

CONFERENCE

**'THE LOWER DANUBE IN
PREHISTORY:
LANDSCAPE CHANGES AND HUMAN-
ENVIRONMENT INTERACTIONS'**

- PROGRAMME AND ABSTRACTS -

Alexandria, 3-5 November 2010

Organisers

Cardiff University, School of History, Archaeology and Religion and
Teleorman County Museum

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- PROGRAMME -

3 November 2010

11.00 - 12.30 – Participants arrival and accommodation at the Parc Hotel (Alexandria, Libertății Street, no. 245-249)

13.00 - 14.00 – Lunch, Parc Hotel

14.30 – Official welcome and opening of the 'Măgura Past and Present' Project Temporary Exhibition at the Teleorman County Museum (Alexandria, 1848 Street, no. 1)

15.00 – Official opening of the Conference at the Teleorman County Museum ('Auditorium Room')

15.30 - 19.00 – **Working session: 'Landscape, settlements and paleoenvironmental reconstruction' (I)**

Chair: Dr. Douglass Bailey

Nouvelles données sur le commencement de Neolithique en nordouest de Bulgarie, Georgi Ganecovski

Miercurea Sibiului - Petriș, a Neolithic Settlement in Southern Transylvania, Sabin A. Luca, Dragoș Diaconescu, Cosmin I. Suci

Climate Change and Prehistoric Occupation of the Danubian Iron Gates, Clive Bonsall, Adina Boroneanț, Catriona Pickard, Mark Macklin

River Dynamics and the Neolithic of the Lower Danube Catchment, Mark Macklin, Andy J. Howard, Ruth A. J. Robinson, Douglass W. Bailey, Clive Bonsall, Steve Mills

Recherches archeologiques dans le delta du Danube, Laurent Carozza, Albane Burens, Jean-Michel Carozza, Noelle Provenzano, Cristian Micu, Florian Mihail, Sorin Ailincăi, Gabriel Juganaru, Valentin Radu, Constantin Haită, Mihai Florea

Coevolution homme - environnement dans la zone du littoral ouest-pontique (5000 – 4000 BC), Valentina Voinea, Glicherie Caraivan

17.00 - 17.30 – Coffee/Tea break

19.30 – Welcoming Reception, Parc Hotel

4 November 2010

9.30 - 12.30 – Working session: 'Landscape, settlements and paleoenvironmental reconstruction' (II)

Chair: Dr. Cristian Schuster

Settlement patterns during the first half of the V millennium BC in the Yantra river basin (North Central Bulgaria), Petar Leshtakov

Le debut du Neolithique moyen au Bas-Danube. Les sites Gradistea Coslogeni et Galatui - Movila Berzei, Marian Neagu

Archaeological Researches to the Chalcolithic Tell Ivanovo, Shoumen Region in 2008 - 2009 years, Svetlana Venelinova

Brăila Plain in the V-th Millennium B.C. The Relationships between Gumelnitsa Settlements and the Environment, Stănică Pandrea

Tell Settlements in South Eastern Romania: Geomorphologic Background and Stratigraphy, Constantin Haită

10.30 - 11.00 – Coffee/Tea break

13.00 - 14.00 – Lunch, Parc Hotel

14.30 - 17.00 – Working session: 'Landscape, demography and funerary space'

Chair: Dr. Steve Mills

Landscape of the Dead at Lower Danube during the Neolithic and Chalcolithic. The Waters, Raluca Kogalniceanu

Newly Discovered Chalcolithic Necropolis near Kosharna Village, Rousse District, Dimitar Chernakov

Some Observations about Spatial Relation and Location of the Kodjadermen-Gumelnita-Karanovo VI Necropolis, Cătălin Lazăr, Theodor Ignat

Landscape and Demographic Dynamics in Southern Romanian Bronze Age, Christian Schuster

17.00 - 17.15 – Coffee/Tea break

17.15 - 19.45 – Working session: 'Seasonality, subsistence and raw material sourcing'

Chair: Dr. Steve Mills

Lithic Exploitation in the Neolithic of the Teleorman Valley, Preliminary Discussion of Results, Amelia Pannett

Late Chalcolithic Flint Assemblages from the Site of Kosharna, Russe District, Maria Gurova

Exploiting of Flints Deposits in Northeastern Bulgaria in Chalcolithic, Boryana Mateva

Paléoéconomie animale et saisonnalité à Măgura Buduiasca (culture Preciș), Adrian Bălășescu, Anne Tresset, Valentin Radu, Stephanie Brehard, Marie Balasse

Preliminary Archaeobotanical Results from Teleor 003/Magura-Buduiasca, Angela Walker, Amy Bogaard

20.00 – Dinner, Parc Hotel

5 November 2010

9.15 - 13.30 – Working session: 'New approaches on prehistoric landscape research'

Chair: Dr. Radian Andreescu

Dialogue on Research strategies for the Neolithic of Southern Romania and Northern Bulgaria, Douglass Bailey

Historic Landscape Characterisation: Potential, Methods and Outputs, Steve Mills

Bringing the Past into the Present. Restoring Landscape around Archaeological Sites with the Help of Old Maps, Mihai Florea, Cristian Ștefan

Changes in Landscape. The Teleorman Valley from Past to Present, Radian Andreescu, Pavel Mirea, Carmen Bem, Katia Moldoveanu, Ion Torcică

Topographic Considerations Regarding the Archaeological Site from Iepurești, location 'La Izlaz' (Giurgiu County), Alexandru Morintz

A Neolithic Microlandscape - the Story of Complex 40 from Măgura-Buduiasca (Teleor 003), Teleorman County, Southern Romania, Pavel Mirea

Open Sources GIS solutions for archaeological sites mapping, Bogdan Șandric, Mihai Florea, Carmen Bem

10.15 - 10.30 – Coffee/Tea break

13.00 - 13.30 – Final discussions and the end of the Conference

14.00 - 15.00 – Lunch, Parc Hotel

- ABSTRACTS -

NOUVELLES DONNÉES SUR LE NEOLITHIQUE ANCIEN EN NORD-OUEST BULGARIE

Georgi GANECOVSKI

Cette nouvelle est basée sur les recherches archéologiques dans le site néolithique près du village Ohoden, département de Vratsa. Pendant la période 2002-2010 nous avons fait des recherches archéologiques d'une agglomération du début du néolithique près du village Ochoden, région Vratza. La localité «Valoga» (encore connue sous le nom «Dolnitte laki») se trouve à 1,5 km au nord-est du village Ohoden. Le site néolithique est situé sur une terrasse, légèrement penchée à l'est, de type alluvial - prairie sur la rive gauche du fleuve Skat. La surface de la contrée est d'environ 100 ares.

