to the inhospitable climate.

Archaeological surveys of this area carried out in the 1990's testify to its rich economic potential and long history. They reveal the presence of numerous villages scattered on top and along the slopes of the major massifs, dated to the expansion of the Tiwanaku civilization, between AD 600 and 800.

These defensive hamlets often contain hundreds of rectangular houses, combined with small structures, presumably used for storage of agricultural products such as quinoa. These buildings, located on the edge of the terraces, are either square or more or less circular, with a diameter of 3 m to 4 m, and 1.50 m to 2 m high, and covered with a flat roof made of large slabs of andesite stone. A small window, 1.50 m to 1.60 m above the ground, allows access to a room of 5 to 7 m<sup>3</sup>. Excavation of these structures has produced macro-remains of plants and quinoa seeds, associated with a few stone spades, suggesting that they were used as domestic granaries for the harvest. But their form also evokes that of mausoleums or *chullpa*, characteristic of this period of Andean history. Quinoa was also stored inside natural caves, sometimes used as graves and subterranean silos, called *pirwas*. These were also used to store tubers such as potatoes, *mashua* (*Tropaeolum tuberosum*), and dehydrated potatoes (*tunta* and *chuñu*) although their form evokes those of shaft tombs or cists. Therefore, the use of old granaries as tombs and vice-versa poses problems for interpreting the primary function of these buildings.

Recent ethnographic work in several existing hamlets of neighbouring regions of Potosi reveal striking similarities between the barns built by the current populations and those of prehispanic periods in the Uyuni region. They share the same shape, the same building materials, and are associated with houses in close proximity. To use them, farmers simply remove the slab that covers the window and then fill the storage structures with quinoa, maize or other crops. Once the operation is finished, the window is again sealed by the stone slab. The quantities required for the consumption are also removed through the window. The volume of the room corresponds to the production of a family on 1,5-2 ha of land. The presence in the same place, of domestic units and barns allows us to understand how pre-Columbian granaries might have been used by Tiwanaku villagers. They also demonstrate an interesting dynamic of occupation.

The ethnohistoric sources transmitted by Spanish chroniclers also describe the role of similar types of structures called *colica* for the Inca period, and show how they were managed by the ruling power. In terms of analogy, Bolivian lofts also have interesting similarities with those of the Dogon culture in Africa, which are supposed to represent the ancestors, the most revered.

In the 90's, the confrontation of archaeological, ethnographic and ethnohistorical data allows us to trace the economic activities of rural pre-Columbian societies of southern part of Bolivia, and shows the persistence of knowledge in the construction of granaries dating back over 1200 years since the Spanish conquest has little or no change.

But nearly 20 years later, the completion of this work raises several methodological problems. For example, we can ask us if the use of analogies is particularly valid to identify granaries when we know that some of them were used or reuse as tombs.

In another hand, what is the place of ethnoarchaeology in a country like Bolivia, where migration of rural populations and young people to big cities like La Paz or Santa Cruz implies the abandonment of ancestral knowledge? Is it pertinent to use ethnohistorical data, collected by Spanish chroniclers, to resolve archaeological questions related with storage techniques of this area?

Will it be possible to use experimental archaeology to reconstruct barns and explain the way they might have been used in a long-term preservation?

Finally, could Google Earth and GIS provide us any good information to identify storage sites, and evaluate the farming potential of the region we have studied. These issues should therefore help to redefine the notion of ethnoarchaeology.

11.30 COFFEE BREAK

12.00 – **Ethnoarchaeology and Multi-Agents Systems: experimental synthesis for a future**

A. García, R. Carracedo, J. Estévez, J. Olives, A. Vila

The analysis of resource exploitation has been the major subject of study in archaeology. However, the organisation for reproduction (biological and social) has been left aside because of its supposed archaeological invisibility. Ethnography describes most Hunter-Fisher-Gatherer (H-F-G from now on) as egalitarian societies in which sexual division of labour is a consequence of the biological features of women and men, or a technical strategy based on the complementarity of both sexes. However, a non-biased, complete analysis of the ethnographic information shows that actual sexual division of labour and social asymmetry between males and females are present in all recent H-F-G societies. This fact, may have biological foundations but certainly is a social option; as attested by the large variability in the morphology and in the intensity in the different cases. We claim that this organisation for reproduction is the main structuring framework of a society, hence a necessary goal of the archaeological research on prehistoric societies. Thus, our ethnoarchaeological research projects since 1986 have focused on testing and developing archaeological theories, inference systems, methodologies for recovery and analysis of prehistoric European hunter-gatherer societies. In particular, we have used an approach that we have called “Ethnoarchaeological Experimentation”.

The research began by contrasting the ethnographic image of the Tierra del Fuego H-F-G societies with the archaeological record from sites attributable to the people defined as “Yamana” and “Selknam” in ethnographies. The research dealt with the variability of the resources, the space management strategies and their links to the social organisation of these groups. We excavated settlements as well as burial and ritual places. As a result of the research we argue the necessity of using analytical categories of social significance related to work processes, absolute value, and the distribution and consumption of goods. Working with such categories is productive, but requires rethinking some of the general analogies and common a priori explanations in the study of prehistoric societies.

Also, these 20 years of ethnoarchaeological research have made us reach the conclusion that social norms that regulate the reproductive behaviour of individuals are the critical factor of H-F-G societies. The emergence of norms in not centralised human societies is a subject of social and historical research. We needed experimentation techniques in order to answer the questions that concerned us: How the normative system determines the viability of a society? Which norms are essential for its sustainability in that specific environment? Could other normative systems have the same effect on that society in that environment? How much does the normative system contribute to the sustainability and prosperity of a society?

We have proposed an approach for experimenting with simulations using Multi-Agent Systems (MAS), which offers a good chance for the advance in this issue. The use of agent-directed simulation in archaeology has a relatively long tradition. However, these simulations have always been mainly oriented to the study of spatial processes and resource management. In contrast to this traditional resource-centric simulation we propose a norm-centric simulation where the normative system is both the core of the simulation and the subject of study. Our final goal is to set the foundations of a rather general model of social behaviour in a hunter-fisher-gatherer (HFG) society without political institutions but with strict social norms; then we could test how much the normative system that modulates reproductive behaviour contributes to the sustainability of a society.

In the current phase of the project we have achieved to introduce the main social norms of four small-scale not centralised ethnohistorical societies and refine the variables of human behaviour through experiments in the MAS platform we have developed. Through these experiments, both the nucleus (the motor) and the interplay of the variables of the agents and the social network are being tuned. At the same time, we are testing which archaeological markers can be useful to state and detect the development and the character of these social norms in the Palaeolithic and Mesolithic societies.



## **12.20 - Ethnoarchaeology of mudbrick architecture in the globalised Mediterranean context**

*M. Lorenzon*

Mudbrick architecture is one of the most common building materials in the Mediterranean, both in the past and in the present. The World Heritage Earthen Architecture Program at UNESCO values earthen architecture and its cultural importance considering them as a common heritage of the international community and a significant architectural expression created from modest natural resources.

Evidence of mudbrick architecture in Mediterranean archaeological contexts is frequently presented as a single artefact, regularly praised for its sustainability and inventiveness, but not considered as the addition of multiple artefacts and ecofacts through intangible and tangible processes. Recent studies on building identities have stressed the prominent role of the interaction between people, environment and materials during production processes. In mudbrick manufacturing evidence goes as far as to prove that an established production process helps to reiterate and maintain social categories, demonstrating practically the significance of 'routine' practice (Jerome et al 1999, Ingold 2011, Jones 2012, Love 2013). Mudbrick architecture and the related social structure is one topic of investigation that has been relatively little explored. Therefore much of the earlier research has stressed technological aspects rather than the social processes that are involved in the mudbrick manufacturing and construction.

Recent researches (Matthews 1995, Love 2013, Kemp 2000) highlight how the production process behind earthen architecture is more multifaceted than usually thought and it is the result of cumulative actions performed by specific groups of people in different societies, which attribute different social meaning to their actions.

It is quite clear that in earthen architecture two different processes are combined: mudbrick production and mudbrick construction, creating different social identities such as manufacturers and builders.

As a result a new line of research has been developed where mudbrick ethnoarchaeological data can help in raising original research questions, increase the preservation of local knowledge and create new opportunities of sustainable development in relation to archaeological heritage.

In order to investigate the social aspects of the production process, data from ethnographic, geoarchaeological and architectural contexts must be combined to analyse the reasons behind specific production choices as well as their effects on society.

This paper will present two case studies where the use of ethnoarchaeological data is combined with geoarchaeological research is adopted to investigate how mudbrick manufacturing techniques can help in building identities, the reasons behind the selection of raw source materials and building techniques. This concept of ecofacts as an important component of material culture has begun to be developed for earlier periods of prehistory, but has rarely been applied in later contexts.

These case studies will also be investigated to understand how and to what extent the form and function of mudbrick architecture represent a direct reflection of social practices.

The research main focus will be on new approaches to the ethnoarchaeological investigation in different areas of the Mediterranean such as Maghreb and the Aegean, highlighting differences and similarities among distinctive regions.

Preliminary results of the ethnoarchaeological investigation of mudbrick architecture seem to highlight a system of raw material selection which is not always just motivated by functional reasons, but also cultural and social.

## **12.40 - Marketing Ethnoarchaeological Insights**

*J. Casey*

There is no doubt that ethnoarchaeology is uniquely placed to make substantial contributions to understanding culture change in ways that are relevant to both modern problems and interpretations of the past.

A larger question, however, is how to position and present ethnoarchaeological insights so that they are heard by relevant institutions. Our work routinely falls between ethnography and archaeology such that it is neither taken seriously by cultural anthropologists and policy makers, nor is it widely read and applied to questions of the past by archaeologists. Most of the time it feels as though ethnoarchaeologists are only talking to each other. How do we make our significant insights about culture change relevant to both archaeology and broader cultural studies? Where should we be presenting our research, and how can we position it so that it is readily available and widely read where it can do the most good?

13.00 LUNCH

**14.00 - A Net against the Loss of Memory: Fishing Nets Manufacturing and Repairing**

*J. De Grossi Mazzorin, C. Giardino, C. Merkouri, T. Zappatore*

Current societies - unfortunately not only those ones located in the West - are distressed by a progressive loss of memory about their past. Gestures and operational chains that were a living part of the cultural tradition for many communities until the middle of the last century are now largely disappeared and forgotten. Objects that were of everyday usage until yesterday, are now silent museum exhibits. This makes increasingly difficult to understand properly the artifacts that are found during the archaeological excavations: the preliminary, essential stage if we want to reconstruct the social and cultural context of ancient societies.

This is a significant challenge for ethnoarchaeology of the new millennium: ethnoarchaeology, to survive, will have to combine together the few data that can be still collected on the field, with the scarce written sources, ethnological collections and antiquities.

Our case study points out that the future challenges for ethnoarchaeology will be to document and to study traditions and knowledge still survived in a quickly transforming world. Furthermore in most of countries archaeological research suffers a widespread decrease in funding. This situation suggests to reshape ethnoarchaeology, producing a new research strategy that appraises the remains of the ancient local traditions, avoiding that they will completely disappear.

This paper examines as case-study techniques and tools for making and repairing fishing nets, that were spread in most of the coastal countries since prehistoric times. Highly specialized artifacts have been always used to making and repair fishing nets, as it is indicated by netting-needles found in archaeological contexts.

These tools require a complex gesture, handed down through the generations. Methods and objects are examined and compared from the coastal areas of the Ionian and the Adriatic sea, taking into account the opposite banks of Salento (Italy) and the Ionian Islands (Greece), where the memory of traditional fishing techniques is still alive.

