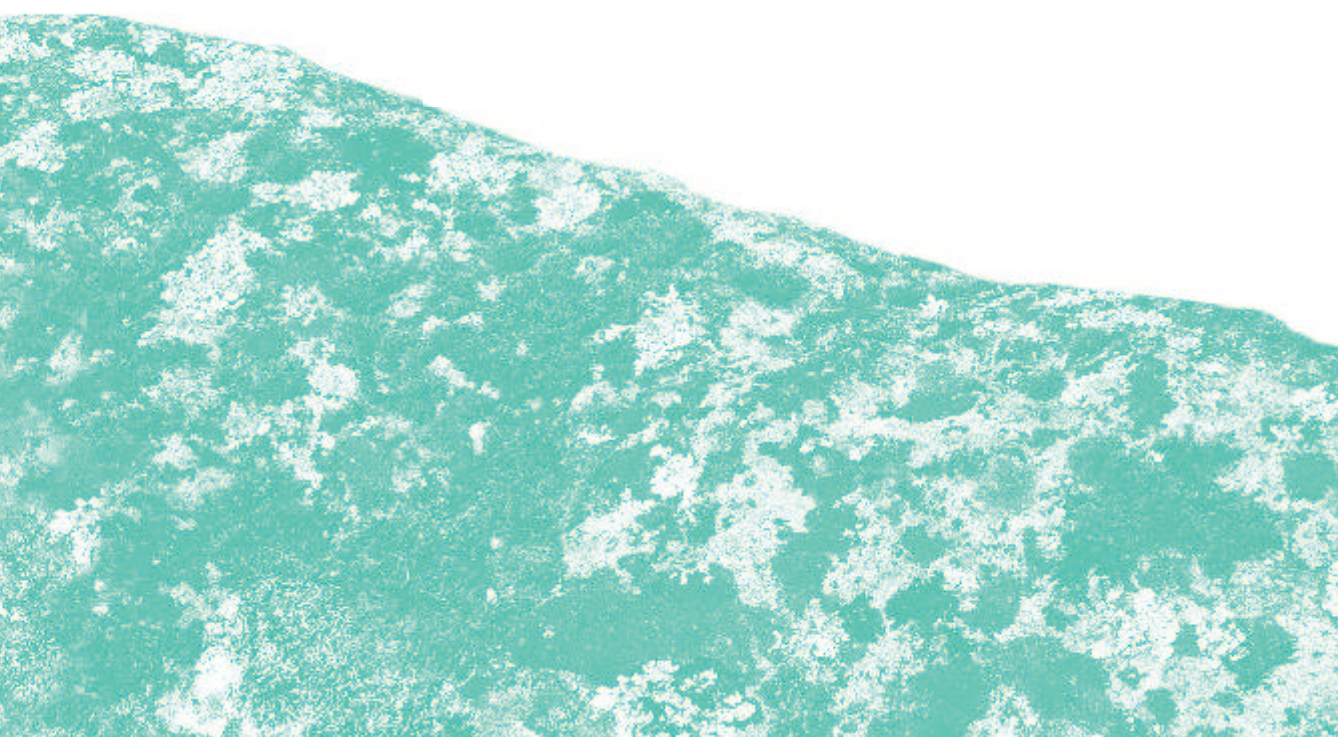


MEGALITHS SOCIETIES LANDSCAPES

EARLY MONUMENTALITY **AND**
SOCIAL DIFFERENTIATION IN
NEOLITHIC EUROPE

CONFERENCE / 16. – 20.06.2015 / KIEL



SESSION SCHEDULE

TIME	EINSTEIN LECTURE HALL	SIEMENS LECTURE HALL	BOSCH CONFERENCE ROOM
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TUESDAY, JUNE 16TH

16:00 – 18:00	OPENING OPENING GREETINGS Johannes Müller (Chair and Speaker Priority Programme), Claus von Carnap-Bornheim (State Archaeological Department of Schleswig-Holstein), Hans-Dieter Bienert (Programme Director Humanities and Social Sciences, DFG), Eszter Bánffy (Director Romano-Germanic Commission (RGK)) OPENING LECTURE 1 Martin Hinz, Johannes Müller, Think twice: Landscape and social meaning of megaliths OPENING LECTURE 2 Lee Clare, Oliver Dietrich, Jens Notroff, Building Göbekli Tepe – the emergence of early Neolithic communities in Upper Mesopotamia		
19:00	WELCOME RECEPTION		

WEDNESDAY, JUNE 17TH

9:00 – 10:40	Monuments of Stone, Wood and Earth	Monumental Landscapes	Material Culture in Monumental Settings
	COFFEE BREAK		
11:00 – 12:40	Monuments of Stone, Wood and Earth	Monumental Landscapes	Material Culture in Monumental Settings
	LUNCH BREAK		
14:00 – 15:00	Monuments of Stone, Wood and Earth	Monumental Landscapes	Material Culture in Monumental Settings
	COFFEE BREAK		
16:00 – 18:05	Monuments of Stone, Wood and Earth	Monumental Landscapes	

TIME	EINSTEIN LECTURE HALL	SIEMENS LECTURE HALL	BOSCH CONFERENCE ROOM
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THURSDAY, JUNE 18TH

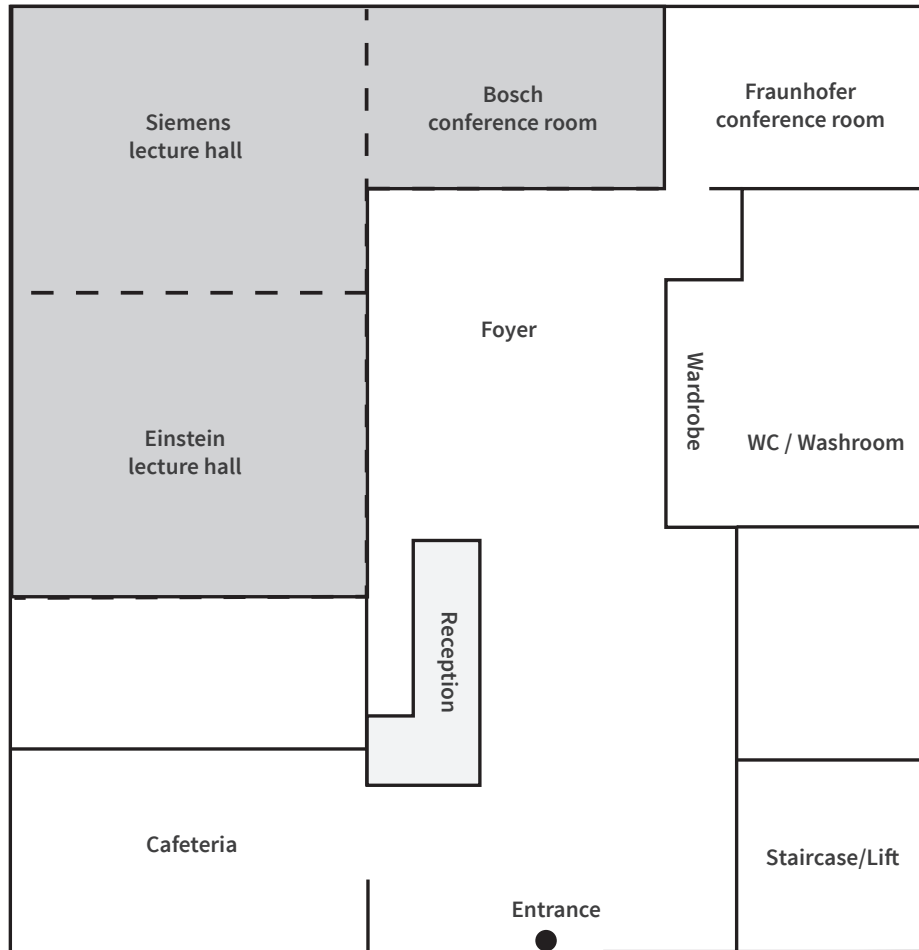
9:00 – 10:40	Monuments of Stone, Wood and Earth	Monumental Landscapes	Neolithic Subsistence and Megaliths
	COFFEE BREAK		
11:00 – 12:40	Monuments of Stone, Wood and Earth	Monumental Landscapes	Neolithic Subsistence and Megaliths
	LUNCH BREAK		
14:00 – 15:00	Monuments of Stone, Wood and Earth	Social Diversity and Differentiation	Neolithic Subsistence and Megaliths
	COFFEE BREAK		
16:00 – 18:05	Monuments of Stone, Wood and Earth	Social Diversity and Differentiation	
20:00	CONFERENCE DINER		

FRIDAY, JUNE 19TH

9:00 – 10:40	Monuments and their Builders	Social Diversity and Differentiation	
	COFFEE BREAK		
11:00 – 12:40	Monuments and their Builders	Social Diversity and Differentiation	
	LUNCH BREAK		
14:00 – 15:00	Monuments and their Builders	Social Diversity and Differentiation	
	COFFEE BREAK		
16:00 – 16:50	Monuments and their Builders		
17:00 – 18:00	FINAL PLENARY MEETING		

SATURDAY, JUNE 20TH

10:00 – 18:00	EXCURSION		
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VENUE MAP

WISSENSCHAFTSZENTRUM

MEGALITHS SOCIETIES LANDSCAPES

EARLY MONUMENTALITY **AND**
SOCIAL DIFFERENTIATION IN
NEOLITHIC EUROPE
CONFERENCE / 16. – 20.06.2015 / KIEL



Frühe Monumentalität
und soziale Differenzierung
DFG Schwerpunktprogramm 1400

GREETINGS FROM THE CHAIR

It is my pleasure to welcome you to Kiel and the international conference of the dfg-Priority Programme 1400 entitled "Megaliths, Societies, Landscapes – Early Monumentality and Social Differentiation in Neolithic Europe". On this occasion, we gather to examine the phenomenon of monumental structures, in particular megalithic constructions and their social and economic backgrounds during the Neolithic, including a wide European perspective. 120 full papers were accepted for presentation, and 6 poster submissions complete the spectrum of scientific input. You will also have the opportunity to inform yourself about the results of the megalithic research program "Early Monumentality and Social Differentiation" that is mainly concerned with megaliths, their builders and the associated environments in Northern Central Europe.