On a trouvé les vestiges des bâtiments et des tombes qui appartiennent à deux sites consécutifs de l'époque du néolithique ancien. La première couche concerne «le néolithique monochrome» de la fin du VII^{ème} et le début du VI^{ème} millénaire avant Jésus Christ et appartient à la phase Protostarchevo II. La deuxième couche correspond à la culture Starchevo B.

Jusqu'à aujourd'hui on a découvert quatre tombes qui sont regroupées dans la partie nord-est du site et constituent un secteur sacrificiant. Deux tombes, concernant des individus âgés, sont très intéressantes. La tombe N^o 1 (que nous avons appelé «Todorka») est un ouvrage sacralien monumental sans parallèles. Dans la tombe se trouve le squelette d'une femme d'âge moyen. Le type anthropologique est méditerranéen. Elle est enterrée en pose *hocker* de gauche et sa tête est tournée vers le lever du soleil. La tombe N^o 4 avec un individu masculin (que nous avons appelé «Christo») a été découverte pendant l'été de l'année 2010 à six mètres sud-est de la tombe N^o 1. D'après l'analyse anthropologique, dans la tombe se trouve un squelette qui appartient à un individu de type proto-européen avec une taille de 1,65 m. Son crâne est aussi tourné vers le lever du soleil. Derrière la nuque, se trouvent des présents de tombe un récipient en argile et un long couteau en silex. Le récipient en argile prouve que la tombe N^o 4 appartient à la «phase monochrome du néolithique ancien» (culture Protostarchevo II). Les deux tombes avec des squelettes *in situ* ont été empaquetées et transportées d'une façon unique dans le musée de Vratsa.

Au sud du site, nous avons découvert 22 trous d'une mine de production des matières de silex par l'utilisation de la méthode de feu. On a constaté que le site était un centre de préparation et de diffusion des matières et des outils de silex pendant le néolithique ancien.

L'analyse de la céramique nous donne une raison d'ajouter la première couche de l'agglomération à «l'étape monochrome» du début du néolithique (culture Protostartchevo II) qui précède le phénomène du début du néolithique Gradechnitza A. Les prospections à Ohoden-Valoga donnent une confirmation nouvelle sur l'apparition des premières agglomérations agricoles au nord-ouest de la Bulgarie.

MIERCUREA SIBIULUI - PETRIȘ, A NEOLITHIC SETTLEMENT IN SOUTHERN TRANSYLVANIA

Sabin LUCA,
Dragoș DIACONESCU,
Cosmin SUCIU

The archaeological site from Miercurea Sibiului *Petriș* is located on the first unflooded terrace of Secaș River, Sibiu County. The archaeological excavation started from 2007 until 2010. From 2001 were research large surfaces on the site, remarkable through his horizontal stratigraphy. More than 1500 square meters were excavated till now.

Six moments of site use were identified from which four belongs to Neolithic and Eneolithic time.

The first level (I) correspond to Early Neolithic (Starčevo-Criș Culture) and was sub-divided into three sub-stages: Ia (phase IB of Starčevo-Criș Culture), Ib (phase IC-IIA of Starčevo-Criș Culture) and Ic (phase IIIA of Starčevo-Criș Culture). On this level were identified only deep complexes which indicate, more probable, the use of pit-houses.

The second level (II) belongs to Vinča Culture and was also divided (on stratigraphy and ceramic typology observations) in three sub-stages: IIa₁ and IIa₂ (deep complexes from Vinča A phase) and IIb (traces of surface structures from Late Vinča A – early Vinča B₁). In the sub-stage IIa₂ were documented home ovens and fireplaces. In sub-stage IIb the fireplaces appear outside the surface buildings.

The third level from *Petriș* (named II/III), belongs to the Neolithic, and correspond to final Vinča B phase. The level was defined on the basis of deep complexes and we noticed typical painted ceramic so-called Lumea Nouă Group.

The forth level (designated initially as III) is characterized by buildings with platform and outdoor fireplaces from the phase AB of Eneolithic Petrești Culture.

CLIMATE CHANGE AND THE PREHISTORIC OCCUPATION OF THE DANUBIAN IRON GATES

Clive BONSALL, Adina BORONEANȚ,
Mark MACKLIN, Catriona PICKARD

In this paper we explore the impact of rapid climate change (RCC) events on prehistoric communities in the Iron Gates during the Early Holocene. Our focus is on the social and economic implications of two cooling anomalies recorded in the Greenland GISP2 palaeoclimatic record and precisely dated to 10.5-10.0 and 8.6-8.0 cal BP, respectively. We consider how clearly these events are registered in the palaeoclimatic archives from the Lower Danube catchment, and whether climate change was a significant factor underlying cultural developments during the Mesolithic and Early Neolithic of the region.

RIVER DYNAMICS AND THE NEOLITHIC OF THE LOWER DANUBE CATCHMENT

Mark MACKLIN, Andy HOWARD,
Ruth ROBINSON, Douglass BAILEY,
Clive BONSTALL, Steve MILLS

In the last decade new archaeological and geomorphological research in the lower Danube catchment (LDC) has transformed our understanding of prehistoric river-society interactions, particularly with respect to the environmental context in which farming first developed in Southeast Europe at around 6100 cal BC. This paper critically reviews these recent developments and using a new Late Pleistocene and Holocene fluvial chronology from the Teleorman Valley (TV), southern Romania, examines the interplay between river dynamics and the Neolithic archaeological record from two perspectives. First, the impacts of abrupt, climate-related changes of local hydrology and floodplain environments on Neolithic communities, including the location and potential productivity of riparian farmland. Second, the effects of river erosion and sedimentation on the preservation of Neolithic and later archaeological sites within river valleys. Although chronologically the Neolithic period in the LDC falls between the so called 6600-6200 and 4000-3200 cal BC "rapid climate change events", the well dated TV fluvial record allows more precise relationships to be established between changes in river dynamics and prehistoric settlement patterns. Early Neolithic Starčevo-Criş sites (5770-5640 cal BC) are located on a Late Pleistocene river terrace (36.8 ka), 10 m above modern river level (AMRL) and were unaffected by Holocene fluvial erosion and sedimentation. Later Boian sites (4810-4680 cal BC) are preserved on the surface of Late Pleistocene (21.6 ka, 8 m AMRL) and Late glacial (15.8-12.8 ka, 7 m AMRL) river terraces, the lower parts of which are covered by a thin (< 0.5 m) veneer of Holocene alluvium. No Neolithic sites have been found either on the surface or within Holocene fluvial deposits in the study reach (12 km²). The development of monumental tells in the Gumelniţa period from c. 4500 cal BC does not coincide with a change in river dynamics and suggests that, at least locally, this new settlement style was not enforced by an alteration in river behaviour or flooding regime. The abandonment of tells in the TV from c. 3800 cal BC does coincide with a marked increased in river erosion and sedimentation at c.

