SESSION C 35

Faculty of Letters – Amph. III

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NEOLITHIC AND CHALCOLITHIC ARCHITECTURE IN EUROPE AND THE NEAR EAST: BUILDING TECHNIQUES AND SPATIAL ORGANIZATION

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The purpose of the session is to offer a new perspective on prehistoric architecture (as constructive methods in relationship with functions and spatial organization), by comparing European and the Near East Neolithic and Chalcolithic building traditions.

The session intends to analyze the process of complexity produced in the architectural technology and spatial organization from Neolithic to Chalcolithic, from the simple semi-subterranean dwellings to the large *megarons* surface dwellings with various secular or cultic functions. Other architectural features to be discussed would be the settlements' enclosures, the settlements' walls and palisades, both in open/flat and *tell* settlements.

Currently there are three archaeological instruments to reconstruct the (today) invisible parts of prehistoric architecture: the physical experiment (very rare performed at the real scale), the theoretical experiment (i.e. the engineering studies of the mechanics of buildings) and the ethnological analogy. Both experimental archaeology and ethnoarchaeology direct to a Medium Range Theory in the archaeological-architectural reconstruction; in this respect the session intends to discuss the limits of these methods and to try to find alternative solutions.

Contributors to the session are asked to discuss the following subjects:

- The comparison of the building traditions from the Near East, the Balkans, Central and Western Europe;
- The processes of technological diffusion within these cultural areas, as well as the local inventions;
- The organization and dimension of built spaces related to materials and building techniques as well as the ergonomic studies of the *chaînes – opératoires* of the daily life that shaped the internal spatial organization of buildings;
- The cycles of construction and deconstruction (i.e. *chaînes – opératoires* of building and demolishing, intentional fires, the recycling of materials, etc.);
- The analysis of micro and macro constructive structures;
- The methods of decoration of architectural features (i.e. walls, entrances, columns, pyro-objects, etc.);
- The relationships between society and architectural techniques.

L'ARCHITECTURE NEOLITHIQUE ET CHALCOLITHIQUE DE L'EUROPE ET DU MOYEN ORIENT: TECHNIQUES DE CONSTRUCTION ET ORGANISATION DE L'ESPACE

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Le but de cette session est d'offrir une nouvelle perspective sur l'architecture préhistorique (en tant que methodes constructives en relation avec l'organisation de l'espace) en comparant les traditions constructives de l'Europe avec celles du Moyen Orient.

La session va analyser le processus complexe qui s'est produit dans la technologie architecturale et dans l'organisation spatiale du Néolithique au Chalcolithique, commencant avec les demeurres demi-souterraines jusqu'aux grandes maisons de surface - les *mégarons* aux diverses fonctions laïques et de culte. Autres éléments d'architecture mis en discussion seront les enclos des établissements, les murs protecteurs et les palissades des établissements ouverts/plats et des *tells*.

Il ya a aujourd'hui trois instruments archéologiques utilisés à reconstruire les portions invisibles de l'architecture préhistorique : l'expériment pysique (très rarement realisé à l'échelle réelle), l'expériment théorique (les études de mecanique des constructions) et l'analogie éthnologique. Les deux méthodes : l'achéologie expérimentale et l'éthnoarchéologie conduissent l'archéologie de l'architecture vers une « Medium Range Theory » en ce qui concerne la reconstruction architecturale ; dans cette perspective un des buts de la session est d'essayer de trouver des solutions alternatives à ce probleme majeur.

Les sujets suivants sont proposés pour être discutés:

- La comparaison entre les traditions constructives du Moyen Orient, des Balkans et de l'Europe Centrale et de l'Ouest ;
- La diffusion téchnologique dans ces aires culturelles, aussi que les inventions indigènes ;
- L'organisation et les dimensions des éspaces en relation avec les materiaux et les téchniques employées, aussi que les études ergonomiques des *chaînes – opératoires* de la vie quotidienne qui façonnent l'organisation interne des bâtiments ;
- Les cycles des constructions et de-constructions (les *chaînes – opératoires* des processus de construction et destruction intentionelle, incendies intentionels, réutilisation des materiaux de construction, etc.) ;
- L'analyse des structures constructives au niveaux micro et macro ;
- Les méthodes de décoration des éléments architecturaux (murs, entrées, colonnes, pyro-objets, etc.) ;
- Les relations entre la societé et les téchniques architecturales.