I would like to take this opportunity to express our sincere thanks to all participants of the conference for their valuable support, and our gratitude to the DFG and the Institute of Prehistoric and Protohistoric Archaeology, Kiel for their financial support. I am also deeply grateful to the organisation team members for their strong backup. I'm confident you will experience stimulating presentations and discussions about a vast range of topics with scholars examining the full breadth of this fascinating field of archaeological research. By virtue of all the support and labour, I have no doubt that this conference will be a great success, and I also hope you can find moments in between to relax during your stay. Following the conference, the famous Kieler Woche will take place in the city and at the waterside. You may wish to find time to enjoy this largest sailing event in the world, which is also one of the largest summer festivals in Germany.

On behalf of the conference team and the Priority Programme members, we are indeed very pleased that all of you are here!

PROF. DR. JOHANNES MÜLLER

Professor for Prehistoric Archaeology

Director of the Institute for Prehistoric and Protohistoric Archaeology, CAU Kiel

Speaker of the Priority Programme 1400 "Early Monumentality and Social Differentiation"

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The DFG Priority Program 1400 "Early Monumentality and Social Differentiation: On the origin and development of Neolithic large-scale buildings and the emergence of early complex societies in Northern Central Europe" started its work in July 2009. Its research agenda focuses on the investigation of the phenomenon of monumental structures, in particular on megalithic constructions and their social and economic backgrounds during the Neolithic with a focus on Northern Central Europe. The program also incorporates a wider European perspective.

Monuments, especially megaliths, shape huge regions of the Northern German landscape, even today, although a majority of them have been destroyed. The deduced number of monumental buildings in the entire area is estimated to several tens of thousands and they appear to have been built in a fairly short period of time from 3500 to 3100 BC. This period encompasses the construction of the first enclosures in Northern Central Europe, increased human economic impact on the environment, extended external relations, and a distinct increase in elaboration and diversity of material culture.

The present state of the art tends to contrast this period both with the previous Early Neolithic and the following Middle Neolithic and Late Neolithic periods. The Priority Program focuses on investigations of the social and ideological developments connected to these formal changes in the cultural landscape. But in order to link our observations to models of social change, to gain an understanding of ideological developments and to combine these topics to the physical background, the climate, the environment and landscape developments, we need more data, systematic data sampling, the integration of all available data sources and syntheses that account for different spatial scales and have proper temporal resolutions.

In total, 22 university departments, research institutes and heritage management offices in 16 partial projects investigate the Neolithic on the Northern European Plain with respect to a complex topic: How can the relationship between monumental buildings, social structures and developments after the emergence of sedentism at 4100 cal BC be characterized?

The aim of the conference "Early Monumentality and Social Differentiation in Neolithic Europe: Megaliths, Societies, Landscapes" is to gather experts in research on megalithic and monumental structures and the societies that built them to communicate and discuss the results of the Priority Programme on an international level. Therefore, we have invited scientists from all over Europe to participate in order to improve our knowledge about the early prehistoric monuments and their backgrounds in Northern and Western Europe. We are especially pleased that the conference will simultaneously be a meeting of the European Megalithic Studies Group. We are looking forward to five days of intense discussion and knowledge production in the field of megaliths, societies and landscapes in Neolithic Europe.

GENERAL INFORMATION

CONFERENCE LOCATION

The conference will take place at the *Wissenschaftszentrum* Kiel (Fraunhoferstraße 13, 24118 Kiel). Please consult the map on the envelope for details.

CONFERENCE OFFICE

The conference office is located in the foyer of the *Wissenschaftszentrum*. For registration and other matters, it will be open on Tuesday, the 16th of June, from 12:00–18:30 hrs. and from the 17th to the 19th of June between 8:30–18:30 hrs.

FEES

The fees for the conference are as follows:

Conference fee (including Opening Session, Welcome Reception and coffee breaks):	40 €
Conference diner:	40 €
Excursion:	25 €

BANKING ACCOUNT

The registration fee, conference dinner fees and excursion fees must be transferred to the the following account:

ACCOUNT HOLDER: Finanzministerium S.-H.-Landeskasse

IBAN-NO.: DE 8220 0000 0000 2020 1577

BIC: MARKDEF1200

BANK: Bundesbank Hamburg

If you are an invited speaker, you do not need to pay these fees.

IMPORTANT! Please mention as note ("Vermerk"): 8888.00.119 55 BA 440, Fi.St. 88912000

Alternatively you may pay the fees at the registration desk during the conference.

GUIDELINES FOR PRESENTATIONS

ORAL PRESENTATION

Each presentation should not exceed 20 min in length + an additional 5 min for discussions. Presentations should be given using a standard Windows PC. Therefore, the following presentation formats will be accepted:

- MS Powerpoint (*.ppt or *.pptx files)
- Portable document format (*.pdf files)
- OpenDocument-Präsentation .odp

If you intend to use additional audiovisual material (e.g. videos), please use standard formats and contact the conference organisation beforehand so that the necessary software can be installed. If your graphics or video clips are not embedded in your presentation, please be sure that you bring them with you.

Presentations may be saved on a USB hard drive (Pocket Drive) or USB flash drive. Please use widely supported fonts for .ppt's or .odp's, such as: Arial, Calibri, Lucida Sans, Tahoma, Times New Roman, Verdana. Avoid proprietary fonts that might be missing from the rental PCs. If you use a font that is not supported on the rental equipment then your presentation might look bad or you might need to spend a lot of time adjusting fonts.

Avoid using transition sounds, and make sure that you don't have your presentation set for automatic slide advancement using a timer. It's best to advance slides "on click."

Apple Macintosh users must ensure that their presentations will work with Windows; alternatively, you may use your own MacBook with the projectors (please provide your own VGA or HDMI adapter).

It is the responsibility of all presenters to ensure (as far as reasonably possible) that the presentations run properly in light of the aforementioned specifications.

POSTER PRESENTATION

Posters are limited to a size up to A0 portrait (1189 x 841 mm). For quality reasons, we suggest that you bring the posters with you in printed form or send them to the conference organisation. Poster layouts are up to the authors.

COFFEE- AND LUNCHBREAKS

Catering during coffee breaks (10:40 hrs. and 15:40 hrs.) is included in the conference fee. For lunch breaks, several possibilities are within a short walking distance:

UNIVERSITY CANTEEN (MENSA 1)

The Mensa I offers five different dishes priced up to 5.00 €. You can also get small refreshments and coffee in the Cafeteria.

RESTAURANT GALILEO

The Galileo Restaurant offers lunch priced within a range of 5.00 to 10.00 €, and additional dishes according to the menu.

JACK'S KITCHEN

The small restaurant Jack's Kitchen offers mainly pizza, pasta, and different dishes at lunch priced from 7.00 to 9.00 € as well as additional dishes according to the menu.

WELCOME RECEPTION

The welcome reception will take place at the central square of Kiel University (between Audimax and the university tower, please consult the map on the envelope for details) in front of our recently constructed megalithic tomb (based on the excavations of the grave at Wangels LA 69). In the unlikely case of bad weather, we will welcome you in the foyer of Audimax.

CONFERENCE DINER

The conference dinner will take place at Galileo Restaurant, approx. 200 m from the conference location. The conference dinner is not included in the general conference fees. We have to charge you an additional 40.00 €. For participation please register beforehand.

EXCURSION

The excursion will take place on Saturday, the 20th of June, and is not included in the general conference fees. We have to charge you an additional 25.00 €. For participation please register beforehand.

The excursion will start at the conference location at 8:00 hrs. We will visit the Archaeological-Ecological Center of Albersdorf (AÖZA), several megaliths in the landscape of Schleswig, the Viking Museum at Haithabu and the open air Viking houses. We will return to Kiel at approx. 19:00 hrs.