3900 cal BC that continued until c. 2000 cal BC. What is perhaps most striking from our investigations in the TV is the continuity of Neolithic sites in particular riparian locations, which seem to have been facilitated by more than 2000 years of relative river quiescence, certainly when compared to the period after c. 3900 cal BC. While this new model of Holocene river valley development needs to be tested and further refined elsewhere in the region, it does suggest a significant and perhaps radical re-thinking of the Neolithic record in the LDC is required.

RECHERCHES ARCHEOLOGIQUES DANS LE DELTA DU DANUBE

Laurent CAROZZA, Albane BURENS,
Jean-Michel CAROZZA, Noelle PROVENZANO,
Cristian MICU, Florian MIHAIL,
Sorin AILINCĂI, Gabriel JUGĂNARU,
Adrian BĂLĂȘESCU, Valentin RADU,
Constantin HAITĂ, Mihai FLOREA

Depuis 2009 une équipe de recherche met en œuvre le projet «*Delta du Danube*». Ce projet de recherche vise à approcher d'une manière globale et intégrée les processus de co-évolution des sociétés de la zone envisagée et de leur environnement. Dans la pratique, il s'agira d'appréhender les formes de la mutation des sociétés au travers des systèmes techniques, de la gestion des ressources et de la biodiversité. Cette problématique induit de coupler fouilles archéologiques, approches géo-archéologiques et paléo-environnementales.

Les enjeux scientifiques du projet :

1. établir un cadre paléogéographique, environnemental et climatique de la zone du bas Danube dans la perspective de synchroniser les rythmes et les fréquences des changements sociaux, économiques et environnementaux entre 7000 et 700 bc ;
2. étudier les incidences de la remontée du niveau de la mer Noire durant sur les transformations du système fluvial (cours du Danube et de ses affluents directs) durant l'Holocène récent ;
3. dresser une esquisse du peuplement sur la base des indicateurs archéologiques et paléo-environnementaux en précisant le caractère fonctionnel des habitats (approches fonctionnelles des outillages et des espaces) et leur intégration dans un maillage territorial ;
4. préciser la forme et l'organisation des territoires à l'aide d'indicateurs matériels (acquisition matières premières), caractériser les systèmes économiques en relation avec le processus des innovations technologiques ;
5. donner un cadre chronologique cohérent (calage absolu) à la séquence culturelle comprise entre la fin du Néolithique et l'âge du Fer (7000-700 bc), identifier les traits culturels de ces populations et établir les liens avec les ensembles culturels contemporains ;

6. définir les critères économiques de la production végétale et animale, de l'exploitation de la biodiversité et déterminer les stratégies d'adaptation des sociétés aux changements environnementaux et sociaux.

Coevolution homme - environnement dans la zone du littoral ouest-pontique (5000 - 4000 BC)

Valentina VOINEA,
Glicherie CARAIVAN

Au-delà de l'image simpliste de certaines invasions orientales violentes, les recherches inter-disciplinaires réalisées le long de la dernière décennie viennent dessiner un tableau beaucoup plus complexe où le facteur naturel a joué un rôle décisif. La situation stratigraphique du site énéolithique de l'île „La Ostrov” corroborée par des analyses sédimentologiques, ichtyologiques et par des sondages géologiques faits dans la zone du lac Taşaul mène à ce que tout vienne confirmer l'hypothèse d'une transgression marine assez ample qui aurait pu conduire à la destruction des sites énéolithiques dans l'espace littoral.

Loin de donner des réponses définitives à un problème aussi complexe, notre démarche met en évidence quelques aspects:

- les modifications climatiques produites à la fin de l'Atlantique ont déterminé des processus successifs, dépassant les limites culturelles;
- la typologie de la céramique, réduite aux sites ou micro-régions risque d'offrir une succession chronologique erronée. C'est pourquoi, des revalorisations de fond s'imposent concernant la détermination des périodes, en concordance avec les dates C14 et les importations céramiques. Le fait d'être partiellement contemporaines – Gumelnița A2c – Gumelnița B1 – Varna III – démontre l'existence de plusieurs aspects régionaux, avec des évolutions distinctes, selon les particularités de chaque région. Les symbioses culturelles, les cohabitations pacifiques rendent de plus en plus inopérantes les notions de culture et phase – établies parfois a priori, seulement sur des bases typologiques.

En guise de conclusion, sans peur d'exagérer, nous soulignons la nécessité impérieuse de réaliser un ample projet de recherche pluridisciplinaire du littoral ouest-pontique, cette région surprenant le mieux, peut-être, les transformations générales de cette période préhistorique.

SETTLEMENT PATTERNS DURING THE FIRST HALF OF THE V MILLENNIUM BC IN THE YANTRA RIVER BASIN (NORTH CENTRAL BULGARIA)

Petar LESHTAKOV

In the end of the VI - the beginning of the V millennium BC, the transition period between Late Neolithic and Early Chalcolithic according to the periodization of H. Todorova, a number of changes in the culture of the prehistoric inhabitants of today's North Central Bulgaria occurred. There are obvious changes in the settlement patterns. The reasons for them were probably multiple, connected both to social and demographic transformations and to climatic changes.

The Yantra river basin covers the eastern part of North Central Bulgaria, between the Danube and the Balkan mountains. The researches in this region have been concentrated mainly along the middle course of the river.

A change in the topography of the inhabited areas has been attested which took place in the beginning of the V millennium BC. The settlements "moved" from the plateaus and high terraces onto lower ground rich in water sources. Single and multi-layered settlements with horizontal stratigraphy were still present. At the same time the first tells emerged. Excavations have shown that next to the tells synchronous structures existed, often covering a considerable area. Their appearance may be due to the lack of space inside the fortified settlement or to the necessity of moving some production activities out of the inhabited place (or both).

In some micro-regions a concentration of different types of prehistoric sites has been attested which suggests a complex hierarchical structure organized around micro-regional centers.

The available data provide ground for a preliminary analysis of the settlement patterns in the Yantra river basin during the first half of the V millennium BC and for considering them in the broader context of the Lower Danube Chalcolithic cultures. However, the lack of entirely excavated settlements, cemeteries, sanctuaries, etc. hampers thorough conclusions about the demography, social and economic structure of the Early Chalcolithic communities in the Yantra river basin.

LE DEBUT DU NEOLITHIQUE MOYEN AU BAS - DANUBE: LES SITES GRĂDIȘTEA COSLOGENI ET GĂLĂȚUI - MOVILA BERZEI

Marian NEAGU

Le début du néolithique moyen au Bas Danube se caractérise par des pénétrations successives des tribus en vagues, de même civilisation et dans une période suivant une évolution proprement dite dans le même endroit des sites-habitat (mil. VI–V av. J.-C.)