THEORY AND PRACTICE

9:00-9:20

SPACE, THE FINAL FRONTIER: METHODS FOR AN ARCHAEOLOGY OF PRACTICE
Roger Doonan

Whilst archaeological excavation is preoccupied with defining stratigraphy and the recovery of contexts, post-excavation analysis and 'interpretation' privileges the study of artefact typology and the form of architectural features. Both of these foci are rooted in an art-historical approach to archaeological remains. Ironically, the very contexts which are so carefully defined during excavation rarely receive any attention beyond stratigraphic assessment. This is problematic since not only are their recovery economically high but also because these contexts were the very location of human practice. Such spaces within and around architectural features and the activities carried out within them can be thought as being interwoven with meaning and represent windows to wider symbolic schemes.
This paper explores methodologies for exploring architectural spaces and draws upon prehistoric case studies to illustrate how acknowledging the importance of individual contexts can reveal precise social practices associated with architectural features. The paper concludes with an illustration of how soil studies in combination with experiential approaches to dynamic elements of the past can supplement architectural approaches to inform studies of identity and power.

9:20-9:40

PREHISTORIC MENTALITY AND TECHNOLOGICAL ISSUES
Georges Dimitriadis

The relationship between human being and rocky pebbles is straight and conceptually deep since the first steps of the humanisation. Indeed was the stone with its shape, colour and qualities to suggest uses and functionalities meanwhile stimulate the human thought. The men/woman was transformed by the stone from ape to human being; from natural being to a cultural one. In the present paper the author focus his attention to the development of the prehistoric mentality and its expression through out the technological issues as tools, artefacts and manu-facts. In fact, we can assert that ancient building techniques and models persist in time as coming out from the analysis of rural architecture. In the specific we analyze the hidden diachronic mentality including in the rural architectonic structures from South Mediterranean Regions.

9:40-10:00

THE TRANSITION FROM THE ROUND PLAN TO RECTANGULAR
Mehmet Özdogan

The consequences of the revolutionary changes that took place in subsistence patterns during the Neolithic Period are best observed in architecture and in the organization of habitation sites. The new way of life that developed with the onset of Neolithic economies, soon led to the establishment of permanent villages that required larger living and storage space. Likewise, the newly developing trend to

construct prestige buildings, such as special cult buildings or temples has also been highly implemental to enforce radical changes in architectural designs.

In this respect, certainly one of the most significant achievements that took place during the Neolithic period is the transition from the round and/or oval huts to buildings with rectangular ground-plans. This should not only be considered as a simple change of plan-type, as its consequences had far reaching implications. Transformation of simple dwellings, such as huts, to houses, or "homes" is one of the most evident outcomes of this change. From the point of architectural techniques, the change from round to rectangular plan-type was not an easy one; the structure of a round building is either like a basket or a tent, where the roofing is not differentiated from the walls. Thus, such a structure needs neither foundations nor supporting junctures, as the walls do not carry any weight. However, once the building is designed according to a rectangular plan, then the builder had to deal with a number of structural problems, for which they had not accumulated any experience. Among these, construction of upright walls that had to support the weight of the roofing, binding of corners, lentos for openings such as doors are to be accounted.

Recent work in Southeastern Turkey, has revealed evidence exemplifying the evolutionary steps between the round-plan and rectangular buildings. It is now evident that, the full rectangular-building type developed through a trial-and-error period that lasted some two thousand years. The paper will cover the development of rectangular structures, as well as its consequences in the use of space.

10:00-10:20

NEOLITHIC ARCHITECTURE AS MATERIAL ENGAGEMENT
Joshua Pollard

This paper takes as its starting point the view that the study of Neolithic architecture should be a study of Neolithic materialities. Stemming from this, I wish to explore two themes. The first relates to the way that the construction of Neolithic buildings and monuments involved an active engagement with the material world, and an inventive exploration of material possibilities – a bringing together of different substances (wood, clay, earth, stone, bone and so forth) and their working into new and hybrid configurations. Such a perspective avoids seeing the substances employed in construction as inert 'building materials', and instead considers their symbolic and ontological qualities, and agency (their potential to shape and direct human encounter and understanding of the material world).

The second theme investigates quite where the boundaries of 'architecture' begin or end. The almost recurrent inclusion of deliberate deposits within the fabric of Neolithic structures, along with formalised processes of dismantling, infilling and reworking, seems to run counter to our understanding of construction as a bounded process that ends with the physical realisation of a pre-determined plan. Do such practices instead speak of fluidity, mutability and an on-going flow of 'life energies'? In support of these arguments, the paper will make reference to varied examples of early Neolithic architecture from different regions (from Anatolia to northern Europe) and of different 'functional' forms (houses, long mounds and enclosures).

The present paper presents the spatial organization of these features and attempts to suggest hypotheses for the reconstruction of the elevated parts by the means of archaeological and ethnographical comparisons.