**14.20 - What should I bring with me to Europe? Belongings found in the boats of migrants crossing the Mediterranean from Africa**

*L. Pisoni*

What would you bring with you on a journey that might see terrible tragedies, high hopes and the abandonment of your loved ones and your homeland?

Probably all of us, faced with the need to conform to such stringent norms in order to pass through a “bottleneck” so as to win a place in a boat (or even just a motorboat) across the Mediterranean, would behave the same way?

The study of the objects carried by migrants of various cultures and religions suggests that we are all similar. The Museum of Migration of Lampedusa and Linosa and the words, during interviews, of the migrants’ descriptions of the things they carried, conducted at a second “bottleneck” at Bolzano/the Brenner Pass - where they hoped to pass into the northern EU to fulfil their dreams of citizenship and work - are all evidence of this.

If, as Daniel Miller argues, we can see the objects carried as simultaneously active in the social, functional and ideological spheres, is it possible to consider them as primarily active in the latter two spheres so as to emphasise the roles of the things that the migrants brought with them?

To the first dimension belong the windbreakers and other jackets (sometimes lifejackets), furnished with water, food and the now-impossible-to-avoid smartphonne, pre-loaded with the names and numbers of friends and relatives, transcribed into these oh-so-little lists.

In the ideological sphere we see, instead, photographs of the family, religious texts and objects - the Bible, the Koran, necklaces with crosses or the Hand of Fatima etc. - and music delivered through headphones from the smartphone: music that is so much more than a pastime but, rather, is an important aspect of personal resistance to the events occurring and a shield against depression and madness.

A similar study to that presented here, conducted on “illegal” migrants crossing from Mexico into the USA, yielded very similar results. These “illegal” immigrants carried clothes suited to their desert passage, phones and address books with the names of useful contacts, pictures of family and relatives - and images of holy intercedents such as the Baby Jesus of Atocha, known as a protector of travellers.

These objects thus become an invaluable source for knowing and understanding the lives of those who otherwise would fall between the cracks in a world that, usually, we see as subject to the recording of more or less every second of every day by means of webcam or smartphone.

In addition, those objects recovered from the boats help us to understand how material culture can act in a cosmological and comforting way, serving to represent universal concepts like religion and kinship.

In general - even abstract - terms, this research shows how the ideological use of material culture - arising from the (Upper Palaeolithic) cognitive revolution noted by, *inter alia*, Yuval Harari, that serves to distance *Homo Sapiens* from *Homo Neanderthalensis* - has been a long-lived, widespread and fruitful phenomenon, being manifest in all the subsequent so-called “revolutions”: Neolithic, Scientific, Industrial etc.

With regards to the development of ethnoarchaeology, there appear to be substantive and methodological issues both in terms of substance and methodology.

With regards to substance, in an anthropological sense, we must decide what should be recorded. While analyses that make comparison with the past must not be ignored it is, perhaps, more important to record the experiences of those living through these current terrible migrations before they move forever beyond our reach, ever more difficult to study, and into (un)recorded history.

From a methodological perspective, ethnoarchaeology should focus on theory, so as to elaborate models applicable to the past, without losing sight of the fact that it must also address the present, observing what happens today from its own distinct, particular, perspective.

#### 14.40 - Chasing tales: A social archaeology of Torres Strait ceremony

*D. Wright*

In the Torres Strait (between Australia and Papua New Guinea) Islander communities have cosmologies that they use to explain the ancestral past. Ceremonies have been maintained for weddings and funerals, many of which continue for many months or, in the case of tomb stone openings, years. One of the

most remarkable aspects of communities is the maintained links with ancestral, totemically-organised ‘*Kod*’s’ (or men’s meeting places). These remain at the heart of Islander identities, evident through the recent initiation of the current Chief of Mabuyag, Dimple Bani, at the *Kod* of his ancestral village, Wagedoegam. This paper uses oral histories to assess recent archaeological results (excavation and rock art analysis) from the Wagedoegam *Kod*. Archaeological excavations (including examination of lithic residues and use-wear) across this site provide evidence for the structured underpinnings of ceremony on Australia’s northern border.



Wagedoegam rock art (D-Stretch): believed to represent the “*Waiat*” initiation ceremony.

## 15.00 - Ethnoarchaeology, landscape policy and cultural heritage management: a case study from the Western Alps

*F. Carrer*

### ***New approaches to landscape management***

In the last decades the perception of landscape has radically changed. Landscape, in its broad meaning of physical context, framework of spatial practices and perceived space, has also become the target of conservation actions. The European Landscape Convention signed in Florence in 2000 was triggered by the disappearance of European landscapes, threatened by modernization and urbanization. These landscapes were seen as bearers of important identity values, and therefore in need of protection and sustainable management. Policy-makers have also realized that landscape protection has a crucial impact on key-aspects of environmental management: preservation of biodiversity and traditional products, prevention of soil erosion and geomorphological instability, etc.

Landscape management is interwoven with the safeguard of local communities as well. Human and historical ecology suggested that only a deep understanding of human-environment interaction enable local, national and European authorities to set up valid landscape policies.

### ***The role of landscape ethnoarchaeology***

Landscape ethnoarchaeology is placed at the convergence of these new cultural and political trends. It studies spatial strategies and human-environment interaction in ethnographic contexts and investigates how these strategies and interactions contributed to the shaping of landscapes. Ethnoarchaeological inferences provide crucial insights to understanding archaeological landscapes and their evolution. But they can also contribute to the protection, management and planning of traditional landscapes in Europe and abroad.

Despite these potentials, the impact of ethnoarchaeology is still quite limited outside archaeology and outside academia. The integration of ethnoarchaeological research into interdisciplinary projects aimed at providing new tools for landscape policies is extremely rare. In order to change this trend, landscape

ethnoarchaeologists should rethink the objective of their research: from creating models for archaeology to creating models for landscape management. This does not mean that ethnoarchaeology has to give up its archaeological focus, but that this focus should be complemented with a different approach.

### ***Case study: the “gias” of Sella Brignola***

This paper wants to address all these theoretical and methodological issues, using a case study from the western Alps. A project called “EthWAL” (Ethnoarchaeology of Western Alpine upland Landscapes) started in 2013 and focused on the Italian and French Alps. Funded by the European Union, it was carried out at the University of York (UK) by Francesco Carrer and Kevin Walsh. The purpose of this project was to understand how alpine communities in the recent past and in modern times shaped their upland landscapes. Additionally, its goal was to improve the interpretation of archaeological mountain landscapes and to contribute to modern local policies of alpine landscapes.

Two study areas were analysed: the Vallée de Freissinières, in the Southern French Alps, and the Val Maudagna, in the Italian Maritime Alps. This paper focuses on the second study area. Here all the structures and infrastructures at high altitude (>1800 m asl) were recorded; herders and farmers that exploited (or are still exploiting) the landscape were interviewed; historical documents and maps were studied and provided crucial information for the 19<sup>th</sup> century and the early 20<sup>th</sup> century strategies. A specific case study was selected: the *gias* of Sella Brignola. This is a pastoral site composed of two dry-stone huts, still exploited by local herders. Spatial analysis was carried out in these huts, in order to understand the strategy of use of intra-site space. Archaeological excavations undertaken in 2014 suggested that these structures were in use at least since the 16<sup>th</sup> century.

The collected data were compared with archaeological data from other alpine areas. This comparison enabled inferences to be made about the exploitation of archaeological upland structures. The information provided by the archaeological excavation and the historical sources enabled the evolution of historical landscapes of Val Maudagna to be investigated.

### ***The impact of landscape ethnoarchaeology***

The historical and ethnographic importance of the *gias* of Sella Brignola, and the interest shown by policy-makers, members of the local communities and tourists for this research, suggested that the results of the project could be used for protecting and managing this site and the pastoral landscapes within which it is embedded. This paper focuses mainly on the initiatives that have been undertaken to preserve these pastoral huts and to make them a point-of-interest in the touristic hiking tracks.

Furthermore, the ethnographic, historical and archaeological research in Val Maudagna suggested that traditional pastoralism secures the preservation of ecological balance in these upland pastures, and that modern transformations can have negative consequences for the local environment as well as for the identity and cohesion of local communities.

Ethnoarchaeology proved to be of critical importance for the management of landscape and for the protection of the environment in the Maritime Alps. Archaeological and historical inferences were provided as well, in accordance with the “traditional” perception of ethnoarchaeological purpose. In conclusion, this case study confirms that landscape ethnoarchaeology has the potential to become a crucial tool for landscape protection and cultural heritage management, and suggests some practical strategies for putting this potential into practice.

15.20 COFFEE BREAK

15.40 - **Ethnoarchéologie de l’habitat dans la Falémé (Sénégal) : une recherche à caractère urgent**

*T. Pelmoine*

Cette communication présente les premiers résultats obtenus dans le cadre d'une thèse de doctorat\* portant sur l'étude ethnoarchéologique de l'habitat le long de la Falémé, un affluent du fleuve Sénégal, à la frontière entre les républiques du Mali et du Sénégal.

L'habitat est une composante essentielle du mode de vie des sociétés. En milieu de savane africaine, l'habitat traditionnel est le plus souvent édifié à l'aide d'argile crue et de matériaux végétaux périssables. Par ailleurs, il existe très peu d'études sur l'habitat en Afrique. Les rares documents existant sont l'œuvre d'ethnologues et d'architectes, et seule l'étude d'A. M. et P. Pétrequin sur les habitats lacustres du Bénin est véritablement ethnoarchéologique.

Il est donc important de mener des études ethnoarchéologiques mettant en rapport les plans d'habitation, les élévations, les matériaux utilisés, ainsi que leurs différentes significations techniques, sociales ou ethniques pour mieux comprendre les structures architecturales en archéologie.

Toutefois, dans un contexte général de mondialisation et dans un contexte local marqué par l'arrivée des richesses liées à la migration de nombreux jeunes vers l'Europe et à l'exploitation de l'or de la Falémé, l'habitat subit actuellement des transformations rapides. Les villages les plus proches des routes ou pistes possèdent ainsi un nombre grandissant de bâtiments à étages en béton et parpaing, construits selon un plan de type urbain. La construction de modèles ethnoarchéologiques dans le domaine de l'habitat traditionnel revêt donc un caractère urgent.

Dans ces conditions, l'objectif scientifique se double d'un objectif patrimonial. Les différentes fiches d'observation, questionnaires, photographies et plans de concession réalisés serviront ainsi à conserver la mémoire des traditions architecturales du Sénégal oriental d'agro-pasteurs.

La première mission réalisée en 2015 dans la communauté rurale de Toumboura, nous a permis d'étudier douze concessions dans cinq villages diakhankés, peuls et soninkés. La méthodologie adoptée se base sur des enquêtes semi-directives. Cinq fiches (village, concession, habitation, grenier et structure) permettent de renseigner des critères morphologiques, dimensionnels, matériels, décoratifs et fonctionnels et sont accompagnées de relevés de plans.

Les premiers résultats montrent que l'organisation de l'habitat est conçue de façon relativement proche dans tous les cas observés, avec des cases circulaires ou quadrangulaire, à toit pointu de chaume, disposées autour d'une cour centrale. Les techniques de construction peuvent cependant légèrement différer. Si les diakhankés construisent les murs de leurs cases en briques de terre crue sur de légères fondations, les peuls ont tendances à opter pour des parois plus minces et plus légères élevées à l'aide d'éléments végétaux ou de briques disposées de chant directement sur le sol, sans fondation.