Le plus important élément est la Vallée du Danube avec ses structures de terrasses et de plaines fertiles. La logique d'habitation impose que la construction des sites habitats à proximité des ressources était essentielle pour les communautés préhistoriques. A cet égard ont été faites des études interdisciplinaires archéozoologiques (A. Bălășescu, M. Udrescu) ichtyologiques (V. Radu), d'analyses sédimentologiques (C. Haită), du silex (E. Mocanu), du pollen (E. Spridonova) et de paléo-ethno-botanique (E. Lebedeva) à Grădiștea Coslogeni et Gălățui-Movila Berzei.

Une structure mixte de l'habitat a été archéologiquement constatée dans le cas du site néolithique de Grădiștea Coslogeni - «La Clinci» situé sur une colline de Borcea Balta, site placé sur des terres alluvionnaires à 1,5 km au nord du Danube et à 4,8 km au sud du bras Borcea.

A Grădiștea Coslogeni il y a trois niveaux d'occupation formés suite à la cohabitation des communautés Bolintineanu avec des communautés Hamangia. Le phénomène est très important pour les débuts du néolithique moyen au Bas-Danube. Dans le site néolithique de Grădiștea Coslogeni on a réalisé des fouilles conjointes avec l'équipe du professeur E. Cernih (Spiridonova; Lebedeva) entre 1991 et 1995, l'analyse des probes sporopolliniques prélevées attestant la culture des céréales (*Triticum monococcum*, *Triticum dicoccum*, *Hordeum vulgare*).

L'état actuel des fouilles de la période du néolithique avancé ne nous permet pas de déceler les occupations principales et secondaires.

Le site de Gălățui - «Movila Berzei» est situé sur la terrasse supérieure du lac Gălățui qui est situé à 7 km nord de la ligne du Danube.

Nous remarquons que les porteurs de la culture Bolintineanu ont choisi cette fois-ci la terrasse supérieure du lac et non pas la terrasse basse, comme nous avons pu le constater pour les autres sites Bolintineanu du centre ou du midi de la Valachie.

La stratigraphie du site est composée par trois niveaux d'habitation néolithique. Le premier niveau appartient à la culture Bolintineanu, alors que le second et le troisième niveau sont de la culture Boian - Giulești.

La pénétration des premières communautés Bolintineanu a été identifiée suite aux fouilles du site de Gălățui. Après l'étude des matériels archéologiques découverts à ces endroits on constate l'avancée d'une population qui a entraîné aussi les dernières communautés Dudești - Cernica. Le site Bolintineanu de Gălățui a une surface moyenne 60-70 x 70-80 m.

Les habitations. Les huttes sont la forme la plus commune d'habitation rencontrée dans les sites Bolintineanu. Les aménagements intérieurs sont minimes. La majorité des huttes découvertes sont prévues d'un âtre. Les chaumières constituent, avec les huttes, le type d'habitation le plus souvent utilisé par les communautés Bolintineanu. La majorité des chaumières sont de forme ovale, mais il faut aussi signaler la découverte de chaumières de forme circulaire (3 x 3 m; 3,5 x 3,7 m ou 4 x 4 m). Les bovidés sont dominant (+80%).

Les sites de la première étape de pénétration des communautés Boian - Giulești sont simples, de petites dimensions. Le petit nombre d'habitations découvertes, auquel s'ajoutent les grandes distances entre elles ne montent pas de préoccupation importante pour l'aménagement du territoire des sites dans cette première étape.

Dans le site de Gălățui - «Movila Berzei», dans le premier niveau d'habitation Giulești ont été découvertes des huttes et des chaumières situées à des distances de 3-4 à 10 mètres les unes des autres. Dans la deuxième étape Boian - Giulești, le nombre des sites est beaucoup plus grand que celui des premières communautés Giulești qui sont arrivées sur les territoires nord-danubiens. Les vecteurs de la pénétration des premières communautés Boian - Giulești, de même que l'habitation sommaire et souvent saisonnière (des sites composés de quelques habitations situées dans la proximité immédiate de bords de l'eau) constituent des arguments

importants en faveur de l'hypothèse de l'existence d'un habitat semi-stable.

Des sites - effet du phénomène de sédentarisation des communautés Boian - Giulești ont été constatés surtout pour la deuxième étape de leur avancée. Au cours de cette période, pour certains sites on a pu identifier des fossés dont le rôle probable était celui de la délimitation du site. Ainsi, dans le dernier niveau d'habitation du site de Gălățui - «Movila Berzei» a été découvert un fossé qui délimite le site sur le territoire de la terrasse supérieure du lac Gălățui. Les tentatives d'organisation du territoire d'un site se sont matérialisées aussi par la disposition des habitations, par le traitement de certaines zones comme des espaces à destination spéciale ou à des fonctions spécifiques, ce qui pourrait attester l'existence d'un certain type de hiérarchisation.

En règle générale, les habitations ont été découvertes vers l'intérieur de l'emplacement. Les fouilles archéologiques ont mis en évidence des différences entre les habitations construites aux moments de la pénétration des premières communautés et celles de l'étape finale Boian - Giulești. Dans le site de Gălățui, dans le premier niveau d'habitation Boian - Giulești (III/2) ont été identifiées 18 chaumières.

Le site de Gălățui (niveau III/2) a quelques éléments clairs d'organisation de l'espace. Outre le fossé de délimitation de l'habitat Boian - Giulești et la concentration des fosses ménagères à l'extrémité est de la terrasse, la zone centrale du site est marquée par une construction spéciale. Élevée dans une position dominante, la construction est de dimensions considérables pour ce type de communautés, occupant une surface de 80 m² (8 x 10 m).

Elle est orientée sur la direction nord-sud, l'une des fenêtres, de forme circulaire, étant découverte du côté qui donne vers le lac Gălățui.

ARCHAEOLOGICAL RESEARCHES OF THE IVANOVO CHALCOLITHIC TELL, SHUMEN REGION IN 2008 – 2010 YEARS

Svetlana VENELINOVA

The article presents the results of the excavations on the east periphery of the "Baniata" Tell near Ivanovo, Shumen region from 2008 to 2010 year. An attempt is made to explain the tell stratigraphy.

Seven building levels were found on the east periphery of the Ivanovo Tell. The earliest of them was registered through a part of a palisade. Five of the building levels were burned – II, III, V, VI and VII. Three phases of existence of the settlement with different dynamics are supposed according to the observations on the north, central and sought profile to the sounding from 2008 year.

The pottery of the Tell has the special features of Polyanitsa III and IV Culture.

In the chronological aspect, the Ivanovo Tell was settled in the last phases of the Early Chalcolithic period, about the middle of 5th mill. B.C. and the life there continued about 300 years.