10:20-10:40

RAISING THE ROOF: HOUSES, CERAMICS AND THE HUMAN LIFE CYCLE IN NEOLITHIC ORKNEY, SCOTLAND
Andrew Jones

In the Late Neolithic of Orkney, Scotland houses acted as frameworks around which a series of dynamic social relations are played out. The building, elaboration and destruction of houses mirrored the life cycle and changing composition of the household. Moreover houses acted as a symbolic and physical focus for the production, use and deposition of other forms of material culture. It is only by emphasizing the relationship between houses and material culture that we gain a clear insight into the formation of households.

The deep stratigraphy and excellent level of preservation of settlements in Neolithic Orkney offers archaeologists an unparalleled chance to investigate settlement structure, household composition and the symbolic potency of the house during the Neolithic period. In this paper I want to stress the importance of the analysis of both settlement architecture and ceramic sequences in tandem as a means of studying both settlement chronology and the structure and composition of the household.

10:40-11:00

LES OUTILS DE LA RESTITUTION
Catherine Duvette

L'identification, l'interprétation de l'empreinte laissée par les constructions et assemblages de bois après leur disparition puis son inscription dans des systèmes constructifs cohérents dépendent de situations historiques particulières, mais sous leurs seuls aspects techniques, les questions soulevées, les buts poursuivis et les moyens mis en œuvre par l'analyse elle-même transcendent largement les époques et les régions. Différents sites, de différentes époques et régions, soumis à une même grille d'analyse seront présentés.

L'étude des vestiges de ces architectures de bois suppose une double approche, géométrique et fonctionnelle :

- La première pour mettre en évidence l'organisation planimétrique et les caractéristiques des trous de poteau, seuls indices relatifs à la construction. La mise au point puis l'adaptation de méthodes de visualisation informatique et de traitement logique de l'information permettent d'engager une réflexion synthétique et systématique en plan sur les sites quelle que soit leur étendue. Dans les cas que nous exposerons, l'information examinée comprenait les plans topographiques généraux et les caractéristiques formelles et métriques de chaque structure en creux. Les « maquettes » informatiques simplifiées produites se sont aisément prêtées à de multiples manipulations.
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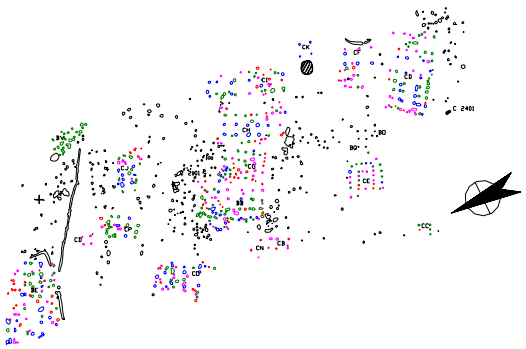
données brutes

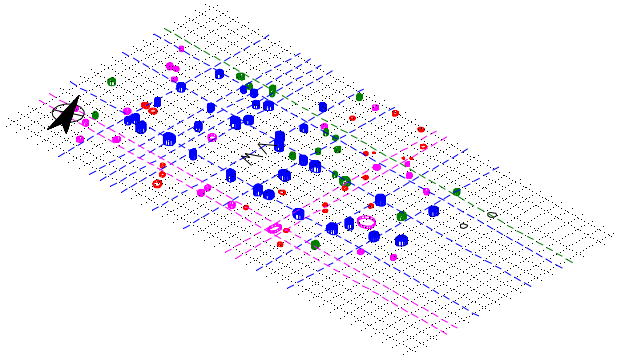


données informées selon la profondeur des trous

Fig. 1 - Opérations de cartographie sélective

Des tris selon des variables successives (profondeur, diamètre, espacement, alignements et régularités géométriques observables) ont été effectués. Les critères de profondeur et d'espacement se sont révélés tout particulièrement déterminants dans la recherche d'alignements.

- La seconde pour restituer le rôle de chaque élément identifié en rapport avec des solutions constructives vraisemblables. La complexité des formes, les surfaces occupées, la taille des éléments, les aménagements particuliers (doublage des supports, présence de foyers, etc.), sont autant de facteurs pris en considération.



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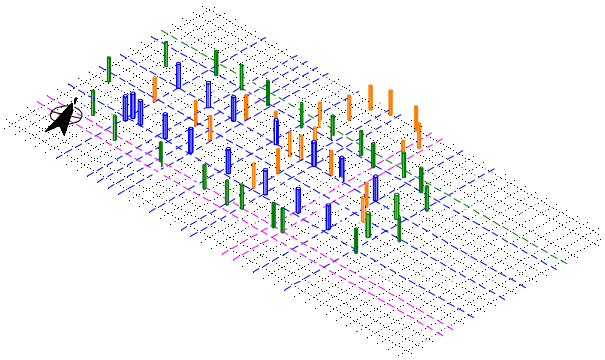

Structure principale et aménagements secondaires

Fig. 2 : Production de maquettes simplifiées

Passer du plan à l'élévation amène inévitablement à dépasser les données brutes dont nous disposons pour faire appel à un référentiel technique et bibliographique préétabli.