Nous avons par ailleurs pu constater la transformation constante de ces habitats selon l'évolution des dynamiques familiales, mais aussi selon les revenus. Dès qu'une famille en a les moyens, elle commence à fabriquer des briques de ciment. L'édification d'une maison en dur est l'un des premiers signes utilisés pour signifier la réussite économique et sociale de la famille. Ainsi, le développement souhaitable de la région entraîne inexorablement la disparition de l'architecture vernaculaire et justifie l'intérêt de mener, tant qu'il en est encore temps, des études ethnoarchéologiques sur les traditions architecturales.

\* Thèse menée sous la direction d'Anne Mayor, à l'Université de Genève, dans le cadre du programme «Peuplement humain et paléoenvironnement en Afrique».

#### **16.00 - Synthetic Aperture Radar in P band: an innovative remote sensing technique to improve the study of the Moche Canal Taymi and its canalization system.**

*M.R. Santovito, G. Alberti, I. Catapano, G. Fornaro, R. Lanari, F. Soldovieri, M.I. Pannaccione*

In recent years, research attention has been devoted to the development of a new class of airborne radar systems using low frequency bands ranging from VHF/UHF to P and L ones. In this frame, the Italian

Space Agency (ASI) has promoted the development of a new multi-mode and multi-band airborne radar system, which can be considered even a “proof-of-concept” for the next space-borne missions. In particular, in agreement with the ASI, the research consortium CO.RI.S.T.A. has in charge the design, development and flight validation of such a kind of system, which is the first airborne radar entirely built in Italy. The aim was to design and realize a radar system able to work in different modalities as: nadir-looking sounder at VHF band (163 MHz); side-looking imager (SAR) at P band with two channels at 450 MHz and 900 MHz. Preliminary flight campaigns have been performed on Southern Italy by using an helicopter of Aeronautica Militare and a civil helicopter.

The development of such a kind of systems requires technological efforts in antenna design, low noise amplifiers, band-pass filters, digital receiver technology as well as in the field of dataprocessing algorithms. The combination of low frequency and high relative bandwidth of such a systems has a large applicability in both military and civilian applications, ranging from forestry applications, biomass measuring, archaeological and geological exploration, glaciers investigation, biomass monitoring, detection of buried targets. Its extension to non-civil application concerns subsurface target detection and foliage penetration (FOPEN).

In order to achieve the flexibility to face all the above mentioned fields of application, the CORISTA system has been designed as a multi-mode and multi-frequency radar. Multimode stands for the functionality of the system both as Sounder and Imager. In addition, P-band radar is a multifrequency instrument, since it is designed to work in three different frequency bands, as mentioned above: lower frequency band is used in sounder operative mode, higher frequency in imager operative mode. In the Imager operative mode, low resolution and high resolution capabilities are implemented. The data collected by the radar system have been processed using a model-based microwave tomographic approach, recently developed by IREA-CNR, with the aim to enhance the interpretability of the raw-data radar images.

The P-band is a penetration radar. Exploiting penetration features of low frequency electromagnetic waves, dielectric discontinuities of observed scene due to inhomogeneous materials rise up and can be detected on the resulting image. Therefore buried objects or targets placed under vegetation may be detected. Penetration capabilities essentially depend on microwave frequency. Typically, penetration distance is inversely proportional to microwave frequency. The higher the frequency the lower the penetration depth. Terrain characteristics affect penetration capabilities. In particular humidity acts as a shield to microwave penetration. Hence terrain with high water content are not good targets for P-band applicability.

Science community, governments and space agencies have increased their interest about low frequency radar for their useful applicability in climatology, ecosystem monitoring, glaciology, archaeology.

Currently, the non-invasive SAR P band application is under evaluation for testing in the Northern Coast of Perù, Dept. of Lambayeque. The project is aimed to recognize the subsurface ancient Moche (100-700 d.C.) and Sicán (700–1375 d.C.) canalizations, whose water supply comes from the Canal Taymi, dug in the Moche period, still in use as the main water source from the neighboring villages belonging to ethnic Muchiq.

#### **16.20 - Integrating ethnoarchaeology, experimental archaeology and archaeometry towards understanding past behaviours and technologies. Case study: the *briquetage* technique in the Eastern Romanian Chalcolithic**

*F. Tencariu, M. Alexianu, V. Vasilache*

Ethnoarchaeology and experimental archaeology share a long history of ‘working together’ for the benefit of the archaeological interpretation. It has been a while since the two disciplines were emphasized as essential ingredients of the second strategy of behavioural archaeology (Reid et al. 1975) and also since they were characterized as “the perfect marriage” (Longacre 1992). Paraphrasing Longacre’s metaphor, we consider that adding the archaeometry to this formula should attain to “the perfect *ménage à trois*”. If one



consider the archaeological interpretation (of an object, a technology or a behaviour) as an inferential process, then the ethnographic/ethnoarchaeological data, the hypothesis that withstood testing by experiment and/or the archaeometric analysis constitute solid premises which may validate the whole process.

The case study that we bring to your attention could be an exemplification of the above assertion. Within the framework of a long-term project ('The ethno-archaeology of the salt springs and salt mountains from the extra-Carpathian areas of Romania') we became intimately interested in the prehistoric *chaîne opératoire* of obtaining salt cakes by boiling natural brine in clay recipients, largely known as *briquetage* vessels. Although this technique seems at first sight very tempting for experimental approaches, the number of attempts of this kind are relatively low, and the results often seemed inconclusive. Starting from the archaeological data available (*briquetage* fragments and their discovery contexts), we took a thorough foray into the ethnographic and ethnoarchaeological literature about nowadays traditional salt making. Also, we did a couple of archaeometric analysis on a couple of prehistoric recipients for salt making (technological characterization by optical microscopy and SEM-EDX). On this basis several field experiments that tested different hypothesis were performed. After some failures, taking into account certain significant details provided by the ethnographic studies of salt making in West Africa, Guatemala and New Guinea, we managed to obtain solid, transportable salt cakes. Hence, based on the available archaeological background (technological and chemical characterization of prehistoric *briquetage*, contexts of discoveries), the clues suggested by the generous ethnographic and ethnoarchaeological literature on this matter and field experiments we could propose a hypothetical scenario of the *briquetage* technique from the sub-Carpathian Chalcolithic, still to be confirmed by future research (Tencariu et al. 2015).

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#### 16:40 - DISCUSSION AND LATE REMARKS

### Thursday, 26 November 2015

9:30 Registration

#### 10.00 - Megalithism in Ethiopia: a comprehensive ethnoarchaeological approach?

A. Gallay

Distinct peoples of southern Ethiopia such as the Konso and Arsi people still erect megaliths today. How can a comprehensive approach to this issue that incorporates ethnographical, anthropological, historical and archaeological data currently be carried out and how can the evolution of megalithism be placed within an evolutionist framework of the societies according to the perspective proposed by Alain Testart?

It is possible to define a four-part approach based on ethnoarchaeological data.

##### 1. The topical ethnographic approach

The Ethiopian megalithic phenomenon has to be considered with regard to a distinct number of topical parameters including linguistic data (relationships between the different languages of the Afro-Asiatic phylum), environmental variability (irrigated high plateaus or dry savannah), cattle breeding, the presence of

cultigens (sorghum, teff, ensete), the contrast between hierarchised lineage societies and age-group societies in the broad sense, the importance of war (valorisation of the hero), and finally slavery.

## 2. The anthropological approach: defining the dynamic structure of the phenomenon

According to Testart (2012) societies (our regularities) are distinguished from cultures (our scenarios). An analysis of the data that focuses on the types of societies is the only method that allows an evolutionist approach. In our opinion, cladistics (based on the notion of descent with modification) is the most suitable method for such an analysis.

The proposed tree view (cladogram) is based on five hypotheses:

- the structuring and essential phylogenetic significance of the language families,
- the distinction between age-group societies (East Cushitic languages) and lineage-based societies (Omotic languages),
- the fact that pastoralism preceded mixed economies,
- the contrast between mixed economies of the savannah (sorghum) and mixed economies of the highlands (teff and ensete),
- the derived nature of intensive farming (Konso people), of camel nomadism (Borana people) and of hydro-agriculture (Gidolé, Karoo, Dassanach people).

## 3. The historical approach

Using this approach, it is possible to incorporate the evolution of megalithism into a historical scenario by differentiating: 1. Early megalithism linked to the first pastoralist groups without farming (3rd millennium cal BC, Lake Turkana, Somaliland); 2. Megalithism more specifically linked with the East Cushitic language family associated with age-group societies (early democracies) and practising *ensete*-based horticulture. This second megalithism developed over several stages from the second millennium cal BC to the present day.

## 4. The evolutionist perspective

The results obtained in Ethiopia are transferred to the entire Sudano-Sahelian belt and if the data related to Senegambian megalithism are incorporated into these results, it appears that megalithism does not easily match the cladistics taxonomy that describes the changing dynamics of the societies and therefore does not form, from this perspective, a homogeneous clade. As a matter of fact, megalithism characterises distinct types of Holocene societies ranging from hunter-gatherer groups to state societies.

### 10.20 - People, places, techniques: Bridging the gap between the past and the present

*A. Livingstone Smith*

### 10.40 - Curing humans and animals with wood tar: an ethno-archaeological research in the High Atlas (Morocco)

*S. Burri, A. Durand*

Wood tar, extracted by dry distillation, has been used in human and veterinary medicine since ancient times. This is particularly the case in the Mediterranean region where tar from conifers (*Pinaceae*, *Cupressaceae*, and *Taxodiaceae*) is still produced and used for these purposes. Through an ethno-archaeological approach, we aim at clarifying the medicinal values assigned to wood tar by ancient societies in the Mediterranean region. We started this research with a diachronic inventory of ancient medicinal, pharmacological and botanical treatises from Antiquity to Modern Era. Results emphasize the broad spectrum of tar beneficial actions which can be grouped into four main categories: antiseptic, antibacterial, pest control and healing.

For a better understanding of these different benefits and to refine the use of tar during the past, we performed an ethno-archaeological survey dealing with the production and medicinal use of coniferous wood tar by the agro-pastoralist communities of High Atlas Mountains in present day Morocco.

In the High Atlas Mountains, wood tar is extracted from different plant species such as Prickly juniper (*Juniperus oxycedrus*), Phoenicean juniper (*Juniperus Phoenicea*), Spanish juniper (*Juniperus Thurifera*), Atlas cedar (*Cedrus Atlantica*), Berber Thuya (*Tetraclinis articulata*) and Yew (*Taxus baccata*). The extraction of tar from dead Atlas Cedrus and Berber Thuya is the only legal way, submitted to an operating contract delivered by the ministry of Water and Forest. The other productions are performed illegally from both dry and green wood. Most of the production is domestic, but some producers developed their activity in a larger and commercial scale. According to oral testimonies, each type of wood tar has its own quality which is more related to the scarcity of raw material than to a real difference of efficiency. Wood tar is mainly used to treat livestock (sheep and goats) against skin diseases, such as scabies and dermatitis. This treatment takes place every year in spring, just after shearing the animals, by dermal application (two separate applications of about 20 days). Additionally goats are cured against intestinal worms by oral administration. In traditional human medicine, tar is mainly used for dermatitis treatments (psoriasis, eczema, and scabies), as an antiseptic and anti-inflammatory to cure wounds, and finally as repellent against lice. It is also considered as a prophylactic and magical material, especially during the delivery and for the protection of the infant. Finally, analyzing coniferous essential oils (Atlas Cedar, the different species of junipers and Berber Thuya) extracted by hydro-distillation from leaves and berries, recent published studies demonstrated their antibacterial, antifungal and anti-inflammatory activities. However, the chemical composition of essential oils used in these publications differs from the tar traditionally used by local people, which contain carcinogenic molecules. Indeed, recent cases of child poisoning in Morocco after a dermatitis treatment with juniper tar warns about its toxicity.

