

L. Oosterbeek, J. Raposo (Eds.)

**XV Congrès de l'Union Internationale  
des Sciences Préhistoriques et Protohistoriques**

**XV Congress of the International Union  
for Prehistoric and Protohistoric Sciences**

**XV Congresso da União Internacional  
das Ciências Pré-Históricas e Proto-Históricas**

Sous le Haut Patronage  
de Son Excellence le Président de la République Portugaise

Under the High Patronage  
of His Excellency the Portuguese Republic President

Sob o Alto Patrocínio  
de Sua Exlência o Sr. Presidente da República

**Livre des Résumés**

**Book of Abstracts**

**Livro de Resumos**

**Vol. 2**

XV Congress UISPP. Livre des Résumés – Book of Abstracts – Livro de Resumos / Vol.2  
Editeurs/Editors/Editores: Luiz Oosterbeek e Jorge Raposo  
Revisão de textos: L. Oosterbeek, Jorge Raposo, Cláudia Fidalgo, Carlo Bottaini, André Freitas, Sara Fernandes, Marlon Araújo, Rodrigo Oliveira e autores  
Propriété/Property/Propriedade: UISPP e CEIPHAR – Centro Europeu de Investigação da Pré-História do Alto Ribatejo  
Supplément special/ Special supplement/Suplemento especial da série ARKEOS – perspectivas em diálogo.  
Coordination/Coordenação ARKEOS: Ana Cruz, Luiz Oosterbeek  
Couverture/Cover/Capa: Gonçalo Velho  
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Ce volume est édité dans le cadre du XV Congrès de l'UISPP  
This volume is edited in the framework of the XV UISPP Congress.  
O presente volume é editado no âmbito do XV Congresso da UISPP.

Les textes signés son de la seule responsabilité des auteurs.  
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Tiragem: 2000 exemplares  
Depósito legal: 108 463 / 97  
ISSN: 0873-593X  
Tomar, Setembro de 2006

**Address of the Secretary of the Congress / Adresse du Secrétariat du Congrès**

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## Index

### Vol.1

Organization  
Useful information  
Invitation, by Vítor Oliveira Jorge, President of the IUPPS  
IUPPS and Portugal 2006, by Jean Bourgeois, Secretary General of IUPPS  
Welcome address, by Luiz Oosterbeek, Secretary General for the XV Congress  
Message from His Excellency the President of the Republic of Portugal  
Message from His Excellency the President of the European Commission  
General Programme of the Congress  
General information on the XV Congress  
Excursions and site visits  
Publications during the congress  
Typology of sessions  
Southern America Archaeological Panorama  
Global State of the Art  
Publication of the proceedings – Guidelines for authors  
General Plan of Sessions  
Programmes of each session and related abstracts (C01-C68)

### Vol. 2

Programmes of each session and related abstracts (C69-C89, WS, Posters)  
C48 (corrected version)  
Books release session  
Participants

## Indice

### Vol.1

*Organisation*  
*Informations utiles*  
*Invitation, par Vítor Oliveira Jorge, Président de l'UISPP*  
*UISPP et le Portugal, par Jean Bourgeois, Secrétaire Général de l'UISPP*  
*Bienvenue, par Luiz Oosterbeek, Secrétaire Général du Congrès*  
*Message de Son Excellence le Président de la République du Portugal*  
*Message de Son Excellence le Président de la Commission Européenne*  
*Programme Général du Congrès*  
*Informations Générales sur le Congrès*  
*Excursions et visites aux sites*  
*Publications pendant le Congrès*  
*Typologie des sessions*  
*Panorama de l'Archéologie en Amérique du Sud*  
*État Global de l'Art*  
*Publication des Actes – orientation pour les auteurs*  
*Plan général des sessions*  
*Programme de chaque session et résumés respectifs (C01-C68)*

### Vol.2

*Programme de chaque session et résumés respectifs (C69-C89, WS, Posters)*  
*C48 (version corrigée)*  
*Session de présentation de livres*  
*Participants*

## Session C69

Monday, 4 September 2006 / Lundi, 4 Septembre 2006

Room 5.2, Faculty of Letters, Lisbon University  
Salle 5.2, Faculté de Lettres, Université de Lisbonne

### Luminescence Dating Techniques A User's Perspective

#### Techniques de datation par luminescence Une perspective d'utilisateur

*organized by / organisé par*

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#### SESSION'S ABSTRACT

Dating beyond the range of radiocarbon (c. 40 000 years ago) continues to be a challenge; a source of considerable frustration to archaeologists and others interested in the important events of the period c. 200 000 to 40 000 years ago. In the absence of volcanic sediments, the most successful techniques applicable to this time range are luminescence techniques: principally thermo luminescence, optically and infrared stimulated luminescence, also electron spin resonance. These methods depend on the conditions surrounding the sample during burial, and pose a number of challenges. Many archaeologists who use luminescence and ESR dates have a very limited understanding of how the techniques work, and how to use them optimally. This workshop is intended to bring together dating specialists and archaeologists and other "consumers" of dates, and to promote a critical and informed approach to the use of the techniques. The emphasis will be on understanding the limitations of the techniques, factors likely to affect the dates obtained, and how best to go about designing dating strategies for sites.

#### SESSION PROGRAMME / PROGRAMME DE LA SESSION

16:30            **Opening / Ouverture**

16:30-16:50    Christelle LAHAYE (Catania, Italy)  
Pierre GUIBERT (Bordeaux, France)  
Françoise BECHTEL (Bordeaux, France)

**C69-01**        **Luminescence dating and Middle Palaeolithic: State of the art about methods, limits, expectable uncertainties and new challenges.**

16:50-17:10    Sanda BALESU (Villeneuve d'Ascq Cedex France )

M. LAMOTHE (MONtréal, Canada)  
Alain TUFFREAU (Villeneuve d'Ascq Cedex France )

**C69-02** **Luminescence dating of sediments older than 100ka: new insight into the chronology of Middle Palaeolithic sites within loessic environment.**

17:10-17:30 Guilherme DE OLIVEIRA CARDOSO (Sacavém, Portugal)  
André TOMÉ RIBEIRO (Maia, Portugal)  
Antoine ZINK (Paris, France)  
R. MARQUES (Sacavém, Portugal)  
Maria Isabel MARQUES DIAS (Sacavém, Portugal)  
Maria Isabel GARRIDO PRUDÊNCIO (Sacavém, Portugal)

**C69-03** **Luminescence dating of a ceramic find from Ardegães site, NW Portugal.**

17:30-17:50 Maria Isabel MARQUES DIAS (Sacavém, Portugal)  
Antonio Carlos VALERA (Cruz Quebrada – Dafundo, Portugal)  
Guilherme DE OLIVEIRA CARDOSO (Sacavém, Portugal)  
R. MARQUES (Sacavém, Portugal)  
Maria Isabel GARRIDO PRUDÊNCIO (Sacavém, Portugal)

**C69-04** **Luminescence dating applied to stratigraphic definition of pre-historic occupations in urban contexts (Lisbon, Portugal).**

17:50-18:10 Maria Isabel GARRIDO PRUDÊNCIO (Sacavém Portugal)  
Guilherme DE OLIVEIRA CARDOSO (Sacavém, Portugal)  
Maria Isabel MARQUES DIAS (Sacavém, Portugal)  
D. FRANCO (Sacavém, Portugal)  
Sara CURA (Tomar, Portugal)  
Stefano GRIMALDI (Trento, Italy)  
Luiz OOSTERBEEK (Tomar, Portugal)  
Pierluigi ROSINA (Tomar, Portugal)

**C69-05** **Luminescence dating of a fluvial deposit sequence: Ribeira da Ponte da Pedra – Middle Tagus Valley, Portugal.**

18:10-18:30 Antoine ZINK (Paris, France)

**C69-06** **Luminescence date and archaeological ages: A epistemology of the luminescence dating.**

## ABSTRACTS / RÉSUMÉS

**C69-01** Christelle LAHAYE (Catania, Italy)  
Pierre GUIBERT (Bordeaux, France)  
Françoise BECHTEL (Bordeaux, France)

**Luminescence dating and Middle Palaeolithic: State of the art about methods, limits, expectable uncertainties and new challenges.**

**ABSTRACT:** Luminescence dating methods offer very interesting prospects regarding the Palaeolithic's chronology knowledge, and particularly regarding middle Palaeolithic. A good understanding of their principle, their limits, and of the materials as well as the kind of event that can be dated (last burning of a flint, last light exposition of a sediment...) is of fundamental importance for an optimal use of the results. We propose here to draw the state of the art about these methods, based on our experience about dating of Middle Palaeolithic sites from south-west of France

**C69-02**

Sanda BAILESCU (Villeneuve d'Ascq Cedex France )  
 M. LAMOTHE (MONtréal, Canada)  
 Alain TUFFREAU (Villeneuve d'Ascq Cedex France )

**luminescence dating of sediments older than 100ka: new insight into the chronology of Middle Palaeolithic sites within loessic environment.**

**ABSTRACT:** One of the main challenges in luminescence dating of sediment is to extend the method beyond 100ka. The use of feldspar mineral is the best candidate. However, the loss of luminescence signal within feldspars during burial time, may lead to severe age underestimation beyond 100 ka. The development of an alternative IRSL technique, relying on alkali feldspar coarse grains, has enabled us to overcome this problem of age underestimation. In the present study, this IRSL dating technique is applied to loessic deposits of three Late Middle Pleistocene Palaeolithic sites in Northern France: Cagny-la Garenne, Gentelles and Sangatte. The IRSL ages we obtained show evidence of two distinct Palaeolithic occupation periods in Northern France during the Penultimate (Saalian) Glaciation.

**C69-03**

Guilherme DE OLIVEIRA CARDOSO (Sacavém, Portugal)  
 André TOMÉ RIBEIRO (Maia, Portugal)  
 Antoine ZINK (Paris, France)  
 R. MARQUES (Sacavém, Portugal)  
 Maria Isabel MARQUES DIAS (Sacavém, Portugal)  
 Maria Isabel GARRIDO PRUDÊNCIO (Sacavém Portugal)

**Luminescence dating of a ceramic find from Ardegães site, NW Portugal.**

**ABSTRACT:** In the surroundings of the Ardegães Bronze Age site at the NW of Portugal (Maia) during prospect work, several ceramics with Bronze age typologies were also found at surface levels, together with a piece of ceramic with an head shape, by 2,5 cm high and an iconography typically naturalist. Considering the find and the fact that, even archaeologically not contextualized it was related with Bronze Age ceramics, it was important to confirm the chronology of the "head", and so luminescence dating was done. The obtained date for thermoluminescence (TL) was of 3810 +-1060 a [2860-750 a.C.] and for Optical Stimulated Luminescence (OSL) was of 3720+-1070a [2790 a.C.- 650 a.C]. Thus the medium age of 3765+-940a [2700-820 a.C] attributes the sherd to the Bronze Age, what is coherent with the other archaeological remains.

**C69-04**

Maria Isabel MARQUES DIAS (Sacavém, Portugal)  
 Antonio Carlos VALERA (Cruz Quebrada – Dafundo, Portugal)  
 Guilherme DE OLIVEIRA CARDOSO (Sacavém, Portugal)  
 R. MARQUES (Sacavém, Portugal)  
 Maria Isabel GARRIDO PRUDÊNCIO (Sacavém, Portugal)

**Luminescence dating applied to stratigraphic definition of pre-historic occupations in urban contexts (Lisbon, Portugal).**

**ABSTRACT:** In order to propose minimization impact strategies on archaeological heritage during restoration of a XVIII century palace located in central Lisbon, an archaeometric approach was done, including a chronological stratigraphic differentiation by luminescence dating (TL-OSL), and chemical (INAA) and mineralogical (XRD) characterization. Three main units were identified during archaeological excavation: Miocene ("Areolas da Estefânia"), Holocene paleosoil and a colluvial upper level deposit. TL-OSL dating techniques were applied to sediments of geological/archaeological contexts, as well as to heated flint from the preserved archaeological contexts with human occupation remains attributed to the Neolithic. Results allowed a better definition of stratigraphy, by dating the human occupation level to the early Neolithic (but, close to the Megalithism phenomenon). A contribution was done to solve an archaeological interpretation problem, confirming that materials found in the lowest level of the paleosoil do not correspond to an human occupation, but are due to taphonomic processes. It was also confirmed the attribution to the Miocene to the lower stratigraphic unit.

**C69-05**

Maria Isabel GARRIDO PRUDÊNCIO (Sacavém Portugal)  
 Guilherme DE OLIVEIRA CARDOSO (Sacavém, Portugal)  
 Maria Isabel MARQUES DIAS (Sacavém, Portugal)  
 D. FRANCO (Sacavém, Portugal)  
 Sara CURA (Tomar, Portugal)  
 Stefano GRIMALDI (Trento, Italy)  
 Luiz OOSTERBEEK (Tomar, Portugal)  
 Pierluigi ROSINA (Tomar, Portugal)

**Luminescence dating of a fluvial deposit sequence: Ribeira da Ponte da Pedra – Middle Tagus Valley, Portugal.**

**ABSTRACT:** The Ribeira da Ponte da Pedra archaeological site is located in the medium Tagus basin (Vila Nova da Barquinha, Central Portugal). The site includes two Quaternary levels (Q3 and Q4a geological references) and the lithics artifacts found may be attributed to the Lower and Middle Palaeolithic. Also a combustion structure ascribed to the Upper Palaeolithic was found.

Luminescence dating (TL-OSL) was applied in order to obtain a better definition of the chronostratigraphic sequence of the Medium Tagus Pliocene fluvial deposits, as well as, of the related archaeological materials.

Chemical (neutron activation analysis) and mineralogical (X-ray diffraction) characterization of sediments was also performed to contribute to the establishment of a palaeoenvironmental scenario.

**C69-06**

Antoine ZINK (Paris, France)

**Luminescence date and archaeological ages: A epistemology of the luminescence dating dorf.**

**ABSTRACT:** Thermoluminescence is based on the ratio between the accumulated dose and the annual dose rate. It thus acts with the physical meaning of a method of absolute dating, which contains in itself its own calibration. But, because of the high number of parameters, their probabilistic nature, there cannot be single dating. There are only representations that the chronologist has of the true date. That leads us to think of the exact nature of a dating and its place with respect to the true date. So that the dating can be received in a critical way by the archaeologists and be integrated into their own set of knowledge.

## Session C70

*Monday, 4 September 2006 / Lundi, 4 Septembre 2006*

*Room 5.2, Faculty of Letters, Lisbon University  
Salle 5.2, Faculté de Lettres, Université de Lisbonne*

### Archaeometry

**Characterization of Pottery. Sampling  
and analytical protocols and data interpretation**

### Archéométrie

**Caractérisation de la poterie. Echantillonnage  
et protocoles analytiques et interprétation des données**

*organized by / organisé par*

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### SESSION'S ABSTRACT

Ceramic characterization – description of the ceramic and its many properties. In archaeological studies characterization studies are performed in order to inferring how the ceramic was used and determining the geographical area of origin (provenance) and techniques involved in its manufacture.

Main topics:

- Research design considerations
  - (a) identifying problems;
  - (b) selecting a sample of potsherds;
  - (c) sampling clay resources
- Methodologies
- Interpreting technological and characterization studies – significance of quantitative and qualitative physicochemical characterization of ceramic materials and potential raw materials with a view to accomplish the archaeological objectives.

### SESSION PROGRAMME / PROGRAMME DE LA SESSION

14:30            **Opening / Ouverture**

- 14:30-14:45 Ana JORGE (Sheffield, UK)  
Daeyoun CHO (Sheffield, UK)  
Peter DAY (Sheffield, UK)  
Maria Isabel DIAS (Sacavém, Portugal)
- C70-01** **Contextualizing methodologies of ceramic analysis from an archaeological viewpoint.**
- 14:45-15:00 Gheorghe NICULESCU (Bucharest, Romania)
- C70-02** **A technical approach of Cucuteni Culture pottery.**
- 15:00-15:15 Aixa VIDAL (Capital Federal, Argentina)  
Ruth MAICAS RAMOS (Madrid, Spain)
- C70-03** **Funerary Pottery in the Final Neolithic: Los Churuletes, Purchena Almería.**
- 15:15-15:30 Lucia ANGELI (Pisa, Italy)  
Giovanni BOSCHIAN (Pisa, Italy)  
Marta COLOMBO (Pisa, Italy)  
Cristina FABBRI (Pisa, Italy)
- C70-04** **The ancient pottery production in Central Italy: an interdisciplinary study.**
- 15:30-15:45 Nuno INÁCIO (Huelva, Spain)  
Francisco NOCETE (Huelva, Spain)  
José Miguel NIETO (Huelva, Spain)  
Maria Dolores CÁMALICH (La Laguna, Spain)  
Moisés BAYONA (Huelva, Spain)  
Reinaldo SÁEZ (Huelva, Spain)  
Dimas MARTÍN SOCAS (La Laguna, Spain)  
Rafael LIZCANO (Huelva, Spain)
- C70-05** **A Petrographical, mineralogical and geochemical approach to the study of the production, distribution and consumption of pottery in La Junta de los Ríos (Huelva, Spain).**
- 15:45-16:00 Maria Isabel DIAS (Sacavém, Portugal)  
M. A. GOUVEIA Sacavém, Portugal  
Rosa MARQUES (Sacavém, Portugal)  
D. FRANCO (Sacavém, Portugal)  
Maria Isabel PRUDÊNCIO (Sacavém, Portugal)
- C70-06** **The making of pots: trace elements fingerprinting ceramic provenance.**
- 16:00-16:15 Bogdan CONSTANTINESCU (Bucharest, Romania)
- C70-07** **Phase and Chemical Composition Analysis on Cucuteni Neolithic Painted Ceramics Sherds using SR-XRD - A promising tool in ancient pottery research.**
- 16:15-16:30 Michael Glascock
- C70-08** **\*\*\* Advances in the application of archaeometric methods to ceramic.**

**ABSTRACTS / RÉSUMÉS****C70-01**

Ana JORGE (Sheffield, UK)  
 Daeyoun CHO (Sheffield, UK)  
 Peter DAY (Sheffield, UK)  
 Maria Isabel DIAS (Sacavém, Portugal)

**Contextualizing methodologies of ceramic analysis from an archaeological viewpoint.**

**ABSTRACT:** In recent years, analytical approaches to archaeological pottery have called for a combination of techniques, commonly chemical, mineralogical and microstructural, that offer different perspectives on characterization and the interpretation of ceramic technology and provenance. An integrated, multi-technique approach has been developed notably in the analysis of pottery from the Aegean. In that environment, often characterised by highly differentiated organization of pottery production, and by a varied geology, such an approach had been applied with some success.