11 :00-11 :20

ARCHEOLOGIE DE GRANDE SURFACE ET INTERPRETATION DES STRUCTURES EN CREUX

Marie-Chantal Frère-Sautot et Alain Villes

Les décapages de grande surface ne sont pas nouveaux dans l'archéologie pré- et protohistorique européenne. Mais la mise en place progressive d'une réglementation, en France, a permis, ces vingt dernières années, de rattraper, dans le domaine des fouilles en aire ouverte, un retard autrefois considérable par rapport à la plupart des autres pays européens.

Un récent colloque international, organisé du 24 au 26 mars 2006, à Dijon et Lons-Le-Saunier, a permis de faire le point sur les acquis de l'archéologie dite « préventive » (autrefois : « de sauvetage » ou « de grands travaux ») en France et en Europe, dans un esprit de comparaison entre expériences et méthodes à travers un vaste échantillon. Les fouilles menées sur des habitats criblés de « trous », mais hors contrainte imposée par des travaux, ont également été présentés dans le colloque. Des sites de périodes s'échelonnant du Néolithique ancien à la fin de l'âge du Fer ont été présentés, correspondant à des régions et des contextes divers, incluant les Balkans et même le Proche-Orient.

En matière de résultats et de méthodologie, il apparaît, par exemple, que jamais certaines formes d'architecture domestique n'auraient pu être reconnues sans l'approche systématique des traces d'aménagement dans le sous-sol, sur de grandes surfaces. Les acquis nouveaux permettent de souligner le poids des habitudes, en matière d'interprétation et de repérage de structures archéologiques, lorsque celles-ci sont bien typées (voire stéréotypées) ou faciles à repérer. On peut faire la même remarque, lorsque l'organisation de l'habitat est en cause, et que son étude exige des décapages très extensifs, les limites des sites permettant une interprétation fonctionnelle rigoureuse.

Catalogue, typologie et évolution des structures bâties, en particulier, débouchent donc d'emblée sur des questions de méthode. Une question revient d'ailleurs régulièrement : comment fouiller sur de vastes surfaces, dans des délais fixes, sans perdre trop d'informations et avec quels moyens ? Parallèlement à une ouverture nouvelle sur les structures domestiques et leur organisation, l'étude des excavations dans leur diversité et multiplicité fait regretter l'absence, quasi-générale, de surfaces de circulation et de niveaux d'occupation conservés dans les fouilles en « aire ouverte » étendue. Par exemple, la différence de conservation des données entre milieu humide et terre ferme rend difficile une confrontation des informations issues des deux domaines, en matière notamment d'architecture. Cette confrontation permet de mesurer la part d'interprétation qui subsiste aujourd'hui dans l'étude des plans et élévations de bâtiments indiqués par les seules fondations en creux conservées.

La communication s'efforcera, à travers quelques exemples, de souligner les acquis en même temps que le handicap de la fouille à grande échelle des aires criblées de « trous » comme témoins quasi-exclusifs des aménagements domestiques néolithiques et protohistoriques.

11 :20-11 :40

INTENTIONAL FIRING OF SOUTH EASTERN EUROPE CHALCOLITHIC HOUSES: A PERSPECTIVE FROM EXPERIMENTAL ARCHAEOLOGY

Dragos Gheorghiu, and Romeo Dumitrescu

The paper discusses possible models of collapse of small and long wattle and daub architectural structures due to intentional firings, using the results of experiments carried in the Vadastra archaeoparc and other sites in Romania.

The analysis will focus on the estimation of human agency and on the types and amount of fuel utilized to deconstruct prehistoric houses with the help of combustion.

All the experiments presented were carried out on full scale models (round and rectangular semisubterranean and surface Neolithic and Chalcolithic houses and megarons), reconstructed from archaeological data from Boian, Gumelnita and Cucuteni traditions.

STUDY CASES

11 :40-12 :00

LES CYCLES D'OCCUPATION DES ABRIS NATOUFIENS (MALLAHA-EYNAN, ISRAEL)

Nicolas Samuelian

C'est à la fin de l'Epipaléolithique que naît la culture natoufienne au Proche-Orient. Celle-ci marque une rupture avec les périodes précédentes. Les Natoufiens demeurent des chasseurs-cueilleurs malgré une sédentarité attestée sur certains sites qui annonce l'émergence du Néolithique.