While this ethno-archaeological research mainly confirms the medicinal values assigned to tar in ancient medicinal recipes (antiseptic, antibacterial, anti-inflammatory and pest control), it nonetheless questions some of its described properties, such as the treatment of certain disorders by oral or rectal administration, a practice which may cause human blood poisoning with dramatic endings.

11.00 - COFFEE BREAK

#### **11.20 - Identifying ovicaprine stabling floors in ethnographic pastoral camp sites through microstratigraphic analysis.**

*N. Égüez, C. Mallol, C. Makarewicz*

In recent years, ethnoarchaeological studies focusing on herbivore faecal remains have shown the importance of these remains and their implication for identifying socio-economic activities. Thus, an accurate microstratigraphic examination of these deposits can provide us new insights into past activity areas, landscape land use, site formation processes, domestic use of fuel, manuring and stabling or foddering strategies. Micromorphology of soil sediments is an useful geoarchaeological technique that allows identification of herds penning, which can be evidenced by several sedimentological features (such as layering of the sediment, trampling, presence of spherulites, phytoliths and or microfragments of coprolites). The preservation of the internal fabric of such remains 1) provides an accurate description of herbivore dung internal characteristics, 2) establishes precise microstratigraphy of anthropogenic deposits and 3) gives accurate paleovegetation and paleoclimate information of the area.

Within this framework, here we present preliminary results of microstratigraphic analysis of ovi-caprid stabling floors from two different cultural and environmental contexts: 1) Baga Gazaryn Chuluu valley (Mongolia) and 2) Monti Sibillini (Italy). Ovi-caprid dung provides information related to the diet of ancient livestock, paleovegetation and paleoclimate of the area surrounding the site. As pastoral habitat adaptations and multi-resource economic strategies dynamics are crucial to understand living conditions and diet of humans and animals in Pre and Protohistory, this research uses an ethnoarchaeological approach that aims at providing a robust methodology to understand the transition from agricultural economies to agro-pastoral or fully nomadic economies and its persistence during time in a complex and very different archaeological (and ecological settings).

#### **11.40 - Burning Resources: Traditional Fuel Use On The Mongolian Steppe**

*W. Linder, L. Broderick, J-L. Houle*

Fuel (wood, bone, dung and coal) and the selection of it, has always been an integral part in the lifeways of nomadic pastoralists. Certainly, the gathering of fuel, the storage of it, and its eventual use represents a large part of daily culture. Yet, it remains an understudied aspect of ancient household economies. This is unfortunate since understanding fuel selection and use can also serve to evaluate specific cultural practices and human-environment relationships since there is often a close link between specific types of available fuel and local environmental conditions.

Through ethnoarchaeological research in the Altai region of western Mongolia, information about local use of fuel in a domestic setting was gained. Based on current archaeological research it is believed that present-day inhabitants in the Altai region share a similar nomadic pastoralist mode of subsistence with the people living in this same region during the Late Bronze/Early Iron Age (mid-Second to mid-First millennia BC). Local lake core data also suggests that the Bronze and Early Iron Age environmental landscape in this region was fairly similar to that of today. These similarities allow us to infer that Bronze and Iron Age societies possibly had an overall domestic economy similar to the modern people of this region, thus allowing us to evaluate both past and present human-environment relationships.

By gaining information regarding traditional ecological knowledge and the traditional importance of dung as a fuel source in this semi-arid region (largely devoid of wood) it is possible to gain insights about environmental and domestic economic sustainability.

#### **12.00 - Déplacements saisonniers des éleveurs nomades de Mongolie, indicateurs de la fréquentation des sites archéologiques de l'âge du Bronze.**

*J. Magail*



La nécropole et le site d'art rupestre du site de Tsatsyn Ereg, situé au centre de la Mongolie dans la province de l'Arkhangai, datent de la période de l'âge du Bronze à l'âge du Fer. Les populations de l'époque étaient nomades et élevaient des chevaux, des bovinés et des ovicaprinés dont les ossements ont été retrouvés par l'équipe de la mission archéologique Monaco – Mongolie dans des contextes funéraires et culturels. La fin de l'âge du Bronze est surtout marquée par le dépôt de milliers de têtes de chevaux autour de tumuli aristocratiques. Or, le site de Tsatsyn Ereg est toujours aujourd'hui exclusivement fréquenté par des familles d'éleveurs nomades qui possèdent les mêmes catégories d'animaux domestiques. Il n'existe pas d'activité agricole ou d'installation sédentaire dans la région. Les yourtes et les abris saisonniers en bois sont les seuls points d'habitat. L'observation des 30 km<sup>2</sup> de steppe autour de la nécropole montre même que la zone est à la limite du surpâturage. Aussi, il était intéressant de cartographier les différents habitats saisonniers et les déplacements entre ces points afin de comprendre l'occupation actuelle de la région. Bien entendu, les enquêtes auprès des familles d'éleveurs ont été déterminantes dans l'établissement de tous les trajets saisonniers et journaliers des troupeaux. Il s'agit d'appliquer à ces données une méthode particulière qui permettra d'évaluer si les contraintes pastorales actuelles apportent des indications sur le contexte de l'âge du Bronze.

## 12:20 - Ethnoarchaeological challenges in Mongolian and Siberian Steppe

*F. Lugli*

Over the years ethnoarchaeology has certainly proved to be a useful tool in bettering our understanding of the many complex ancient cultures. This tool has also assisted in interpreting current realities, by connecting the past with the present and vice versa. Ethnoarchaeology is a dynamic and evolving discipline which permits scholars to take on theoretical as well as practical questions and problems. The effectiveness of the theoretic ethnoarchaeological approach is continuously used as a prime strategy to observe, research, document and understand the realities being studied. In this perspective the main goal of ethnoarchaeology is to develop and provide an effective theoretical background for archaeological science. While dynamism is the goal it is also the limit of ethnoarchaeology because in this continuous debate the discipline risks losing its identity and remaining isolated from the other disciplines which are part of its cultural background, such as archaeology, ethnography and cultural anthropology.

The topic of Nomadism has been widely studied by ethnoarchaeologists for both its conceptual problems as well as providing a window into the study of cultures that do not, as a matter of course, leave important factual remains in an archaeological view. Thus, the study of Central Asian steppe nomadism is vital. It allows

us to utilize and apply either theoretical or practical ethnoarcheological strategies to the question in point. In order to connect and obtain an interpretive overview of the key points of the steppe culture it is crucial to identify, study and interpret these points. So, to provide useful, predictive models, even for cultures which are distant in either chronological or geographical aspect we must study aspects, such as, roaming, camp locale, social dynamics, infrastructure (pasture, water, salt proximity, etc.) and religious beliefs. Study of the camps, particularly the winter ones, which are recurrent in nature, can yield important information about stratigraphic processes for the development of an archeological view of steppe nomadism. Because of the dependence of the nomads on their dogs it is crucial to study this relationship, because the dogs are indispensable as shepherds and as guardians of the livestock.

This is a threatened culture. One which we as ethnoarcheologists must observe, study and document before inevitable change. Steppe nomadism presents a true challenge to the scholars who must take on both a theoretical as well as a practical perspective while attempting to assist them with the results of ethnoarcheological research to better manage the land.

12.40 – LUNCH

#### **14.00 - Studying disappearing patterns in Bedouin Campsites at Wadi Faynan, Jordan**

*D. Vos, E. Jenkins, C. Palmer, H. Smith*

A study of soil samples from eight Bedouin campsites at Wadi Faynan, Jordan, has been carried out in order to assess the efficacy of phytolith and geochemical analysis for understanding the use of space at ephemeral sites. By evaluating the potential of these methods to increase our understanding of the use of space in ephemeral sites, this research aims to contribute to the study of spatial activity patterns in Neolithic and other ephemeral sites, which often have poorly preserved organic remains.

This project has provoked many issues beyond the applicability of this methodology and the ethnographic data to archaeological case studies. While the study of ethnoarchaeological patterns as means to test the application of scientific methods to archaeological sites is welcomed by many scholars as a vital source of information, such studies are still rare. In addition, the analysis of several of the Bedouin campsites, which have been sampled between 2000 and 2014, makes it clear that ongoing changes in lifestyle that took place during this period within the Bedouin communities of Jordan fundamentally affect the potential of the use of such sites for ethnoarchaeological studies. As Bedouin lifestyles keep changing across the Near East, the need to consider the effects on future research becomes greater.

On the bright side, the study of Bedouin and other disappearing lifestyles, in Jordan and elsewhere, might be able to make a contribution beyond the archaeological one. By studying recently abandoned and occupied sites, local interest can be provoked. A study of the Jordanian village of Al Ma'tan, which had been abandoned in the 1970s, gave rise to a visitor centre and renewed local interest in aspects of Jordanian daily life in the recent past. Similarly, going back to Wadi Faynan with the results of the study of Bedouin campsites outlined above will enable the Bedouin community to benefit from the outcomes of this research and get a better understanding of the contribution made by their households.

#### **14.20 - Ethnoarchaeological research in the archeology of the north of Western Siberia**

*A.V. Novikov*

Archaeological sources do not imply direct "interpretation" of the historical information. The procedure of archaeological interpretation consists of several stages. It is very important to ensure compliance with methodological correctness at each of them, which means understanding of the possibilities

and restrictions in the use of this or that method. Restrictions of the method of archeological and ethnographic comparisons include, in particular, strict localisation of the research procedure in the framework of the same ethnocultural tradition. Chronological "depth" and the degree of preservation of a separate ethnocultural tradition may vary. Native population of the north of Western Siberia in the conditions of intensive influence of outside traditions and industrial development of the region on its cultural originality, have nevertheless preserved a part of its traditional culture. This makes possible correct use of archeological and ethnographic comparisons in the research of various archaeological objects of the north of Western Siberia, especially those dating back to the second millennium AD.

Archaeological sources can have different information richness. Information value of an artefact as an archaeological source dramatically increases if it is found in as much as possible completely preserved paleocultural context. Such preservation of a paleocultural context is possible in various circumstances, one of which is landscape and climatic peculiarities of the research area. Thus, research in the Subpolar zone of Western Siberia on archaeological objects unique in their degree of preservation due to the existing frozen cultural layer makes it possible to carry out correct from the methodological point of view ethnoarchaeological research in various fields.

Archaeological sites with significant potential of ethnoarchaeological studies of the native people of Lower Ob region include Ust-Voykarsky ancient settlement, located approximately 200 km to the southwest of the city of Salekhard, in the flood plain of the Gornaya Ob river. The northern taiga area of the Lower Ob region has been and still is a place of residence of an ethnographic group of Ob Ugrians - northern Khanty people, formed on the basis of contacts between various groups of the Samodian and the Ugrian population [Perevalova, 2004, p. 117-118, 216, 250]. In 2003-2008 works on the site were conducted under the direction of A.G.Brusnitsyna and N.V.Fyodorova. These researchers identified this ancient settlement with Voykarsky small town known by written sources since the turn of XVI-XVII centuries [Brusnitsyna, 2003; Fyodorova, 2006]. Since 2012 the works on Voykarsky small town have been carried out under the direction of the author [Novikov, etc. 2012, 2013, 2014].