ACCOMODATION

Note that the prices are normal prices. During Kiel Week (concerning Saturday, June 19th and Sunday, June 20th), hotels usually charges extra fees, sometimes up to double rates.

HOTEL	PRICE	HOMEPAGE	DISTANCE
Hotel Düvelsbek	54	www.hotel-duevelsbek.de/	1,4
Hotel Maritim	120	www.maritim.com/en/hotels/germany/hotel-belle-vue-kiel/hotel-overview/	2,2
Comfort Hotel tom Kyle	99	www.comfortinn.com/hotel-kiel-germany-GE206	2,3
Romantik Hotel Kieler Kaufmann	124	www.kieler-kaufmann.de/en/homehtml	2,3
Basic Hotel City	67	www.basic-hotels.com/en/hotels/kiel-basic-hotel-city/	2,6
Bekpek Kiel	30	www.bekpek-kiel.de	2,7
Steigenberger Conti Hansa	00	http://en.steigenberger.com/	2,8
Hotel Wiking	66	www.hotel-wiking.com/welcome.html	2,9
Hotel Flämischer Hof	69	www.flaemischer-hof.de/en/home.html	3,0
Nordic Hotel am Kieler Schloss	50	www.nordic-hotels.com/de/kiel-nordic-hotel-am-kieler-schloss.htm	3,0
Hotel am Schwedenkai	70	www.hotel-am-schwedenkai.de/	3,1
Basic-Hotel Ostseehalle	59	www.basic-hotels.com/en/hotels/kiel-basic-hotel-ostseehalle/	3,2
Gästehaus Lange Reihe	59	www.hotel.de/de.hotels/Kiel_36306/Gaestehaus_Lange_Reihe_99333/hotel.aspx	3,2
Nordic Hotel Astor	58	www.nordic-hotels.com/de/kiel-nordic-hotel-astor.htm	3,2
Hotel Consul	79	www.hotel-consul-kiel.de	3,3
Basic Hotel am Sophienhof	59	www.basic-hotels.com/en/hotels/kiel-basic-hotel-sophienhof/	3,5
Rabes Hotel Kiel	62	www.rabes-hotel.de/	3,5
Hotel Berliner Hof	105	www.berlinerhof-kiel.de	3,6
ATLANTIC Hotel Kiel	139	www.atlantic-hotels.de/en/index.php	3,8
InterCityHotel Kiel	91,8	www.intercityhotel.com/Kiel	3,9
Hotel an der Hörn	70	www.an-der-hoern.de	4,1
Youth Hostel Kiel	31,2	www.jugendherberge.de/de-de/jugendherbergen/kiel531/portraet	4,7
Hotel Birke Kiel	71	www.hotel-birke.de/en/	5,2

PUBLIC TRANSPORT

The closest bus stops to the workshop venue are "Universität" or "Rankestraße" and are reached by the bus lines: 92, 91, 81, 62, 61.

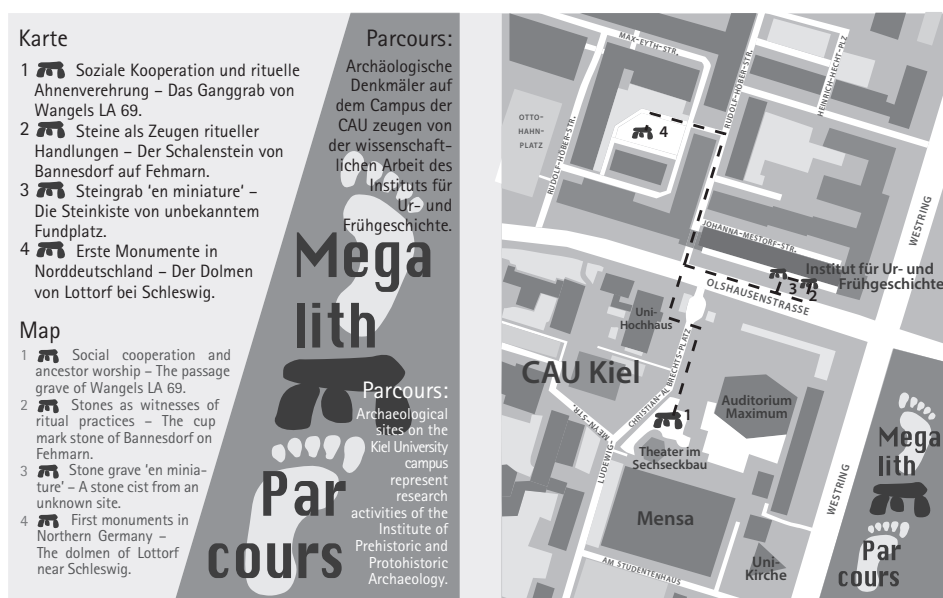
You can find detailed information in English about timetables, route maps and fares under the following URL: <http://www.kvg-kiel.de/en/index.php>

KIEL WEEK

The conference takes place just before the *Kieler Woche*, the greatest sailing event in the world and the largest summer festival in Northern Europe. You may wish to visit the cultural and sportive highlight after the conference.

MEGALITH PARCOURS

On the campus of Kiel University, several translocated megalithic graves can be visited, and we have one fresh addition: On the May 14, 2015 a reconstruction based on the excavations of the grave at Wangels LA 69 was built on the central square of Kiel University. In addition, information panels have been installed at the individual sites. You may wish to explore these monuments.



PARTNERS

EUROPEAN MEGALITHIC STUDIES GROUP

The European Megalithic Studies Group is an informal and inclusive group (with no fixed membership) that intends to bring together all researchers who are interested in early monumentality along the western and northern margins of Europe. We are pleased that our conference will be the fifth meeting of the group.

The Stone Age Park Dithmarschen in Albersdorf tries to reconstruct the cultural landscape of 3000 BC on an area of 40 hectares. A Stone Age village arises close by plenty of original Stone Age graves and Bronze Age mounds around the lovely village of Albersdorf. We are happy that the Förderverein AÖZA e.V. will welcome us on the excursion of the conference.



MEGALITHIC ROUTES

The European Route of Megalithic Culture serves as a platform for museums, geoparks, scientists, and experts in tourism from Denmark, England, Germany, The Netherlands, and Sweden to underline the outstanding importance of the megalithic culture for European history, to rediscover and promote the tourism value of its monuments and, in this way, to improve their protection as part of a common cultural heritage. You may wish to visit the homepage at <http://www.megalithicroutes.eu>.



TUESDAY, THE 16TH OF JUNE**16:00 OPENING SESSION****18:00 OPENING GREETINGS**

JOHANNES MÜLLER (Chair and Speaker of the Priority Programme)

CLAUS VONCARNAP-BORNHEIM (State Archaeological Department of Schleswig-Holstein)

HANS-DIETER BIENERT (Programme Director Humanities and Social Sciences, DFG)

ESZTER BÁNFFY (Director Romano-Germanic Commission (RGK))

OPENING LECTURE 1

MARTIN HINZ AND JOHANNES MÜLLER

Think twice: Landscape and social meaning of megaliths

OPENING LECTURE 2

LEE CLARE, OLIVER DIETRICH AND JENS NOTROFF

Building Göbekli Tepe – the emergence of early Neolithic communities in Upper Mesopotamia

19:00**23:00****WELCOME RECEPTION**WEDNESDAY, THE 17TH OF JUNE**MONUMENTS OF STONE, WOOD AND EARTH**

EINSTEIN LECTURE HALL

09:00 SCARRE, CHRIS

Monuments of stone, wood, and earth

09:25 FURHOLT, MARTIN; MISCHKA, DORIS

The Phasing of Megalithic construction activities in Northern Central Germany

09:50 WHITTLE, ALASDAIR

Deaths and entrances: Bayesian modelling of the radiocarbon chronology of enclosures and collective mortuary deposits