C'est à cette époque qu'apparaissent les premières constructions en pierres, c'est-à-dire-« en dur ». Les gisements les plus importants sont formés d'un ensemble d'abris circulaires et semi-circulaires à moitié enterrés, aux techniques de construction et aux fonctions variées. Celles-ci témoignent de la complexité de leur organisation sociale. Un des aspect les plus surprenants de cette architecture est probablement l'occupation prolongée de même structure. Sur le niveau Natoufien final de Mallaha, cela se manifeste par la superposition des sols et par la réfection des constructions en pierres. Chaque niveau se caractérise par des aménagements domestiques distincts (foyers, calages de poteaux, etc.) indiquant de très probables changements de fonctions. Ces sols ne sont séparés que de quelques centimètres. Certaines de ces structures domestiques sont visibles et réutilisées à plusieurs étapes de l'occupation. Cet aspect se manifeste également par la reconstruction d'abris au même endroit sous la forme « d'emboîtement » après une probable période d'abandon.

L'apparition d'une architecture, « en dur » et complexe, au Natoufien se révèle comme un des indicateurs en faveur de la sédentarité de ces populations.

12 :00-12 :20

LIMESTONE FLOORS AT LEPENSKI VIR: A LOCAL TRADITION?

Dusan Boric, C.A.I. French and Yuval Goren

The paper discusses the proliferation of pinkish-red limestone floors used to plaster

trapezoidal bases of post-framed buildings at the archaeological site of Lepenski Vir around or after 6300 Cal B.C.
Lepenski Vir is the type-site for a number of Mesolithic-Early Neolithic sites found in the Danube Gorges region of the north-central Balkans. Although trapezoidal buildings are found at other contemporaneous sites in this region, at no other site building floors are made of limestone. Also, there are no other sites in south-east Europe dated to the Mesolithic-Early Neolithic periods where limestone floors are found. They can only be compared to similarly constructed floors found at the PPNB sites in the Levant and Anatolia. We examine this particular phenomenon by employing micromorphological analyses of a limestone floor sample from Lepenski Vir and by contextualizing the appearance of this particular constructional technique. We also explore the social significance of this phenomenon in this example of the earliest ?house society? in the Balkans.

12:20-12:40

MÉTHODE D'ANALYSE SPATIALE DES VESTIGES ARCHITECTURAUX D'UN SITE D'HABITAT NÉOLITHIQUE STRATIFIÉ (KOVAČEVO[1], BULGARIE).
Cynthia Jaulneau

Les analyses spatiales de sites d'habitat du Néolithique ancien sont essentiellement réalisées sur des sites sans stratigraphie, à structures en creux nombreuses. Ces analyses permettent de mettre en évidence des tendances aussi bien spatiales, grâce aux relations établies au sein du site entre structures, que chronologiques. La méthode d'analyse présentée ici se distingue grâce à la nature même du site dont elle fait l'objet. Kovačevo est un site d'habitat intensément occupé au Néolithique ancien. Une fouille systématique et étendue (plus de 1500 m²) a été menée sur ce site de 1986 à 2002 (Demoule et Licahrdus, 1993). La stratigraphie atteint près de 3 mètres de hauteur maximum. La documentation récoltée lors des campagnes de fouille représente un ensemble d'une qualité exceptionnelle de part la quantité et les méthodes d'enregistrement systématique des données mises en place dès le début.
L'analyse spatiale intra site permet d'aboutir à l'interprétation de la fonction et du statut des unités d'habitation et des éléments annexes (gestion de l'eau, structures de stockages, de combustion, espaces de circulation,…). La compréhension des grands ensembles et la mise en évidence des liens existants entre eux amènent à la compréhension de l'organisation interne du site d'habitat. En terme d'échelle d'étude, on part de la cellule domestique qu'est l'unité d'habitation pour arriver à l'entité qu'est le village.
Le but escompté est de comprendre l'organisation spatiale des structures architecturales. Nous proposons un modèle d'organisation du village en fonction de ses périodes chronologiques, voire même de ses phases d'occupation (phases d'habitat attribuées grâce à la séquence évolutive de la céramique (étude en cours sous la direction de Laure Salanova).

12 :40-13 :00

[1] Sous la direction de J.D. Demoule, M. Licahrdus-Itten et V. Nikolov, L. Perniceva, M. Grebska-Kulova, I. Kulov

THE TECHNOLOGY OF BUILDING IN CHALCOLITHIC SOUTH EASTERN EUROPE

Dragos Gheorghiu – National University of Arts – Bucharest

The emergence of surface buildings with wood platforms that occurred between Early and Mature Chalcolithic was a complex process that implied a change in the tradition of construction with the introduction of new techniques of carpentry as well as of new rituals of building, to cite only the foundation trenches with a simultaneously technological and ritual role.