But what happens when we try to apply this methodology to other archaeological and/or geological contexts? What lessons can we draw from less differentiated examples? While many of the suggestions for an integrated approach are indeed commendable in theory, in practice how easy are they to transfer to other questions and areas?

By drawing on recent work undertaken on prehistoric pottery from Korea and Central Portugal, we illustrate how the nature of archaeological questions, the geological background of a region and the types of ceramics analysed have major effects on the choice and combination of analytical techniques. In examples such as these, where group differentiation is more difficult, stylistic consideration and a detailed assessment of the archaeological context become essential tools in interpretation of ceramic technology and provenance.

**C70-02**

Gheorghe Niculescu (Bucharest, Romania)

**A technical approach of Cucuteni Culture pottery.**

**ABSTRACT:** The utmost achievement of Cucuteni Culture (5500 – 3800 B.C.) is the fine, high quality pottery, adorned with linear, zoomorphic or anthropomorphic motives.

The analyses of pottery paste by petrography, optical microscopy and x-ray diffraction certify advanced technical knowledge and procedure, such as the use of a turning device in the AB and B phases or the clay purification by levigation and also enlighten some characteristics of the raw material, namely a high mica content, skillfully used by the potters.

The work presents the results of the analyses carried out on samples collected from different Cucuteni sites on the Romanian territory. The adornment materials – pigments and slip – analyzed by x-ray diffraction and SEM-EDX, proved to be the same all over the spreading area of Cucuteni Culture.

**C70-03**

Aixa VIDAL (Capital Federal, Argentina)  
 Ruth MAICAS RAMOS (Madrid, Spain)

**Funerary Pottery in the Final Neolithic: Los Churuletes, Purchena Almería.**

**ABSTRACT:** A new revision of archaeological materials stored in museums is fostered by archaeometric techniques and theoretical principles. In this framework, we present a characterization of ceramics from Los Churuletes (Purchena, Almería) from the local Final Neolithic-Chalcolithic transition. The analysis of the 120 vessels found in Tumb 1 of this necropolis shows the identification of two well-established groups. This paper presents an insight into the technical characterization of this pottery assemblages, as well as their social implications.

**C70-04**

Lucia ANGELI (Pisa, Italy)  
 Giovanni BOSCHIAN (Pisa, Italy)  
 Marta COLOMBO (Pisa, Italy)  
 Cristina FABBRI (Pisa, Italy)

**The ancient pottery production in Central Italy: an interdisciplinary study.**

**ABSTRACT:** Experimental tests carried out in the “Laboratorio di Archeologia Sperimentale” of the Department of Archaeological Sciences of the Pisa University are reported in this paper. Typological and technological studies carried out on pottery assemblages of some Abruzzo sites (Central Italy) indicated the methods of ancient ceramic manufacture; the examined productions can be ascribed to various phases of the Neolithic, Copper and Bronze Age of Central Italy

The examined sites are:

- Colle Santo Stefano (L’Aquila)
- Catignano (Pescara)
- Le Coste (L’Aquila)

The topics dealt with in the experimental work are:

- procurement and use of raw material;
- use of stone, bone and wood tools in the different phases of manufacture;
- evaluation of firing time, conditions (reducing/oxidising, open or closed environment) and other techniques.
- production of a set of ceramic samples manufactured under controlled conditions.

Preliminary analyses pointed out that:

- the clay samples used in the experimental tests really correspond to some paste classes recognised in the typological study;
- burnishing carried out experimentally by wet tools, resembles closely the archaeological samples; dry tools produced results that cannot be compared to the archaeological burnishing because the paste was too dry when it was worked
- firing in controlled environment was not successful in reproducing the colour of the archaeological samples; this aspect will be investigated more deeply during future research.

A second phase of this experimental work will deal with geoarchaeological (grain-size, clay mineralogy, soil micromorphology) and archaeometrical analyses aiming to reconstruct all the aspects of ancient manufacture.

#### **C70-05**

Nuno INÁCIO (Huelva, Spain)  
 Francisco NOCETE (Huelva, Spain)  
 José Miguel NIETO (Huelva, Spain)  
 Maria Dolores CÁMALICH (La Laguna, Spain)  
 Moisés BAYONA (Huelva, Spain)  
 Reinaldo SÁEZ (Huelva, Spain)  
 Dimas MARTÍN SOCAS (La Laguna, Spain)  
 Rafael LIZCANO (Huelva, Spain)

#### **A Petrographical, mineralogical and geochemical approach to the study of the production, distribution and consumption of pottery in La Junta de los Ríos (Huelva, Spain).**

**ABSTRACT:** La Junta de los Ríos (Huelva, Spain) is a small (0,3ha) fortified settlement situated in the top of a small hill between two rivers. It is located in one of the oldest and most important sulphide mining districts of the world, the Iberian Pyrite Belt. The C14 information indicates that the main occupation of the settlement was in the first half of the Third Millennium B.C.. The economical analysis of all archaeological remains informs that this community doesn’t have any type of relations with agricultural activities. Beside this, the micro spatial information shows an absence of production activities (included pottery production), which indicates that this community was totally dependent of the exterior. The territorial analysis shows a complex distribution of settlements and mines, connected with the first specialized mining and metallurgy in Southwest of Europe in the Third Millennium B.C.. All this information, allow us to relate La Junta de los Ríos with a settlement dedicated and specialized in the territorial control of an important and critical resource: copper (Nocete, 2001).

The morphometric data of pottery vessels indicate that were related with preparation, distribution, cooking and ingestion of food, mainly wild mammals, and emphasize the absence of store vessels. Some examples were selected for the petrographical, mineralogical and geochemical analysis to study the production, distribution and consumption of pottery in this specific social formation. The methodology adopted was based in the textural analysis of the sherds in polished thin-sections with an Optical Microscope, the mineralogical analysis by X-Ray Diffraction (XRD), and the geochemical analysis by ICP-OES/MS .

The petrographical and mineralogical data indicate a local origin for the clay used in the manufacture of all vessels, with a clay rich in phyllosilicates and rounded crystals of quartz, feldspars and metamorphic clasts, similar to the local sand clay found in the nearby rivers.

**C70-06**

Maria Isabel DIAS (Sacavém, Portugal)  
 M. A. GOUVEIA Sacavém, Portugal  
 Rosa MARQUES (Sacavém, Portugal)  
 D. FRANCO (Sacavém, Portugal)  
 Maria Isabel PRUDÊNCIO (Sacavém, Portugal)

**The making of pots: trace elements fingerprinting ceramic provenance.**

**ABSTRACT:** The use of chemical and geological-mineralogical identities to analyze the different components of a ceramic object it is the best way to establish the ingredients, their evolution through time and during the ceramic-making process, in order to identify the site, period and processes of a ceramic production.

Geochemistry is important because it is one of the best tools to a better understanding and interpretation of the inner characteristics of ceramic materials.

A good sample strategy it is essential, as it has to be representative of the ceramic population, taking into consideration several aspects, like its degree of homogeneity (stylistic and aesthetic of evaluation and identification of a pot sherd) and abundance.

The data analysis of compositional results yields groups of ceramic fragments with similar chemical / mineralogical composition, thus indicating provenance. Even statistics is important, as we are dealing with extensive quantitative data, statistics are a means of describing reality, does not constitute it, only an approximation, according to sample size, distribution parameters and type of statistics employed. The use of different analytical and statistical procedures to verify and triangulate data is recommended.

A case study from a pre-historic site is presented, emphasizing the importance of this approach to solve one of the main questions, which was the possibility of the existence of a specific production of pottery recipients used in funerary rituals. Results from Perdigões site (south Portugal) point to the use of a more diversified raw materials resource in pottery of funerary rituals. This could reflect different origins, perhaps due to the use of necropolis by peripheral, but dependent, communities.

**C70-07**

Bogdan CONSTANTINESCU (Bucharest, Romania)

**Phase and Chemical Composition Analysis on Cucuteni Neolithic Painted Ceramics Sherds using SR-XRD - A promising tool in ancient pottery research..**

**ABSTRACT:** Using conventional XRD in pottery analysis major phases can be identified. Minor phases are at the level of the background noise or are unresolved from. However, these minerals are significant for the characterization of the source of the clay (bulk) and of the pigments. The Synchrotron Radiation X-Ray Diffraction (SR-XRD) is a powerful tool for detailed structural determination and mineral phase studies. We used it in order to distinguish the different clays and glosses of various pottery-producing centres in the case of some Romanian neolithical ceramics. The measurements were performed using the Huber G670 imaging-plate Guiner camera installed on crystallography beamline I7114 at the MAX II synchrotron. The samples, presented as powder deposited on tape, were exposed for 1200 s each to a synchrotron radiation of 1.364Å. We combined SR-XRD with a mineralogical examination using a polarized light microscope. The analysis of the experimental data started with the identification of the relevant pigments using the Diffrac Plus data base of mineralogical compounds at MAX II. Further analysis consisted of the construction of the diffraction pattern using the data base information followed by the comparison with the results obtained from measurements, after background subtracting. The obtained information help us for the identification of black pigment composition from two Cucuteni sherds (Northern Moldavia) – 5000 – 3500 B. Chr. - as a mixture of hausmannite ( $MnMn_2O_4$ ) and bixbyite ( $Mn,Fe)_2O_3$  – for high-temperature (more than 800°C) fired pottery (“advanced” Cucuteni ceramics) and psilomelane ( $MnO + MnO_2 + H_2O$  in variable proportions) for low temperature (below 400°C) fired pottery (“primitive” pre-Cucuteni). All these minerals have their origin in North Moldavia mineral deposits of Iacobeni, leading to the conclusion that neolithic trade routes already existed covering approx. 500 km with the crossing of the Carpathians along the Bistritza river. In the same samples no evidence of pyrolusite ( $MnO_2$ ) and manganite [ $MnO(OH)$ ] – main components of Ukrainian Nikopol Mn deposit (used as black pigment source by contemporary Tripolye Neolithic culture) was found. (...)

## Session C71

*Tuesday, 5 September 2006 / Mardi, 5 Septembre 2006*

*Room 5.2, Faculty of Letters, Lisbon University  
Salle 5.2, Faculté de Lettres, Université de Lisbonne*

### **The Contribution of Archaeometry to the Understanding of Bell Beakers Phenomenon**

### **La contribution de l'archéométrie à la compréhension du phénomène campaniforme**

*organized by / organisé par*

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### **SESSION'S ABSTRACT**

The widespread distribution of beaker finds has led to the frequent identification of a Beaker people and speculations about their origins. Theoretical positions about the Beaker phenomenon, focused on the role that this luxury pottery played as a prestige good in the social strategies of local Chalcolithic groups. The main questions posed by archaeologists are problems related with provenance, technological procedures, raw materials exploitation strategies and mechanisms of circulation. The origin of ceramic material is Geology. Clays are the major constituents when making a pot, so it is important to know how different elements make clays, what are the leftovers in the clay-making process, what are the chemical traces which can give a clue to the geographic origin of the clay and temper materials found in the finished product, etc. This methodological approach aims to obtain chemical and mineralogical features able to discriminate different pottery productions in space and time – fingerprints.

### **SESSION PROGRAMME / PROGRAMME DE LA SESSION**

16:30            **Opening / Ouverture**

16:30-16:45    Oscar LANTES-SUÁREZ (Santiago de Compostela, Spain)

Antonio MARTÍNEZ-CORTIZAS (Santiago de Compostela, Spain)  
M. Pilar PRIETO-MARTÍNEZ (Santiago de Compostela, Spain)

**C71-01** **Mineralogy and elemental composition of bell beaker pottery from the Ulla-Deza County (NW Iberian Peninsula).**

16:45-17:00 Carolyn CHENERY (Nottingham, UK)  
Jane EVANS (Nottingham, UK)  
Andrew FITZPATRICK (Salisbury, UK)  
Janet MONTGOMERY (Bradford, UK)  
Mike PARKER PEARSON (Sheffield, UK)  
Patrick MAHONEY (Sheffield, UK)  
Mandy JAY (Leipzig, Germany)  
Mike RICHARDS (Leipzig, Germany)

**C71-02** **Bronze Age migration as recorded by isotope ratios in human tooth enamel.**

17:00-17:15 M. Isabel DIAS (Sacavém, Portugal)

**C71-03** **Bell beakers from Portuguese sites and its geological sources: A contribution to the establishment of provenance and circulation).**

17:15-17:30 Francisco NOCETE (Huelva, Spain)  
José Miguel NIETO (Huelva, Spain)  
Nuno INÁCIO (Huelva, Spain)  
Moisés BAYONA (Huelva, Spain)  
Reinaldo SÁEZ (Huelva, Spain)  
Rafael LIZCANO (Huelva, Spain)

**C71-04** **A petrographic contribution to the study of Bell Beaker Phenomena in Southwest Iberia: the case of Cabezo Juré (Huelva, Spain).**

17:30-17:45 Carlos ODRIOZOLA (Sevilla, Spain)

**C71-05** **Pottery production during the Late Iberian Chalcolithic period: insights from the mineralogical and chemical analyses of Spanish Guadiana River Middle Basin (Badajoz, Spain) Bell Beaker pottery.**

17:45-18:00 Fabien CONVERTINI (Montpellier, France)

**C71-06** **La céramique campaniforme du Sud et de l'Est de la France : bilan de 15 ans d'analyses pétrographiques.**

18:00-18:15 Xavier CLOP (Barcelona, Spain)

**C71-07** **Les céramiques campaniformes et la calcite pilée: quelques données et réflexions.**

18:15-18:30 **Discussion**

## ABSTRACTS / RÉSUMÉS

**C71-01** Oscar LANTES-SUÁREZ (Santiago de Compostela, Spain)  
Antonio MARTÍNEZ-CORTIZAS (Santiago de Compostela, Spain)

M. Pilar PRIETO-MARTÍNEZ (Santiago de Compostela, Spain)

**Mineralogy and elemental composition of bell beaker pottery from the Ulla-Deza County (NW Iberian Peninsula).**

**ABSTRACT:** The main objective of the present study is a preliminary characterization of prehistoric pottery of an inland area of Galicia, the county of Ulla-Deza (NW Iberian Peninsula). To this aim we will apply two complementary analytical techniques, X ray fluorescence (XRF) and X ray diffractometry (XRD).

The empiric base of this study relies on a collection of 280 recipients from three sites excavated between 2001 and 2002: the ritual and funerary site of Devesa do Rei (135 recipients), Túmulo 1 of Escuros (46 recipients) and the domestic settlement of Zarra de Xoacín (99 recipients). These sites are of great interest since (i) they offer a wide chronological range, the three documenting diverse moments of settlement; (ii) provide a large contextual variability, funerary, domestic and possibly ritual, in the same area; and (iii) all contain a layer of Bell Beaker shards as the main phase and also of greater interest to us.

The selection of samples for the analyses was based on formal, chronological and stratigraphical variability for each site. Mineralogical/elemental characterization of the ceramics will enable to establish homogenous groups that will be related to the archaeological variables, to get insights not only on the relationship among the studied sites for the Bell Beaker period, but also on the continuity or rupture in the prehistoric pottery of this area of NW Spain.

**C71-02**

Carolyn CHENERY (Nottingham, UK)  
Jane EVANS (Nottingham, UK)  
Andrew FITZPATRICK (Salisbury, UK)  
Janet MONTGOMERY (Bradford, UK)  
Mike PARKER PEARSON (Sheffield, UK)  
Patrick MAHONEY (Sheffield, UK)  
Mandy JAY (Leipzig, Germany)  
Mike RICHARDS (Leipzig, Germany)

**Bronze Age migration as recorded by isotope ratios in human tooth enamel.**

**ABSTRACT:** Burial practices and grave goods are often used as an indication of an individual's culture, status and place of origin. However these attributes may be inherited or acquired and are more representative of the community rather than the individual. Isotope studies of oxygen, strontium, lead, and carbon are good indicators for 'narrowing down' a person's place of childhood habitation. In this paper we focus on the role of oxygen and strontium isotopes in determining the place of origin and migration patterns during childhood and adolescence, within the Bronze Age population of the British Isles.

**C71-03**

M. Isabel Dias (Sacavém, Portugal)

**Bell beakers from Portuguese sites and its geological sources: A contribution to the establishment of provenance and circulation.**

**ABSTRACT:** The broad occurrence of bell beakers raises many archaeological questions, especially concerning the possible "trade" and the role that this luxury pottery played as a prestige good in the social strategies of local Chalcolithic groups. It is not only to differentiate production areas, but also technological procedures, raw materials exploitation strategies and mechanisms of circulation.

The knowledge of the constituents and the processes of ceramics production leads to a better understanding of the object itself and hence its maker.

This methodological approach aims to obtain chemical and mineralogical features able to discriminate different pottery productions in space and time – fingerprints.

A first step is to consider elemental concentrations in order to describe the productions which would be based upon the clay sources.

Case studies from south and central Portugal showed that bell beakers do not belong to a unified culture, but rather an interaction sphere. There are considerable regional differences and local productions combined with an interregional system.

**C71-04** Francisco NOCETE (Huelva, Spain)  
 José Miguel NIETO (Huelva, Spain)  
 Nuno INÁCIO (Huelva, Spain)  
 Moisés BAYONA (Huelva, Spain)  
 Reinaldo SÁEZ (Huelva, Spain)  
 Rafael LIZCANO (Huelva, Spain)

**A petrographic contribution to the study of Bell Beaker Phenomena in Southwest Iberia: the case of Cabezo Juré (Huelva, Spain).**

**ABSTRACT:** Cabezo Juré (Huelva, Spain) is a fortified settlement specialized in metallurgical production of the Third Millennium B.C., located in SW Spain near the Tharsis mining district (Iberian Pyrite Belt). The settlement, at the top of small hill, is distributed in three main areas: 1) a fortified area at the top, characterized by the presence of exotic objects (gold sheets, marble objects, etc.), 2) a furnaces area surrounding the walls of the settlement where the metallurgical production was localized, and 3) a working area in the lower part of the hill where textile production was carried out (Nocete, 2001).