It is possible to single out several directions of ethnoarchaeological research when studying the Voykarsky small town. First, archeologists found wooden architectural structures that were perfectly preserved in the frozen ground. They are residential facilities of different sizes, and various details recorded in their study make it possible to identify the peculiarities of house building [Garkusha, Novikov, 2014; Novikov, Garkusha, 2014]. Ethnoarchaeological studies of house-building traditions of the native population of Western Siberia allowed us to trace their evolution in the context of their interaction with traditions of other cultures [Novikov, 2006, 2008; Novikov, Shil, 2007]. Secondly, frozen ground has well preserved various items made from organic raw materials (birch bark, wood, fabrics, etc.) Several thousand similar findings have been made, allowing us to establish in the most complete way the character of the material culture of the inhabitants of Voykarsky small town throughout XV-XIX centuries and peculiarities of the manufacturing technologies of certain items. Thirdly, complete preservation of the context of artefact discoveries, along with deliberate burials of animals (house dogs, for example) in a number of objects, make it possible to record traces of the ritual activities of the native population, connected with their place of residence. Such ethnographic immersion into an archaeological object allows the scientists to reach a new level not only in the interpretation of a specific archaeological object, but also to evaluate civilisation processes in the Subpolar zone of Western Siberia in a totally new way [Novikov, 2014 a, b].

Thus, even preliminary results of the research of archaeological monuments of Northwestern Siberia with frozen ground in the cultural layers show their unconditional prospects for almost comprehensive study of different fields of activities of the region's population in late Middle Ages using ethnoarchaeological method.

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#### **14.40 - Moving Beyond Discard to the Mapping of Participants: A New Approach to Interpreting Artifact Spatial Patterning**

*M. O'Brien, T. Surovell*

Ethnoarchaeology has served as an interpretative tool to explain archaeological phenomena, but interpreting artifact spatial patterning in the archaeological record has proven challenging. We suggest two issues that have plagued spatial studies are the rates of discard and the scale of spatial patterning observed in ethnographic contexts. First, investigating spatial patterning of contemporary nomadic groups is problematic given the adoption of western technologies. Today, nomadic people utilize modern technology that they cannot manufacture themselves and tools that they often cannot afford to easily replace. Combined with their marginal economic means, nomadic people often leave very little behind that can serve as tangible link to discard patterns observed in the archaeological record.

In order to understand spatial patterning of human activity in light of technological change, we propose that we shift our focus away from discard to that of mapping the people themselves. By shifting to the mapping of participants, we can create a more robust dataset of spatial patterning than is possible with discard. If people still continue to perform similar mundane tasks as they have in the past, then it is plausible that understanding the factors that govern where people perform tasks would be a useful tool to interpret the past.

In particular, we are interested in the physical and social factors that dictate where people choose to perform activities. Through identifying these factors, we can begin to understand the agents shaping spatial patterning of activities that can serve as a correlate to understand similar patterns in the past.

The second issue is that of a scalar disconnect between the observations of ethnoarchaeological spatial patterning compared to that of archaeological excavations. Numerous studies have demonstrated that the discard patterns of contemporary foraging groups occurs at such low rates that spatial patterning only becomes apparent at scales of 10's to 100's of meters. If excavations cannot be expanded to the scale of the ethnographic record, then how do we bring ethnoarchaeology down to the scale relevant to archaeology?

To accurately map people, the methodological approach must provide precise locations and also be minimally obtrusive. We propose that through the use of time-lapse photography combined with photogrammetry provides an ideal solution. Time-lapse provides a high rate of data acquisition and photogrammetry software allows us to convert the photos into two dimensional maps. To complement the exterior dataset, we also collect interior data through randomly scheduled observational periods that use sketch maps of participant locations. In addition to collecting where people are located, our field methods allow us to accurately collect information on age, gender, activity, and materials used that can be used to address many of the key research questions within ethnoarchaeology, such as juvenile participation, gendered space, and activity areas.

To test our methodology, we initiated the Dukha Ethnoarchaeological Project in 2012. The Dukha are nomadic reindeer herders located in northern Mongolia who maintain a transhumant pastoral lifeway. With their cooperation, we have begun to collect locational data in the summer of 2012 and more recently in the fall of 2014. From this data we have begun to address questions of how seasonality impacts spatial patterning of indoor space as well as how household size can be identified in the absence of structures.

This presentation will highlight our methodological approach to mapping participants as well as introduce the Dukha themselves. We will also highlight some of our preliminary results from our two field seasons and present some of intriguing results. Through the incorporation of new methodological approaches, we believe that we are able to overcome previous issues related to the scalar issue of spatial patterning. Our hope is that our approach can serve to complement existing ethnoarchaeological research to further our understanding of human behavior that shapes the archaeological record.

## **15.00 - Multimedia language documentation archives: creating interdisciplinary windows to the past**

*N. Kruspe, N. Burenhult*

Multimedia language documentation archives contain collections of audio- and video-recorded documentation of traditional practices of inherent interest to anyone engaged in ethnographically informed research. These resources, while collated largely by linguists, contain rich data sets of diverse content including environmental knowledge, spatial categories and movement, place, ritual, music, material culture, and ethnohistory. Most importantly the resources have the added bonus of searchable time-aligned linguistic annotations and translations.

In the early 1990s linguists began taking stock of the increasingly rapid decline of linguistic diversity. The field of Language Documentation developed in response to capture the vanishing voices and the cultures in which they are spoken. The field has developed rapidly over the last fifteen years, in part due to dedicated funding initiatives like the Volkswagen Foundation's DoBeS program, Arcadia's Endangered

Languages Documentation Program and the National Science Foundation's DEL program. Major advances in technology over this same period have created exciting possibilities for researchers to build online multimedia workspaces, on the one hand preserving their research materials in a persistent, visible, and searchable environment, but also providing new opportunities for fellow researchers, community members, and the general public to explore, interact with, and contribute to these innovative resources, and form new multidisciplinary research networks.

Projects documenting endangered languages and cultures and funded by the aforementioned programs have created collections documenting a diverse range of communities from around the globe.

The aim of our presentation is to introduce these relatively new linguistic resources as a potential tool for Ethnoarchaeological research, focusing on the potential inter- and multi-disciplinary possibilities that these resources afford. To illustrate, examples will be drawn from our own resource The Repository and Workspace for Austroasiatic Intangible Heritage [RWAAI]. RWAAI holds collections documenting contemporary languages and cultures of the Austroasiatic people of Mainland Southeast Asia and India. The AA language family is the oldest language family in the region, predating all other languages spoken in the region today. Speakers of these languages, with the exception of Khmer and Vietnamese, are represented almost exclusively by tribal minorities. These people harbor the greatest degree of social and biological diversity in the region, including some of the last mobile hunter-gatherer communities in Mainland Southeast Asia. The collections, some spanning four decade long research programmes, document contemporary societies in this dynamic region as they respond to the political and social upheaval that has dominated the region over the last century.

15.30 – COFFEE BREAK

#### **15.50 - Time as the fourth dimension: bridging gaps between disciplines and distant events**

*G. Wollentz, A. Ribeiro*

The twentieth century saw a rather remarkable transformation with regards to the metaphysics of time and space. The publication of the theory of relativity by Albert Einstein in 1905 was followed shortly by the definition of a new mathematical space setting, penned by Hermann Minkowski, which sees time as an added dimension to the classical three dimensional space of Euclidean geometry. This consequently led to the development of new metaphysics of time with four-dimensionalism being one of the ontologies that has gathered most supporters.

The human sciences have maintained a relatively strict separation between past and present, a separation that has been obviated in physics and metaphysics through the adoption of four-dimensionalist and related ontologies. This separation sees no reason for existence if the new ontologies of time are to be accepted. Here, time shares the same characteristics of space: seeing the grass go from green to yellow during the summer is the equivalent of travelling from a more temperate zone where the grass is green to a drier zone where the grass is yellower. Therefore, the comparison of the culture we currently live in and a foreign culture is not necessarily posited on establishing a relationship between 'Us' and the 'Other' given that there is not necessarily a culture exclusively our own and a culture exclusively theirs. Instead, the view we wish to commend here is one that simply views difference between cultures as a matter of physical distance.

There are multiple risks in maintaining a strict distinction between "past" and "present", and thus locating the past far *behind* the present. The first risk is a loss of authority concerning the use of the past in society to other actors, many of them being nationalistic in character. Nationalistic parties are spreading and increasing in popularity in Europe today, and if we, as academics, continue to place the past in a separate folder disconnected from the present, we will give these parties the authority to express and share their views

of the past *unquestioned*. The second risk lies in the conception of the past as connected to something more primal and less civilized, while at the same time projecting the past unto certain groups living in the world today as well as certain spaces (i.e. the rural country side). As if some people, even though they often live on the other side of the world, are embodying *our own* past. The notion is incorrect and it further manifests, however unwittingly, the burden of colonial values concerning “us” (as living in the present and heading towards the future) and “the other” (as stuck in the past). By approaching time as the fourth dimension of space we hope to demonstrate how the presence of “the past” is everywhere, no matter if you live in Papua New Guinea or Sweden. The third risk is a *purely* scientific one. We argue that the complexity of human behavior will not be grasped if we neatly place the past and the present in various folders. These folders might make “the past” clean and somehow easier to study, but certainly not true to human actions and perceptions.

Through a selection of case studies from different time periods, we will show how time forms a narrative told to us through space, and how it constitutes a force to reckon with. We will demonstrate that the actual distance in time does not necessarily decrease the impact of the past in the present. The past, as we perceive it through space, is never a safe distance away. We will discuss a medieval battle at Kosovo Polje, a massacre at a hill fort on Öland, Sweden, during the Migration Period, and the destruction of a bridge in Mostar, Bosnia and Herzegovina, during the recent war in 1993. We will approach these case studies by seeing time as the fourth dimension of space, and argue for the benefits that can be gained in leaving behind the clear cut distinctions between past and present.

Furthermore, the abolishment of the ontological distinction between past and present elucidates the relationship between different disciplines. In our view archaeology, sociology, history, and ethnography are not in fact disciplines which study different objects. All these disciplines have human societies as their object and the difference between them concerns how far or how close one can stand in relation to that object. This also means that the methods from each of these disciplines are, to a large extent, interchangeable. As archaeologists ourselves, it is common to apply methods deriving from history, ethnography, and sociology to our empirical data, a practice that is unparalleled in other disciplines. Archaeology is not a discipline of the past societies *per se*, neither is ethnography a discipline of non-western societies – these prejudices impose the status of ‘Other’ onto groups of people that are more similar to ourselves than we would care to admit. If the human sciences are viewed in this manner – as a pan humanist discipline – it becomes easier to construct bridges between disciplines once thought incompatible.

#### 16.10 - A question of numbers: quantitative ethnoarchaeology

*C. Lancelotti, D. Zurro, J. Caro, J. Ruiz-Perez, J. Alcaina-Mateos*

Ethnoarchaeology is a discipline that encompass archaeology and ethnography to build robust models for interpreting human behaviour in the past. It is different from archaeology in that it can offer valuable interpretative models for intangible elements of the human past (beliefs, practices, decision-making etc) rather than on the material culture that is the main source of information in archaeological research. It surpass ethnography in its push to go beyond the description of traditional behaviours and daily practices by creating the connection between these and the material culture that they produce. Ethnoarchaeology is now a mature discipline with growing recognition amongst researchers both in archaeology and anthropology.