For archaeologist architecture illustrates the best the changes occurred in an emergent stratified society through the changes in building structure and volume as well as in the use of new instruments, these being the indexes of a great energetic effort implying the coordination of a large number of people.

By analyzing experimentally reconstructed surface houses with platform from Boian Chalcolitic tradition the paper will discuss their *chaines-opératoires* of building and estimate the number of people involved and the quantities of materials employed.

13:00-14:30 Lunch / Déjeuner

14:30-14:50

NEO-ENEOLITHIC CULT CONSTRUCTIONS FROM SOUTH EASTERN EUROPE: TECHNIQUES OF BUILDING AND SPATIAL ORGANIZATION

Gheorghe Lazarovici and Cornelia-Magda Lazarovici

The study of the temples, sanctuaries, communitarian or home altars indicates that their location, the objects they contains inside or outside installations, the materials and techniques used for their building, as well as their raising and destruction are the subject of some rules. *Naology* is the science involved in the study and decipherment of these rules.

Protohistory or history archaeologists have many written information that can use, including myths transcription; prehistoric archaeologists have only very few such data and use mainly other sort of information, offered by archaeological excavations, such as sanctuary patterns, small or monumental altars, statues, or data related to rituals of building and abandon.

Some archaeologists have been interested in the prehistoric sanctuaries, but many times their comments are modest and timid; the communitarian or home altars, as well as houses of the priests, shamans or „saint" people are not discussed, silence and forgetfulness cover it.

Most sacred buildings contain the next elements: entrance, fire place, oven, bench, cassette, altars, grinding place, statues, pillars, thrones, or objects of the sacral inventory.

Our analyze will be focus on the Vinča - Banat as well as on the Precucuteni-Cucuteni cultures, for which there are more information, but will also include analogies and references for other cult buildings from Europe or other areas.

14:50-15:10

NEW DATA REGARDING THE ARCHITECTURE OF PRECUCUTENI BUILDINGS
Nicolae Ursulescu and Adrian Felix Tencariu

The Precucuteni culture, covering areas from Romania, Moldavia and Ukraine, represents the beginning of the Chalcolithic in this geographical area. Many aspects of spiritual and material life of Cucuteni population originated in the Precucuteni culture. The manner of building, with the well-known system of posts with wattle walls, covered on both sides by a layer of clay, is an example. Considering the latest discoveries from Isaiia (County of Iaşi, Romania), the authors present new elements regarding the fixation of posts by foundation ditches, as well as the inner arrangements (hearths, ovens, benches, offering pots, pots), some of them with a ritual function.

15:10-15:30

NEOLITHIC ARCHITECTURE OF A LINEARBANDKERAMIK SETTLEMENT AT BALATONSZÁRSZÓ-KIS-ERDEI-DŰLŐ (CENTRAL TRANSDANUBIA, HUNGARY)
Krisztián Oross

The settlement archaeology on large scale excavations of the Linearbandkeramik has a 70 years long history in Central Europe. In Transdanubia we had hardly any information about the sites of this culture until the last decade.

The Archaeological Institute of the Hungarian Academy of Sciences investigated an extended settlement of the Central European (Transdanubian) Linearbandkeramik on the southern coast of the Lake Balaton between 2000-2003. The project was established as a rescue excavation before the constructing of a motorway. The settlement is located on a natural plateau in a distance of 2-2.5 kilometres from the modern coast of the lake. The whole investigated area is over 116 000 m², we could record the features of the Neolithic site on a surface of 10 hectares. During the four seasons the excavation team uncovered the remains of 45 longhouses, 43 burials and a 160 metres long session of a round ditch. The length of the longhouses varied between 7 and 25 metres. The ceramic material of the site represents all different phases of the Transdanubian Linearbandkeramik, except of its formative phase.

The contribution will present the different building types on the site, discuss their chronological relations and their distribution on the investigated area. Further on, I compare the houses with buildings of other Linearbandkeramik settlements of the region.

15:30-15:50

THE HOUSE AND THE UTILIZATION AREAS AROUND IT IN THE LINEARBANDKERAMIK IN SOUTH-EASTERN POLAND…
Maciej Debiec and Alexander Dzbynsky

The newly discovered settlement in Zwieczyca in South-eastern Poland provides new opportunity to reconstruct activity areas within and outside the Linearbandkeramik houses. The dispersion of the complex and simple objects on the one hand and the

dispersion of the other materials (ceramic and flint artefacts) around the Linearbankeramik houses is the basic factor for the interpretations here. In the focus of our attention are questions like: were there separate activity (productivity) areas of the houses?, were there some symbolic places around the houses? In the settlement in Zwieczyca were discovered in a settlement pit two *double axes*, which are extremely seldom in the whole Linearbandkeramik dispersion area (only 40 finds). They produce additional interpretation possibilities for the question of interest, because of the dual context of their deposition: they were found in the pit close to a house together with an adze and ceramic vessel; which could indicate a funerary context.