BRAILA PLAIN IN THE V-TH MILLENNIUM BC. THE RELATIONSHIPS BETWEEN GUMELNITSA SETTLEMENTS AND THE ENVIRONMENT

Stănică PANDREA

Introduction

Braila Plain / Northern Baragan Plain is the nord-eastern part of Romanian Plain, bounded by Danube (to the east), the rivers Calmatui (to the south), Siret (to the north) and Pre-Carpathian hills. This "island" surrounded by four rivers is the place when Danube collects 4 large tributaries (Călmățui, Buzău, Siret, Prut) and for this reason is a crossroads zone which connects Pre-Carpathian hills, Carpathian Mountaines, Danube valley, Dobroudja, Walachia and Moldavian Hills.

Some geomorphological aspects

Due to the subsidence activity, the Danube Plain is (still) sinking through Nord and East. For this reason, the rivers were divagated along the millennia, changing its valleys. The traces of former watercourses can be easily seen on the maps.

Due to its divagations, rivers created large flood plains. The Gumelnitsa settlements are set along the former watercourses in those flood plains as a result of an intentional choice.

About the environment

The landscape of Gumelnitsa settlements is typical – the flood plains of the Danube and its tributaries.

The flood plains have a few characteristic features: presence of lakes and ponds, along the rivers; the ponds were wetlands characterised by a specific biome; presence of the forests and the stepic plain which surrounded the rivers valley.

Gumelnitsa settlements were built up into ecological niches, characterised by the presence of lakes and ponds, forests and steppic plain. Settlements were built up on the small peninsulas or islets („popina”) placed into a ecological niche.

About the patterns of settlements

The prominent type of Gumelnitsa settlements is the *tell* type settlement which were built into ecological niches as a result of an intentional choice.

The *tel* type settlements were surrounded by a groupe of secondary settlements/habitations. It seemes that a *tel* settlement was an assemble of few habitations spread out arround the ecological niches.

Tel type settlements and its satellites were grouped in a chain along the rivers valley.

TELL SETTLEMENTS IN SOUTH EASTERN ROMANIA: GEOMORPHOLOGIC BACKGROUND AND STRATIGRAPHY

Constantin HAITĂ

The present study is based on the analysis of the archaeological and geological information and in some cases, field and laboratory sedimentological researches on *tell* type settlements from Muntenia and Dobrogea.

In terms of stratigraphy, *tell* type settlements present some characteristics which are closely related to the geomorphology in which the settlement is located.

The settlements formed on erosion remnant from terrace have generally small stratigraphic sequences of about 1-3 m. A single case, exceptional in our opinion, is the settlement of Borduşani *Popină*, which reaches a magnitude of stratigraphy of almost 8 m.

A second situation of the settlements located in the floodplain is that of the old levees (alluvial bars). Like the above, they take a pre-existing form, generally smaller, and generally have a stratigraphic thickness of up to 3 m.

The exception could be represented by Vităneşti *Măgurice*, reaching over 6 m, but including deposits of natural sediments, most likely in order to raise the anthropic mound, as in the case of the settlements from Bucşani and Teiu.

A special case is that of the settlements formed on islands in small lakes, relatively common, generally small. The stratigraphy of these settlements is less known, but evidenced by two well known settlements, Boian *Grădiştea Ulmilor* and Căscioarele *Ostrovel* whose thickness is about 5-6 m.

Settlements located on higher areas, connected to different parts of the plain, were considered as on prominent parts of terrace and small hills, and that on the low terraces, near the meadow. They not necessarily take a pre-existing form and the settlement area may be defined for reasons depending, most likely, on the internal organization of the settlement.

In general, prominent terraced settlements, often marked by ditches and wall structures, sometimes palisades, present stratigraphic thickness of up to 3 m, only in few cases of 3,80 m or 4,50 m.

The *tell* type settlements located on the lower terrace sequences seem to be characterized by generally higher stratigraphic sequence, the known ones being more than 4 m to 7,60 m. An exceptional situation is, again, a settlement which development is closely linked to the presence of the Danube, the one of Hârșova, where continuous Neo-eneolithic deposits have a thickness of about 10 m, plus, perhaps after a period of abandonment, the level of burnt houses assigned to Cernavoda I culture.

LANDSCAPE OF THE DEAD AT LOWER DANUBE DURING THE NEOLITHIC AND CHALCOLITHIC. THE WATERS.

Raluca KOGĂLNICEANU

Death and what comes with it never ceased to intrigue both simple people and researchers. Nonetheless, it remains one of the greatest un-answered questions of our existence. Every religion tried to give an answer to this question. In addition to the "official" religious versions, in Romania (and probably in other parts of the world also), there are the so-called "popular beliefs" regarding this aspect of our existence. These beliefs, recorded by ethnographers, are sometimes accompanied by certain practices as part of the funerary ritual. Some of these practices leave a sign behind, either a concrete object or just traces of their manifestation. Maybe not surprisingly, sometimes, the archaeological record dating from very distant moments in time (from Neolithic and Chalcolithic) coincides with some of these ethnographically recorded practices of more recent times. This way, we can attempt to follow a gesture, a symbol, along the time line and sometimes record the changes it suffered (if any).

The water is one of these symbols, strongly connected to the beliefs regarding the afterlife and with the funerary practices. Water can be still and can be contained in a vessel or it can be a lake. Water can be running and be represented in this form by a river. Because the subject is very rich in data and interpretations, I will limit on this occasion only at the relationship between the waters in the landscape (rivers and lakes) and death as illustrated from the Neolithic and the Chalcolithic periods, with examples from Southern Romania and Northern Bulgaria.

NEWLY DISCOVERED CHALCOLITHIC NECROPOLIS NEAR KOSHARNA VILLAGE, ROUSSE DISTRICT

Dimitar CHERNAKOV

The settlement mound stands 3 km south of the village of Kosharna, Slivo pole municipality. The tell resembles a truncated cone, with a diameter of 66 m at the base, average height of 5 m, and an area of 2.7 decares. It is situated on a south-eastern facing slope, close to a small spring.

Archaeological investigations, directed by Dimitar Chernakov, began in 2007. To date, four habitation layers, dated in the Late Chalcolithic and the Gumelnitsa culture (4500-4100 B.C) have been studied through test trenches. Destructions of several burnt dwellings have been uncovered, oriented according to their short walls north-south. Fixed in the ground beams supported the wattle-and-daub structure. In certain dwellings the floor had several renovations of yellow or green clay, periodically fired.

The last season work (2009) began on the necropolis, belonging to the *tell*, 160 m north-west of the *tell*. Our test trenches located three graves. The skeletons are all placed in contracted position on the left with heads to the north-east. Burial inventory is lacking, but on the bones of the skeleton lumps of red ochre were found. The three graves stand on average some five meters apart and are almost aligned. In immediate proximity to the three graves a clay structure was located, destroyed by intense fire. In it, a collective find of 33 ceramic vessels, as well as a flat stone (most likely ground stone). They stood on the burnt floor level, partly covered by burnt wall plaster. This collective find is also of Late Chalcolithic date (Gumelnitsa culture).