The morphometric analysis classified the pottery vessels in two main groups: utilitarian vessels related to preparation and ingestion of food and decorated pottery, including one example of campaniform bell beaker (maritime style). This one, as other decorated vessels, were recovered only in the fortified area.

The petrographical and mineralogical characterization of some decorated and campaniform vessels, shows clear evidences of non-local production. Especially, the presence in some of the studied vessels of Cretaceous-Tertiary Foraminifers suggests a provenance from the sediments of the Guadalquivir River Valley.

From this we can infer the existence of a supra-regional circulation of pottery in Southwest Iberian Peninsula, together with other finished goods (silicified oolitic limestone, copper products, variscite, marble objects etc.)(Nocete et al, 2005), and the restricted access to them indicates a form of expression and materialization of social inequalities.

**C71-05** Carlos ODRIOZOLA (Sevilla, Spain)

**Pottery production during the Late Iberian Chalcolithic period: insights from the mineralogical and chemical analyses of Spanish Guadiana River Middle Basin (Badajoz, Spain) Bell Beaker pottery.**

**ABSTRACT:** Within the Spanish Guadiana River Middle Basin (Badajoz, Spain), two of the largest 3rd millennium BC settlements throughout all Iberia are found: La Pijotilla (80 ha) (Hurtado 1984) and San Blas (30 ha) (Hurtado 2004). These two large settlements together with some other smaller and fortified settlements, are politically organized around La Pijotilla, and shaping Tierra de Barros landscape as a Copper Age organized territory (Hurtado 1995). San Blas is one of the most outstanding settlements in the periphery next to copper mines.

The mineralogy and minor and trace element chemistry of 27 Bell Beaker pottery sherds was determined using an X-ray diffractometer and an X-ray fluorescence spectrometer. The sherds came from three contemporary sites (La Pijotilla, San Blas and Molino Perdido) within the Guadiana River Middle Basin Landscape region and belong either to maritime or to continental Bell Beaker style of pottery. Physico-chemical methods are used to characterize and categorize the productions of these three sites in order to research possible patterns in the production and distribution of these “prestige” wares. Principal component analysis (PCA) (Baxter 1994, 2003) was used to reduce the number of variables and model-based cluster analysis was used to find clusters in the PCA scores (Hall 2004).

As preliminary remarks, model-based clustering found two main categories; these two clusters correspond to local productions; according with the mineralogy data set, and can be associated to the sedimentary raw materials near these sites.

Other valuable remark is referred to the white incrustrated paste over the decorations that are shown in some vessels; and made of bone or calcium carbonate (Odrizola and Hurtado 2006).

**C71-06** Fabien CONVERTINI (Montpellier, France)

**La céramique campaniforme du Sud et de l'Est de la France: bilan de 15 ans d'analyses pétrographiques.**

**RÉSUMÉ:** Depuis quinze ans, la céramique de plusieurs sites campaniformes du Sud et de l'Est de la France fait l'objet d'analyses pétrographiques en lames minces. Ces sites correspondent essentiellement à des habitats de plein air mais également à quelques occupations en grotte. Les vases issus de sites sépulcraux ont été seulement étudiés dans le Sud de la France.

Les gobelets analysés du Standard proviennent tous de dolmens tandis que la céramique des styles régionaux a été recueillie en grotte mais surtout sur les gisements de plein air.

Malheureusement, les documents céramiques attribués au Standard sont peu nombreux, de taille extrêmement réduite et donc difficilement analysable sans une destruction importante ou totale. Cette situation est un frein à la mise en œuvre d'études pétrographiques de grande ampleur sur ces objets. En revanche, la céramique de style régional est le plus souvent abondante sur les sites et l'analyse est grandement facilitée.

Les résultats obtenus sur les quelques gobelets analysés du Standard montrent plusieurs cas de figures. S'il est certain que la majorité des gobelets a été fabriquée localement, quelques vases correspondent à des productions externes à l'environnement géologiques des sites. Les caractéristiques pétrographiques des céramiques de style régional indiquent une exploitation locale d'un grand nombre de ressources présentes dans le proche environnement des sites, à l'instar des autres communautés de la préhistoire récente.

Les analyses ont permis également de comparer les productions campaniformes régionales et celles des autres groupes culturels contemporains dans le Sud de la France. Des similitudes dans le traitement des pâtes ont été observées comme l'introduction des carbonates pilés, pratique vieille de plus de deux millénaires, mais également des spécificités campaniformes extérieures à la France méridionale, comme l'ajout de chamotte dont l'origine est à rechercher dans le bassin rhénan ou en Suisse occidentale. Les céramiques à chamotte sont également présentes dans la vallée du Rhône et de la Saône ainsi que dans le Jura dessinant ainsi une vaste province homogène.

**C71-07**

Xavier CLOP (Barcelona, Spain)

**Les céramiques campaniformes et la calcite pilée: quelques données et réflexions.**

**RÉSUMÉ:** Une des caractéristiques les plus singulières dans le processus de fabrication de céramique est celui de l'utilisation des dégraissants ajoutés. La documentation de l'utilisation d'un certain type de dégraissant ajouté dans une zone et une période historique spécifique permet de poser des questions très diverses, comme par exemple s'il existe une certaine raison fonctionnelle qui explique son utilisation, si elle est utilisée de manière exclusive dans quelques types céramiques spécifiques ou est dans tous, si son utilisation est dans le cadre d'une certaine tradition artisanale ou est une innovation, etc..

La calcite pilée est un élément d'origine minérale qui a été utilisé depuis le début de la production de céramique dans différentes zones de l'Europe dans différents moments historiques. Un de ces moments correspond, précisément, à celui de la céramique campaniforme. Avec cette communication nous voulons faire un bref bilan de l'utilisation de la calcite pilée pendant l'III<sup>e</sup> millénaire BC et poser la discussion sur leur utilisation dans les céramiques campaniformes dans les termes exposés.

## Session C72

Monday, 4 September 2006 / Lundi, 4 Septembre 2006

Room 5.1, Faculty of Letters, Lisbon University  
Salle 5.1, Faculté de Lettres, Université de Lisbonne

### Spaces, Memory and Identity in the European Bronze Age

#### Espaces particuliers, mémoire et identité à l'Âge du Bronze Européen

*organized by / organisé par*

Ana BETTENCOURT

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#### SESSION'S ABSTRACT

The aim of this colloquium is to gather together several experts to know and change ideas about the European Bronze Age ritual places. Assuming that these places were sceneries where power were negotiated and the social identity was reforced upon certain mechanisms of memory transmission, it will be interesting to know the different kinds of places built by distinct communities and to understand the different ways who memory and identity was maintained trough the Early/Middle Bronze Age and the Later Bronze Age.

#### SESSION PROGRAMME / PROGRAMME DE LA SESSION

- 14:30            **Opening / Ouverture**
- 14:30-14:50    Mathias WILBERTZ (Hannover, Germany)  
**C72-01**        **Inventaire des enclos funéraires oblongs et en forme de trou de serrure de l'âge du bronze dans la région entre Aller et Dordogne.**
- 14:50-15:10    Vadym ARTYUKH (Lviv, Ukraine)  
**C72-02**        **Religious monument of Brazen Age in Bukovina.**
- 15:10-15:30    Pedro V. CASTRO MARTINEZ (Barcelona, Spain)  
                  Nicola ARTIGAS (Barcelona, Spain)  
                  Trinidad ESCORIZA MATEU (Almería, Spain)  
                  Joaquim OLTRA PUIGDOMENECH (Barcelona, Spain)  
**C72-03**        **Unlike communities: Domestic architectural duality in Recent Prehistory of the western Mediterranean.**
- 15:30-15:50    Eva STENSKOLD

- C72-04** Mortuary Houses, graves and death rituals during the Late Neolithic and the Early Bronze Age in Scandinavia
- 15:50-16:10 Kim JONG-IL
- C72-05** Engendering Burial Place and the Formation of Individual Identity - An aspect on social change from the Late Neolithic to the Early Bronze Age in South Germany
- 16:10-16:30 Beatriz Comendador REY
- C72-06** Space and memory at the mouth of the Ulla river (Galicia, Spain)
- 16:30-16:50 Ana M. S. Bettencourt
- C72-07** Places of memory, identity and power during the Bronze Age of the Northwest of Iberian Peninsula
- 16:50-17:10 António SILVA  
Joana LEITE
- C72-08** Space and meaning: approach to the Late Bronze Age occupation of the Arouca valley
- 17:10-17:30 Pedro Brochado de ALMEIDA  
Francisco FERNANDES
- C72-09** The necropolis of Cimalha - Felgueiras in the Bronze Age of the North of Portugal: spatial and social order considerations
- 17:30-17:50 João Pedro RIBEIRO  
Mário BRITO
- C72-10** Lorga de Dine (Bragança, NE Portugal) - Title to confirm
- 17:50-18:10 André Tomé RIBEIRO  
Lara Bacelar ALVES  
Ana M. S. BETTENCOURT  
Rui Teles de MENEZES
- C72-11** Space of memory and representation: Bouça da Cova da Moura (Ardegães, Maia, Northwest of Portugal) – a case study
- 18:10-18:30 Discussion

## ABSTRACTS / RÉSUMÉS

- C72-01** WILBERTZ, Mathias (Hannover, Germany)
- Rapport de l'état du projet: «Inventaire des enclos funéraires oblongs et en forme de trou de serrure de l'âge du bronze dans la région entre Aller et Dordogne»**
- RÉSUMÉ:** En vastes parties de l'Europe centrale et occidentale il y a des tombes entourées par des fossés. Jusqu'à présent il n'y a pas encore un inventaire international systématique de ces

enclos. C'est pourquoi un groupe d'archéologues de quatre pays a décidé à faire un tel inventaire à l'occasion de la Campagne Âge du Bronze du Conseil de l'Europe. En raison du grand nombre d'enclos funéraires il était nécessaire de limiter l'inventaire à seulement certaines formes d'enclos. La communication donnera un rapport sur l'état du projet.

**C72-02** Vadym ARTYUKH (Lviv, Ukraine)

**Religious monument of Brazen Age in Bukovina.**

**ABSTRACT:** In autumn 2005 the expedition formed by Ukrainian Historical Club and Lviv Museum of Religion History carried out searching archeological works in Bukovina, on the right bank of the Dnister. The landscape belongs to Kelmenets steppe "tovtry" region. High and low Dnister terraces are the characteristic feature of this area. Little rivers and streams flowing into the Dnister form ravines with promontories or capes situated above them. A religious sanctuary of early epochs was discovered at one of such capes not far from the village of Perkiivtsi in Chernivtsi oblast. The monument is located at the distance of 2 km to the north-west from the village of Perkiivtsi in Pechera tract, on the right bank of the Dnister reservoir. The stream flowing into the Dnister forms the elongated cape resembling a lying pangolin. Its relative height is 40-50 metres above water. The cape is confined with a rocky precipice from the south-east, that is from the side of Dnister. The stream forms a deep canyon with the same rocky steeps from the opposite side of the cape.

The most accessible south-eastern part of the cape stretching out from the ravine to the precipice is partitioned off with a transverse earth mound, which is 1,5 m high and 50 m long. The length of the cape measured from the earth mound to its terminal part is 120 m. A barrow-like round earth embankment with 20 m diameter surrounded with a ring ditch is situated there. About 100 fragments of moulded crockery made of orange and yellow washed clay are concentrated in the precipice in the terminal part of the cape. You can observe an ornament made with black paint on some of them. (...)

**C72-03** Pedro V. CASTRO MARTINEZ (Barcelona, Spain)  
Nicola ARTIGAS (Barcelona, Spain)  
Trinidad ESCORIZA MATEU (Almería, Spain)  
Joaquim OLTRA PUIGDOMENECH (Barcelona, Spain)

**Unlike communities: Domestic architectural duality in Recent Prehistory of the western Mediterranean.**

**ABSTRACT:** The inequality among places of similar social nature implies disparity in configuration of social groups, at a concrete socio-historical situation. It is the case of the buildings for social practices of domestic groups. Its domestic nature is denoted by recurrent activities (labour and consumption). Nevertheless, if there are different architectural characteristics (technology, form, size), erroneous interpretations can be proposed, in reference to those of greater monumentality, attributing them, mechanically, an ideological nature (religious, symbolic, ceremonial) and/or a hierarchical political nature (palaces, administrative centers). Besides, the existence of state and social classes only will be able to be shown by other evidences. Examples will be presented of the Iberian Southeast (3rd and 2nd millenniums BC) and of Majorca (1st millennium BC).

## Session C73

*Thursday , 7 September 2006 / Jeudi, 7 Septembre 2006*

*Room 6.1.48, Faculty of Sciences, Lisbon University  
Salle 6.1.48, Faculté de Sciences, Université de Lisbonne*

### Aesthetics and Rock Art III Symposium

### III Symposium d'Esthétique et Art Rupestre

*organized by / organisé par*

**Thomas HEYD**

University of Victoria, Department of Philosophy, Victoria, British Columbia, Canada – [heydt@uvic.ca](mailto:heydt@uvic.ca)

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#### SESSION'S ABSTRACT

Our previous two symposia on aesthetics and rock art (at the 1998 IRAC in Vila Real and the 2000 IRAC in Alice Springs) gathered a number of wonderful papers on the aesthetic perspective in rock art research. Since then we have been successful in publishing a number of them in our volume *Aesthetics and Rock Art* (Ashgate 2005).

Presently we invite rock art researchers to help us to discuss the relevance of aesthetics for the understanding and study of rock art. We hope to take stock of the practical value that the aesthetic perspective can have. This may include its value as a heuristic in explaining societal structures or cultural institutions, or as a way to increase for understanding of the life world of the makers of rock art.

Contributions from a diversity of disciplines, including archaeology, sociology, anthropology, art history and philosophy, are welcome. Some of the issues that might be addressed include the following:

What can the aesthetic perspective in rock art research contribute to explanation of particular societies by archaeology and anthropology?

Can the aesthetic perspective in rock art research contribute to the understanding of the life world of other societies?

How is aesthetic appreciation across cultural and temporal divides possible?

What constitutes aesthetic appreciation in the rock art experience?

What contribution does aesthetic appreciation make to the explanation of why people like to visit/see rock art sites?

How does the aesthetic achievement of rock art compare with other aesthetic achievements?

Can they be compared?

What has been said about rock art aesthetics at other times, and, can we learn something from those claims?

(GSA)

## SESSION PROGRAM

- 09:00-09:20 Thomas HEYD (Victoria, Australia)  
**C73-01** Introduction: The case for aesthetics and rock art.
- Section 1** The aesthetics of rock art in its context: new discoveries, insights and problems
- 09:20-09:40 Daniel ARSENAULT (Montréal, Canada)  
**C73-02** From the graphic content to the natural setting. An aesthetic view of First Nations rock art sites in the Province of Québec, Canada.
- 09:40-10:00 Jean-Michel CHAZINE (Marseille, France)  
**C73-03** Aesthetics and Rock Art in East Borneo.
- 10:00-10:20 António Pedro BATARDA FERNANDES (Côa Valley, Portugal)  
**C73-04** Aesthetics, ethics, and rock art conservation: how far can we go? The case of recent conservation tests carried out in un-engraved outcrops in the Côa Valley Archaeological Park, Portugal.
- 10:20-10:40 Discussion
- 10:40-11:00 Break / Pause
- Section 2** Aesthetic perspectives on origins and importance of rock art
- 11:00-11:20 Margaret BULLEN (Melbourne, Australia)  
**C73-05** The magic of great art: do we need to have all the answers?
- 11:20-11:40 J. B. DEREGOWSKI (Aberdeen, UK)  
**C73-06** Does aesthetics have perceptual roots?
- 11:40-12:00 Discussion
- Section 3** Applying the Aesthetic Perspective in Understanding Rock Art
- 12:00-12:20 John CLEGG (Sydney, Australia)  
 Shiv JAMWAL (Kashmir, India)  
**C73-07** Aesthetics, function, and fashion in rock art: reactions to “Aesthetics and Rock Art”.
- 12:20-12:40 Livio DOBREZ (Australia)  
**C73-08** A rock art typology: Narrative and non-narrative figurative representation.

12:40-13:00 **Discussion**

13:00-14:30 **Lunch / Déjeuner**

**Section 3 Continued**

14:30-14:50 Anne EASTHAM (Fishguard, UK)

**C73-09** **Intentions in the engraved stones and in the standing stones in Pembrokeshire.**

14:50-15:10 Michael EASTHAM (Fishguard, UK)

**C73-10** **Visual depictions can replace verbal constructions as a means of verifying and communicating ideas – the status of Arnhemland rock face images.**

15:10-15:30 **Discussion**

15:30-15:50 Alicia A. FERNÁNDEZ DISTEL (S. S. de Jujuy, Argentina)

**C73-11** **Devils's Barrier: faces that look at the visitor from above.**

15:50-16:10 Andrei ISNARDIS (Belo Horizonte, Brasil)

V. LINKE (Belo Horizonte, Brasil)

André Pierre PROUS POIRIER (Belo Horizonte, Brasil)

**C73-12** **Stylistic approach of Planalto Tradition paintings, in Central Brasil.**

16:10-16:30 **Discussion**

16:30-16:40 **Break / Pause**

**Section 4 Cross-cultural Aesthetic Perspectives**

16:40-17:00 Reinaldo MORALES JR (Conway, Arkansas, U.S.A.)

**C73-13** **A prehistoric artworld? Aesthetic discourse, artistic function and Brazilian rock art.**

17:00-17:20 George NASH (Bristol, UK)

**C73-14** **Does the aesthetic value of graffiti and its location hold the key to the placing of prehistoric rock-art?**

17:20-17:40 Thomas HEYD (Victoria, Canada)

**C73-15** **Cultural Appropriation and Etiquette in the Encounter with Engravings and Paintings on Rock.**

17:40-17:50 **Discussion****Assessments, Conclusions and General Discussion**

17:50-18:10 Claire SMITH (Adelaide, Australia) – Invited Discussant

**C73-16** **An Assessment of Aesthetics and Rock Art.**

18:10-18:30 John CLEGG (Sidney, Australia) – Co-Chair and Co-Convener

**C73-17** **Aesthetics and Rock Art: What we have learnt.****PAPERS' ABSTRACTS****C73-01** Thomas HEYD (Victoria, Australia)**Introduction: The case for aesthetics and rock art.**

**ABSTRACT:** Only recently has there been a rediscovery in anthropology and archaeology of the importance of aesthetics and art. Nonetheless, hardly any papers have appeared that directly discuss the aesthetics or the art status of rock art. In this paper I argue that there are good *prima facie* reasons for pursuing the aesthetic consideration of these marks on rock despite the prevailing trends. I point out that it is unnecessary to suppose that, for aesthetic appreciation, we have to ignore context, and focus on some universal or 'transcendental' quality. It similarly is unnecessary to limit the term 'art' to those phenomena that resemble those of the modern, European art tradition. Moreover, we need not know the intentions of the makers of rock art in order to usefully approach such manifestations from the aesthetic point of view.