10:15 CASSEN, SERGE

Measuring distance in the monumentalities of the Neolithic in western France

10:40 COFFEE BREAK

- 11:00** CHAMBON, PHILIPPE; GHESQUIÈRE, EMMANUEL
Cemetery and alignments of steles from the beginning of the 5th millennium at Fleury-sur-Orne (Normandy, France)
- 11:25** MENS, EMMANUEL
Standing stone of western France: the other monumentality
- 11:50** PAPE, ELEONORE
A shared ideology of death? The architectural elements and the use(s?) of the monumental late Neolithic gallery graves of western Germany and the Paris Basin
- 12:15** BUENO RAMÍREZ, PRIMITIVA
From pigment to symbol: The role of paintings in the ideological construction of European megaliths
- 12:40** **LUNCH BREAK**
- 14:00** BOAVENTURA, RUI; MOITA, PATRÍCIA; PEDRO, JORGE; NOGUEIRA, PEDRO;
MACHADO, SUSANA; MATALOTO, RUI; PEREIRA, ANDRÉ; MÁXIMO, JAIME;
ALMEIDA, LUÍS
Tombs and Geology: Physical constraints and funerary choices during the 4th-3rd- millennia BCE in Central-South Portugal.
- 14:25** JIMÉNEZ JÁIMEZ, VÍCTOR
Iberian Neolithic and Chalcolithic ditched enclosures: a comparative history of their interpretation
- 14:50** MILESI, LARA; JIMÉNEZ JÁIMEZ; VÍCTOR, MÁRQUEZ; JOSÉ ENRIQUE
Ditched Enclosures in Southwest Iberia: New Perspectives, New Approaches
- 15:15** CARO, JOSE L.; MARQUEZ-ROMERO, J.E.; JIMÉNEZ JÁIMEZ, VÍCTOR
Monumental entrances at Iberian Neolithic and Chalcolithic ditched enclosures. Entrance 1 at Perdigões (Portugal) as case study.
- 15:40** COFFEE BREAK
- 16:00** GEBAUER, ANNE BIRGITTE
The enigma of the Neolithic cult houses – Graves, shrines or social statement?
- 16:25** ERIKSEN, PALLE
Tustrup culthouse - architecture and destruction
- 16:50** JOHANNSEN, NIELS NØRKJÆR; NIELSEN, SIMON K.
Megalithic tombs, stone heap graves and rituals in northwestern Jutland: spatial and cultural relationships
- 17:15** KLASSEN, LUTZ; KNOCH, BENEDIKT
Barrows, magic circles and the function of causewayed enclosures
- 17:40** NIELSEN, FINN OLE SONNE
Enclosures and Timber Circles on Bornholm

- 09:00** PARKER PEARSON, MIKE
Long-distance landscapes: from quarries to monument at Stonehenge
- 09:25** FÁBREGAS VALCARCE, RAMÓN; RODRÍGUEZ-RELLÁN, CARLOS
Monuments on the move. Assessing megaliths' agency over NW Iberian landscapes
- 09:50** BROZIO, JAN PIET
Settlements and Megaliths in Eastern Holstein
- 10:15** MENNENGA, MORITZ
Recent archaeological studies of TRB settlements in northwestern Germany
- 10:40** **COFFEE BREAK**
- 11:00** ARD, VINCENT; MENS, EMMANUEL; PILLOT, LUCILE; PONCET, DIDIER;
MATHE, VIVIEN; COUSSEAU, FLORIAN; LEROUX, VALÉRIE-EMMA
Construction and life of a megalithic landscape: two forms of monumentality in the Charente valley (France)
- 11:25** SEIDEL, UTE; REGNER-KAMLAH, BIRGIT
The Michelsberg Culture of Northern Baden-Württemberg: a case study of a neolithic landscape with enclosures and open sites
- 11:50** HAGE, FRANZISKA
Büdelsdorf: Enclosure, megalithic and non-megalithic graves in a microregion of the Funnel Beaker Period
- 12:15** DIBBERN, HAUKE
Causewayed Enclosure and megalithic tombs between the Elbe and the Eider – Studies on the Neolithic in western Holstein
- 12:40** **LUNCH BREAK**
- 14:00** SCHAFFERER, GEORG; RASSMANN, KNUT
Megalithic monuments as manifestation of tradition and sites of memory: Analysing architecture and the distribution of megalithic phenomena in northern Germany
- 14:25** DARVILL, TIMOTHY; LÜTH, FRIEDRICH
Investigations at Friedrichsruhe Barrow Cemetery, Kr Parchim, Mecklenburg, Germany
- 14:50** BEHRENS, ANJA
Complex megalithic structures within the landscape of Rügen island. Investigation results
- 15:15** SCHIERHOLD, KERSTIN; GLESER, RALF
Case-study of Erwitte-Schmerlecke, Westphalia: An archaeological contribution to Hessian Westphalian Megaliths and their role in early monumentality of the Northern European Plain
- 15:40** **COFFEE BREAK**

- 16:00** RAEMAEKERS, DAAN; VAN DER VELDE, HENK M.
A monumental burial site from the Funnel beaker period at Oosterdalsen (the Netherlands)
- 16:25** MCCORMACK, LYNDIA
Monumentality, Liminality and The Negotiation of Ritual Space in the Irish Passage Tomb Tradition
- 16:50** PERSCHKE, REENA
The geometrical menhir settings of Carnac (Brittany): A non-archaeoastronomical point of view
- 17:15** HAUF, DANIELA STEFANIE; KELM, RÜDIGER
The European Route of Megalithic Culture – Pathways to Europe's earliest stone architecture

MATERIAL CULTURE IN MONUMENTAL SETTINGS

BOSCH CONFERENCE ROOM

- 09:00** BRINDLEY, ANNA
The TRB pottery from Ostenwalde 1, Kr Aschendorf-Hummling: another look
- 09:25** STRUCKMEYER, KATRIN
Archaeometric analyses of pottery technology in the Funnel Beaker Culture
- 09:50** DRENTH, ERIK; BAKKER, JAN ALBERT
Contact Finds between the TRB culture and the Vlaardingen between Hoek van Holland and Amsterdam
- 10:15** MENNE, JULIA
Pottery of the Funnelbeaker-Westgroup in Northwest Germany
- 10:40** **COFFEE BREAK**
- 11:00** LORENZ, LUISE; HINZ, MARTIN
Typochronological models for Funnel beaker Pottery from megalithic and non megalithic graves in Northern Central Europe
- 11:25** LARSSON, LARS
Flint use in ritual contexts
- 11:50** BYE-JENSEN, PETER
Causewayed enclosures under the microscope – Preliminary results of a large scale use-wear analysis project
- 12:15** DANBORG TORFING, TOBIAS
Liselund: an Early Neolithic causewayed enclosure from Thy, northwest Denmark
- 12:40** **LUNCH BREAK**
- 14:00** RÜCK, OLIVER
Three Baalbergian Monuments near Belleben, Salzlandkreis: Finds, Features and Explanations

MONUMENTS OF STONE, WOOD AND EARTH

EINSTEIN LECTURE HALL

- 09:00** BAKKER, JAN ALBERT
The Dutch hunebedden, especially D26-Drouwenerveld, which was almost completely excavated in 1968 and 1970, and about which a final report will soon appear
- 09:25** RAEMAEKERS, DAAN
The Dutch megalithic tombs of the Funnel Beaker culture: current research on their research history
- 09:50** NOBLES, GARY
The wooden monuments of the Dutch wetlands: a monument out of time
- 10:15** ZYCH, RENATA
Phenomenology of spatial organization of Kujavian long barrows
- 10:40** **COFFEE BREAK**
- 11:00** TUNIA, KRZYSZTOF
Slonowice cemetery. After thirty years of explorations...
- 11:25** MATUSZEWSKA, AGNIESZKA
Verification project of megalithic tombs in Western Pomerania (Poland)
- 11:50** SAILE, THOMAS
Altheim. Monumentality in fourth millennium BC Bavaria?
- 12:15** GRONENBORN, DETLEF
Monuments of what? Mega-sites of the Michelsberg culture in the northern Upper Rhine and Middle Rhine valley
- 12:40** **LUNCH BREAK**
- 14:00** EIBL, FLORIAN
Ritual earthen monuments with pottery deposits of Michelsberg-Type – examples of a completely new type of landscape installations of the Early Copper Age in southern Bavaria
- 14:25** STROBEL, MICHAEL; VEIT, ULRICH; FRASE, JÖRG; VOGT, RICHARD
An der Peripherie: Ein trichterbecherzeitliche Siedlungslandschaft in Mittelsachsen zwischen Elbe und Mulde
- 14:50** SCHMÜTZ, KAY; RINNE, CHRISTOPH
Haldensleben-Hundisburg: a small region with two traditions
- 15:15** BERAN, JONAS
What's going on in the southeast? Searching for the funeral and ritual practices beyond the Megalithic Oikumene. Examples from the land of Brandenburg.
- 15:40** **COFFEE BREAK**
- 16:00** CICILLONI, RICCARDO
Megalithic monuments in Sardinia (Italy)

- 16:25** REZEPKIN, ALEXEJ
The origin of megaliths in the Northwest Caucasus
- 16:50** TRIFONOV, VIKTOR
Early Dolmens In The Western Caucasus: Evolution Of Construction