**SOME OBSERVATIONS ABOUT SPATIAL
RELATION AND LOCATION OF THE
KODJARDERMEN - GUMELNITA - KARANOVO VI
NECROPOLIS**

Cătălin LAZĂR
Theodor IGNAT

Currently more than 30 known necropolis belong to Kodjadermen-Gumelnita-Karanovo VI culture. On the territory of Bulgaria 17 extramural eneolithic (Vinica, Goljamo Delčevo, Durankulak, Devnja, Radingrad, Varna I, Tărgoviște, Liljak, Omurtag, Demir Baba Teke-Sboryanovo, Pomoštica, Kosharna, Smyadovo-Gorlomova koria, Poljanita, Ovčarovo, Stara Zagora-Bereketska Mogila, Stara Zagora-Rupki) and 3 intramural (Kubrat, Ruse, Junacite) cemeteries have been partially or completely studied. In Romania are known just 11 extramural cemeteries belonging to this culture - *Vărăști-Grădiștea Ulmilor*, Gumelnița I, Gumelnița II (*Valea Mare*), Chirnovi I (*Terasa Rudarilor*), Chirnovi II (*Șuvița Iorgulescu*), Cetatea Veche-*Grădiștea*, Căscioarele-*D'ăia Parte*, Radovanu, Dridu, Sultana-*Malu Roșu*, Măriuța-*La Movilă* and other 4 hypothetical cemeteries (*Pietrele-Gorgana*, Hârșova, Palazu Mare).

This presentation aims to establish ways of locating necropolis areas in relation to settlements, the factors underlying the choice of these areas, rules of spatial organization and the existence of possible pattern used by Kodjadermen-Gumelnita-Karanovo VI communities. Although, apparently, ways of organizing funerary areas nearby settlements appears to be similar for the entire area of this culture, in fact there are many particular aspects (e.g. two tell settlements and just one cemetery - Căscioarele-*D'ăia Parte* and *Ostrovel*; or two cemeteries for a single tell settlement - Gumelnita I and II etc.). The issue of spatial location and spatial organization of cemeteries is very complex and there are still many questions awaiting for answers.

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LANDSCAPE AND DEMOGRAPHIC DYNAMICS IN SOUTHERN ROMANIAN BRONZE AGE

Cristian SCHUSTER

It seems that the natural phenomena were one of the most important factors that influenced the population dynamics in Southern Romania, more exactly in Oltenia, Wallachia and Dobrudja. We are considering here the climatic aspects, seismic movements and volcanic eruptions, both from the mentioned area and from closer or more distant neighboring areas that could influence, through a chain reaction, the space between the Southern Carpathians and the Danube.

Multidisciplinary analyses (palinology, dendrocronology, archaeozoology, paleo-anthropology etc.), realized especially in the East-Mediterranean, Central and North-European areas and, more recently, in Eastern Europe and Romania (more timidly) contoured the image of climatic turbulences, associated sometimes with natural disasters. These features affected the life of the Bronze Age communities from the North-Pontic area and, through the movements towards West of these communities they affected those living in Southern Romania.

During the Early Bronze Age and the beginning of the Middle Bronze Age, the Dobrudja and Eastern Wallachia were less populated because the steppe environment was less favorable to a (semi)sedentary life. At an ulterior moment, towards the end of the Middle Bronze Age and during the Late Bronze Age, an increase in the number of settlements was noted. This was probably due also to some climatic improvement. The population increase was generated by an influx of population from the East, by an increase in birth rate and partially by an increase in death age as some anthropological studies seems to indicate.

**LITHIC EXPLOITATION IN THE NEOLITHIC
OF THE TELEORMAN VALLEY,
PRELIMINARY DISCUSSION OF REZULTS**

Amelia PANNETT

Excavations carried out by the Romanian National History Museum, Bucharest, Teleorman County Museum and Cardiff University have revealed a number of Neolithic settlement sites within and around the Teleorman river valley. These sites comprise both pits and surface settlements, and range in date from the earliest, pre-Cris, Neolithic (c. 6000 BC) to the later, Vadastra, Neolithic (c. 5200 BC). The lithic assemblages from a number of sealed and dated complexes have been analysed, revealing a pattern of change in the manufacture of lithics and the exploitation of lithic resources throughout the Neolithic period. This paper will discuss these lithic assemblages, comparing them with assemblages from other contemporary sites in south-east Europe to place them in their local and regional context. Consideration will also be made of what the differences in technology and raw material exploitation reveal about the nature of society throughout the Neolithic period and in particular the possibility of a collapse of long distance lithic trading networks at the end of the early Neolithic period.

LATE CHALCOLITHIC FLINT ASEMBLAGES FROM THE SITE KOSHARNA, RUSSE DISTRICT

Maria GUROVA

The site of Kosharna belongs to the Kodžadermen-Gumelnița-Karanovo VI culture, representing the final stage of the Chalcolithic in NE Bulgaria. The flint assemblages are significant for the final stage of the Chalcolithic period in NE Bulgaria both in terms of raw material evidence and techno-typological features. High quality microcrystalline flints from the Ludogorie region predominate – honey/brownish in colour with very compact homogeneous structure and texture, and excellent knapping proprieties. Technologically, two main debitage techniques for blade manufacture are attested: indirect percussion by punch and more precise pressure from a standing position. The flint assemblage studied comprises 607 artefacts and provides no opportunity for the reconstruction of the 'chaîne opératoire': there are 246 typological tools, 325 debitage pieces - 274 blades, 30 flakes and 21 undetermined fragments (debris), only 4 cores and 32 'divers'. The typological spectrum is characterised by a predominance of end-scrapers on massive blades, and various kinds of retouched and truncated blades. Reused and strongly transformed cores are recorded - some specimens re-sharpened as axes, and others reused as hammers. Several categories of artefacts show traces of use and a broad range of worked materials is attested: cereals and other plants, and secondary animal products such as hides and bones. Reutilisation of sickle inserts as hide scrapers is attested, as well as the resharpening of sickle inserts into splintered pieces.