**Section 1: The aesthetics of rock art in its context: new discoveries, insights and problems****C73-03** Jean-Michel CHAZINE (La Bremonde, Buoux, France)  
**Aesthetics and Rock Art in East Borneo.**

**ABSTRACT:** The recent and unexpected discovery (1994-2002) in the East of Indonesian Borneo of a set of 32 ornate caves presenting a different Rock Art expression, has given impulse to a new field of research. Showing not only variations compared to its near and far off neighbours within South East Asia but using a particular display of negative hand prints, Borneo Rock Art whose origins are embedded before the end of Pleistocene, is a very special case. The high number of negative hands prints (1,500 or so), correlated in some cases with their peculiar distribution -some caves contain only negative hand prints- shows not only their relative importance, but points toward differentiated intentions, including a sense of aesthetic, even in the utmost basic figure (that is, the hand print). Although their production probably is the result of diverse intentional purposes, including emotional expression, at least for negative handprints, it raises the question of their intrinsic functionality: Whatever it was, it does not automatically exclude the intention of explicitly creating something of aesthetic value, which is illustrated by particular dispositions/localisations. Here, in East Borneo we are confronted with evidence for two things: traces of intentional actions and of intentional representations. The simultaneous presence of these two phenomena, even if what separates them is very little, is rare enough, and should be studied as a "limiting case". What we observed with regard to the negative hand prints provides us with an example of what may be considered as something just before the "degree zero" of art, or at least something intentional created with aesthetic aims. Even if, when adapting or transposing contemporary ethnographic observations and data, it remains difficult to determine precisely when a real artistic function has been distinctly active or not, the existence

of any aesthetic feeling, transformed into real expression on caves walls, is noticeable. It would fit also with some ethnographic data applied upon vanished actions or materials, where any kind of specific action was wrapped up with beliefs, thoughts, feelings and/or emotions. Nonetheless, I propose that, although any attempt to isolate a purely artistic action in the prehistoric expressive field remains hypothetical, Borneo's hand prints, in using one of the most basic features invented by human beings, shows that whatever the final intention organising the process of stenciling, aesthetic expression was also present. The aesthetic interest of these handprints calls out for explanation and further specific investigations.

**C73-04** António Pedro BATARDA FERNANDES (Côa Valley, Portugal)

**Aesthetics, ethics, and rock art conservation: how far can we go? The case of recent conservation tests carried out in un-engraved outcrops in the Côa Valley Archaeological Park, Portugal.**

**ABSTRACT:** Drawing on recent conservation tests carried out in Côa Valley Type-Rocks (outcrops without engravings but with similar weathering mechanisms at work as the engraved ones) the aim of this paper is that of discussing the reasonable limits of intervention, aesthetic and ethically speaking, in rock art conservation work. The fact that we are dealing with an art object that exists in a certain context and within a natural and social evolution timetable should lead rock art researchers, conservators and managers to engage in a until now poorly developed discussion. Considering that the whole outcrop can be considered as the art object do we have the right to manipulate this 'total' art object in such a way that it is changed into something else? If conservation work is truly proven necessary, should it be strongly determined by aesthetic and ethical questions or does the endurance goal for rock art permits the complete 'sacrifice' of an 'original' art object? Furthermore, if, in a certain sense, all conservation work is 'unnatural' in its attempt to arrest time can nevertheless the outcome produce an aesthetically pleasant 'natural' end result? Moreover, how will conservation work affect the contemporary aesthetic appreciation of rock art motifs? On the other hand, is it possible to aesthetically appreciate conservation work?

## Section 2: Aesthetic perspectives on origins and importance of rock art

**C73-05** Margaret BULLEN (Melbourne, Australia)

**The magic of great art: do we need to have all the answers?**

**ABSTRACT:** How does a piece of music reduce us to tears or fill us with a sublime happiness? What is it that arrests our feet in front of a painting? Who, across thousands of years, is it that shows us the intensity and stillness of the hunting lioness or the frightening power and confidence of the bull? I do not believe we need to, nor should we, call upon the ecstatic vision of the shaman to explain the phenomenon. These works have been created by special people and those people have existed in all generations. People who are gifted with optical "*Anschauungsbilder*" - the ability to see once again an optical example truly and literally in the mind - are probably the same subset of the population as the high trance individuals who can transport themselves in time and place and see or hear that which is not in their physical environment. Only a small number of these will be able to transfer the vision in their mind to canvas or rock face. An even smaller group can see the muzzle of the horse or the haunch of a bison, in the irregularities of the rock face. Just as Michelangelo released The Prisoners from their deep marble sleep so did these artists reveal the animals hidden in the walls. We cannot watch the workings of the brain of Palaeolithic artists, but we are able to see how the brains of modern people function as they take on such tasks. We are closer to understanding the great works of the past but do we really want to know how the rabbit got into the hat? We must be careful not to lose the magic in our desire to know all the answers.

**C73-06** J. B. DEREGOWSKI (Aberdeen, UK)

**Does aesthetics have perceptual roots?**

**ABSTRACT:** Marius M. Hardonk's study of ornamental bands suggests that there are certain aesthetic values which are independent of culture. They are, therefore, presumably perceptual. The

present paper endeavours to determine whether such perceptual effects can also be found in the works of art in a culture, not examined by Hardonk, within which the images were practically always made on rocks – that of the South African Bushmen. It would appear that they can be found.

### Section 3: Applying the Aesthetic Perspective in Understanding Rock Art

**C73-07** John CLEGG (Sydney, Australia)  
Shiv JAMWAL (Kashmir, India)

**Aesthetics, function, and fashion in rock art: reactions to “Aesthetics and Rock Art”.**

**ABSTRACT:** Rock art must always have been judged on its Aesthetics, (the effect it has on the looker/consumer) or Function (whether it does what it is needed to do) or Fashion (whether it's a good example of what is expected). Doubtless these assessments were made of existing examples, and they influenced later work. This idea will be tried out on (mostly) prehistoric examples of rock art in Ladakh and Australia.

**C73-08** Livio DOBREZ (Australia)

**A rock art typology: Narrative and non-narrative figurative representation.**

**ABSTRACT:** This paper comes partly from the discipline of Art History, partly from an interest in hermeneutics. The methodology is broadly phenomenological. Focussing exclusively on the (problematically defined) area of figurative representation in rock art I distinguish between two types of representation, characterized by such features as size, frontality, profile, emphasis on particular elements of representation. Because the analysis is of formal elements it may, with provisos, be reckoned independent of cultural specificities. On the other hand it raises all those questions about the feasibility of readings across cultural and temporal divides. The two types of representation are termed Hieratic and Dynamic and my analysis suggests ways in which these lead to ideas of iconic presence and narrative respectively. In short I want to link formal elements of representation and readings of them as “story” and “iconic presence” to the immense body of rock art.

**C73-10** Michael EASTHAM (Fishguard, UK)

**Visual depictions can replace verbal constructions as a means of verifying and communicating ideas – the status of Arnhemland rock face images.**

**ABSTRACT:** Many anthropologists and art historians assert that pictures are invariably illustrations of stories assembled by associating words in logical order and deny the possibility that stories can illustrate pictures. In areas with multiple and mutually incomprehensible vocal languages social stability requires that an alternative means of communication between groups is achieved. Composite depictions at rock art sites around Mount Borradaile, Ubirr, Burrunguy, and Death Adder Creek in the Alligator Rivers catchment and Ingaladdi in the Victoria River catchment do this. Component elements of the depictions are repeated at the sites in different combinations. The understandability of each element that the visual representation achieves is used to assist the communication of ideas across the language barriers.

**C73-11** Alicia A. FERNÁNDEZ DISTEL (S.S. de Jujuy, Argentina)

**Devils's Barrier: faces that look at the visitor from above.**

**ABSTRACT:** The site Devils's Barrier (*Tranca de los diablos*) is in the Andean region of Argentina. What draws one's attention is the inaccessibility of the paintings: as in other places, height and perspective were controlled by the artist. The motifs are red, painted on a white sandstone wall, and are easily visible from below. This wall has a base 4,50 metres by 2 metres

wide; situated on a steep 50° slope it is 12 meters above a stream with good fresh water. The wall has 13 faces painted on it and they look towards the Northwest, in crimson red. They all have 21 “hairs” but there are variations in the features, as well as in the shape of the mouth, the outline of the face and the presence or absence of a nose. The local people fear these “devils “ (diablos) and maybe that is the reason for their good conservation. The rupestrian drawings are in a path which communicates with the altiplano (*Puna*). On arriving at the place called Devils’s Barrier the valley is narrow supposing a real barrier for cattle. It is common in these narrow places (*angostos*) near water springs to find evidence of prehistoric human activity. The only figure that is not a face in common with the paintings is a camelidae (*llama*). This confirms the use of the path and the riverbed by caravans communicating Humahuaca with the high plateau. Near a loose block of stone, also with painted faces, an archaeological excavation has been carried out: the only niveau found gave 1290 years AD (760 BP), which means that the paintings could belong to the Humahuaca Culture from a period before their contact with the Incas. Devils’s Barrier is unique in its striking motifs and does not offer many points of comparison with other known sites in the Humahuaca Valley region.

**C73-12**

Andrei ISNARDIS (Belo Horizonte, Brasil)  
V. LINKE (Belo Horizonte, Brasil)  
André Pierre PROUS POIRIER (Belo Horizonte, Brasil)

#### **Stylistic approach of Planalto Tradition paintings, in Central Brasil.**

**ABSTRACT:** Characterized by zoomorphic monochromatic figures, the Planalto Tradition spread over a large territory in central Brazil. In spite of its great thematic homogeneity, this tradition shows dramatic stylistic variations. Every region has its peculiarities (that we call “facies”) and in each one some modifications over time can be seen (which we recognize as several “styles”). We are thus observing both synchronic differences (in space) and diachronic changes. This communication will first describe the stylistic differences between the regional facies of Diamantina and those of other regions (Serra do Cipó and Cocais) of the State of Minas Gerais. To accomplish this we’ll analyze the way animals were drawn, the relationship between figures, the progressive inclusion of new graphisms in the panels, the use of the space, and the general composition at the various moments of the painting process.

## **Section 4: Cross-cultural Aesthetic Perspectives**

**C73-13**

Reinaldo MORALES JR (Conway, Arkansas, U.S.A.)

#### **A prehistoric artworld? Aesthetic discourse, artistic function and Brazilian rock art.**

**ABSTRACT:** In his New Institutional Theory of Art, George Dickie proposed that “a work of art is an artifact... created to be presented to an artworld public.” (Dickie 1995:222). A dynamic overlay of specific roles (“artist roles, public roles, critic roles..., and so on” [Dickie 1995:221]) characterize the relationships between art production and reception necessary for Dickie’s “artworld.” Could this dynamic have existed in small scale, egalitarian societies, such as those typically associated with prehistoric rock art production? Could there have been an “artworld” in prehistory, and if so, what role might aesthetics have played? This paper will address the possibility of significant aesthetic discourse among the makers and consumers of Northeast Brazilian rock art. Living art traditions in Central and Northeast Brazil are characterized by an interplay of producer-consumer relationships. In many, if not most of these relationships, this interplay is dependent upon a well developed aesthetic discourse. Additionally, the works’ apparent conformity to many of the norms of Dickie’s “artworld,” combined with its essential functionality recall the ongoing ‘fine art’ versus ‘craft’ debate in contemporary art theory. That we could have this sort of critical atmosphere surrounding the art of small-scale Brazilian Indian societies suggests that a similar critical atmosphere could have surrounded the production and reception of rock art in this region. Several millennia separate the rock art from the living traditions, so this paper will suggest only broad parallels between the archaic and the living artworlds and possible aesthetic and critical traditions.

**C74-14**

George NASH (Bristol, UK)

**Does the aesthetic value of graffiti and its location hold the key to the placing of prehistoric rock-art?**

**ABSTRACT:** Within the archaeological literature there has been limited discussion as to why rock-art was placed in certain locations. A predictable and, in my opinion an unsuitable answer has been that rock-art is ritualized and symbolic. But how has it become ritualized and why is it symbolic? And, what is the significance of location? I would ask, is location haphazard or is there a degree of intentionality in siting rock-art on a particular rock surface? Arguably, location is usually based on one or more of the following criteria: i) the degree of accessibility of the rock-art site, ii) the immovability of the rock-art, iii) group value with other rock-art sites, iv) group value with contemporary settlement, v) topography and vi) the degree of visibility. However, it should be stressed that these criteria are extremely subjective and are based on modern assumptions on a medium that we can only know little about. Previous literature has tended to emphasize the ritual and symbolic components that make both the site and the art special. What has been ignored is the underlying, and arguably, controlling structures that manipulate and stimulate the need to identify and utilize a place for rock-art to be carved or painted. Limited ethnographic evidence tends to follow a similar vein. However, modern graffiti provides both the meaning of the image and its reasoning. Usually, the images are limited to textual iconography that to the creator and the reader establishes a rhetorical tool by which to convey important messages. The most obvious textual images found in Western Society are those associated with the act of graffiti. This paper will explore the socio-political significance and the aesthetic value of late 19th and 20th century carved graffiti and attempt to draw parallel coding and locational comparisons with imagery from prehistoric assemblages.

## Session C75

Friday , 8 September 2006 / Vendredi, 8 Septembre 2006

Room 6.1.49, Faculty of Sciences, Lisbon University  
Salle 6.1.49, Faculté de Sciences, Université de Lisbonne

**“Archeologues sans frontières”. Towards a history of international archeological congresses (1866-2006)**

**“Archéologues sans frontières”. Pour une histoire des congrès archéologiques internationaux (1866-2006)**

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### SESSION PROGRAMME / PROGRAMME DE LA SESSION

- 09:00            **Opening / Ouverture**
- 09:00-09:15    Mircea BABES (Bucarest, Roumanie)  
                    Marc-Antoine KAESER (Neuchâtel, Switzerland)  
                    **Introduction**
- 09:15-09:45    Jarl NORDBLADH (Gothenburg, Sweden)  
                    **C75-01    A Scandinavian View of the Beginning of Congress Times**
- 09:45-10:15    Marc-Antoine KAESER (Neuchâtel, Switzerland)  
                    **C75-02    Establishing Prehistory: The Foundation of the International Congress (1865/1866)**
- 10:15-10:45    Ulrike SOMMER (London, United Kingdom)  
                    **C75-03    International Congresses and their Influence on Local Antiquarian Societies – Some German Examples**
- 10:45-11:15    **Break / Pause**
- 11:15-11:45    Dirk BACKENKÖHLER (Tübingen, Germany)

- C75-04**      **A Confined “International” Congress? German Prehistorians and Anthropologists and the CIAAPs, 1865-1880**
- 11:45-12:15      Erzsébet MARTON (Budapest, Hungary)
- C75-05**      **Romer and the “Congrès international d’anthropologie et d’archéologie préhistoriques – 8e session, à Budapest, 1876”**
- 12:15-12:45      Nicolae URSULESCU & Madalin Catalin VALEANU (Iasi, Roumanie)
- C75-06**      **Le début de la culture de Cucuteni dans l’archéologie européenne**
- 12:45-14:30      **Lunch / Déjeuner**
- 14:30-15:00      Arnaud HUREL & Amélie VIALET (Paris, France)
- C75-07**      **Les congrès d’anthropologie et d’archéologie préhistoriques (1866-1912) et la question de l’éveil d’une conscience patrimoniale collective (fouilles, gisements, collections)**
- 15:00-15:30      Ana Cristina MARTINS (Lisbon, Portugal)
- C75-08**      **The International Archaeological Congress – Portugal, 1930**
- 15:30-16:00      Mircea BABES (Bucharest, Roumanie)
- C75-09**      **L’archéologie roumanie et les congrès internationaux à l’époque de la Guerre froide**
- 16:00-16:30      **Discussion**

## ABSTRACTS / RÉSUMÉS

**Introduction** Mircea BABES (University of Bucharest, Romania) and Marc-Antoine KAESER (University of Neuchatel, Switzerland)

In the wide research field of Prehistory and Protohistory we have today three series of large congresses which take place independently, competing or at best ignoring each other: the I.U.P.P.S./ U.I.S.P.P. (every 5 years), the WAC, which separated from the former in 1986 (every 4 years), and, most recently (since 1994), the annual EAA congresses. This is not a new situation. Inaugurated in London in 1932, the I.U.P.P.S. congresses competed with and eventually replaced the traditional International Congresses of Anthropology and Prehistoric Archaeology, which were initiated in 1866 in Neuchatel and met for the last time in Bucharest in 1937.

A systematic, well documented and unprejudiced research into the history of these congresses could provide renewed support to the fundamental idea of unhindered collaboration between archaeologists regardless of national, political, ideological and religious borders. Such a study would certainly emphasise the organic evolution of methods, concepts and approaches related to archaeology on an international scale. It would also describe how these methods and concepts have spread from advanced research centres towards developing countries. The complex relationships between archaeology and other sciences would also be illustrated. Finally, this endeavour would reveal the economical, social and political factors which shaped in one way or another the present day outlook of our field. The proposed colloquium has to be the occasion for starting a project which should extract new data and insights from the archives and publications of past international archaeological congresses. The contribution of all interested researchers, independent of their present affiliation, would be extremely beneficial.

**C75-01** Jarl NORDBLADH (Göteborg, Sweden)

**A Scandinavian view of the beginning of Congress Times.**

**ABSTRACT:** Archaeology or Prehistory started its more public and professional meetings within the first Conferences in Natural Sciences. Many scholars were eager to meet colleagues in more international circumstances, to present their own research and to observe scientific novelties and even presentations of artefacts and selected sites. As a parallel phenomenon, there were often other kinds of presentation, such as scientific instruments, visual apparatus and even shows, a mixture of knowledge and entertainment. Probably the early archaeological congresses learnt from the even earlier ones, of natural sciences, how to organize, inform about and select boards for specific tasks – and – to develop protocol, choice of languages allowed, order of speech etc. Congresses became also important social events, visited by royalties, in their ambition to be seen as protectors and stimuli of the development of society.