15:50-16:10

SOCIO-ECONOMIC STRUCTURE OF THE LENGYEL CULTURE REFLECTED BY TWO SETTLEMENTS
Judit Regenye

The settlement system of the late Lengyel culture (4500 BC) on central Transdanubia (Western Hungary) is particularly dense. The reason of this feature is the Szentgál flint mine, the greatest flint mine in Hungary. There are a lot of smaller settlements around the mine for the exploitation and processing of the stone and to control the accessibility. The volume of the stone exploitation refers to specialization.

In this settlement system we can find another type of settlement, an extended site with organised building structure. The processing and trade of the exploited stone needs central places like this. The role of such places was the distribution of raw material, they were organizational centres.

The difference between the two settlement types lies in the dimension, the building structure and in the house types. Two excavated settlements, Szentgál and Veszprém show the clear differences in the houses. They show differences in the groundplan and in the building style. The reason of the difference between the two settlement types is the different role they play in the socio-economic structure of the Lengyel culture.

The settlement system of the Lengyel culture, the interactive system of the large ‘”urban” settlements with densely distributed houses and the smaller settlements are the direct indicators of the high level of organisation of the society.

16:10-16:30

A NEOLITHIC HOUSE FROM WESTERN EUROPE
Ralph M. Rowlett

Neolithic houses post-dating the Band-Keramik culture are very poorly known even now in Western Europe. Many of them may have been only tents or on vehicles, but in any case they must have been lightly built.
The drier and sunnier sub-boreal climate would have enabled the toleration of relatively flimsy dwellings. Traces of such wooden houses have been revealed on the Titelberg in south-western Luxemburg. Erosion from the sub-Atlantic makes a

Chalcolithic or early Bronze Age construction hard to decipher, but a deeper late Neolithic structure is better preserved. Post moulds of stakes hardly 5 cm in diameter reveal the reticular outline. Apparently cooking was done outside. Traces in sub-soil are particularly instructive about the construction of a half door. Psychological implications for socio-cultural interpretation of such insubstantial houses are considered.

16:30-16:50

RE-EXAMINATION OF NEOLITHIC PIT-HOUSES: A PERSPECTIVE FROM THE CENTRAL BALKANS (VINČA CULTURE)

Boban Tripković

In this paper author test the capability of interpretation that many of the pits in the Balkan Neolithic are pit-houses. The analysis includes:

- determination of criteria for pit-house identification;
- life-cycles of individual pits;
- spatial organization of pit settlements.

According to the results of analysis, social and space order of Vinča communities will be discussed.

16:50-17:10

BUILDING TECHNIQUES DURING THE NEOLITHIC AND COPPER AGE IN EASTERN SLAVONIA

Jacqueline Balen

The aim of this paper is to show building traditions in Eastern Slavonia region in Croatia through two eponimous sites - Sopot near Vinkovci and Vučedol near Vukovar.

The Sopot site is the eponimous site of one neolithic culture, i.e. the Sopot culture. This culture is a typical representative of the neolithic agricultural economy.

The dwellers of the Sopot culture used to live in settlements situated in low-land areas, always in vicinity of rivers and streams. The characteristic settlement form of this culture consists of oval, lengthily inhabited, and thus multi-layered site, fortified by a ditch or palisades. The settlements were of the dense village type with above-ground houses of rectangular form and usually one or two rooms. The house structure consisted of posts and the walls were made of wattle. Clay was then applied to the wattle structure and smoothed out. The floor was made of pressed clay and the roof was covered with reed. A round hearth was located inside the house.

The site of Vučedol is a *tell* type settlement, which existed during the Neolithic, Copper and Bronze age periods. Six different building horizons of the Vučedol culture have been identified so far. The most recent one has been heavily damaged by ploughing and only pits are preserved. House structures are preserved in the older horizons, and some of them had been restored several times while the houses were still in function. The houses, which were built as in the Neolithic period, had one or two rooms.The traces of internal walls are still visible in some houses and it is interesting to point out that in several cases one can still see traces left on the floor by the movement of the door. All the dwellings share the same basic orientation, NE-SW, and the same size (cca 4 x 6 m). The shape of the houses seem to have been

more or less oval. A small trench, 10 cm wide, was dug out around every house. This trench was used as a basement for the wall construction.