MONUMENTAL LANDSCAPES

SIEMENS LECTURE HALL

- 09:00** SCHMITT, FELICITAS; BARTELHEIM, MARTIN; BUENO RAMÍREZ, PRIMITIVA
Just passing by? Investigating in the Territory of the Megalith Builders of the Southern European Plains. The Case of Azután, Toledo.
- 09:25** VARGAS JIMÉNEZ, JUAN MANUEL
Monumental sector of the necropolis in the archaeological site of Valencina de la Concepción (Spain): Research in the area from "La Pastora"
- 09:50** CARRERO PAZOS, MIGUEL; RODRÍGUEZ CASAL, ANTÓN A.
Neolithic Territory and Funeral Megalithic Space in Galicia (Nw. Of Iberian Peninsula): A Synthetic Approach
- 10:15** SCHÜLKE, ALMUT
Megalithic monuments and depositions in wetlands: Different elements, places and expressions of ritual in a TRB-landscape – a case from Denmark
- 10:40** **COFFEE BREAK**
- 11:00** ARTURSSON, MAGNUS; ANDERSSON, MAGNUS
Early Neolithic (4000-3300 BC) Monumental Landscapes in Southwestern Scania, Southern Sweden – A New Perspective
- 11:25** PRZYBYŁ, AGNIESZKA
Monumental barrows in the Neolithic landscape between the Oder and Vistula rivers
- 11:50** REINHOLD, SABINE
The monumental landscape of Maikop kurgans

SOCIAL DIVERSITY AND DIFFERENTIATION

SIEMENS LECTURE HALL

- 14:00** SALANOVA, LAURE
Forms of differentiation in the dead during the 4th millennium BC in Northern France
- 14:25** MADSEN, THORSTEN
Structural changes in social organisation of TRB society in Eastern Jutland
- 14:50** ANDERSEN, NIELS H.
How major monuments defined the identity of Neolithic farmers
- 15:15** SZMYT, MARZENA
Stone cist graves in 4th and 3rd mill. BC between Vistula and Dnieper. Similar forms, different contexts, variable meanings

- 15:40 COFFEE BREAK**
- 16:00** POSPIESZNY, ŁUKASZ; KRENZ-NIEDBAŁA, MARTA
Chosen or equal? Social organisation in Middle and Late Neolithic Poland revisited
- 16:25** JAROSZ, PAWEŁ
Social differentiation as reflected in the Corded Ware culture burial rite in the Southern Poland
- 16:50** KORENEVSKIY, SERGEY
The military elite and the megalithic tradition of Maikop-Novosvobodnaya community
- 17:15** HOFMANN, DANIELA; HUSTY, LUDWIG
The hole in the doughnut. Enclosures, prestige and selective adoption in the south German later Neolithic
- 17:40** VERDONKSCHOT, JADRANKA
A Room With A View (On The Lake). Tracing back social organization in the Neolithic through pile dwelling architecture

NEOLITHIC SUBSISTENCE AND MEGALITHS

BOSCH CONFERENCE ROOM

- 09:00** O'CONNELL, MICHAEL
The pollen evidence for early prehistoric farming impact: towards a better understanding of the archaeological field evidence for Neolithic activity in western Ireland
- 09:25** DIERS, SARAH; FRITSCH, BARBARA
Changing environments in a Megalithic Landscape: the Altmark case
- 09:50** FEESER, INGO; DÖRFLER, WALTER
Zooming in: Regional to local human-environment interactions during the Neolithic in Northern Germany
- 10:15** KRAMER, ANNETTE; BITTMANN, FELIX
Vegetation in change – Neolithic land use in northwestern Germany
- 10:40 COFFEE BREAK**
- 11:00** BUTRUILLE, CAMILLE; WEINELT, MARA
Winter Climate Variability in Central Northern Europe during the Neolithic
- 11:25** KLOOSS, STEFANIE; FISCHER, ELSKE; KIRLEIS, WIEBKE
Development of Neolithic plant economy in Northern Germany and Southern Scandinavia
- 11:50** WHITEHOUSE, NICKI
N.N.
- 12:15** BLANK BÄCKLUND, MALOU
Tracing dietary change of the megalithic population in Southwestern Sweden
- 12:40 LUNCH BREAK**
- 14:00** SJÖGREN, KARL-GÖRAN
Neolithic subsistence in Falbygden. Some new data

- 14:25** MALONE, CAROLINE
Megaliths, people and palaeoeconomics in prehistoric Malta
- 14:50** FERNANDES, RICARDO
Dietary diversity during the Neolithic
- 15:15** Rück, Oliver
Baalberge scrutinized or The Nomadolithic in Central Germany
- 15:40** **COFFEE BREAK**
- 16:00** TERBERGER, THOMAS; KABACINSKI, JACEK; CZEKAJ-ZASTAWNY, AGNIESZKA;
KOTULA, ANDREAS; SCHMÖLCKE, ULRICH
The site of Dabki 9 and the neolithization of Pomerania
- 20:00** **CONFERENCE DINNER** – RESTAURANT GALILEO

FRIDAY, THE 19TH OF JUNE

MONUMENTS AND THEIR BUILDERS

EINSTEIN LECTURE HALL

- 09:00** TERBERGER, THOMAS; LÜTH, FRIEDRICH; PIEZONKA, HENNY;
SCHULZ, ANNA; BURGER, JOACHIM
The early Neolithic in northern Germany in the light of archaeometric results on human remains
- 09:25** SCHIESBERG, SARA; ZIMMERMANN, ANDREAS
Stages and Cycles: The Demography of Populations Practicing Collective Burials Theories, Methods and Results
- 09:50** RINNE, CHRISTOPH; FUCHS, KATHARINA; KOPP, JULIANE;
SCHADE-LINDIG, SABINE; SUSAT, JULIAN; KRAUSE-KYORA, BEN
Niedertiefenbach reloaded: The builders of the Wartberg gallery grave
- 10:15** KLINGNER, SUSAN; SCHULTZ, MICHAEL
The physical strain on megalithic tomb builders from northern Germany – results of an anthropological-paleopathological investigation of human remains from the Hessian-Westphalian Megalithic Soest Group in Erwitte-Schmerlecke
- 10:40** **COFFEE BREAK**
- 11:00** MARÇAIS, ANNE-SOPHIE
The gallery grave of Bury and Bazoches-sur-Vesle: An inter-site comparison of two Late Neolithic deceased populations of the Paris Basin
- 11:25** BOAVENTURA, RUI; SILVA, ANA MARIA; FERREIRA, MARIA TERESA
Bones within tombs: characterizing builders and users of tombs during the 4th-3rd Millennia BCE in Portuguese Estremadura.
- 11:50** LAPORTE, LUC; BOCOUM, HAMADY
Towards other Atlantic banks : reviewing Senegambian megalithism

- 12:15** BONATZ, DOMINIK
The Megaliths of Sumatra: Phenomenological and Contextual Approaches
- 12:40** **LUNCH BREAK**
- 14:00** ROBIN, GUILLAUME
Why decorating monumental tombs? A view from South-East Asia
- 14:25** ADAMS, RON
Building Workforces for Large Stone Monuments: The Labour Dynamics of a Living Megalithic Tradition in Eastern Indonesia
- 14:50** WUNDERLICH, MARIA
Social implications of megalithic construction - A case study from Nagaland and Northern Germany
- 15:15** MILES, LARA
Building community: significant places now and before
- 15:40** **COFFEE BREAK**
- 16:00** ROSENSTOCK, EVA; MASSON, ASTRID; ZICH, BERND
Moraines, megaliths and moo: putting the prehistoric tractor to work
- 16:25** DEHN, TORBEN
Personal testimonies inside megalithic monuments

SOCIAL DIVERSITY AND DIFFERENTIATION

SIEMENS LECTURE HALL

- 09:00** GARCIA SANJUAN, LEONARDO
Burial practices and social hierarchisation in Copper Age southern Spain: New evidence from Valencina de la Concepción (Seville, Spain)
- 09:25** CÁMARA SERRANO, JUAN ANTONIO; GONZÁLEZ, FERNANDO MOLINA; MARRERO, JOSÉ ANDRÉS AFONSO; FERNÁNDEZ, GABRIEL MARTÍNEZ; SPANEDDA, LILIANA; COLINO, TRINIDAD NÁJERA; HERNÁNDEZ, FRANCISCO MIGUEL ALCARAZ
Building and Accepting Diversity: Political Control, Social Integration and Differentiation in Lower Andarax River (Almería, Spain) during the Chalcolithic Period (3300-2150 Cal Bc)
- 09:50** VALERA, ANTÓNIO CARLOS
Landscapes of complexity in South Portugal during the 4th and 3rd millennium BC
- 10:15** LORENZ, LUISE
Diachronic Spatial Analysis of the Distribution and Function of Northern Central European Funnel Beaker grave pottery
- 10:40** **COFFEE BREAK**
- 11:00** SCHIESBERG, SARA
The Bone Puzzle. Reconstructing Burial Rites in Collective Tombs
- 11:25** CUMMINGS, VICKI
The social implications of construction: a consideration of the earliest Neolithic monuments of Britain and Ireland

- 11:50** POLLARD, JOSHUA
How routine life was made sacred: settlement and monumentality in later Neolithic Britain
- 12:15** SHERIDAN, ALISON
Non-megalithic and megalithic monuments in Britain and Ireland from the late 5th to the 3rd millennium BC: tracing trajectories and building plausible narratives
- 12:40** **LUNCH BREAK**
- 14:00** O' SULLIVAN, MUIRIS
N.N.
- 14:25** JONES, CARLETON
Regional traditions and distant events – Parknabinnia and other atypical court tombs in north Munster, western Ireland
- 14:50** GREANEY, SUSAN
Understanding ceremonial monument complexes in Wessex, England, in relation to concepts of power