**C75-02** Marc-Antoine KAESER ( Neuchâtel, Switzerland)

**Establishing Prehistory : The Foundation of the International Congress (1865/1866)**

**ABSTRACT:** Science studies have demonstrated the decisive role played by the institutions in the establishment of the disciplines. Institutions actually account for the policy of science and for the agenda of research ; they control the validity of the methods ; they offer the heuristic incentive and the material framework of the study, and impart visibility to the research field. Thus, they provide for the production, diffusion, and reproduction of specialized knowledge. As a consequence, since they link the cognitive factors together with the sociohistorical elements in the construction of science, they allow to go beyond the sterile oppositions between sociology of science and history of ideas.

With regard to prehistory, the role of the institutions was to be all the more important, considering the wideness of the discipline's epistemological origins. As a matter of fact, it is common knowledge that prehistoric research is the result of a fusion of distinct research fields and traditions : previous to its institutionalization, it was carried out by scholars with extremely diversified intellectual and disciplinary backgrounds (history, philology, ethnography, palaeontology, geology, etc.).

From this viewpoint, the International Congress of Prehistory (CIAAP), which was founded in La Spezia (Italy) and Neuchâtel (Switzerland) between 1865 and 1866, proves particularly instructive. Since it was the first institutional body in the field of prehistoric research, the CIAAP exerted a seminal influence on the discipline on the making. Enforcing the very name of « prehistoric archaeology », this institution played a decisive role in the shaping of the scope of prehistoric research, as well as in the definition of the methods and the epistemology of the discipline.

Scrutinized from the behind the scenes, far from its official history, the International Congress of Prehistory actually appears as the result of a complex intrigue, its founders (Edouard Desor and Gabriel de Mortillet) resorting to a whole set of manoeuvres, in order to reach their goal, so as to shape the form, the aims and the orientation of the institution according to their own views.(...)

**C75-03** Ulrike SOMMER (London, UK)

**International Congresses and their influence on local antiquarian societies – some German examples**

**ABSTRACT:** While only a few individuals like the intrepid Johanna Mestorf, travelling as an unattended woman from Kiel to Bologna to the Congress of Prehistoric Anthropology and Archaeology at Bologna in 1871 were able to attend the International conferences, the results were speedily disseminated by the accounts circulated to local antiquarian societies and reached a broad public, including most of the local intelligentsia. Thus, they often quickly and fundamentally affected the development of research.

For example, Bruno von Geinitz, the Curator of the Geological collection at the Royal Saxon Museum in Dresden attended the Paris Conference for Anthropology and prehistoric Archaeology in 1867 and visited both the World-Exhibition and Boucher de Perthes' sites on the Somme valley. This visit launched the research into the Stone Age in Saxony. While before, stone tools and the association of the bones of extinct animals with artefacts had been casually dismissed, now they were actively searched for, and a section for prehistory of the Society for Natural sciences was founded.

The proceedings of the local societies also throw an interesting light on the political dimensions of archaeological conferences, for example the Stockholm conference 1869, which is described as a “Danish propaganda section” by the Delegation from Dresden.

In my paper, I will illustrate how the results of the conferences were disseminated to local societies and how they influenced their work. This interaction between the international and the regional and local levels shows that archaeology was not necessarily a national discipline, although in Germany it increasingly was becoming so after the Unification of 1871.

**C75-04** Dirk BACKENKÖHLER (Tübingen, Germany)

**A Confined “International” Congress?  
German Prehistorians and Anthropologists and the CIAAPs, 1865-1880.**

**ABSTRACT:** The CIAAP was founded in 1865 by the Swiss polyglot Eduard Desor and the French Gabriel de Mortillet who lived in Italian exile. Desor intentionally stressed the organization’s international character and tried to avoid getting too deeply involved in national politics; specifically those of the French Empire of Napoleon III. Carl Vogt a German living in Swiss exile after the revolution of 1848 and friend and of both Desor and Mortillet, served as the pair’s outspoken representative in the German speaking areas of central Europe. Vogt, like Desor and de Mortillet, wanted to promote anthropological and prehistorical research to prove the development of mankind as a slowly accumulating process leading to the present state.

Vogt promoted the CIAAP with the aid of his personal contact network and with lengthy reviews in the widely read newspaper „Kölnische Zeitung“

At the same time, he spearheaded the movement to launch a German anthropological society modelled after the French Société d’Anthropologie and headed the anthropology section of the *Versammlung Deutscher Naturforscher und Ärzte* at Innsbruck that actually launched the founding of the Society in 1869. Vogt, known for his materialistic views, also travelled throughout Germany, Switzerland and Austria with a series of six „Vorlesungen über die Urgeschichte des Menschen“ in an attempt to popularise the new discoveries in prehistory, anthropology and his view of Darwin’s theory of the origin of species. With these lectures, he quickly became the first publicly known Anthropologist and the representative of Darwin’s theories in Germany in the 1860s. He was also the first target of caricatures involving man and apes, thereby earning himself the title of „Der Affenvogt“. (...)

**C75-05** Erzsébet MARTON (Budapest, Hungary)

**Romer and the 8th Archaeology and Anthropology Congress in 1876 of Budapest.**

**ABSTRACT:** Flóris Rómer (le docteur François Florian Romer, born in 1815. Pozsony – Bratislava, today Slovakia – died in 1899, Nagyvárad – Oradea, today Romania) organized a special session, the 8th in Budapest. His main goal was the presentation of the unknown, unpublished but valuable prehistoric archaeological finds from the Carpathian Basin, as a part of the Habsburg Monarchy this time. On display of the exhibition held in the Hungarian National Museum, he collected an extremely large collection, published in a this time founded periodical ‘Compte-Rendu... Résultats Généraux de mouvement archéologique en Hongrie’.

In my presentation I would like to remember to this milestone in the Hungarian archaeology.

**C75-06** Nicolae URSULESCU, Mădălin Cornel VĂLEANU (Iași, Roumanie)

**Le début de la culture Cucuteni dans l’archéologie européenne**

**ABSTRACT:** On présente le cas de l’avènement dans l’archéologie européenne de la culture Cucuteni, la plus importante expression de l’Enéolithique de l’Est de Carpaties, par la voie du X<sup>ème</sup> Congrès International d’Anthropologie et d’Archéologie Préhistoriques de Paris de 1889, où le professeur Grigore Buțureanu de Iași a présenté les découvertes faites, avec son collègue, le professeur Nicolae Beldiceanu, dans la station éponyme située sur la colline Cetățuia de Cucuteni. A cette occasion, on a présenté aussi d’autres stations archéologiques découvertes et investiguées par ces deux archéologues amateurs; par ailleurs, le concept de „culture Cucuteni“ a pris corps et il s’imposera dans l’historiographie de la période néolithique.

C’est Alexandre Odobescu qui a eu un rôle important dans la présentation de l’intervention de Buțureanu à Congrès; il était un des fondateurs du Musée National d’Antiquités de Bucarest (1864)

et le premier professeur d'archéologie à une université de Roumanie (Bucarest, 1877), savant apprécié par les participants au Congrès. Par son intervention, aussi bien que par la splendeur des pièces présentées, les découvertes de Cucuteni ont éveillé un intérêt à part parmi les participants. Dans la même année, le juriste et le publiciste George Diamandi, à ce moment-là étudiant à Paris, qui a participé aussi aux fouilles de Cucuteni, en tant qu'élève de deux professeurs, a présenté deux communications dans le cadre de la Société d'Anthropologie de Paris, avec de nouvelles données sur les découvertes de cette importante station archéologique.

Grâce à ces interventions scientifiques faites à Paris en 1889 et publiées dans une langue de large diffusion, les découvertes de Cucuteni ont pénétré dans des ouvrages de synthèse concernant le Néolithique, en suscitant l'intérêt majeur des spécialistes, ce qu'il explique aussi les fouilles systématiques entreprises ici par le savant allemand Hubert Schmidt dans les années 1909-1910, qui ont contribué d'une manière décisive à l'encadrement culturel et à la périodisation de cette grande civilisation.

**C75-07** Arnaud HUREL - Amélie VIALET (Paris, France).

**Les congrès internationaux d'anthropologie et d'archéologie préhistoriques (1866-1912) et la question de l'éveil d'une conscience patrimoniale collective (fouilles, gisements, collections).**

**ABSTRACT:** Les Congrès internationaux d'anthropologie et d'archéologie préhistoriques (IAAP) occupent une place spécifique dans le processus d'institutionnalisation des recherches préhistoriques. À partir de 1866, ils ont apporté à la communauté des préhistoriens la première structure scientifique permanente. Surtout, grâce à cette primauté structurelle et parce que ces sciences se fondent sur un développement empirique, ces sessions ont permis de définir puis d'unifier tout un corpus intellectuel analytique et méthodologique.

Jusqu'au congrès de Genève (1912), l'internationalisme des études préhistoriques est un moteur essentiel qui évolue selon des modalités propres à deux époques. Aux premières années de fondation (1866-1880), marquées par des élaborations conceptuelles radicales, vont succéder les années de crédibilité et de légitimité. Dans ce premier temps, les études préhistoriques se sont construites au rythme des sessions IAAP qui ont permis l'adoption des grands principes de développement, dont au premier chef les questions de terminologie et de classification. Reconnue par tous, la Préhistoire abandonne ensuite, y compris dans les sessions IAAP, les grands débats d'orientation pour l'échange, les grands équilibres de pouvoir entre les nations et l'accommodement particulier au gré des découvertes. Cette évolution, qui marque en quelque sorte la banalisation de ce champ scientifique, est particulièrement sensible au tournant du siècle, ce que paraît consacrer le Congrès de Paris (1900). (...)

**C75-08** Ana Cristina MARTINS (Lisbon, Portugal)

**The International Archaeological Congress Portugal, 1930**

**ABSTRACT:** In 1930, the two-second most important Portuguese cities, Porto and Coimbra, received the International Congress of Pre and Proto-history, precisely fifteenth years after the referential CIAAP of Lisbon, which took place in 1880.

It is our main purpose to analyse the geographical origin of its attendants, the topics discussed during its several sessions, as well as the role played by the Portuguese researchers in its organisation.

Apart from this, we intend to scrutinise the influence of the Portuguese political agenda of those times (based on the concept of the Estado Novo – New State) in the papers presented by the Portuguese archaeologists, and if (and how) they confirmed or contradicted other theoretical archaeological paradigms, especially the ones developed by the major Spanish "schools".

**C75-09** Mircea BABEȘ (Bucarest, Roumanie)

**L'archéologie roumaine et les congrès internationaux à l'époque de la « guerre froide »**

**ABSTRACT:** Vue dans la perspective de l'histoire récente, la participation des spécialistes roumains aux congrès archéologiques déroulés entre 1945 et 1989 à l'étranger, spécialement en Europe, relève, tel qu'un baromètre sensible, les changements dans la situation politique globale, fortement influencée par la « guerre froide », et également l'évolution de la politique interne du régime communiste. À ce point de vue, la Roumanie a été un exemple extrême de

L'influence négative de la politique sur le développement de la science . C'est à ce raison que les étapes successives de l'histoire recente de l'archéologie roumaine ont du être définies premièrement par rapport à l'histoire politique du pays : au debut (1945-1964) , sous la pression de l'occupation soviétique et de la russification culturelle, mais aussi sous l'action d'un regime interne dogmatique et brutal ; ensuite (1964-1977) , dans les conditions plutôt favorables du « dégel », d'une relative libéralisation interne et de la detente internationale ; enfin (1977-1989) pendant le ressuscitation finale des méthodes autoritaires, du centralisme et du contrôle idéologique national-communiste . Pour la plupart de cette époque , la présence des archéologues roumains aux grands congrès de préhistoire et protohistoire, d'archéologie classique ou d'archéologie slave , des frontières romaines etc. a été fermement contrôlée par la bureaucratie de l'état et du parti unique, suivant les buts immédiates ou de perspective du régime. L'appareil idéologique, financier et policier veillait à la mise en pratique de cette politique. (...)

## Session C76

*Friday, 8 September 2006 / Vendredi, 8 Septembre 2006*

*Room 12.06, Faculty of Law, Lisbon University  
Saale 12.06, Faculté de Droit, Université de Lisbonne*

### Antiquarians at the Megaliths

### Antiquaires aux Mégalithes

*organized by / organisé par*

**Magda MIDGLEY** University of Edinburgh, Scotland, UK - [Magda.Midgley@ed.ac.uk](mailto:Magda.Midgley@ed.ac.uk)

#### SESSION'S ABSTRACT

Megaliths are among the most dramatic and enticing prehistoric structures. They feature in mediaeval documents and chronicles as well as in fairy tales and stories about giants. It is hardly surprising that from the earliest times scholars were attracted to the study of these monuments. From the 16th century onwards we find antiquarian descriptions of megalithic tombs, illustrations, notes on excavations and learned speculations about their significance; frequently such records are the only source of information on long destroyed monuments.

The session proposes to examine the antiquarian contribution to the study and interpretation of the megalithic tombs of Europe from the Atlantic coastline to the Baltic. Indeed, some of the European antiquarians were not merely investigators of megaliths but, rather, flamboyant characters who contributed in a more general way to the development of arts and sciences. The session will consider the nature of antiquarian approaches in different megalithic regions, from the earliest antiquarian activities until the end of the 19th century, their concerns with the investigation, recording, illustration, preservation and protection of the megaliths, as well as their interpretations of the function of the monuments.

#### SESSION PROGRAMME / PROGRAMME DE LA SESSION

- 09:00            **Opening / Ouverture**
- 09:00-09:20    Magdalena MIDGLEY (Edinburgh, Scotland)  
**C76-01**        **Introduction: antiquarians at the megaliths.**
- 09:20-09:40    Serge CASSEN (Nantes, France)  
                  Cyrille CHAIGNEAU (Nantes, France)  
**C76-02**        **Jean-Marie-Auguste Bachelot de la Pylaie. Itinéraire d'un archéologue parmi les antiquaires dans la Bretagne de la première moitié du XIXe siècle.**
- 09:40-10:00    Barbara FRISCH (Sachsen-Anhalt, Germany)

**C76-03**      **Research history of the Altmark megalithic tombs.**

10:00-10:20      Ana Cristina MARTINS (Lisboa, Portugal)

**C76-04**      **Portuguese Antiquarians at the Megaliths.**

10:20-10:40      Megan PRICE (Oxford, UK)

**C76-05**      **The Ancient British Landscape in Victorian Lanternslides.**

10:40-11:00      Jeff SANDERS (Edinburgh, Scotland, UK)

**C76-06**      **Antiquarians and the Megaliths: Wider Influences.**

11:00-11:20      Christoph STEINMANN (Sachsen-Anhalt, Germany)

**C76-07**      **The megalithic initiative – Lisch & Beltz in 19th century Mecklenburg.**

11:20-11:40      BAKKER, Jan Albert

**C76-08**      **From 1547 to 2000, from cunnus daemonis and giants to the discussion of the barrow height – a brief outline of megalithic research in the Netherlands**11:40-12:00      Torben DEHN  
Svend HANSEN**C76-09**      **Danish Antiquarians at Megaliths**12:00-13:00      **Discussion****ABSTRACTS / RÉSUMÉS****C76-01**      Magdalena MIDGLEY (Edinburgh, Scotland)**Introduction: antiquarians at the megaliths.**

**ABSTRACT:** Megaliths are among the most dramatic and enticing prehistoric structures. They feature in mediaeval documents and chronicles as well as in fairy tales and stories about giants. It is hardly surprising that from the earliest times scholars were attracted to the study of these monuments. From the 16th century onwards we find antiquarian descriptions of megalithic tombs, illustrations, notes on excavations and learned speculations about their significance; frequently such records are the only source of information on long destroyed monuments.

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**C76-02**Serge CASSEN (Nantes, France)  
Cyrille CHAIGNEAU (Nantes, France)**Jean-Marie-Auguste Bachelot de la Pylaie. Itinéraire d'un archéologue parmi les antiquaires dans la Bretagne de la première moitié du XIXe siècle.**

**RÉSUMÉ:** Jean-Marie-Auguste Bachelot de la Pylaie (1786-1856) est d'abord un botaniste, d'une curiosité et d'une ouverture d'esprit peu commune. Après des études à Laval, il devient l'élève à Paris, au Muséum national d'histoire naturelle, de Georges Cuvier et de Blainville. Grand voyageur, principalement à travers la France mais aussi en Amérique, il va néanmoins consacrer une grande partie de son activité naturaliste, de 1820 à 1850, à l'exploration systématique des îles du littoral armoricain (Belle-Île, Sein, Houat, Hoëdic, Noirmoutier, Ile d'Yeu). Inventeur de l'algologie nord américaine, précurseur dans l'étude des lichens, des mousses, et des poissons atlantiques, auteur d'un des premiers traités de conchyliologie, Bachelot nous a laissé une œuvre naturaliste considérable.

Son œuvre archéologique est beaucoup moins connue et totalement sous estimée. Devenu archéologue par vocation, il se consacre, dans le sillage de l'Académie Celtique et de son maître à penser, Eloi Johanneau, à une préhistoire alors à peine naissante et qui s'incarne alors dans l'approche celtomane de « monuments druidiques ». 31 notices imprimées, 23 manuscrits portent le témoignage de son activité en ce domaine. Pendant 40 ans, il parcourt la Bretagne sans répit, développant une démarche scientifique basée sur des descriptions rigoureuses et sur le dessin. Inventeur du site mégalithique de Cojou en Saint-Just (Ille-et-Vilaine) et auteur d'une des premières descriptions dignes de ce nom du site de Carnac, il nous donne un catalogue inégalable des monuments mégalithiques de la péninsule Armoricaire dans cette première moitié du XIXe siècle.

En 1836 paraît à Paris, dans le Journal de l'Institut historique, en annexe d'un long article rétrospectif retraçant son activité archéologique dans l'Ouest de la France de 1830 à 1836, trois « Tableaux synoptiques présentant un essai sur la classification des monuments celtiques ». Cette publication, où Bachelot propose une approche taxonomique du mégalithisme armoricain basé sur un catalogue de plusieurs centaines de monuments, va rester lettre morte et totalement inconnue de la communauté archéologique. La redécouverte de ce manuscrit exceptionnel témoigne de la démarche singulière et novatrice de Bachelot de la Pylaie, en cette année 2006 qui marque le 150ème anniversaire de sa mort.