This paper proposes to look at ethnoarchaeology from a quantitative perspective, pushing forward the connection between archaeology (especially quantitative archaeology) and ethnographic description. In the last few years there have been important advances in the way we treat archaeological and anthropological data. Our discourse is here substantiated with two specific examples: the analysis of activity areas through the geostatistical analyses of multiple proxies, and the statistical analysis of cross-cultural ethnographic data. Geostatistics has been extensively applied in geology and geochemistry to predict the distribution of specific elements with a high degree of prediction. However, its use is still limited (albeit growing) in archaeological

research due often to the scale of sampling strategies and the lack of precise guidelines. Ethnographic contexts are ideal situations in which to apply these techniques as they offer the possibility of fine-tuning our methodology, based on actual evidences. In this way, it assures the link between the activity and the spatial patterns of the proxies that this activity has produced. We will make our point here through a study of a traditional domestic household of North Gujarat (India).

Quantitative research may be applied to theoretical aspects too. Many ethnoarchaeological researches are driven by a specific hypothesis based on a specific society, that very often is used as a paradigm of a group of societies that are supposed to share a number of features (e.g., behaviours of a specific groups of hunter gatherer taken as representative of all hunter-gatherers). A way of obviating to the biases introduced by this approach is to conduct cross-cultural studies.

Cross-cultural research analyses data from several different societies aiming at producing general principles and explanations. We believe that it is possible to formulate hypotheses on the basis of quantitative cross-cultural research, so that we can also evaluate degrees of uncertainty in our assumptions about, for instance social use of domestic space, prior to formulate specific ethnoarchaeological hypothesis. In the second part of this paper, we will consider quantitative cross-cultural studies as a way to overcome the limitation of single case-studies. Nowadays, the advances in computing sciences (such as simulation, machine learning, etc.) provide powerful tools for analysing the patterns in cross-cultural datasets, not only to obtain specific frameworks in which to analyse the archaeological record, but also to build general theories about the human behaviour and spatial manifestation of their activities. The creation of cross-cultural models applicable to several contexts may be integrated within ethnoarchaeological research, thus enhancing the theoretical foundations of our research.

#### 16.30 - **Manure, ethnoarchaeology and agronomic "elementargedanken"**

*G. Forni, L. Mariani*

A key role in the debate on world nutrition triggered by Expo2015 should be played by ethnoarchaeology because this science links the experiences of the past and the present, giving tools useful to enhance our knowledge of the fundamentals of agriculture. An excellent example is given by the analysis of the relationship between food (production, transformation and consumption) and related wastes, traditionally symbolized by carbon dioxide (waste of respiration processes) and manure (waste of agricultural processes). We will analyze in brief this argument.

The manure (in latin *laetamen*, from *laetare* = to give cheer and abundance) was exalted by farmers as the king of the fertilizers since the oldest prehistory. This traditional exaltation must be discussed in detail because it can be seen as a consequence of the development of intellectual capacity to analyze in an intuitive and elementary way the always changing reality in order to establish relations of cause – effect. On this subject we can remember that Adolf Bastian (1826 - 1905), one of the fathers of ethnographic science and also known as the creator of the magnificent Ethnographic Museum in Berlin, noted that elementary thoughts (Elementargedanke) of this type are common in all primitive peoples and even wrote a treatise on this topic (Der Völkergedanke).

Since its origins, Homo sapiens was a keen observer as it is testified by the particular attention of modern populations of hunters-gatherers to feces of wild animals (herbivores like ibex, gazelles and capybaras or predators like bears, wolves, lions) due to relevant practical reasons (defense, hunting). In the light of this it is obvious to think that our ancestors observed not only feces but also the extremely green and luxuriant herbs surrounding old feces that transferred their nutrients to vegetation. The obvious deduction was that feces enhanced plant vigor, an awareness that was translated in operational rules after the birth of agriculture.

Another intuition was derived from the observation of what happened on the piles of waste (manure) that for reasons of hygiene were placed outside the camps of hunters - gatherers. These mounds, rich in

human and animal excrements, seeds of plants and various garbage saw the development of lush vegetation with several food crops - herbs, shrubs and trees (the people that knows the impressive development of pumpkins on piles of organic waste is able to understand what we're talking about). This observation gave rise to a form of horticulture that preceded the Neolithic revolution and was based on the protection of crops born spontaneously on piles of waste in order to make them go to fruit and give food. So ultimately these embryonic gardens can be considered as the precursors of the agriculture.

This explains the respect (relevant, instinctive and traditional) that since ancient times surrounds the manure and that was for example evidenced by Homer in the *Odyssey* (Ulysses' return to Ithaca), when about the loyal dog Argos wrote that with his master gone "lay neglected by the gate, among the heaps of mule and cattle dung that Odysseus' men would later use to manure the fields". The importance of manure was then affirmed by roman agronomists (e.g.: Cato, Columella), and constantly re-affirmed by agronomists until today. "Manure is refreshment of weary land" wrote Camillo Tarello of Lonato (1513-1573) in his "*Ricordo di agricoltura*" (Remembrance of agriculture), a text where for the first time was proposed a crop rotation with red clover (*Trifolium pratense* L.), a forage crop that increases the fertility because (a) it adds nitrogen to the soil both by absorbing it from the atmosphere through the nitrogen fixing symbiotic bacteria and (b) it is an excellent food for livestock, which results in more manure produced and then in greater fertility for the ground.

The agrarian chemists of the XIXth century had an ambiguous attitude towards manure, mainly reductive: some recognized its function to enrich in humus and softening the soil, others emphasized the limited nutrient provision for plants if compared with industrial chemical fertilizers.

The secret of the manure, already sensed by Justus Liebig in the XIXth century, was later revealed in the XXth century by Erik Reinau: the manure incorporated into the soil with the plowing, feeds billions of billions of soil microorganisms that release carbon dioxide which diffuses into the air where feeds the existing crop. This is one of the main reasons of the magical power of the manure and has also the final effect of opening our eyes: if the most obvious effect of the manure is in the emission of CO<sub>2</sub>, the main food of plants and then for mankind (directly or indirectly we eat plants) the consequent question is how intelligent, rational and wise can be considered the current global campaign of demonization of CO<sub>2</sub>?

What we want to emphasize quoting the great physicist Freeman Dyson is that carbon dioxide we're producing in big quantities and putting into the atmosphere is a very good fertilizer for all kinds of vegetation, good for wildlife, good for agricultural production, so it has many benefits which are certain, because founded on the biological laws that rule the photosynthetic process. So if by means of a magic wand we could eliminate all the extra CO<sub>2</sub> in the atmosphere compared to the pre-industrial times, agricultural production would decrease by 20-40% annually, giving rise to an enormous global food crisis. Obviously this is something we have together with the climate effects, which are much less certain, so it's a question of drawing a balance.

The example of CO<sub>2</sub> developed on time frames extended from distant geological eras to the present highlights once again the usefulness of ethnoarchaeological setting that links the alpha and the omega of our history.

## 16.50 DISCUSSION AND LATE REMARKS

### **Friday, 27 November 2015**

9:30 Registration

10.00 - **Residue analysis and ethnoarchaeology of food production**

*A. Pecci*

Food production is a fundamental human activity. Increasing globalization is causing both the loss of the production of traditional food and the loss of the traditional knowledge on how specific foodstuffs were produced/prepared in different areas of the world.

Ethnoarchaeology can have a key role in the study of these peculiar food production activities, providing elements for a better understanding that will allow trace these activities in the archaeological record.

As part of the ethnoarchaeological investigation on food production activities, an important role can be played by the study of organic residue analysis. In fact, the substances produced are absorbed by the materials that come in contact with them and preserved trapped in their pores. In particular the floors of the areas used during food production and the instruments and vessels (e.g. ceramics) employed during specific food production can be studied with specific chemical analyses to identify the substances produced. The identification of oil and wine in ethnoarchaeological and archaeological production installations has demonstrated that these subtle traces are preserved (Pecci et al. 2013a, 2013b; Barba et al. 2014). However also the production of other substances such as the fermented beverages in Mesoamerica (i.e. pulque) or oils different from olive oil in the Mediterranean area, have been investigated.

On the other side the identification of specific products in archaeological materials (such as pitch or sulfur found in Roman amphorae), claim for a deeper investigation of the reasons for their use and suggest that there is a need of ethnoarchaeological and ethnoarchaeometrical studies to understand the peculiar ways of producing food or preparing the materials that are aimed at its storage.

The understanding of the organic residues preserved in the different materials employed during food production, inserted in a broader ethnoarchaeological investigation can help in tracing the roots of specific food production activities, and in providing a better understanding of the production of traditional foodstuffs, which are at risk of disappearing. This can have a double impact: on one side providing the historical record of traditional activities in the past, pointing out the importance of these foodstuffs and their production activity, on the other providing a deeper knowledge of these activities in the present, contributing to the preservation of the local knowledge and its dissemination, which could also derive into a sustainable development.

BARBA L., ORTIZ A., PECCI A., 2014, Los residuos químicos. Indicadores arqueológicos para entender la producción, preparación, consumo y almacenamiento de alimentos en Mesoamérica, *Anales de Antropología*, 48, 1, 201-239, ISSN: 0185-1225

PECCI A., CAU M. A., GARNIER N., 2013a, Identifying wine and oil production: analysis of residues from Roman and Late Antique plastered vats, *Journal of Archaeological Science*, 40, 4491-4498  
PECCI A., VALDAMBRINI C., BELLUCCI V., M.A. CAU, 2013b, "Ethnoarchaeometry" of oil production: chemical traces in a modern production installation in Tuscany (Italy), LUGLI F., STOPPIELLO A., BIAGETTI S. (eds) *Ethnoarchaeology: Current Research and Field Methods. Conference Proceedings, Rome, Italy, 13th-14th May 2010*, BAR International Series S2472, Oxford, pp. 63-68.

## 10.20 - Historicizing analogy in archaeology

J. Cunningham

Ethnoarchaeological research is frequently defined as a practical experiment in the use of analogical reasoning. Ethnoarchaeology allows archaeological explanations for ancient material culture patterns to be assessed in contemporary contexts where linkages between material patterns and human thoughts and/or actions can be directly tested. In recent years, however, the viability of ethnoarchaeology's original goals has faced pointed critique and, as a result, ethnoarchaeology has entered into a new reflexive phase. A key response to ethnoarchaeology's recent "loss of innocence" has been a call for the ethnographic research



conducted by archaeologists to embrace participatory methodologies that forefront the practical benefits of research for subjects.

While I consider such strategies to be laudable components of any ethical field program, in this paper, I want to take a slightly different direction by arguing that ethnoarchaeology should not lose sight of its broader theoretical objectives. Ethnoarchaeology continues to have fundamental intellectual value as a research strategy dedicated to decolonizing archaeological interpretation. As a result, ethnoarchaeology's practical moves to better the lives of its research subjects should at the same time include a continued focus on developing substantive theoretical conclusions. In particular, I would suggest that ethnoarchaeological research should aim to critically assess dominant interpretive traditions in archaeology by engaging with communities whose cultural knowledge is unique from that which defines an archaeological mainstream. In doing so, ethnoarchaeology has the ability to produce a body of theoretical knowledge that can itself be a future basis for practical emancipation.

To make sense of this claim, it is important to note that understandings of history provide an analogical baseline that communities can use to imagine possibilities for their own future social transformations. Archaeology remains one of the only professional disciplines that can develop deep-time historical understandings of culture change in the absence of written documents. It is thus a critical tool for developing historical narratives that allow colonized people to rediscover pasts that may have been "silenced" by colonial histories. Archaeological interpretations can thus provide marginalized peoples with an analogical foundation from which to imagine new and more equitable futures. However, at the same time, official archaeological histories depend on the work of a small number of professional scholars who too often develop interpretations of the past based on their own experiences. While we might hope that archaeology's practitioners will eventually diversify, at this point most archaeologists still represent a relatively narrow set of urbanized, upper class and all too often androcentric perspectives. Ethnoarchaeology is thus fundamental to counterbalancing the limitations most archaeologists have in their experience by introducing analogues drawn from the experiences of people they work with in the field into archaeological interpretation. It is these analogues that have the ability to unmask interpretive biases and allow archaeology to create the less ideologically driven interpretations that can in turn become the analogical basis for future social transformations.