SATURDAY, THE 20TH OF JUNE

EXCURSION

PRELIMINARY PROGRAMME

- 8:00** Start at Wissenschaftszentrum Kiel
- 9:00** Region Albersdorf (Albersdorf/Dieksknöll – Stone Age Park Dithmarschen, megalith, enclosure)
- 12:00**
- 12:15** Linden Pahlkrug Passage Grave (Sprockhoff 138)
- 12:35**
- 13:15** Mildstedt Dolmen + Picknick
- 14:00**
- 14:40** Idstedt Passage Grave (Sprockhoff 43)
- 15:00**
- 15:20** Haithabu (Viking Open Air Museum)
- 16:30**
- 17:10** Karlsminde Long Barrow (Sprockhoff 66)
- 17:30**
- 18:10** Schwedeneck/Birkenmoor megaliths (Sprockhoff 125 + 126)
- 18:30**
- 18:50** Arriaval Kiel

MONUMENTS IN STONE, WOOD AND EARTH

ORAL PRESENTATIONS

MONUMENTS OF STONE, WOOD, AND EARTH

SCARRE, CHRIS (INVITED)*

The manipulation of materials lies at the heart of Neolithic monumentality, and offers key insights into the motivations and meanings that may have underlain their construction. Yet within a west European context, the sheer number and variety of monuments, coupled with the long chronology of the phenomenon, present significant challenges of interpretation. At first sight, the diversity of morphologies, chronologies, materials, regional geographies and social contexts appears hard to reconcile with the notion that the Neolithic monuments of western Europe could in any meaningful way be regarded as a single phenomenon. Earlier notions of a 'megalithic people' or 'megalithic missionaries' very properly fell from favour in the middle and later decades of the 20th century, yet the case for interregional interconnections remains hard to dismiss. This is so even as new evidence for the importance of monuments of timber and earth, in regions devoid of megalithic constructions, comes to light, greatly expanding the geography, diversity and cultural context of the monuments that must be considered. In this overview, a multi-scalar approach will be applied in an effort to provide key elements of a historical narrative of Atlantic Neolithic monumentality. The focus will be on enclosures, chambered tombs and standing stones, and their timber equivalents. Contrasts and parallels between regional sequences, between monuments of stone and timber, between monumentality and settlement evidence, will be explored on a region-by-region basis, drawing especially upon recent research in western Iberia and northern France. Is a 'grand narrative' of west European Neolithic monumentality at last within our reach?

*Department of Archaeology, Durham University

THE PHASING OF MEGALITHIC CONSTRUCTION ACTIVITIES IN NORTHERN CENTRAL GERMANY

FURHOLT, MARTIN* / MISCHKA, DORIS**

In the context of the Priority Program “Early Monumentality and social differentiation” the number of radiocarbon dates for the Neolithic period in Northern Central has been significantly increased. This enables us to model the chronological patterns of the different activities connected to the construction and use of monumental architecture and to investigate the temporal relationship of these activities to other areas of social practice. More specifically, we want to differentiate the phasing of different types of monuments and their components and investigate their temporal relation to the phasing of depositional practices, settlement activities and human impact on the landscape. We want to investigate possible interlinkings of these practices using a regionally differentiated approach.

* Institut für Ur- und Frühgeschichte, Christian-Albrechts-Universität zu Kiel

** Institut für Ur- und Frühgeschichte, FAU Erlangen

DEATHS AND ENTRANCES: BAYESIAN MODELLING OF THE RADIOCARBON CHRONOLOGY OF ENCLOSURES AND COLLECTIVE MORTUARY DEPOSITS

WHITTLE, ALASDAIR (INVITED)*

Taking my title from the Welsh poet Dylan Thomas, in this paper I will go on advocating a Bayesian framework as the currently best available for the interpretation of radiocarbon chronologies. Here the focus is on ditched enclosures and collective mortuary deposits. Starting from earlier studies (Cambridge Archaeological Journal 17.1, supplement, 2007; and *Gathering Time*, 2011), I will briefly discuss components of the current Times of Their Lives project (www.totl.eu): the ditched enclosures of Klingenberg in the Neckar valley and Château Percin in the upper Garonne valley, and the allée sépulchrale of Bury and the hypogée of les Mournouards, in the Paris basin. As well as the challenges confronting the modelling of these sites, I will consider what increased precision and a better sense of timing, duration and tempo bring to our narratives for the development of Neolithic society. Grateful thanks are due to Ute Seidel, Muriel Gandelin, Laure Salanova, Philippe Chambon, Arnaud Blin, Frances Healy, Alistair Barclay and other colleagues for their collaboration on these projects.

* Department of Archaeology and Conservation, Cardiff University

MEASURING DISTANCE IN THE MONUMENTALITIES OF THE NEOLITHIC IN WESTERN FRANCE

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CASSEN, SERGE (INVITED)*

In an earlier presentation in Kiel in 2011 ('Measuring distinction in the megalithic architecture of the Carnac region'), we used the concept of distinction in order to explore the ways that identity was expressed in the world of Neolithic Armorica through materials, object-signs and representations, and to see how one can compare this mode of expression among societies in which a politico-religious elite sought to distinguish itself.

For this presentation we shall be turning to the notion of distance – be it social or geographic in nature – which is also germane to the question of identity and distinction. We are dealing here with a different kind of evidence and a priori it would appear to have little in common with that relating to distinction. We shall, however, demonstrate the links between the apparently disparate examples of these types of evidence. We shall start by returning to the extraordinary case of an imported Stichbandkeramik vessel, found in a tomb in the Carnac region. The significance of this find can be re-evaluated in the light of the distribution of irregularly-shaped bracelets, whose epicentre lies in Alsace and which extends as far as the Atlantic coast. This measure of geographic distance will then be compared with the overall length, in metres, of the engravings found on a single orthostat in the megalithic tomb of Gavrinis, on the same Atlantic coast – a cumulative length that defies the imagination. We shall then make precise estimates of the distances moved by the orthogoneiss stelae that are found in the same area. The significance of this is not solely in the long distances involved, but also in what it tells us about the obligation for these societies to use some kind of seaborne transportation – other than rafts and logboats – in order to move monoliths weighing up to 330 tonnes.

The estrangement stresses the difference, the distance becomes a stake. How the routes were controlled offers the chance to construct testable hypotheses using very different scales of observation. As in other periods, Neolithic cultural objects can be studied in terms of their social trajectory and of their movement through both social and spatial circuits.

* CNRS, Université de Nantes (France)

CEMETERY AND ALIGNMENTS OF STELES FROM THE BEGINNING OF THE 5TH MILLENNIUM AT FLEURY-SUR-ORNE (NORMANDY, FRANCE)

CHAMBON, PHILIPPE (INVITED)* / GHESQUIÈRE, EMMANUEL**

The cemetery of Fleury-sur Orne is located in a broad and shallow valley near the Orne River (500 m), not far from the coastline (15 km). The excavation carried out in 2014 concerned a surface of 21 hectares. It has revealed 26 Passy type monuments, 7 cairns of the second part of the Middle Neolithic and 3 alignments of postholes. The extension of the cemetery and the number of monuments make Fleury one of the two most important cemeteries for this period in North-Western Europe, equal to that of Passy (Yonne). In addition to being one of the largest European monuments for the whole of Prehistory (372 m), it also allowed for the discovery of a partially fossilized tumular structure of a large and trapezoidal barrow. The wall dressing and the internal reinforcements of this 70 m long barrow were made of »turfs.« An Eastern façade faced in flagstone limestones was then subsequently added. The colouring grey or white of the substratum beneath the hillock confirmed the observations carried out on the other monuments (gray under five monuments, white under the others). They make it possible to suspect the presence of a hillock on the entire internal surface of each monument. By the end, three lines of approximately 160 m long each, containing more than 25 circular pits, also indicate that alignments of posts or lithic steles were connected with the cemetery: a first dating clearly confirms the link (5980 ± 30 BP).

* CNRS-UMR 7041

** Inrap Grand-Ouest (Basse-Normandie)

STANDING STONE OF WESTERN FRANCE: THE OTHER MONUMENTALITY

MENS, EMMANUEL*

Standing stones is a significant part of megalithism in Western France but remained for a long time a field of research less stressed. At Carnac, the latest excavations date back to the 1940s.

Yet it is indeed megalithism, in the sense that big stones are used, but not necessarily in a funerary context. To stand a stone is a specifically megalithic gesture, but it is not the only one to create monumentality. Structures associated with standing stones are also actively involved in this monumentality.