**C76-03**

Barbara FRITSCH (Sachsen-Anhalt, Germany)

**Research history of the Altmark megalithic tombs.**

**ABSTRACT:** Since at least the 16th century the locals of the Altmark (Sachsen-Anhalt, Germany) understood that megaliths were man-made structures in which ancestors were buried. Magister Christoph Entzelt (born in Saalfeld near Salzwedel, parson of Osterburg), in his 1579 chronicle of the Altmark, mentions a megalithic tomb near the small village of Stapel.

Research into megaliths began after the Reformation and intensified during the Age of Reason. The first evidence dates from the year 1741, when the pastor of Bombeck described the first excavations of the megalithic chamber near Bierstedt in 1728. In 1751 Bernhard Ludwig Bekmann completed and published the manuscript of his deceased brother Johann Christoph Bekmann, the "Historische Beschreibung der Chur und Mark Brandenburg". In the second part they described several "Antiquities of the Mark", including 36 megaliths of the Altmark.

The first scientific survey of the megaliths was undertaken by the famous school-director Johann Friedrich Danneil (Salzwedel), whose catalogue of 1843 listed 142 preserved graves. Apart from this publication he also undertook excavations of megaliths, and the finds therein led him to the understanding that the megalithic graves belonged to the Stone Age. Fifty years later, in 1893, a new survey was carried out by Eduard Krause, Conservator at the Royal Museum for Ethnography in Berlin, and Otto Schoetensack from Heidelberg. Only 48 megalithic graves or remains of graves were preserved at that time.

In the 20th century some of the graves were occasionally published. A new survey was done at the beginning of the 21st century by Lothar Mittag and Barbara Fritsch, published in 2006. Characteristics and information on 210 megalithic graves were recorded, although only 47 of them have survived until today.

**C76-04** Ana Cristina MARTINS (Lisboa, Portugal)

**Portuguese Antiquarians at the Megaliths.**

**ABSTRACT:** With this paper, we propose to analyse the Portuguese contribution to the study and interpretation of the megalithic tombs founded in the actual Portuguese territory, from the beginning of the eighteenth century until the end of the nineteenth century.

Far from being archaeologists, in a scientific sense, it was thanks to these men, mostly dilettanti, belonging to well provided, both social and financial, groups, that the well-informed and sophisticated country of those times began to be aware of the importance of such artefacts, as megaliths.

It is therefore our intention to examine the evolution of the nature of antiquarian approaches (especially in what concerned their functions) in this special “megalithic region”, as a part, and/or a reflex of the development of the science itself, in order to understand how a certain political agenda influenced them.

Apart from this, we will scrutinise how they recorded, illustrated, preserved and protected the megaliths discovered all around the country, as well as the hypothetical ascendancy of other European experiences in this specific scope.

**C76-05** Megan PRICE (Oxford, UK)

**The Ancient British Landscape in Victorian Lanternslides.**

**ABSTRACT:** H.M.J.Underhill (1855-1920) was a ‘Provision Merchant’ and gifted amateur artist and lecturer who lived and worked in Oxford in the late 19th century. As a founder member of The Oxford Natural History Society and Field Club, he spoke on a variety of subjects ranging from Microscopic Creatures, Japanese Art, and World Folktales to the Ancient British Landscape. He illustrated each talk with his own unique and finely detailed hand-painted magic lantern slides which have recently been discovered in the basement of Oxford University’s Institute of Archaeology. These lanternslides today form a unique collection of ‘the past within the past’. Unseen since the late nineteenth century, they provide us with evidence of the prehistoric landscape as it still appeared in the nineteenth century and the growing academic interests in British prehistory.

Henry Underhill used these slides in Oxford to give talks to members of both ‘town’ and ‘gown’. As an active member of newly developing ‘scientific’ societies, Henry Underhill moved within various social and academic circles in Oxford. Evidence shows that in the late nineteenth century these societies played a dynamic part in public intellectual and social life. Through case studies of Underhill’s Oxford connections I investigate the roles played by those from amateur and ‘professional’ backgrounds who shared interests in British Prehistory and natural history. Many became involved in the foundation and support of a number of academic societies in Oxford. Some, individuals such as Arthur Evans and Edward Tylor eventually became founders of the academic disciplines of archaeology and anthropology during the latter part of the nineteenth century.

**C76-06** Jeff SANDERS (Edinburgh, Scotland, UK)

**Antiquarians and the Megaliths: Wider Influences.**

**ABSTRACT:** Towards the end of the 19th century, antiquarian approaches to prehistoric monuments were increasingly coming to resemble archaeology as it is recognised today. Many antiquarians chose to distance their work from the previous generations of investigators, stressing an increased focus on accurate recording and the inductive collection of ‘facts’. However, the social background to their work reveals a range of conflicting factors that coloured how prehistoric remains were conceived of and interpreted. A large number of these factors had taken root from the late 18th century, especially the effects of Romantic thought.

This presentation explores these issues through the lives and works of two British antiquarians, the Reverend William Greenwell (1820-1918) and the Reverend William Lukis (1817-1892). Both men participated within a wider antiquarian community and were active in the investigation of

megalithic monuments in Britain and beyond. Although concerned with the protection of megalithic sites, preservation held a subtly different meaning within antiquarianism than it does today and was at odds with other antiquarian pursuits, such as the collection of ancient artefacts or barrow-digging. Interpretation of megalithic sites was coloured by wider social themes, which by the 19th century, included nationalism as a particularly dominant force. These themes themselves had earlier roots, linking later antiquarian work with antecedent developments, however unacknowledged.

**C76-07**

Christoph STEINMANN (Sachsen-Anhalt, Germany)

**The megalithic initiative – Lisch & Beltz in 19th century Mecklenburg.**

**ABSTRACT:** The interpretation of megalithic monuments was fuelled by the development of archaeological theory during the late 20th century. But some of the apparently new ideas and aspects of focus have their predecessors in the 19th century. They have been simply forgotten or put aside as not scientific. Using the example of two antiquarians from Northeast Germany, I want to demonstrate how up to date some of their ideas have been while other aspects of their writing are related to their temporal circumstances.

One of them is Friedrich Lisch, an archive antiquarian in the duty of the Duke of Mecklenburg. As early as 1837 Lisch compares the stone circles of Boitin in central Mecklenburg with Stonehenge by imposing a similar idea and purpose. He is therefore one of the earliest representatives of the idea of a 'megalithic culture' spread by a people across Europe, or of at least a common megalithic idea. The following 40 years Lisch continues to excavate and write about megalithic monuments. Only in 1861 Lisch is making reference to the different colours of the building material used in many megalithic monuments. He considers the grey granite of the megalithic structure, the red sandstone used for floor slabs and partitions, and recurrent floor layers of white burned flint to be a 'sound colour composition.' He acknowledges a conscious selection of different coloured material by the megalithic builders which will not be an issue for most following generations of archaeologists.

Robert Belz, the second main proponent of megalithic research in Northeast Germany, plays an important role in the understanding of these monuments from the mid 1890s onwards. Drawing on ethnographic examples he tries to explain the function and meaning of megalithic tombs. Already in 1899 he was, as far as I know, the first to call megalithic monuments 'houses of the dead' and to compare them with domestic circumstances: The house of the dead is a sacred district for the primitive people which demands a separation from the profane outside world. Therefore, we do not consider it as appropriate to differentiate between 'round barrows' and 'stone chambers'. [...].

## Session C77

*Monday , 4 September 2006 / Jeudi, 4 Septembre 2006*

*And/ Et*

*Tuesday , 5 September 2006 / Mardi, 5 Septembre 2006*

*Amphitheatre 3, Faculty of Law, Lisbon University  
Amphithéâtre 3, Faculté de Droit, Université de Lisbonne*

### Non-flint Raw

#### Material Use in Prehistory Old Prejudices and New Direction

#### L'utilisation préhistorique de matières premières lithiques alternatives

#### Anciens préjugés, nouvelles perspectives

*organized by / organisé par*

- Farina STERNKE** Department of Archaeology, University College Cork, Ireland  
**F.Sternke@ucc.ie**
- Lotte EIGELAND** Institute of Archaeology, Conservation and Historical Studies,  
University of Oslo, Norway – **lotte@superheros.as**
- Laurent-Jacques COSTA** C.N.R.S., UMR 7055, University of Nanterre, Paris, France  
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#### SESSION'S ABSTRACT

The study of raw material is now a central concern in the analysis of prehistoric and archaic lithic production in the Old and New World. In Europe, attention has focused almost exclusively on flint although non-flint raw materials were used as a major component on many prehistoric sites. The main research questions related to the current study of non-flint raw materials are the reasons for non-flint raw material use on one hand, and questions related to methodological problems associated commonly with the technological characteristics of the different raw materials on the other hand. This colloquium aims to give an overview of current non-flint raw material studies in different prehistoric periods and geographical areas, thereby stimulating a further debate about the central issues and increasing the dialogue among researchers in this neglected area of lithic studies.

#### RÉSUMÉ DE LA SESSION

L'étude des matières premières lithiques est aujourd'hui une composante fondamentale de l'analyse des productions préhistoriques. En Europe, les recherches se sont, en premier lieu, focalisées sur le silex, présents en grandes quantités dans de nombreuses régions, négligeant de ce fait l'utilisation intensive de matières alternatives dans de nombreux sites préhistoriques. Les problèmes principaux soulevés par la recherche actuelle en matières premières alternatives (autres que le silex) sont : 1) les facteurs socio-économiques, techniques ou idéologiques, motivant l'utilisation de ces matières lithiques, et 2) les questions méthodologiques relevant des caractères technologiques de ces différentes matières premières. Ce colloque a pour but de proposer une vue d'ensemble des recherches actuelles sur l'utilisation préhistorique de matières premières lithiques alternatives, dans des périodes et des zones géographiques variées.

## SESSION PROGRAMME / PROGRAMME DE LA SESSION

4<sup>th</sup> September 2006 / 4<sup>ème</sup> Septembre 2006

### Session 1 – Terminology and Methodology in Non-Flint Raw Material Studies

Chair: Lotte Eigeland

- 14:30            **Opening / Ouverture**
- 14:30-14:50    Per FALKENSTRÖM (Uppsala, Sweden)  
**C77-01**        **Reflections on prismatic blades - The terminology of blades made of different materials in central Sweden.**
- 14:50-15:10    Morgane DACHARY (Rouffignac Saint Cernin – France)  
 Loïc DAULNY  
**C77-02**        **Approche comportementaliste du Magdalénien d’après l’étude technofonctionnelle d’un outillage lithique hors silex et sa relation avec les autres types de vestiges. La Grotte de Bourrouilla (Pyrénées-Atlantiques, France).**
- 15:10-15:30    Ana CRUZ (Tomar, Portugal)  
 Luiz OOSTERBEEK (Tomar, Portugal)  
 Pierluigi ROSINA (Tomar, Portugal)  
 Sara CURA (Tomar, Portugal)  
 Stefano GRIMALDI (Trento, Italy)  
**C77-03**        **Non-flint raw material use throughout time and space in the Middle Tagus Valley (Central Portugal).**
- 15:30-15:50    Sofía BAQUEIRO VIDAL (Santiago de Compostela – Spain)  
**C77-04**        **Processes of lithic production in quartz raw materials : A Devesa de Abaixo site in the Neolithic NW Iberian Peninsula.**
- 15:50-16:10    Roberto RISCH  
**C77-05**        **Recording Macrolithic Artefacts: a morpho-technical approach.**
- 16:10-16:30    **Break / Pause**
- 16:30-16:50    Arturo DE LOMBERA HERMIDA (Tarragona, Spain)  
**C77-06**        **Quartz Lithic Industries: Scar identification.**
- 16:50-17:10    Gérard POUPEAU (Bordeaux, France)  
 F.-X. LE BOURDONNEC (Bordeaux, France)  
 Sarah DELERUE (Bordeaux, France)  
 M. DUTTINE (Bordeaux, France)  
 S. DUBERNET (Bordeaux, France)  
 G. VILLENEUVE (Bordeaux, France)

L. BELLOT-GURLET (Thiais, France)  
 T. CALLIGARO (Paris, France)  
 P. MORETTO (Bordeaux, France)  
 F. FROHLICH (Paris, France)  
 M. BOHN (Brest, France)  
 N. J. G. PEARCE (Aberystwyth, UK)  
 R. B. SCORZELLI (Rio de Janeiro, Brazil)

**C77-07** **Obsidian characterization for raw material provenance studies: some alternatives.**

17:10-17:30 Inge DIETHELM (Riehen, Switzerland)

**C77-08** **Petrographical composition and provenance of Neolithic “Black stone” artefacts in the collection of the “Museum der Kulturen” in Basel and in archaeological excavations near the shoreline of Lake Neuchâtel, Switzerland.**

17:30-17:50 Cristiana PETRINELLI PANNOCCHIA (Pisa, Italy)  
 Giovanna RADI (Pisa, Italy)

**C77-09** **Alteration of obsidian artefacts: the Fossacesia case.**

17:50-18:10 Tristan CARTER (Stanford, USA)  
 Sarah DELERUE (Bordeaux, France)  
 Marina MILIĆ (Belgrade, Serbia)  
 Nicholas J.G. PEARCE (Aberystwyth, UK)  
 Gérard POUPEAU (Bordeaux, France)  
 M. Steven SHACKLEY (Los Angeles, USA)

**C77-10** **Characterizing obsidian from Neolithic Çatalhöyük (Konya Plain, Turkey): a chaîne opératoire approach.**

18:10-18:30 Hannah COBB (Manchester, UK)

**C77-11** **Making the world using the world: Non-flint raw materials and the construction of personal identity in the Mesolithic of the Northern Irish Sea Basin.**

*5<sup>th</sup> September 2006 / 5<sup>ème</sup> Septembre 2006*

**Session 2 – Non-Flint Raw Materials in Experimental Archaeology and Use Wear Studies**

**Chair: Dr. Farina Sternke.**

09:00-09:10 **Opening / Ouverture**

09:10-09:30 Briagell HUET (Rennes – France)

**C77-12** **Raw materials and techno-economic behaviours in the Middle Palaeolithic: the mixed lithologic industries example from the Armorican massif (northwest of France).**

09:30-09:50 Anna LUNARDI (Siena, Italy)

- C77-13** **Quinzano and Rivoli, two Middle Neolithic sites in the Adige Valley (Verona, North Eastern Italy): lithic choices and functional aspects of the non-flint stone implements.**
- 09:50-10:10 Andrés Pierre PROUS POIRIER (Belo Horizonte, Brasil)  
Andrei ISNARDIS  
Marcio ALONSO  
Joël RODET  
H. PILO
- C77-14** **Quartz, quartzite and hematite in prehistoric assemblages from Brasil.**
- 10:10-10:30 Elin HANSEN (Oslo, Norway)  
Lotte EIGELAND (Oslo, Norway)
- C77-15** **The Rock that Rocks the Rock.**
- 10:30-10:50 Harry LERNER (Montreal, Canada)
- C77-16** **Use-related Wear Accrual on Silicified Wood Tools from Northern New Mexico: Implications for Interpreting Wear Patterns on Archaeological Material.**
- 10:50-11:10 **Break / Pause**
- 11:10-11:30 Andrés Pierre PROUS POIRIER (Belo Horizonte, Brasil)  
Filipe AMORELI  
Gersem BANIWA  
Jorge Manoel COSTA  
Marcio ALONSO
- C77-17** **Grindle for cassava: last lithic tool of South American Lowlands.**
- 11:30-11:50 Andrea ŠAJNEROVÁ-DUŠKOVÁ (Praha, Czech Republic)  
Jan FRIDRICH (Praha, Czech Republic)  
Linda HRONÍKOVÁ (Praha, Czech Republic)  
Ivana SÝKOROVÁ (Praha, Czech Republic)
- C77-18** **Pitted and grinding stones from Lower and Middle Palaeolithic settlements in Bohemia: a functional study.**
- 11:50-12:10 Jenny ADAMS  
Selina DELGADO  
Laure DUBREUIL (Montréal, Canada)  
Caroline HAMON  
Hugues PLISSON (Aix-en-Provence, France)  
Hara PROCOPIOU  
Roberto RISCH (Barcelona, Spain)
- C77-19** **Functional analysis of macro-lithic artefacts.**
- 12:10-12:30 Ignacio Clemente CONTE (Barcelona, Spain)  
Juan Francisco GIBAJA BAO (Barcelona, Spain)
- C77-20** **La formation de traces d'usure dans des roches distinctes au silex: le cas de les quartzites et rhyolites, différences et similitudes.**

12:30-12:50 Laure DUBREUIL (Montréal, Canada)

**C77-21**

**Non-flint stone tool technology in the Epipalaeolithic: The example of the Natufian**

12:50-14:30 Lunch / Déjeuner

**Session 3 – The Socio-Economic Implications of Non-Flint Raw Material Use**

**Chair: Dr. Laurent-Jacques Costa**

14:30 Opening / Ouverture

14:30-14:50 Astolfo GOMES DE MELLO ARAUJO (São Paulo, Brasil)

**C77-22**

**Non-flint raw materials in South America: a Brazilian perspective.**

14:50-15:10 Enza SPINAPOLICE (Rome, Italy and Talence, France)

**C77-23**

**Lithic industries and raw material in Southern Italy Mousterian: example from Grotta dei Giganti (Salento, Apulia)**

15:10-15:30 Małgorzata WINIARSKA-KABACIŃSKA (Krakow, Poland)

**C77-24**

**Obsidian and the Sviderian culture at the Polish Lowland.**

15:30-15:50 Fredrik MOLIN (Stockholm, Sweden)

Magnus ROLÖF (Stockholm, Sweden)

**C77-25**

**Mesolithic quartz quarrying at Stjärneberg outside the city Linköping in Eastern Middle Sweden.**

15:50-16:10 Yves PERDAEN (Gent, Belgium)

Philippe CROMBÉ (Gent, Belgium)

Joris SERGANT (Gent, Belgium)

**C77-26**

**The use of quartzite as a Mesolithic chrono-cultural marker in the Low Countries.**

16:10-16:30 Peter Charles WOODMAN (Cork, Ireland)

**C77-27**

**Alternatives to Flint - Even in the Heartlands.**

16:30-16:50 Break / Pause

16:50-17:10 Grégor MARCHAND (Nantes, France)

Rodrigue TSOBGOU-AHOUEPE (Rennes, France)

**C77-28**

**Que doit-on sacrifier? De l'analyse mécanique des roches à la variabilité stylistique dans le Mésolithique de Bretagne.**

- 17:10-17:30 Hari C. MAHANTA (Assam, India)  
Sarmah MAHANTA (Assam, India)
- C77-29** **Investigating the Neolithic Cultures of Meghalaya, Northeast India: A New Study of the Garo Hills Sites.**
- 17:30-17:50 Ulla RAJALA (Cambridge, UK)  
Marco MADELLA (Barcelona, Spain)  
Ravi KORISSETAR (Karnatak, India)
- C77-30** **Quartz and other knapped raw materials of Deccan Neolithic: a comparison of surface assemblages from three Indian ashmound sites.**
- 17:50-18:10 Mikkel SØRENSEN (Copenhagen, Denmark)
- C77-31** **The Lithic Raw Material Choice in the Eastern Arctic, 2500 BC – 0 AD.**
- 18:10-18:30 Chloe ANDRIEU
- C77-32** **Usage, valeur et symbole de la chaille dans l'aire maya classique**

## ABSTRACTS / RÉSUMÉS

- C77-01** Per FALKENSTRÖM (Uppsala, Sweden)
- Reflections on prismatic blades - The terminology of blades made of different materials in central Sweden.**

**ABSTRACT:** The main scope of this paper deals with comparable attributes regarding different raw materials. Prismatic blades from sites in central Sweden have been chosen to shed light upon some problems regarding lithic terminology, particularly blade attributes. Studies of blades still rely heavily on artefacts made of flint or equivalent materials. Blades are usually classified according to defined attributes in order to fit into a terminology based on fine grained materials. This entails problems such as how to understand lithic artefacts, the technological repertoire and consequently human behaviour in the past. It is suggested that blade technology in central Sweden remained standardised irrespectible of raw material was. With a lithic terminology based on attributes related to intentional blade production, some characteristic attributes are interpreted as variations on a theme but with one purpose, namely prismatic blades.