In this paper, I introduce a historical analysis of the way archaeological scholarship has been affected by knowledge of ethnographic "others". I begin by briefly considering early antiquarianism in archaeology and the ways it was transformed by a growing understanding of human diversity during the age of exploration. I then move historically through Enlightenment conjectural histories, classic evolutionism, cultural historical archaeology, neoevolutionism and more recent participatory approaches to show how analogy was both used and contributed to understandings.

#### **10.40 - Ethnoarchaeology in arid lands: insights and perspectives from the Sahara**

*S. Biagetti, S. Merlo, F. C. Conesa*

Accessibility to desert regions of many northern African countries has always been limited, due to their physiography and climate. In recent years, access has been further reduced mainly due to political instability. Although safety issues are not new to the area, current events have profoundly interrupted many existing archaeological projects and causing damage to a variety of sites, as reported by the media worldwide, as well as impacted on the development of new research and the safeguard of existing cultural heritage. In part as a response to this situation, the use of satellite imagery for the purposes of knowledge and preservation of cultural heritage in the MENA area has rapidly developed. In this presentation, we will focus on the use of earth observation for ethnoarchaeological purposes in Central Sahara, which is a favored scenario for remote sensing-based investigation of both anthropic and natural phenomena, due to extremely low vegetation cover and urbanization. Drawing from two case studies, we will discuss the role of Earth Observation in the study

of the past and current human-environment interactions in arid lands. We will seek to highlight the potential of remote sensing methods for refining our comprehension of successful human adaptations to desert environments.

#### **11.00 - Going forward: the value of ethnoarchaeological research in a globalized world**

*D. Lyons*

Post-colonial theorists have criticized ethnoarchaeology as an unethical practice because they claim that its sole purpose is to mine contemporary communities to interpret the past. This is a misreading of the general practice of ethnoarchaeology as it has developed over the past 35 years. This paper argues that ethnoarchaeology remains a critical approach within archaeology and the social sciences broadly. Contrary to the post-colonialist view, a large body of ethnoarchaeological research focuses on contemporary issues, in particular how people constitute social practice materially and spatially and how historically situated world-views continue to mediate how people navigate material and social change at the level of the local in contexts of globalization. While ethnoarchaeological studies test archaeological and other social theory with rich empirical data in real-time contexts, the contribution of these studies is never intended to be directly imposed on the past. This research should stimulate archaeological enquiry, but in addition ethnoarchaeology develops subaltern histories and contributes to our understanding of issues that affect contemporary people: e.g., globalization, materiality, social inequity and cultural resilience. As an example, this paper explores how artisans in northern highland Ethiopia are entangled in a history that has marginalized them for over 500 years. The case study is relevant to contemporary Ethiopia and to the issue of social inequity elsewhere. It is estimated that over 260 million people today are socially marginalized. With the exception of slavery, the socially marginalized are not a topic of major archaeological study even though marginalized craft people were likely as significant in past societies as they are in contemporary ones.

#### **11.20 – COFFEE BREAK**

#### **11.40 - L'ethnoarchéologie face aux défis de la mondialisation : quelques pistes de réflexion issues de recherches menées au Mali et au Sénégal**

*A. Mayor, N. Cantin*

Les chantres de la mondialisation ont annoncé la disparition de l'anthropologie sociale consécutive à la disparition des terrains caractérisés par des sociétés dites «exotiques». Le phénomène n'est toutefois pas récent, les sociétés ayant toujours communiqué avec d'autres sociétés, y compris occidentales, et étant le produit d'une histoire (Amselle 2000). Ceci dit, il est certain que la démarche ethnoarchéologique, procédant par analogie, s'intéresse aux techniques faisant appel à des outils ou des matériaux qui auraient pu être utilisés dans le passé, et force est d'admettre que celles-ci sont en voie d'abandon dans de très nombreuses régions, suite à l'afflux de biens de consommation importés modernes. Cette situation plaide en faveur de l'urgence de mener de telles études, tant que des savoirs locaux sont encore vivants ou présents dans les mémoires.

La question de l'accès aux terrains, devenu très difficile du fait de la dégradation des conditions sécuritaires dans de nombreuses régions de la planète, comme actuellement l'Afrique sahélienne ou le Proche et Moyen-Orient, pose d'autres défis. Dans ces conditions, il est important de mener une réflexion sur le renouvellement des méthodes pour constituer des référentiels ethnoarchéologiques, dont la nécessité pour l'interprétation archéologique garde toute son actualité.

L'équipe de l'Université de Genève a mené depuis 1988 des recherches ethnoarchéologiques au Mali, dans le delta intérieur du Niger et en Pays dogon, où il n'est plus possible de se rendre depuis 2011. Elle a donc redéployé ses recherches au Sénégal oriental, dans la vallée de la Falémé. Au fil des

circonstances, elle a développé plusieurs stratégies pour contourner les difficultés liées à la disparition des savoirs locaux et pallier au manque d'accès au terrain.

### **- Le travail sur la mémoire**

Certaines techniques ont disparu il y a quelques décennies, comme par exemple la réduction du fer, mais des personnes âgées les ont encore pratiquées dans leur jeunesse, ou leur mémoire s'est transmise aux générations actuelles. Dans ce cas, il est judicieux de procéder à des réactivations ou reconstitutions, qui auront dès lors valeur patrimoniale. Eric Huysecom a ainsi pu collaborer avec des forgerons du Pays dogon pour documenter et filmer toutes les étapes de la réduction du fer, de l'extraction du minerai à la fabrication d'outils (Huysecom 1999 ; Huysecom & Agustoni 1996). Nos recherches actuelles sur les traditions métallurgiques du Sénégal oriental ont révélé une situation analogue (Huysecom et al. 2013).

Un projet est en cours pour étudier et mettre en valeur ce patrimoine matériel et immatériel, en lien avec un projet de classement par l'UNESCO.

Un autre exemple fait suite à la découverte de fragments de pipes en terre cuite lors des fouilles que nous avons menées sur le village dogon abandonné de Tyi, occupé du 16ème au 20ème siècle (Huysecom et al. 2010, 2011). Or, la fabrication des pipes ouest-africaines fait l'objet de controverses parmi les archéologues. Nos enquêtes de tradition orale ont révélé l'existence de la dernière personne vivante maîtrisant ce savoir-faire. La réactivation de cette pratique nous a permis de documenter en 2010 cette chaîne opératoire inconnue et d'en tirer des enseignements pour l'interprétation des vestiges archéologiques (Canetti 2012).

Le travail sur la mémoire peut aller bien au-delà de l'observation de chaînes opératoires disparues et toucher aux transformations des rapports entre sociétés et environnement, aux dynamiques socio-économiques ou au domaine religieux, qui a profondément changé au cours du 20ème siècle.

### **- Le recours à l'expérimentation**

Lorsqu'il n'existe pas de savoirs locaux pour constituer un référentiel, il est intéressant de recourir à l'expérimentation. Cette démarche, initiée dans le domaine de la technologie lithique il y a plusieurs décennies, a été largement adoptée dans le domaine de la technologie du métal, et dans une moindre mesure dans celui de la céramique. Il est d'ailleurs particulièrement intéressant de mettre en oeuvre des protocoles expérimentaux en milieu ethnographique, comme le montrent les études de V. Roux sur la taille des perles en Cornaline et le tournage de la céramique en Inde, ou la thèse de R. Soullignac sur les techniques de forge en Pays dogon.

En ce qui concerne nos recherches, suite à la fouille du tell de Sadia au Mali (8ème au 13ème siècle AD), nous avons découvert de nombreux tessons taillés ou abrasés (Huysecom et al. 2011). Pour comprendre la fonction de ces déchets recyclés, nous avons lancé un projet, en collaboration avec J. Vieugué, destiné à constituer un référentiel expérimental en usant des tessons de Sadia sur une peau de chèvre, du bois, des argiles de différents degrés d'humidité et du grès, de façon à caractériser la signature tracéologique de chaque matériau. Par comparaison, il devient possible d'interpréter les tessons recyclés de Sadia comme des outils de potiers (Jeanbourquin, Vieugué, Mayor 2015).

### **- Le recours à l'archéométrie**

Enfin, une piste encore peu explorée consiste à croiser les données de l'ethnoarchéologie, de l'archéologie et de l'archéométrie. Dans ce domaine, nous menons en collaboration avec N. Cantin une étude des argiles autour de Tyi (Pays dogon, Mali), à partir d'échantillons provenant des sources de matière première, des pipes et céramiques actuelles, et des tessons archéologiques de pipes et de céramiques découverts dans deux quartiers du village, chronologiquement distincts. Les résultats des analyses nous montrent des changements de stratégie dans le choix des argiles pour la fabrication des céramiques, ainsi que le passage entre l'importation de pipes du delta intérieur du Niger et leur fabrication locale (Cantin, Mayor 2013 ; Mayor & Cantin 2014).

Enfin, dans la vallée de la Falémé, nous travaillons actuellement à la constitution d'un référentiel archéométrique permettant de contrôler le lien entre matières premières et produits finis pour différentes chaînes opératoires de fabrication de la céramique (Cantin, Mayor 2015).

Notre exposé illustrera les thèmes de discussion proposés en développant l'une de nos recherches récente, intégrant l'archéométrie à l'ethnoarchéologie.

## 12:00- European ethnoarchaeologies in the history of archaeological thought

*A. Marciniak*

Ethnoarchaeology has been an important element of the archaeological practice in Europe for decades. It has developed largely independently in different research traditions across the continent emerging in a number of formats. The paper will discuss the beginnings and subsequent developments of ethnoarchaeology across Europe. It will underpin its heuristic and methodological status in reference to different intellectual traditions in which it developed. In particular, the paper will elucidate a complex relations between intellectual traditions of archaeologies in Germany, France and Poland and the character and theoretical underpinnings of ethnoarchaeologies developed and practiced in these research mileus. Furthermore, a long-lasting contribution of a now relatively less popular discipline to the history of archaeological thought in Europe will be scrutinized.

## 12.20 - Ethnoarchaeology as a record of traditional knowledge

*D. Zurro, L. Vietri, J. Caro, C. Lancelotti*

In the last decades the number of ethnoarchaeological studies has increased substantially, widening both the methodology and the scope of the discipline. Either from a “living archaeology” approach or from ethnoarchaeology understood as experimental archaeology aiming at methodological development, analyses usually focus on specific aspects of the societies under study, even though very often they may appear mixed/combined. Ethnoarchaeology has been used to try and approach social issues that are difficult to see only through the archaeological record; this is the case of social organization, the sexual division of labour or ritual questions to cite only few examples. The use of space is another area of research where much effort has been invested, either at domestic level, or when studying campsites or agricultural fields.

Finally, and due to the empirical nature of the archaeological research, ethnoarchaeology is especially relevant for the study of objects and practices. This includes not only raw materials acquisition but also, most importantly, working processes devoted to their transformation in order to produce a final product.