EXPLOITING OF FLINTS DEPOSITS IN NORTHEASTERN BULGARIA IN CHALCOLITHIC

Boryana MATEVA

Key words and chronology: *Chalcolithic, Kodzhadermen – Gumelnitsa - Karanovo VI, flint, method of production, workshops, organization of production; chronological boundaries - 5000-4000 B.C.; ethnographical parallels: XIX - the beginning of the twentieth century.*

One of the most important indicators a society's advance is the level of its technical security – tools of labours and manufacture of these tools. In such direction of researches chalcolithic craft manufactures as the organization of flint production it is difficult to do without use of the geological and ethnographic data. Results of functional analyses and archaeological investigations specify that at early stages of a neolith in territory of all Bulgaria was used a small pieces of flint repositioned in local river troughs. Extraction of flint's deposits has begun in chalcolithic, with development of the macro lamellar industry. Extraction was conducted not by way of deep mines in cretaceous breed as in Belarus, Spienne and Poland, and in superficial holes in the earth, without getting into thickness of cretaceous rocks. The best flint for manufacture of macro plates occurs from a deposit Ravno in Northeast Bulgaria. At this stage of studying scheme of the flint production organization manufactures in chalcolithic in Northeast Bulgaria, including not less than three different types of workshops appears. It specifies as in high degree of development of the craft, and on the advance of an economy and economic relations in chalcolithic, especially at its late stages.

PALÉOÉCONOMIE ANIMALIÈRE ET SAISONNALITÉ À MĂGURA BUDUIASCA (CULTURE PRECRIȘ)

Adrian BĂLĂȘESCU, Anne TRESSET,
Valentin RADU, Stephanie BREHARD,
Marie BALASSE

Le site néolithique de Măgura Buduiasca (dép. de Teleorman) a été découvert récemment en 2001 sur la basse terrasse de la rivière de Teleorman. La présente étude prend en compte la faune découverte dans le niveau du Néolithique ancien (culture PreCris).

Les bivalves sont dominants avec 1105 restes. Le genre *Unio* (avec les espèces *U. tumidus*, *U. pictorum* et *U. crassus*) représente 98 % du nombre de restes de mollusques tandis que *Anodonta* uniquement 0,18 %. Les dimensions des coquillages correspondent à ceux rencontrés actuellement dans la rivière de Teleorman. Parmi les poissons, seuls les esturgeons et le silure (*Silurus glanis*) ont été déterminés (13 restes). Leurs tailles reconstituées sont importantes : 1 m pour l'esturgeon et 1,5 m pour le silure. Les restes (26) de deux tortues ont été identifiés dans le matériel : la cistude (*Emys orbicularis*) et la tortue grecque (*Testudo graeca*). La plupart des os d'oiseaux identifiés sont des diaphyses d'os long. Les seules espèces déterminées sont l'outarde (*Otis tarda*) et la grue (*Grus grus*).

Dans le spectre faunique, les mammifères détiennent le poids le plus important avec 3324 restes (soit 74 %). 16 taxons ont été identifiés, dont 5 appartiennent aux animaux domestiques (bœuf, chèvre, mouton, porc et chien) et 11 aux espèces sauvages (cheval, aurochs, cerf, chevreuil, sanglier, loup, renard, blaireau, putois, chat sauvage, lièvre). Le rapport entre domestiques et sauvages indique que les premiers sont dominants avec 93 % des restes, ce qui suggère que l'élevage était l'activité la plus importante pour la communauté néolithique de Măgura Buduiasca.

Parmi les restes d'animaux domestiques, les caprinés sont dominants (67,4 % des restes) dans les trois complexes étudiés. Ils sont suivis par les bovins, avec 25,5 % des restes. Le porc est faiblement représenté, avec 0,2 % des restes, tandis que le chien arrive à 0,9 % des restes.

Le gibier est représenté par 11 taxons mais leur fréquence ne dépasse pas 6,1 % des restes déterminés. Il s'agit essentiellement

d'animaux de grande taille, tels le cerf, l'aurochs et le sanglier. La chasse a joué un rôle secondaire, celui de compléter l'alimentation carnée ou d'obtenir d'autres matières comme la peau, les bois (cervidés), les os, les tendons, le sang, les intestins, etc.

En ce qui concerne les stratégies d'abattage des mammifères domestiques, nous avons porté une attention toute particulière aux caprinés (mouton et chèvre), qui sont très fréquents à Măgura *Buduiasca*. Les animaux abattus jeunes, entre 6 et 12 mois (classe C) et entre 12 et 24 mois (classe D) sont prédominants. Les autres classes d'âge présentent des fréquences faibles. Les résultats montrent que la production de viande était la principale motivation de leur élevage tandis que celle du lait était secondaire. Parallèlement, l'exploitation des bovins pour le lait, dans le cadre d'une exploitation mixte (lait/viande), semble très probable.

Par ailleurs, nous avons réalisé une étude sur la quatrième prémolaire déciduale inférieure (dP4) de mouton et de chèvre afin d'estimer la saison d'abattage des caprinés. Dans l'hypothèse de naissances centrées sur le printemps, la majorité des individus abattus avant l'âge de 2 ans (plus de 60 %) l'auraient été pendant la saison froide (le restant aurait été abattu pendant la saison chaude). Un abattage saisonnier, avec un pic pendant la période froide, semble ainsi possible à Măgura *Buduiasca*. Une analyse isotopique séquentielle de l'émail dentaire des caprinés (d18O) a été entreprise dans le but de déterminer précisément la saisonnalité des naissances, ce qui devrait permettre notamment d'affiner l'interprétation du profil de mortalité.

Plusieurs activités (la collecte des mollusques, la pêche, la chasse et l'élevage), marquant des saisons différentes, suggèrent une occupation du site tout au long de l'année. Notre estimation ne peut cependant pas établir combien d'années cette occupation a duré.

**PRELIMINARY ARCHAEOBOTANICAL RESULTS
FROM TELEOR 003/MAGURA - BUDUIASCA**

Angela WALKER,
Amy BOGAARD

Systematic sampling and flotation to recover charred archaeobotanical remains at Teleor 003 has yielded evidence for the use of a range of crops, including hulled wheats, barley and pulses.

In this presentation we outline the nature of the assemblage and its implications for understanding plant use and daily life at the site.

DIALOGUE ON RESEARCH STRATEGIES FOR THE NEOLITHIC OF SOUTHERN ROMANIA AND NORTHERN BULGARIA

Douglass BAILEY

What do we study? When we speak of studying a Neolithic landscape from an archaeological perspective, what is it that we are claiming to do? In this paper, I will engage in a dialogue about the assumptions that we make about our shared research interests and about the ways that we proceed to interrogate those interests. A primary consideration is the scale at which we work and consequently the scale at which we think about the Neolithic landscape. What is the spatial scale of a landscape? Is it a region, an administrative county, a river's watershed, a valley bottom? Or are there other spatial scales in which we can work? The next critical question: what is the time of a landscape? Are we ever able to talk about something called a Neolithic landscape, or is every landscape (regardless of what period are the sites within it) only ever of many different times, periods, moments, and sequences of micro-events? One important problem to be talked introduced to the dialogue is the erroneous conclusion that we all have drawn about prehistoric population densities in different regions though different periods of time. Work on the fluvial geomorphology of the Teleorman Valley (and in other European river systems) shows why the majority (perhaps all) estimates of prehistoric populations in different phases of the Neolithic are wrong. If we can agree that this is the case (i.e., that the evidence that we have been using to calculate prehistoric populations is erroneous), then what are the consequences for the work that we do, for the conclusions that we have reached about these populations, and indeed for the job that archaeology claims to do in the wider social sciences and political context.