- C77-02** Morgane DACHARY (Rouffignac Saint Cernin – France)  
Loïc DAULNY
- Approche comportementaliste du Magdalénien d'après l'étude techno-fonctionnelle d'un outillage lithique hors silex et sa relation avec les autres types de vestiges. La Grotte de Bourrouilla (Pyrénées-Atlantiques, France).**

**RÉSUMÉ:** Cette analyse s'inscrit dans le cadre de la préparation d'un doctorat sur l'exploitation paléolithique de matières minérales hors silex. La séquence magdalénienne de Bourrouilla (Arancou, Pyrénées-Atlantiques, France) a, jusqu'ici, surtout livré un matériel attribué au Magdalénien supérieur et final.

Notre premier objectif est d'obtenir, à partir de l'analyse techno-fonctionnelle des témoins minéraux sélectionnés, des schémas comportementaux tant économiques, techniques que fonctionnels et ainsi de proposer, entre autres, des descriptions d'activité par quelques étapes détaillées de leur chaîne opératoire (par exemple pour la taille des roches et le traitement des matières dures d'origine animale). Notre approche est donc résolument comportementaliste. Le

second objectif consiste en la comparaison de la série de Bourrouilla avec des séries badegouliennes étudiées par ailleurs, de manière à cerner d'éventuelles modifications de comportement au cours du Paléolithique supérieur.

Pour cela, nous tentons d'attribuer chaque témoin minéral sélectionné, d'après la confrontation de l'ensemble de ses caractéristiques intrinsèques et extrinsèques, à l'une des catégories d'objets anthropiques et de préciser sa fonction : matière travaillée, outil, complément d'outil, installation, élément d'une structure d'habitat, etc. L'intérêt est d'identifier puis d'analyser les outils pour tenter de déterminer les composants de la dynamique opératoire de toutes les activités où l'outil s'est trouvé impliqué, mais aussi dont il est la résultante.

**C77-03**

Ana CRUZ (Tomar, Portugal)  
Luiz OOSTERBEEK (Tomar, Portugal)  
Pierluigi ROSINA (Tomar, Portugal)  
Sara CURA (Tomar, Portugal)  
Stefano GRIMALDI (Trento, Italy)

**Non-flint raw material use throughout time and space in the Middle Tagus Valley (Central Portugal).**

**ABSTRACT:** In the last decades numerous archaeological surveys and excavations recovered thousands of lithic remains belonging both to Palaeolithic and post-Palaeolithic occupation of the Tagus Valley region between Mação and Chamusca. One of the most striking features of these industries is the almost exclusive exploitation of local rocks such as quartzite and quartz pebbles. The intensive exploitation of these rocks (considering their petrographic properties and characteristics and their availability in the region) has been in large part responsible for the difficult chrono-cultural framing of surface collections and for an overall similarity between Palaeolithic and Post-Palaeolithic lithic remains coming from well preserved stratigraphic contexts. Nevertheless a geoarchaeological study of the surface sites and a technological study of all the collections (both from surface and from excavations) allowed for a clarification of some chrono-cultural mistakes as well as the establishment of some techno-economic behavioural patterns associated to the Palaeolithic and Post-Palaeolithic industries.

**C77-04**

Sofía BAQUEIRO VIDAL (Santiago de Compostela – Spain)

**Processes of lithic production in quartz raw materials : A Devesa de Abaixo site in the Neolithic NW Iberian Peninsula.**

**ABSTRACT:** The aim of this paper is to present the different problems and issues concerning the collections of stone materials recovered from archaeological contexts in the NW Iberian Peninsula, basically made on quartz. The low degree of knowledge about their fracture mechanics and the difficulties associated with the identification of intentional, human-made features on them explain the scarcity of archaeological analyses of these collections and of hypotheses about the technological processes involved in their production. From that basis, I will focus on a case study, the Neolithic site of A Devesa de Abaixo (Moaña, Pontevedra), where, after an analysis of more than one thousand stone objects, the existence of different processes of production has been identified, both in the steps of flaking and of productive activities linked to their use. Among them different production methods both, unipolar and bipolar on an anvil have been documented on the cores.

Roberto RISCH (Barcelona, Spain)

**Recording Macrolithic Artefacts: a morpho-technical approach.**

**ABSTRACT:** In contrast to most other artefact categories in archaeology, no unified recording system has been developed to allow for the analytical description of the large variety of stone tools comprised under the term *macrolithic artefacts*. Most typological efforts have focused on specific tool types and archaeological contexts, and they tend to emphasise morphological features rather than technological aspects. This limits the possibilities for approaching the production processes in which these instruments were worn, shaped and transformed in different times and spaces. One consequence of this lack of a unified recording system is a very patchy

understanding of the technological variability and development of many types of prehistoric stone artefacts and, accordingly, of the activities associated with them.

In situations where hundreds of macrolithic artefacts are recovered as part of systematic excavations, in many later prehistoric sites in the western Mediterranean for example, it has become necessary to develop a recording system which is sufficiently flexible to embrace very diverse sorts of implements, but which at the same time allows comparisons between observations. This requires, in the first place, a standard norm for placing the objects in front of the observer and dividing them into defined areas. Thereafter, a system of categories is established which allows the characterization of the artefacts and their distinct areas in terms of petrographic, morpho-metric and functional variables. The heuristic potential of this recording method will be tested using a series of examples of macrolithic analysis in different archaeological contexts.

**C77-06**

Arturo DE LOMBERA HERMIDA (Tarragona, Spain)

**Quartz Lithic Industries: Scar identification.**

**ABSTRACT:** Quartz is one of the main raw materials used by the prehistoric communities from the Lower Paleolithic to the Holocene. There are difficulties with a development of an appropriate technical analysis on these materials because the low morphological standardization of the products do not allow for an intensive study of these industries. Quartz is traditionally considered as a secondary lithic source as evidenced by opportunistic and low complex strategies because of the application of the flint's analytical criteria (ringcracks, ripple marks, bulbs, etc.) and the typological studies. Through experimental approaches and archaeological comparison several knapping scars on quartz blanks can be identified. These can identify the hammer shock points and removal direction, facilitating a technical analysis. Scars (radial fissures, fractures, etc.) are closely related with the quartz petrological characteristics, formation processes, morpho-structural varieties and the mechanics of flaking. A technical analysis of quartz using these criteria has allowed for the identification of different reduction strategies, showing greater variability and complexity on the management of these kind of raw materials.

**C77-07**

Gérard POUPEAU (Bordeaux, France)  
 F.-X. LE BOURDONNEC (Bordeaux, France)  
 Sarah DELERUE (Bordeaux, France)  
 M. DUTTINE (Bordeaux, France)  
 S. DUBERNET (Bordeaux, France)  
 G. VILLENEUVE (Bordeaux, France)  
 L. BELLOT-GURLET (Thiais, France)  
 T. CALLIGARO (Paris, France)  
 P. MORETTO (Bordeaux, France)  
 F. FROHLICH (Paris, France)  
 M. BOHN (Brest, France)  
 N. J. G. PEARCE (Aberystwyth, UK)  
 R. B. SCORZELLI (Rio de Janeiro, Brazil)

**Obsidian characterization for raw material provenance studies: some alternatives.**

**ABSTRACT:** Obsidian is probably the easiest rock to characterize for lithic raw material provenance studies. Because it is an aphyric volcanic rock, even small, sub-millimetre sized inclusion-free volumes present the same physico-chemical properties as the bulk rock. Hence a variety of possible ways of obsidians characterization, in addition to their visual appearance (brightness, colour, mineral inclusions, etc.). We review the various techniques currently in use by our group and their limitations, in terms notably of their costs and material consumption (destructive vs. non-destructive, etc.). They include (i) element contents determination by ICP-AES, ICP-MS, LA-ICP-MS, PIXE, EMP-WDS and SEM-EDS, (ii) obsidian formation age determination by fission track dating and (iii) structural analyses by ESR, vibrational spectroscopy (micro-Raman and infra-red), SQUID (magnetic properties) and Mössbauer spectroscopy. The discussion will be illustrated by examples taken from the Formative to the Integrated Periods of the Ecuadorian Andean area, and in the Neolithic of the Near East and of the Western Mediterranean.

**C77-08** Inge DIETHELM (Riehen, Switzerland)

**Petrographical composition and provenance of Neolithic “Black stone” artefacts in the collection of the “Museum der Kulturen” in Basel and in archaeological excavations near the shoreline of Lake Neuchâtel, Switzerland.**

**ABSTRACT:** Petrographical investigations on Neolithic ground axes revealed a complex composition of the lithic raw material “Aphanit”, including not only but several different sedimentary and volcanic rocks. The mineral components of these rocks are not visible to the naked eye. In analogy to the term “Green Stone” we propose to rename this raw material “Black Stone”.

**C77-09** Cristiana PETRINELLI PANNOCCHIA (Pisa, Italy)  
Giovanna RADI (Pisa, Italy)

**Alteration of obsidian artefacts: the Fossacesia case.**

**ABSTRACT:** Fossacesia is a Neolithic settlement ascribed to a late phase of the Ripoli culture, and is situated near Chieti (Abruzzi, central Italy). Obsidian tools make up 9.9% of the whole assemblage. XRF analyses carried out on this obsidian showed that the raw material comes from Lipari. About 10% of these artefacts have lost their natural transparency and gloss and are dark grey. The present research was carried out to establish if this weathering pattern was produced during the artefact’s life or is the result of post-depositional factors. Alteration of the obsidian was also reproduced experimentally in order to check the results of the analyses.

**C77-10** Tristan CARTER (Stanford, USA)  
Sarah DELERUE (Bordeaux, France)  
Marina MILIĆ (Belgrade, Serbia)  
Nicholas J.G. PEARCE (Aberystwyth, UK)  
Gérard POUPEAU (Bordeaux, France)  
M. Steven SHACKLEY (Los Angeles, USA)

**Characterizing obsidian from Neolithic Çatalhöyük (Konya Plain, Turkey): a chaîne opératoire approach.**

**ABSTRACT:** Discovered in the 1960’s, Çatalhöyük is one of the best known and largest Neolithic settlements of Anatolia. In 1990’ renewed excavations revealed an earlier Aceramic Neolithic heritage, whereby the occupation sequence now spans ca. 7400-6200 cal BC. The primary raw material employed to make flaked implements during this time was obsidian (>90% of the assemblage) a non-local raw material whose nearest sources lay some 190 km distant. Since 1999 some 300 artefacts have been characterised, involving four laboratories employing six analytical techniques, the elemental compositions obtained mainly using non-destructive methodologies (>60%). The samples were selected from contexts that not only cover the entire chronological sequence (and include all visually distinct types of obsidian), but also embody the various knapping traditions represented at the site. We show that with the exception of one piece, all the obsidian came from southern Cappadocia. During the first half of the occupation obsidians from Göllü Dağ-east dominate, while the second half of the Early Neolithic sequence witnesses a major increase in the consumption of Nenezi Dağ raw materials. Furthermore, when technology and typology are considered the data indicates that we can denote source specific chaînes opératoires, modes of consumption that changed through time.

**C77-11** Hannah COBB (Manchester, UK)

**Making the world using the world: Non-flint raw materials and the construction of personal identity in the Mesolithic of the Northern Irish Sea Basin.**

**ABSTRACT:** No matter what the raw material, be it flint or non-flint, we all accept that people make and made things. Traditionally the heart of our archaeological enquiries have considered how and why people made these things by examining the traces of this making in the record.

However a number of recent works are coming to suggest that people don't just make things, but things also make people. Or put another way, the way people interact with material culture is not simply about technology, production, subsistence and ecology but rather such interactions are part of intricate social processes of identity formation and negotiation. When faced with a period, such as the Mesolithic, where structural remains are relatively scarce, and many sites simply consist of scatters or palimpsests of flint and non-flint materials, such a perspective is coming to be incredibly valuable in enriching our perspectives on how people in the past may have understood themselves and their worlds. This paper then will explore this notion with a specific focus on the use of non-flint materials in the British Mesolithic. Drawing on the results of current research, alternative theoretical perspectives, and alternative ethnographic accounts this paper will suggest that a consideration of non-flint materials, their use at sites, and their situation within the landscape can provide us with a unique insight into the way Mesolithic personal identity and understandings of the world were constructed.

**C77-12** Briagell HUET (Rennes – France)

**Raw materials and techno-economic behaviours in the Middle Palaeolithic: the mixed lithologic industries example from the Armorican massif (northwest of France).**

**ABSTRACT:** In the Armorican Massif (northwest of France), several Palaeolithic industries use a large proportion of alternative raw materials (dolerites, microgranites, volcano-sedimentary tuffs, quartz) in association with flint. This particularity provides an opportunity to analyse the techno-economic behaviour adopted by human groups confronted with fundamentally different rocks. The use of non-flint raw materials in this region during this period is strongly linked to the geologic and palaeogeographic local context. To determine the technical and functional constraints conditioned by the nature of the utilized raw materials, a protocol of raw materials study was set up (petrographic study, mechanical characterization, experimental knapping). Associating techno-typological studies of these lithic industries to physical and mechanical characterization of the utilized raw materials, this study underlines the adaptive responses employed at the lithic production level (methods and techniques of debitage) and of the product management. The results of this study allow for a determination of the influence of raw material and thus the weight of environmental constraints on lithic production. They also contribute to a better understanding of the cognitive modes of Neanderthals while sustaining the debate relative to the Middle Palaeolithic assemblage variability.

**C77-13** Anna LUNARDI (Siena, Italy)

**Quinzano and Rivoli, two Middle Neolithic sites in the Adige Valley (Verona, North Eastern Italy): lithic choices and functional aspects of the non-flint stone implements.**

**ABSTRACT:** Along the Adige Valley (Verona, North Eastern Italy) two important Middle Neolithic sites are located: Quinzano and Rivoli. The study presented herein examines their non-flint stone implements, which are represented by axes, adzes, querns, handstones and various grinding/polishing and pounding tools. The first problem associated with the analysis of them is the great variety of raw materials exploited, represented by local and imported rocks. A study focused on the origin of the raw materials, as well as their lithic characterisation, is necessary to interpret the Neolithic craftsmen choices regarding rocks. The lithologies selection involves numerous socio-economic and cultural aspects such as: the distance and the easiness of supply, the form in which the rocks are gathered, the stone manufacturing, the functional needs and the aesthetic appearance. From the functional point of view, these tools are associated with a wide variety of economic activities referred to food preparation, to manufacturing of raw materials and to the production of implements and ornaments. The study proposes to analyse the *chaîne opératoire* of the stone implements to define their functional aspects such as: the gesture and motion of the work, the intensity of use-wear, the use (single-use/multiple-use/reuse/unused tool), the correlation between raw material and function and the ways to maintain the tool-efficiency. The integration of the experimental replications and the comparison with documented ethnographic contexts is also needed to aid the archaeological data interpretation. Therefore the multidisciplinary approach proposed herein is based on the interactive feed-back between environmental resources and the cultural and economic traditions of the Neolithic people.

**C77-14** Andrés Pierre PROUS POIRIER (Belo Horizonte, Brasil)  
 Andrei ISNARDIS  
 Marcio ALONSO  
 Joël RODET  
 H. PILO

**Quartz, quartzite and hematite in prehistoric assemblages from Brasil.**

**ABSTRACT:** While chipped industries in Europe are mainly made on flint, this stone is scarce in Brazil. Here, most industries are made on quartz, quartzite, or basalt. Someregions (in Para and Minas Gerais states) have also hematite industry. Based on prehistoric collections and experiments, we show some characteristics of crystal debitage - mainly on anvil stones, discuss the specific marks of soft percussion on quartzite; we also give some information on the chipping preparatory process of axes in quartzite and hematite.

**C77-15** Elin HANSEN (Oslo, Norway)  
 Lotte EIGELAND (Oslo, Norway)

**The Rock that Rocks the Rock.**

**ABSTRACT:** This paper presents results from an experiment on hammerstones carried out at Lejre Research Centre, Denmark, in 2004.