Recent excavations have brought information on the associated structures. These structures are often composed of accumulation of little stone and wood. When the conditions of conservation are good, then we discovered a form of monumentality very different from

that which could be expected. This is the case in the island of Hoedic (Morbihan, Brittany) where standing stone are buried under the sand since the Neolithic. Known for its final mesolithic burials excavated in the 1930s, the island has also delivered the last 10 years spectacular results on two alignments. Under the sand, it is very clear that the menhirs are only part of the monumental system.

The dates from the beginning of the fifth millennium show that is one of the first megalithic manifestations of the Atlantic world. This first architecture has she influenced other forms of monumentality as passage graves? There is not opposition between the two architectural categories, but rather a convergence, both in plan and elevation. This paper will review the elements of convergence with the recent discoveries.

* UMR 7055 'Préhistoire et technologie', Nanterre (France)

A SHARED IDEOLOGY OF DEATH? THE ARCHITECTURAL ELEMENTS AND THE USE(S?) OF THE MONUMENTAL LATE NEOLITHIC GALLERY GRAVES OF WESTERN GERMANY AND THE PARIS BASIN

PAPE, ELEONORE*

The monumental collective gallery graves of the later 4th millennium BC, which appear almost simultaneously in two separate geographical regions with differing material cultures (Paris Basin and western Germany), represent a special enigma with regard to cultural connectivity. The similarity of the long rectangular megalithic and non-megalithic structures, which are separated into two functional spaces (chamber/antechamber) and which sheltered numerous successive burial deposits over several centuries, was recognized in research already early in the 20th century. Since then, individual comparisons of specific examples have fuelled a long-lasting discussion about the emergence of these stereotyped graves and – given the lack of comparable structures in the regions in between, as well as of contemporary settlement structures – the ties between western Germany and the Paris Basin.

A new approach on the basis of an empirical comparative study combining the analysis of grave architecture and grave content (following the archaeo-anthropological method) may allow an answer to following questions: Does a stereotype burial architecture imply the same burial practices (spatial repartition, social selection of the deceased and attribution of grave good assemblages)? Or is this variable independent of burial practices? Finally, this contribution aims to investigate the degree to which the gallery graves from western Germany and the Paris Basin can be considered analogous as regards their architecture as well as the ways they were used.

* RGK (DAI) / Paris Ouest Nanterre / Heidelberg

FROM PIGMENT TO SYMBOL: THE ROLE OF PAINTINGS IN THE IDEOLOGICAL CONSTRUCTION OF EUROPEAN MEGALITHS

BUENO-RAMÍREZ, PRIMITIVA (INVITED)*

European megaliths' decorations are considered as an engravings repertoire linked to their original use. The latest development in Megalithic Art documentation has enabled us to identify the essential characteristics of the ideology that inspired these structures: the role of ancient stones in the establishment or transformation of the monuments, the variety of engraving techniques and, most recently, the progressive addition of pigments and painting to the picture. It is possible to understand the process of maintenance and the different moments of use and restyling of the structures by sequencing engraving and painting evidences. Thus the dynamism of the burials is acknowledged.

There is broad unexplored field in northern France and in the Orkney Islands regarding the documentation of paintings. These appealing evidences of ancient knowledge of certain techniques add up to those found in the Iberian Schematic Art. We suggest the addition of the southern Peninsula record to the classical reference from the northern part of Spain. The similarities between the symbols of the oldest Iberian stones and those from Brittany are even more coherent when considering the Neolithic evolution within the southern Iberian Peninsula, where imported luxury items (from within the Mediterranean and from northern Africa) are found inside painted and decorated monuments.

If the statement that material relationships within the Atlantic façade are a fact is fully assumed, symbolic links constitute the reference for discovering more paintings within megaliths' decorations. The net that connects these regions included symbols as one of the most important ideological factors for exhibiting the relationship with the ancestors. Ancestors wearing axes and rods, clothes with geometric decorations and sometimes bows and other shorts of weaponry, star the stories from the past that survive on the monuments' walls. White, red and black, joint to the chiaroscuro of the engravings, work together to create theatrical effects inside the closed structures that are the home to the builders' past.

* Area de Prehistoria, Universidad de Alcalá de Henares Spain

TOMBS AND GEOLOGY: PHYSICAL CONSTRAINTS AND FUNERARY CHOICES DURING THE 4TH-3RD-MILLENNIA BCE IN CENTRAL-SOUTH PORTUGAL.

BOAVENTURA, RUI^{*} / MOITA, PATRÍCIA^{**} / PEDRO, JORGE^{***} /
NOGUEIRA, PEDRO^{***} / MACHADO, SUSANA^{4*} / MATALOTO, RUI^{*} /
PEREIRA, ANDRÉ^{*} / MÁXIMO, JAIME^{***} / ALMEIDA, LUÍS^{***} /

Within the project MEGAGEO (Moving Megaliths in the Neolithic) a review and inventory of the type of tombs has been conducted for the Central-South part of Portugal, crossing it with its geology background. This has highlighted that choices seem to have been conditioned to a certain level by physical conditions, as well as chronology of erection. Nevertheless, focusing the attention to some case studies of megalithic tombs and the provenance of its slabs it was possible to verify that availability of raw materials and agency might had different roles and importance in the moment of builder's choices.

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IBERIAN NEOLITHIC AND CHALCOLITHIC DITCHED ENCLOSURES: A COMPARATIVE HISTORY OF THEIR INTERPRETATION (WORKING TITLE)

JIMÉNEZ JÁIMEZ, VÍCTOR^{*}

Neolithic ditched enclosures appear to be widely distributed across Central and Western Europe, and from the Mediterranean area to Scandinavia. They have been known in areas of Europe for a long time, but particularly in the last 25 years studies on them have flourished. In Iberia, by contrast, ditched enclosures, which were built for a very long period between 6th and the 3rd millennium cal BC, only began to be known in the 1970s, and even then methodological deficiencies and lack of funding hampered their characterization until very recently. As a consequence of this, not only Iberian ditched enclosures were largely unknown outside Portugal and Spain, but also Iberian archaeologists were not aware of the potential analogies themselves, and the research that was being carried out elsewhere in Europe had almost no influence on the way ditched enclosures were surveyed, excavated and inter-

preted in the peninsula. Traditional models view Prehistoric Iberian ditched enclosures as 'fortified settlements': permanently inhabited centres with robust defensive systems composed of ditches. Because some of them are of exceptional size, a number of studies have argued that the southern Iberian Chalcolithic (roughly the 3rd millennia BC) saw the emergence of unprecedented levels of social inequality and the decline of kinship as the basis for most human social relationships. If true, this represents the development of some of the earliest 'complex communities' in Western European Prehistory. Yet, in most other areas of Europe, enclosure sites are interpreted very differently, often as seasonal gathering places for the agglomeration of smaller-scale, more mobile communities that remain based largely on principles of kinship. In this paper I will describe and explore the implications of this contradiction between the Iberian and the wider European models by comparing the history of interpretation in Iberia with that in other areas, mainly Britain.

* University of Southampton

DITCHED ENCLOSURES IN SOUTHWEST IBERIA: NEW PERSPECTIVES, NEW APPROACHES

MILESI, LARA* / JIMÉNEZ JÁIMEZ, VÍCTOR** / MÁRQUEZ, JOSÉ ENRIQUE***

Neolithic and Copper Age earthwork monuments somewhat similar to those known as *causewayed enclosures* in Britain and *enceintes à fossés* in France have been recently recognised in Portugal and Spain. Their likely role in wider archaeological issues such as monumentality and social differentiation in Prehistoric Europe, a central focus of this conference, prompts us to discuss the evolution of their study and interpretation, with particular attention to Southern Iberia.

In this paper we will describe the history of research of southwest Iberian ditched enclosures, noting a clear break occurred in the last few years of the 20th century, when an empirical and theoretical revolution took place, bringing about profound changes in methodology and interpretation of said places. The new approaches not only have transformed the way Iberian Neolithic and Chalcolithic ditched enclosures are studied and conceptualised, but also have fostered their integration in the more general European debates about aspects such as their temporality, formation and social meaning, including ethnoarchaeological studies that attempt to understand monumentalised meeting places in context.

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** University of Southampton

***Departamento de Ciencias y Técnicas Historiográficas, Historia Antigua y Prehistoria, Universidad de Málaga

MONUMENTAL ENTRANCES AT IBERIAN NEOLITHIC AND CHALCOLITHIC DITCHED ENCLOSURES. ENTRANCE 1 AT PERDIGÕES (PORTUGAL) AS CASE STUDY.

CARO, JOSE L.* / MARQUEZ-ROMERO, J.E.* / JIMÉNEZ JÁIMEZ, VÍCTOR**

Ditched enclosures have been found in many European regions during the Neolithic and Copper Age. This widespread, almost pan-European monumental tradition has also been documented in the Iberian Peninsula in the last 25 years, although the impact of their discovery in the continental debates has been, for the most part, rather small.

In these enclosed sites, ditches delimit spaces by establishing an inside and an outside. Crucially, however, in most enclosures known to date with enough detail, ditches show one or more interruptions interpreted as entrances or points of access that connect the outside with the inside. These entrances appear to be architectural elements of great importance and possibly special meanings.