Currently, changes in the understanding of scientific practice, together with a strong ethical impulse to justify research in terms of its implications and its utility for society, force us to re-conceptualise several disciplines. Ethnoarchaeology is not exempt and, as part of the social sciences, it can contribute substantially to numerous areas of knowledge as a transversal subject. Indeed, in this perspective ethnoarchaeology is a pioneer example of transdisciplinarity, a practice that is becoming more and more frequent in the academia.

We may ask ourselves what is the role of ethnoarchaeology in the current scenario. We maintain that it is paramount to take into consideration and enhance the role played by ethnoarchaeological studies in recording what is being defined in some South American countries as “saberres ancestrales” or “traditional knowledge”. This is primarily understood as collective knowledge (of a given community), including practices, methods, experiences, skills, signs and symbols that are part of the cultural heritage and have been transmitted through generations. In Ecuador, for instance, the reinforcement of traditional knowledge is considered to be directly related with producing the conditions for “sumak Kawsay” that can be translated as “good life” o “buen vivir”.

In this sense we believe that, as Western societies have had pre-industrial working processes and objects recorded through ethnographic studies, ethnoarchaeology has taken the responsibility of doing so in most hunter-gatherers, pastoralists and small-scale farming societies. Because of the archaeological imprinting of the discipline, we also think that the degree of accuracy that ethnoarchaeological studies use when describing working processes, has no parallel in any other discipline (completely different from that of pure ethnographic or anthropological studies). Following this reasoning, ethnoarchaeology can play a role in recording the material and immaterial heritage of societies under study at different levels and in terms of craftsmanship, as a form of enrichment of humankind heritage record but also for valuing indigenous societies.

In this talk we will present a reflection on the role of ethnoarchaeology in the current panorama of scientific research and we will indicate what we think are the strongest points of ethnoarchaeological research and its potential social benefits. We will also evaluate its (possible) role in developing present and future social and economic strategies focused on sustainability, changing the current perception of the relation between people and their environments to reach the collective 'Buen Vivir'.

#### **12.40 - Palaeoethnology and Ethnoarchaeology: full integration as a new perspective?**

*A. Cazzella*

In recent years we have witnessed two parallel phenomena: the increase of new analytical techniques (isotopes; DNA; wear traces, etc.) applied to Archaeology (and particularly to Prehistory) on one hand and, on the other hand the decrease of contexts of ethnoarchaeological interest, i.e. where traditional techniques are used. Currently, the results of analytical techniques are increasingly relevant to the reconstruction of past ways of life. However, not always these analyses are clearly targeted to a specific historic problem. At the same time, Ethnoarchaeology has become more and more an Archaeology of recent contexts and less and less the ethnographic observation of living people. I tend to think that Palaeoethnology, which is an old term that might be rethought on the light of current perspectives, can give a stimulus to better address the use of analytical techniques when it comes to socio-economic interpretations. Moreover, ethnoarchaeology as the study of materialised traces of disappearing societies might well merge into Paleoethnology.

### **POSTERS**

#### **Adapting or dying: The survival of potter's work in the postmodern Spain of the XXI Century**

*J.J. Padilla Fernandez*

Fortunately, archaeology initiates to focus its academic discourse not only in the mere object. Materiality begins to be understood as a source of valuable information that, in many cases, allows direct connection with the past. Gradually, culture is analysed from an anthropological perspective, where ethnoarchaeology is becoming one of the most interesting disciplines in the field of social sciences. Emphasizing the relationship that people have with those elements that they used, but also produce, ethnoarchaeology agrees to investigate the social and dynamic reality of any human group behaviour we set, whether it exists or not.

The subject of study presented here is centred on the potter craftsmanship that still exists in the Iberian Peninsula. Ethnographic research conducted in the early and mid-twentieth century, highlight the presence of different ways to make pottery, which, over time, have been forgotten or forced to change. Using as a tool the concept of Technical Operative Chain, we have been able to catch the reason of such modifications and the social consequences involved, as well as to confirm the importance of knowing the material to get closer to any social order.

The establishment and involvement with a postmodern system, increasingly globalized and based on a capitalistic structure, seems to be the main cause of pottery cycle changes and everything related to it.

#### **Mobile Pastoralism across the Karakum Desert in Turkmenistan: New and Old Practices**

*B. Cerasetti, R. Arciero, L. Forni*

Modern Turkmenistan is mainly a desert land and, despite the arid climate, since the Bronze Age local population was able to build an impressive network of water canals and create an artificial agricultural territory with the presence of villages and large towns.

Extensive 20-years survey and new archaeological excavations conducted in the area highlighted that, between 2400 and 1950 BC (Namazga V), the region of the Murghab alluvial fan was characterised by the presence of complex urban societies. The period was followed by a deep crisis (1950-1300 BC-Late and Final Bronze Age), that led to the disappearance of the largest sites. At the beginning of the Iron Age (1300-900 BC), the Murghab River suffered from a decrease of water flow, the advancement of sand dunes from the north and the desertification of the distal portion of the alluvial fan. This environmental change resulted in a southwards shift of settlements and the abandonment of large portion of territories previously occupied by sedentary farmers.

In the abandoned areas the arrival of mobile pastoralists was documented, already attested in the Late Bronze Age site of Ojakly which is providing important new data about the introduction and the integration of Andronovo mobile pastoralists with Namazga VI local population. The new group settled at the edge of the sedentary sites and starting to interact with farmers, exchanging goods, foods and knowledge. Even after the abandonment of the largest sites by sedentary farmers during the Iron Age, we still have evidence of frequentation of the same areas by mobile nomad camps in Togolok 1 as in Adji Kui 1.

Still today, in modern Turkmenistan, mobile pastoralists drive their cattle from one place to another along the water channels of the Murghab River, using mobile camps for different months. A spectacular accurate picture of the past! The present research is a first attempt to investigate the daily habits conducted in the modern mobile pastoralist camps spread in the alluvial fan of the Murghab River: they already have shown interesting parallels in both living habits as well as temporary constructions with those found in late Bronze Age sites of Adji Kui 1 and Togolok 1.

#### **Romania's salt springs: local economic uplifting through heritage branding**

*S. Caliniuc, R. Curcă, G. Romanescu, A. Asandulesei*

The Carpathian piedmont of Romania harbours approximately 300 salt massifs and over 3000 salt springs, making this country one of the richest in Europe in salt resources. These outcrops have attracted since Prehistory important human communities, and latest research has put them into intrinsic association with the emergence and development of some of Europe's most notable archaeological cultures, such as Starčevo-Criș and, foremost, Cucuteni. Aiming to ascertain realities of the historical past, this research revealed that traditional salt exploitation practices still occur at unprecedented intensities in resilient areas.

This opportunity to conduct valuable ethno-archaeological and ethnographical research into an overlooked subject didn't pass unseized by two Romanian projects with French participation (Ethnosol, 2007-2010; EthnosolRo, 2011-2015). The open character of the approach managed to reveal a vast unique universe revolving around the salt springs and salt outcrops, the facets of which (gastronomy, folk medicine, ethnoscience, ethnomanagement, trade and commerce, etc.) all have universal heritage value.

A pressing issue is the undermining of this heritage by modern the economy and industry and, critically, by cultural globalisation. Starting from the research carried out through over 300 field investigations, the paper explores how a solution can be found in the reconfiguration of this heritage into a country brand, how ancillary goods and services can uplift the impoverished local communities where traditional practices still occur, and how the communities can acquiesce to and become part of this endeavour.

#### **The cultural anthropology of salt in the rural world of Eastern Romania. Interpreting symbolic valences identified in Christian holidays and rituals of passage**

*M. Asandulesei*

Salt has been present in the life of human communities since earliest times, being essential in the functioning of the human and animal organism. Thus, in the beginning, the most accessible sources of salt were, depending on the case, seawater and salt springs, for the liquid form, or, respectively, saliferous outcrops, for the solid instance of salt.

Archaeological discoveries have proven that the salt springs from the Eastern Carpathian area of Romania have been used since the Early Neolithic; ethnographic researches revealed they are still exploited using traditional methods, perpetuating practices and attitudes inherited from the most ancient times.

Salt's first role was that of seasoning, followed by the discovery of its preservation qualities, the first substance used in this sense. By extending these real, practical properties of salt, man also imparted a series of imaginary, symbolical qualities, acquiring purification, healing, protection or compensatory functions.

Thus, we observe that this vital substance, apparently banal, is present in various customs, such as those developed around the rituals of passage: birth, marriage, death, but also customs along the year, link to the succession of seasons, overlapped by the great Christian holydays.

The main scope of the present paper is to highlight several aspects of the ritual practices with reference to the symbolical value of salt, by resorting to ethnoarchaeological methods. For the study area, methods for obtaining salt from salt-spring brine by boiling in ceramic pots have been attested since prehistory (the briquetage technique). Even though it is difficult to analyse the symbolic facet of the use of salt from the archaeological record, which may be incomplete and, quite often, conjectural, by analogy with contemporary societies and the analysis of ancient or more recent written sources, it can be stated that the intensive use, direct in various domains of human activity, gradually led to the emergence of a spiritual life.

The practices and beliefs—the original significance of which have been lost or altered, and are critically threatened by accelerated globalisation—related to this “symbolic” element were inherited generationally, harking to ancient moments, as the ethnographic investigations have revealed.

In the present paper we will present the results of a number of ethnographic inquiries on the ritual practices associated to traditional Romanian feasts and rituals of passage that employ salt as the central focus point, showing how these customs survived the major cultural, economic and social upheavals of the last centuries.

To conclude, as we can easily observe from the analysis of the countless ritual customs and practices, as well as from the interpretation of the mindsets specific to communities from the Eastern-Carpathian area of Romania—inasmuch as they can be drawn from the body of knowledge on the present-day and past traditional societies—, that beyond its practical utility, in the rural environment salt also acquires a marked symbolical value, worthy of examination.

### **Same people, same places, intersected lifeways: another research field for ethnoarchaeology**

*M. Alexianu*

The first mental reflex when hearing the term ethnoarchaeology leads you to “living societies”, to exotic areas, to countries or regions with a level of development much below that of the first world. This reaction is not surprising, as the history of ethnoarchaeology shows an almost exclusive interest for these areas.

The experience accumulated from over 300 ethnological investigations carried out from an archaeological standpoint in Romania, in the framework of two ample projects focused on salt (cf. [ethnosal.uaic.ro](http://ethnosal.uaic.ro) and [ethnosalro.uaic.ro](http://ethnosalro.uaic.ro)) shows unambiguously that such researches can be conducted with even spectacular results also in certain regions belonging to countries with emerging economies, at various levels of development.

The research carried out since 2007 as part of the two Romanian projects with participation from the French specialists Olivier Weller and Robin Brigand were performed in rural areas with relatively high elements of civilisation, such as houses/mansions built according to western standards and styles, modern road networks, high level of motorisation of the rural communities, electricity, radio, television, mobile



telephony, etc. What differentiates this Romanian rural world from similar western societies is the direct exploitation by a considerable number of members of these rural communities, of the natural resources located on their territory. Individual animal (particularly sheep) husbanders, members of communities from the Subcarpathian areas of Romania, denizens of villages with all the amenities of modern living, habitually resort to traditional practices of supplying from salt springs and to primitive forms of surface exploitation of salt outcrops, in order to cover the necessities of salt of their livestock and their own, on account of the particular qualities of the salt-spring brine. These ethnological models, unique in Europe, increase the role of ethnographic analogy in archaeological research, considering the spatial overlap and continuity in time attested across several centuries.

To conclude, we consider that Romanian researches conducted in such conditions can constitute an alternative model for classical ethnoarchaeological research, and that the validity of this model should be tested in other areas from countries with emerging economies.





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