While Stone Age archaeologists have acquired a large range of knowledge about lithic technology from numerous experiments, the hammerstone, the tool used in the replication of many basic tool forms, is a neglected object of research. This experiment was designed to get a general knowledge of how the knapper chooses different stones for different tasks (e.g. size, shape, raw material) and to record the various degrees of wear on hammerstones during production of flakes and tools during the week of experiments.

**C77-16** Harry LERNER (Montreal, Canada)

**Use-related Wear Accrual on Silicified Wood Tools from Northern New Mexico: Implications for Interpreting Wear Patterns on Archaeological Material.**

**ABSTRACT:** Experimental generation and development of use-related wear has focused largely on different varieties of flint or chert, with relatively little analytical attention being paid to other raw materials that were exploited prehistorically for chipped stone tool production. This paper examines how wear accrues on implements fashioned from yellow silicified wood that was regularly used during the Late Archaic through Early Basketmaker II (1800 BC to AD 200) periods in northwestern New Mexico.

Experiments were conducted to assess rates of wear development on unmodified flake tools manufactured from yellow silicified wood. Employing image analysis (ClemexVision PE) and GIS (Idrisi Kilimanjaro) software, as well as material hardness tests performed with a Hysitron Triboindenter, a combination of surface roughness and hardness was found to be a determining factor in how wear developed over fixed intervals of use. This is illustrated by measurable differences in rates of wear accrual on this material relative to three types of chert also examined as part of a larger study. These results have significant implications for how archaeologists interpret wear patterns as indicators of tool use behaviour and past cultural dynamics.

**C77-17** Andrés Pierre PROUS POIRIER (Belo Horizonte, Brasil)  
 Filipe AMORELI  
 Gersem BANIWA  
 Jorge Manoel COSTA  
 Marcio ALONSO

**Grindle for cassava: last lithic tool of South American Lowlands.**

**ABSTRACT:** Jean de Léry, who remained among Tupinamba indians near Rio de Janeiro during the XVI Century, mentioned grindles for cassava made of wood and chipped lithic elements. There are none of these ancient instruments in the Museums, and it is difficult to

recognize their archaeological remains among the lithic industry. Nevertheless, Baniwa and Wai Wai (Amazonian indians) used grindles for cassava with lithic “teeth” until the XXth century. This paper joins three archaeologists, a Baniwa, whose mother has made this instrument when younger and gave us some material and information, and an anthropologist, who is working with Wai Wai. Our team has studied ethnographic grindles, reproduced the fabrication of lithic elements and analyzed the micro use wear. We also compared experimental and ethnographic material on the one hand, and micro instruments found in a Tupiguarani archaeological site on the other.

**C77-18**

Andrea ŠAJNEROVÁ-DUŠKOVÁ (Praha, Czech Republic)  
Jan FRIDRICH (Praha, Czech Republic)  
Linda HRONÍKOVÁ (Praha, Czech Republic)  
Ivana SÝKOROVÁ (Praha, Czech Republic)

**Pitted and grinding stones from Lower and Middle Palaeolithic settlements in Bohemia: a functional study.**

**ABSTRACT:** The systematic research of the Lower Palaeolithic (ca 0,7 Ma) and the older level of the Middle Palaeolithic (ca 0,25 Ma) in central and northwest Bohemia revealed evidence of using different raw materials (quartzite, sandstone, conglomerate, chert, quartz, lydite) for the production of special groups of non-chipped “grinding/crushing” tools. They can be divided into two categories: active tools (hammerstones, pestles or whetstones) and passive rests (anvils, anvil-pallets). Originally, such artefacts were considered to be a part of the *chaîne opératoire* for the chipped industry. However, it seems their function was not only limited to chipping activities. The anvils/pallets are of a different size, from the palm size for grinding of pigments to pallets on huge stone desks with a diameter of 0.5 m, which could have served for grinding/crushing of organic and/or inorganic materials, or could be used for grinding of other tools made from different materials (wood, bone). Recent research of Lower and Middle Palaeolithic settlements, which systematically investigate the full volume of stone artefacts, reveal surprising information about the use of raw materials not only for chipped industry but also for the artefacts assigned to process organic and inorganic materials. The form and function of these artefacts seem to be conserved and stable since the ancient times (Lower Palaeolithic) of human culture until the Neolithic period. The functional and microwear analysis allowed to distinguish between several functions of the analysed artefacts.

**C77-19**

Jenny ADAMS  
Selina DELGADO  
Laure DUBREUIL (Montréal, Canada)  
Caroline HAMON  
Hugues PLISSON (Aix-en-Provence, France)  
Hara PROCOPIOU  
Roberto RISCH (Barcelona, Spain)

**Functional analysis of macro-lithic artefacts.**

**ABSTRACT:** Macro-lithic or ground stone tools are among the most abundant artefact categories in the archaeological record. They are made from a wide range of rocks, worked through various techniques, and served to carry out a large array of tasks, beginning in the Palaeolithic and continuing to early historic times. Despite their relevance to the economic and social organisation of past societies, it is only recently that archaeologists have begun to develop specific research methodologies for studying macro-lithic artefacts. One aspect that deserves increasing attention is the description and analysis of traces on stone surfaces specific to production, maintenance, and use. The aim of this paper is to compare the different approaches to functional analyses of macro-lithic tools, and to achieve a consensus about terms and analytical categories. Issues discussed include the factors governing the formation of use-wear traces, the manifestation of use-wear on surfaces of various rock types, comparisons between macroscopic and microscopic approaches, and the possibilities for photographically documenting observations. The final objective is to standardize methods for functional analyses, thereby facilitating a better technological understanding of the means of production used by pre-industrial societies.

**C77-20** Ignacio Clemente CONTE (Barcelona, Spain)  
Juan Francisco GIBAJA BAO (Barcelona, Spain)

**La formation de traces d'usure dans des roches distinctes au silex: le cas de les quartzites et rhyolites, différences et similitudes.**

**RÉSUMÉ:** Le silex, dans ses différentes textures granulométriques, a été, sans aucun doute, le matériau lithique le plus étudié dans le domaine de la tracéologie. C'est la raison pour laquelle l'application de cette méthode analytique est encore de nos jours très peu répandue à d'autres types de roches, malgré la large exploitation tout le long de la préhistoire des lithologies telles que le quartzite. Dans ce travail nous nous intéressons à la formation de traces d'utilisation dans des roches de différentes origines comme le quartzite (sédimentaire ou métamorphique) ou comme la rhyolite (igné), mais qui ont des traits communs au niveau de leur texture. Ainsi qu'à la nécessité d'analyse de leurs surfaces au microscope en prenant en considération une formation différentielle des traces d'utilisation dans les matrices (comparable à certains silex) et dans les cristaux de quartz (similaire au quartz) en observant les différences et les similitudes des traces d'utilisation entre les diverses lithologies.

**C77-21** Laure DUBREUIL (Montréal, Canada)

***Non-flint stone tool technology in the Epipalaeolithic: The example of the Natufian.***

**ABSTRACT:** In the Near East, non-flint stone implements represent a significant proportion of the toolkit in the Epipalaeolithic. However, in spite of their abundance, these artifacts have largely been neglected in archaeological studies. This paper examines the diversity of non-flint stone tools during the Natufian period, which corresponds to the transition between the Paleolithic and the Neolithic in the Levant. Use patterns of various kinds of raw materials, mainly limestone, sandstone, and basalt, as well as the techniques involved in the production of the non-flint tools, are detailed here for three Natufian assemblages. The study of these assemblages underlines the significance of pecking, grinding, and abrading techniques. Moreover, the analysis highlights differences in use patterns between non-flint versus flint tools. Use-wear data on grinding implements indicate that at least some of these tools were associated with the exploitation of vegetal resources. In contrast, flint tools appear to be designed specifically for the procurement and processing of game. The Natufian case-study exemplifies the contrasts and complementarities between a flint industry based on small flakes and bladelets, and a non-flint technology dominated by massive and heavy-duty tools.

**C77-22** Astolfo GOMES DE MELLO ARAUJO (São Paulo, Brasil)

**Non-flint raw materials in South America: a Brazilian perspective.**

**ABSTRACT:** In the last decades, Brazilian archaeology was subject to a major increase in the number of projects (both academic and contract-based), registered sites and dates. This increase in knowledge now allows a better grasp of regional patterns, especially those related to technological trends, raw material choice, and the related chronology. In this paper, we intend to present an overview of the archaeology of a vast area, what is today Brazilian territory, focusing on the use of different raw materials across space and time by prehistoric populations, and how these differences can be understood in light of the general geological and cultural background.

**C77-23** Enza SPINAPOLICE (Rome, Italy and Talence, France)

**Lithic industries and raw material in Southern Italy Mousterian: example from Grotta dei Giganti (Salento, Apulia)**

**ABSTRACT:** Salento region in the southern part of Apulia is particularly rich in prehistoric features, with a great concentration of Middle Palaeolithic sites (i.e. Grotta Romanelli, Grotta dei

Giganti) and a significant series of Neanderthals fossils. This region is characterized by a scarcity of good quality raw material such as flint, which is only abundant 350km north in the well known Gargano area. Due to this scarcity, the lithic assemblages are made on local limestone, flint pebbles, other siliceous local rocks and even shells: different reduction sequences correspond to different utilized raw materials. Levallois débitage on local limestone is particularly interesting. The origin of exploited flint is currently still debated, and new excavations and surveys are in progress to identify the local and non-local raw material sources. For the first time, the preliminary results of an analysis of lithic technology in the different raw materials are presented here.

**C77-24**

Małgorzata WINIARSKA-KABACIŃSKA (Krakow, Poland)

**Obsidian and the Sviderian culture at the Polish Lowland.**

**ABSTRACT:** During excavations at a Sviderian settlement in Central Poland an obsidian workshop was discovered. At the northern part of the Polish Lowland obsidian is recorded in the form of single finds. For the first time, a larger concentration of artifacts made of that exotic raw material was analysed. In the paper, results of the functional analysis of obsidian finds will be considered within the broader context of a very intensive late Palaeolithic settlement at the site. The importance of this settlement will be discussed with a special focus on the mobility of the Sviderian hunters.

**C77-25**Fredrik MOLIN (Stockholm, Sweden)  
Magnus ROLÖF (Stockholm, Sweden)**Mesolithic quartz quarrying at Stjärneberg outside the city Linköping in Eastern Middle Sweden.**

**ABSTRACT:** During 2005, a small quartz quarry was excavated on the outskirts of Linköping in the province of Östergötland in Eastern Middle Sweden. Quartz can be found either in veins or as nodules in the till as well as in glacial deposits in this part of Sweden. The Mesolithic site of Stjärneberg on a former island in the archipelago of the Litorina Sea consisted of a vein of quartz with evidence of traces of quarrying. Around the vein both, worked (flaked) and crushed quartz was recovered. The quarries in this region are often not identified (or previously believed to be found) in the actual settlements but within areas of where Stone Age settlements are known, in their vicinity. The Stjärneberg site however also contained traces of settlement activity such as several hearth pits, worked quartz and a small amount of flint, as well as several hammerstones and anvils, all are evidence of a small Mesolithic settlement area. The site can be of use for the analysis of lithic production and subsistence strategies as well as the landscape use and perception in the Mesolithic period.

**C77-26**Yves PERDAEN (Gent, Belgium)  
Philippe CROMBÉ (Gent, Belgium)  
Joris SERGANT (Gent, Belgium)**The use of quartzite as a Mesolithic chrono-cultural marker in the Low Countries.**

**ABSTRACT:** The presence and use of quartzite is known at many Mesolithic sites in Belgium and adjacent areas. Two varieties were in use: a fine grained variety called Wommersom quartzite and a coarser grained variety called Tienen quartzite. Both originate from the same geological formation and different outcrops of this formation are known in the vicinity of Tienen (Vlaams-Brabant, Belgium). The use of both varieties starts in the Early Mesolithic. Wommersom quartzite becomes very important in the Middle and especially in the Late Mesolithic and is distributed over a large area (circa 40.000 sq km). In contrast, the use of Tienen quartzite is limited to the end of the Early Mesolithic (the period between 9000 and 8500 BP) and its geographic distribution is restricted to western Belgium. It seems that both raw materials were used as territorial markers. Their use started when the inundation of the North Sea took place and Mesolithic territories shifted. The cultural identity of the raw material was further strengthened through an adapted knapping technology which clearly differs from the technology used to knap flint.

**C77-27** Peter Charles WOODMAN (Cork, Ireland)

**Alternatives to Flint - Even in the Heartlands.**

**ABSTRACT:** Although the North east of Ireland is particularly rich in flint, two other groups of material occur very frequently in the Lower Bann Valley during the later Mesolithic in particular. These are a series of mudstone and shale axes along with a number of large flakes of cherts and other similar raw materials. Their presence raises questions around the assumption that, in this area, flint would always be the preferred raw material.

**C77-28** Grégor MARCHAND (Nantes, France)  
Rodrique TSOBGOU-AHOUE (Rennes, France)

**Que doit-on sacrifier? De l'analyse mécanique des roches à la variabilité stylistique dans le Mésolithique de Bretagne.**

**RÉSUMÉ:** Les travaux de P. Gouletquer et son équipe au cours du vingtième siècle finissant ont permis de recueillir un corpus exceptionnel de sites datés du Mésolithique sur le département du Finistère (ouest de la Bretagne, France). Les recherches sur la répartition des matériaux lithiques concurrents du silex laissent voir des résultats contrastés suivant la période chronologique, avec par exemple une restriction des territoires d'acquisition à la fin du Mésolithique et un développement d'économies à large spectre. Les réflexions s'engagent désormais sur la variabilité technique et stylistique en fonction de la nature des roches taillées. La diversité des chaînes opératoires mises en œuvre dépend des caractéristiques physiques, structurelles et volumétriques des matériaux. A partir de ces analyses pétrographiques et mécaniques, nous pouvons nous interroger sur ce que les tailleurs mésolithiques de Bretagne ont dû sacrifier de leurs normes techniques. La nature de ce que les hommes ont accepté de modifier ou au contraire de ne pas négocier est des plus éclairantes pour la compréhension de ces sociétés de la Préhistoire.

**C77-29** Hari C. MAHANTA (Assam, India)  
A. Sarmah MAHANTA (Assam, India)

**Investigating the Neolithic Cultures of Meghalaya, Northeast India: A New Study of the Garo Hills Sites.**

**ABSTRACT:** Many Neolithic sites have been discovered in Meghalaya since the 1960s. Most of the sites are located in the West Garo Hills district of Meghalaya. As one of the most extensively excavated Neolithic sites in the West Garo Hills, the Selbalgre site has long been regarded as the representative of the Neolithic culture of Meghalaya in general. Its material cultures have been frequently used by many scholars to address the relationship between Northeast India and Southeast Asia, usually with a broader perspective to tracing the early dispersal of Austronesian people. Over the past several years, new research was carried out in the area and one excavation took place at the site Selbalgre. By employing new excavation techniques and more rigorous sampling strategies, our excavations have uncovered a significant amount of new information relating to subsistence and settlement patterns, chronology, dispersal of Neolithic man etc. These new data allow us to re-examine many important issues in the Neolithic archaeology of Northeast India.

**C77-30** Ulla RAJALA (Cambridge, UK)  
Marco MADELLA (Barcelona, Spain)  
Ravi KORISSETAR (Karnatak, India)

**Quartz and other knapped raw materials of Deccan Neolithic: a comparison of surface assemblages from three Indian ashmound sites.**

**ABSTRACT:** The material culture of Neolithic South India has not always been given the attention that it deserves. Specifically, the lithic assemblages of Neolithic sites have normally been described according to typological divisions without entering the subject of raw material

exploitation and availability. Indeed, flint and chert were only a part of a more complex array of raw materials utilised by the Neolithic people.

The study of surface assemblages from three different ashmound sites, in the collections of Karnatak University, has revealed differing patterns of raw material use depending on local natural and social environment. Quartz, chert, chalcedony and flint were all used in varied quantities with different raw materials dominating at different sites. The analysis concentrates on the definition of different modes of quartz exploitation in comparison with other raw materials. Importantly, the procurement and utilization strategies are compared to those in other quartz using areas, such as Nordic countries. The discussion considers the implications of the results with regard to the overall economy of the Deccan Neolithic.

**C77-31**

Mikkel SØRENSEN (Copenhagen, Denmark)

### **The Lithic Raw Material Choice in the Eastern Arctic, 2500 BC – 0 AD.**

**ABSTRACT:** The geology of the Eastern Arctic (Greenland) is complex and consists among other things of a variety of lithic raw materials with a conchoidal fracture mechanism; not one of them is flint. Greenland was in prehistory circum-populated twice: by the Early palaeo-Eskimos, termed “Saqqaq” (2500-800 BC) and “Independence I” (2500-1800 BC) and by the Dorset termed “Greenland Dorset” (800-0 BC). Yet the migrating cultural traditions brought and developed their own specific preferences for raw material use. A common trait in all palaeo-Eskimo traditions is that the different raw materials were used specifically for distinct technologies and tool productions. However, the different raw materials are favoured and used differently in each of the palaeo-Eskimo traditions and the raw material choice is therefore, from an archaeological point of view, an important discriminator when distinguishing the different traditions. The problem, which this paper confronts, concerns the reasons for the use of different raw materials in different tool productions in the Eastern Arctic, and explores why the different cultural traditions had different preferences even though they lived in the same landscape. The first question will mostly concern raw material properties and technology, while the second will touch upon cultural meaning and the formation of “tradition” through transmission of knowledge.

**C77-32**

Chloe ANDRIEU

### **Usage, valeur et symbole de la chaille dans l'aire maya classique**

**RÉSUMÉ:** En dépit de ses piètres qualités à la taille (Matière grenue, nombreuses inclusions), la chaille, matière siliceuse la plus abondante dans les Basses Terres calcaires mayas est le principal support de l'industrie lithique. Elle fait à la fois l'objet d'une production à fort investissement technique, probablement le fait de spécialistes, et d'une production expédiente pour les besoins quotidiens. Les matériaux d'importation, de meilleure qualité (silex du Belize et obsidienne des Hautes Terres du Guatemala), sont dévolus pour la plupart aux pointes de lance et au débitage laminaire, des objets à fort investissement social. Toutefois, les objets culturels, tels que les pointes lancéolées et les excentriques sont autant façonnés sur support de chaille que d'obsidienne ou de silex. Nous discuterons de la composition de ces industries en termes techniques, mais aussi de réseaux d'échanges et d'implications socio-économiques.