HISTORIC LANDSCAPE CHARACTERISATION: POTENTIAL, METHODS AND OUTPUTS

Steve MILLS

This paper will introduce Historic Landscape Characterisation (HLC): an approach for studying and representing the historic development and surviving features in the landscape and how landscape is perceived and valued. By emphasising diversity and flexibility in method, HLC is part of the general move towards more integrated and holistic modes of managing and understanding the historic environment.

Recognising that landscape is a matter of interpretation not record, of perception not facts, the approach encourages us to understand 'landscape' as an idea and not an objective commodity. Thus HLC raises new questions, provides wide-ranging data and helps to establish research agendas. Recent and ongoing HLC case-studies will be introduced and a range of multimedia outputs from this research presented.

CHANGES IN LANDSCAPE. THE TELEORMAN VALLEY FROM PAST TO PRESENT

Radian ANDREESCU, Pavel MIREA,
Carmen BEM, Katia MOLDOVEANU,
Ion TORCICA

In the past few years the archaeological researches on Teleorman Valley revealed many prehistoric sites. A special attention was given to the neo-eneolithic settlements, especially to the tell-settlements. Since 1993 a special project regarded the inventory of the neo-eneolithic settlements mentioned on Teleorman county territory. There were identified over 40 tell-settlements, together with other flat settlements. The sites were discovered due to laborious field walking researches, together with aerial photographs. In this way there was obtained a new image of the landscape in which these settlements were placed. The analysis of these settlements placement revealed the existence of some patterns. Hereby the settlements belonging to the Early and Middle Neolithic are placed on lower terraces. They belong to the flat type and they are spread on large surfaces. Once the tell-settlements appeared, their placement was changed. The settlements are placed in the flood planes, close to the terraces, protected by them. Some of the tell-settlements are placed on terraces extensions in the flood plain. In most of the cases the ground on which the settlements are placed is transformed in order to be inhabited, a great amount of work being needed. The flood plain settlements are limited by ditches and/or fences. The terraces are worked by cutting steps and they are surrounded by a protection fence. Tell-settlements occupy favorable places for life in flood plains, inhabited for millennia. A proof in this sense is that of the present villages where in many cases there is also a tell-settlement around the modern one.

**BRINGING THE PAST INTO THE PRESENT.
RESTORING LANDSCAPE AROUND ARCHAEOLOGICAL
SITES WITH THE HELP OF OLD MAPS**

Mihai FLOREA,
Cristian ȘTEFAN

Maps are proof of how an area has evolved and created its own identity. Thus, using a set of maps and topographical plans from different periods (the project being based on maps dating from the late eighteenth century to the present), we tried restoring and development of landscaping around archaeological sites belonging to the prehistoric period. Data from maps were overlapped on the current landscape situation, the latter being in its turn obtained from topographical surveys using GPS and total station, ortophotoplans, satellite images.

**TOPOGRAPHIC CONSIDERATIONS REGARDING
THE ARCHAEOLOGICAL SITE FROM IEPUREȘTI,
LOCATION 'LA IZLAZ' (GIURGIU COUNTY)**

Alexandru MORINTZ

The paper analyzes the topographic configuration of a flood plain area where an archaeological site is located. The first step was to study land level photography and satellite imagery. The analysis continued with the collection of topographic measurements of the area. The research results highlight some of the landscape changes that took place over time and allow for the formulation of hypothesis concerning the appearance of the area during the functioning of the prehistoric settlements.

A NEOLITHIC MICROLANDSCAPE - THE STORY OF COMPLEX 40 FROM MĂGURA-BUDUIASCA (TELEOR 003), TELEORMAN COUNTY, SOUTHERN ROMANIA

Pavel MIREA

The site of Magura 'Buduiasca', discovered in 2001, is located on the lower eastern terrace of the Teleorman River. Archaeological research between 2001 and 2008 led to the discovery of Neolithic habitations belonging to the early and developed Neolithic and dated between 6100-5200 BC.

The archaeological complexes investigated comprise of: pits of various shapes; simple shallow pits; concentrations of fragmentary archaeological material; and, rarely, surface structures.

Complex 40, a pit excavated in 2005, is of particular interest based on the composition of its inventory. The complex was attributed to the developed Neolithic period and dated around 5500-5400 cal BC (early Dudești).

The pit was dug in a figure of eight shape resulting from the joining of two almost round pits. Inconsistent burnt clay fragments outlined the pit and most likely represent a kind of wall plastering. It is probable that the pit originally belonged with a house or shelter, of pit-hut type, later reused for another purpose.

The inventory includes 106 vessels of varying completeness. The ceramic fragments appeared in consecutive and parallel levels giving the impression of different stages of their accumulation. To investigate this aspect, I developed a model for analyzing the deposition of the complete vessels in the first instance. The same type of analysis has subsequently been applied to other categories of artifacts: flint; stone and bone tools; clay objects; daub and hearth fragments; and various other lithic fragments.

I attempt to determine if there are several pit filling events. I also investigated any correlation between the filling of the pit and the types and functionality of the vessels. There may be different aspects concerning the status of individual vessels before deposition in the pit (e.g. secondary firing after breakage, surface degradation showing long time exposure to environmental factors, and reuse of the vessels).

OPEN SOURCES GIS SOLUTIONS FOR ARCHAEOLOGICAL SITES MAPPING

Bogdan ŞANDRIC,
Mihai FLOREA,
Carmen BEM

The mapping of archaeological sites requires the use of digital cartography and GIS solutions. A GIS solution implies the existence of software (or a software package) used with data-recording instruments in the field (GPS) and for the processing of data on PC.

A further requirement is access to existing information and data sources including maps, aerial photographs, satellite images and on-line data services. The price of commercial solutions is, however, usually too high for the budget of public institutions.

An alternative solution is the use of open source software which generally offers similar functionality to commercial options. The financial costs of learning and using open source solutions must be covered by the public institutions (whose budgets are currently impacted by the economic crisis).

Examples of open-source solutions:

1. Software: Quantum Gis the most popular open-source solution for GIS; DNR Garmin, an open-source solution for processing GPS data; and ArcGis online, an on-line package for making on-line maps.
2. Data services: Google Maps/Earth; Bing Maps applications; and Gaia Geospatial Platform, which allow access to different sets of satellite images.

Public institutions have to choose these open-source solutions because they can only invest in training personnel in the general principles of GIS and in learning the main features and functions of open-source solutions.

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