17:10-17:30

DETECTING SOCIAL COMPLEXITY AMONG THE NEOLITHIC HUNTER-GATHERERS IN FINLAND – EXAMPLE OF PATTIJOKI KASTELLI
Jari Okkonen

The stone enclosure called giants' church in Pattijoki Kastelli is one of the most noted archaeological monuments in the Northern Finland. It is located circa 60 kilometres southwest from the town of Oulu on the coastal area of the Northern Ostrobothnia. The site consists of several structures and archaeological features, in which the most prominent is a large rectangular stone enclosure. The size of the structure is 52x30 meter. The total area of the site is approximately 3,4 hectares. Altogether 43 similar giants' church sites are known in Finland. According to isostatic land uplift and shore line displacement chronology, they have been dated to the Stone Age. The archaeological finds found from the sites also point to the same age.
In 2001 the Finnish National Board of Antiquities arranged the survey and small-scale excavation at the Kastelli site. Mapping the site and sampling datable material was in priority. During the intensive survey 43 heaps of fire-cracked stones were discovered. There are also seven dwelling depressions and 19 cairns at the site.

The heaps at interest for dating are situated in an about 150 m long band like formation along the 52-meter contour line. They are low mounds, which are undefined in form, and the height range from 30 to 70 cm. It is obvious that the distribution marks the ancient shoreline and most likely the close access to the water was essential to the process in which the heated stones were used and the heaps were formed. The archaeological excavations clearly point to the fact that at least some of the heaps were build on the Stone Age beach. Probably the heaps are linked to the seal fat processing - although the exact knowledge of the formation and the function of the structures is not fully understood.
The age of the burned stones from the heaps was studied by the TL-method. Altogether 30 fire cracked stones were taken from the heaps in order to prepare TL-samples. The TL-samples point to the period 2600-2400 BC.

Kastelli giants' church can be seen as an indicator of the social and cultural changes which took place within the hunter-gatherer societies in the Ostrobothnia during the middle and late Neolithic. The increasing number of dwelling depressions, cairns and giants' churches is noticeable in archaeological record around 2500 BC. This development is connected to the more complex social structures and it may indicate symbolic and ritual competition between the trans-egalitarian societies which were living in the coastal region of Northern Finland.

17:30-17:50

EARLY NEOLITHIC STRUCTURAL EVIDENCES IN NORTH ITALY
Fabio Cavulli

In spite of the traditional interpretations of the Neolithic pits as semi-subterranean dwellings or simple rubbish pits, the actual knowledge about early Neolithic features

shows a much more varied archaeological reality including palisades, ditches, storage pits, and knapping areas as well as a few cases of surface dwellings. The difficulty in interpreting these settlements is due to post-depositional events and problems related to the methodology of research: mainly that the areas investigated were too small to understand the spatial organization of the features. At first sight, the few extensive field excavations that have been undertaken did not give the expected results. However, reconsidering these results by the means of spatial analysis, a comparison of the structural evidence and additional recent research, allows a revised and much more interesting picture of the early Neolithic settlements. These differ completely from both the Mesolithic and middle Neolithic evidence.

17:50-18:10

LUGO DI GREZZANA (VERONA – NORTHERN ITALY): THE STRATIGRAPHIC AND STRUCTURAL SEQUENCE OF THE SETTLEMENT.
Annaluisa Pedrotti and Fabio Cavulli

Many of the North Italian first Neolithic settlements brought to light shallow or deep pits that are notoriously difficult to interpret. The functions of these features, along with similar pits in later periods, remain largely unknown. The enduring interpretation of these as semi-subterranean dwellings has predominated for 140 years of archaeological research, yet without good reason.

It is in this context that the extensive investigation of the settlement of Lugo di Grezzana (Veneto region, north-eastern Italian pre-Alps) was carried out, and which provided reliable results to understand the function, spatial organization of features and activities that took place in the settlement. The settlement enclosure has evidence for a palisade and shallow ditch, hearths, different kind of fire structures and a roofed construction, which was probably a dwelling. Significantly, it finds comparison with the only other contemporary site with clearly interpretable complexes.

18:10-18:30

THE DOMESTIC ARCHITECTURE IN SARDINIA (ITALY) FROM THE END OF NEOLITHIC TO COPPER AGE.
Maria Grazia Melis

The paper presents the study of different monuments classes, from c up to surface stone huts. Much information about the Late Neolithic stone huts comes from the funerary domain, where some house's elements are represented in the hypogeum graves; such traits being discovered in several important villages. The panorama gets richer in the Copper Age, where we observe a considerable typological variability. While the archaeological reports about the partially excavated structures are infrequent, the present contribution brings news data semi-subterranean structures on from Su Coddu/ Canelles village, in south Sardinia.

18:30-20:00 Discution / Discution