During the Neolithic, European ditched enclosures showed great formal variability, from the simplest (a break or discontinuity in the ditch's layout) to more complex forms such as the *pince de crabe* (crab's claw). Many of them show astrological awareness and/or orientation towards certain prominent features of the surrounding landscape. Changes in form and transformations through time, both of the entrance itself and of the nearby elements, are also very common. All in all, they are an important component of almost every ditched enclosure, and often some of the most visibly monumentalised areas of these sites.

This presentation has two objectives. First, we shall examine the monumental character and the diversity of entrances at Southern Iberian Neolithic and Chalcolithic ditched enclosures (4th–3rd millennia cal BC). Second, we will focus on Entrance 1 at Perdigões (Portugal), its form, features and temporality, as a particular case to be contextualised in the wider Southern Iberian scene.

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**University of Southampton

THE ENIGMA OF THE NEOLITHIC CULT HOUSES – GRAVES, SHRINES OR SOCIAL STATEMENT?

GEBAUER, ANNE BIRGITTE*

The purpose of a small group of enigmatic structures dating from 3300–3100 BC during the Danish Funnel Beaker period has been a topic of discussion for half a century. These

buildings have variously been labeled as »cult houses« or »mortuary houses«, while at the same time interpreted as actual »chapel houses« keeping dead persons or as »temples« dedicated only to worship. Based on a new study of the Tustrup site where three megalithic tombs and a cult house were located in close proximity, the role of the house and its relationship to the other monuments is analyzed. The characteristics of eleven known mortuary houses are presented. This review includes a discussion of the architecture, activities at the houses such as votive offerings and evidence of proscribed participation, as well as the final demise of these buildings. The custom of building mortuary houses is related to other Funnel Beaker ritual sites such as bog offerings and causewayed enclosures, as well as the ancestor cult of the megalithic tombs and the slightly younger stone packing graves.

* National Museum, Copenhagen, Denmark

TUSTRUP CULTHOUSE – ARCHITECTURE AND DESTRUCTION

ERIKSEN, PALLE*

In 1955–57 Poul Kjærø, Moesgaard Museum, excavated the Tustrup site in eastern Jutland, Denmark including two dolmens, a passage tomb and the so-called cult house. According to the excavator, the cult house was a roofed, horseshoe-shaped structure with stone and wood-built walls defining a nearly square room 5 m by 5,5 m opening towards the North East. The walls were 0.5 to 1.5 meter thick and faced on the outside with stone slabs about one metre high. The interior walls were constructed of orthostats, 1.6 meter high, at the rear wall and oak trunks along the sidewalls. The intermediate space between the inner and the outer walls was packed with smaller stones. No traces of roof carrying posts were observed inside the house, which burnt down shortly after the construction. Since the excavation of this first Danish Neolithic cult house, ten other Danish cult houses have been discovered. The results of these investigations combined with a new analysis of the Tustrup cult house show quite a different picture of this structure in the Neolithic. The Tustrup cult house – or was it just an open enclosure? – had at least two phases of construction. Also, the appearance of the building was different as the exterior and interior walls were freestanding structures with an empty space in between. The demise of the house was more violent than was previously thought including destruction by fire, over turning of both kerbstones and orthostats, and a final sealing of the entire site by a layer of smaller stones.

The new analysis, including the dolmens and the passage tomb and the ceramics, is undertaken by Palle Eriksen and Anne Birgitte Gebauer and will be published in the near future. But first a small re-excavation of the cult house is planned to solve some specific issues. You will hear more about this and the house in general at the conference.

* Arkæologi Vestjylland

MEGALITHIC TOMBS, STONE HEAP GRAVES AND RITUALS IN NORTH-WESTERN JUTLAND: SPATIAL AND CULTURAL RELATIONSHIPS

JOHANSEN, NIELS NØRKJÆR* / NIELSEN, SIMON KJÆR**

In this paper we discuss spatial and cultural relationships between megalithic tombs of the middle TRB period and stone heap graves of the late TRB period in north-western Jutland, Denmark. First, we compare the spatial distributions of these monuments within the region, both at a regional scale and within more delimited local areas. This comparison shows a high degree of correspondence, though with some important qualifications. We also compare the regional distributions of these two types of monuments with that of barrows from the subsequent Single Grave period. We then address the role of megalithic tombs in ritual life during the late TRB of north-western Jutland, including both activities/ finds found in megalithic chambers and the occurrence of deposits containing fire-cracked flint artefacts and other burnt material by the entrances of megalithic tombs. This leads to our concluding discussion of the cultural relationship between the burial monuments and cemeteries of the middle and late TRB, i.e. between the groups that constructed and used these respective structures and monumental areas as crucial ritual focal points within larger landscapes. This identifies a specific combination of continuity and discontinuity between the middle and late TRB, which has implications for understanding the regional cultural trajectory and its response to wider cultural trends occurring at a supra-regional scale.

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BARROWS, MAGIC CIRCLES AND THE FUNCTION OF CAUSEWAYED ENCLOSURES

KLASSEN, LUTZ* / KNOCHE, BENEDIKT**

The function of causewayed enclosures has been debated controversially for more than 100 years and the discussion still continues. No consensus whatsoever has been reached and arguments for and against all of the major functional interpretations that have been proposed (fortification, cattle herding facility, central marketplace, central assembly site for social and ritual interaction) can be brought forward. The only thing that can be stated with certainty is that whatever the function or functions of these enigmatic sites was/ were, this function was withdrawn from modern western common sense interpretations.

This paper uses an alternative approach to address the problem. A structural comparison between the design, architecture and materials used in the construction of kerbstone rows around Neolithic and Bronze Age barrows with the architecture and depositional practice in causewayed enclosures is conducted. This comparison allows identifying the ditch circuits of causewayed enclosures as temporary magical circles that were intended to protect the surroundings from dangerous rituals conducted inside.

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ENCLOSURES AND TIMBER CIRCLES ON BORNHOLM

NIELSEN, FINN OLE SONNE*

A double causewayed enclosure at Vasagård on the island of Bornholm has been investigated since 1988. Pottery dates the construction of the monument to around 3.500 BC, and it appears to be the northeastern-most enclosure of the classic type. From around 2.800 BC the ditches were covered and replaced by palisade enclosures of a much larger scale, similar to the palisades at Rispebjerg on the southeastern part of Bornholm, where there have been at least three phases of palisades. These great monuments seem to disappear around 2700 BC at the transition from the Funnel Beaker to the Battle Axe Culture. Contemporary with the palisade enclosures are timber circles and offerings of small ornamented stones. At Vasagård six timber circles have been excavated, at Ndr.Grødbygård and Rispebjerg four each place. However, at Rispebjerg geomagnetic mapping has shown at least 30 more. The best preserved timber circle until now was excavated in October 2014 at Vasagård West, where the postholes contained several fragments of a burnt, decorated wall panel. Outside Bornholm, four timber circles have been uncovered in NE Scania, so timber circles may be more common in Southern Scandinavia than we now know. It is probably just a question for us North European archaeologists to learn to see round monuments – like our British colleagues.

Literatur: Solstensøen. *På sporet af Bornholms bondestenalder*. Ed. P.O.Nielsen, F.O.S.Nielsen and Chr. Adamsen. bBornholms Museum, Nationalmuseet, Wormianum 2014.

* Bornholms Museum

THE DUTCH HUNEBEDDEN, ESPECIALLY D26-DROUWENERVELD, WHICH WAS ALMOST COMPLETELY EXCAVATED IN 1968 AND 1970, AND ABOUT WHICH A FINAL REPORT WILL SOON APPEAR

BAKKER, JAN ALBERT (INVITED)*

Relatively many of the 53 Dutch megalithic tombs were excavated in the 20th century. I will speak mainly about my own excavation of hunebed D26-Drouwenerveld in 1968 and 1970, of which the final report is now in an advanced state.

Besides, perhaps the largest TRB flat grave cemetery culture ever known was excavated in March and April 2015 by the Archeologisch Dienstencentrum Amersfoort (H. van der Velde and N. Bouma): 121 graves, ca. 130 whole pots from the Brindley 5-7 stages (Early up to Late Havelte, our last TRB phases, cf. Bundsö-Store Valby, MN III-V). 15 à 20 body silhouettes were found. No flint axes, but one "Dutch type of knob-buttet battle-axe", thus proving that Milan Zapotocky's axiom that these also should date from the turn EN/MN is untenable. And 2-3 graves had amber beads, some graves had transversal arrowheads. I hope to be able to specify these provisional data in my lecture.

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THE DUTCH MEGALITHIC TOMBS OF THE FUNNEL BEAKER CULTURE: CURRENT RESEARCH ON THEIR RESEARCH HISTORY

RAEMAEKERS, DAAN*

The Netherlands hold a relatively small group of megalithic tombs, related to the west group of the Funnel Beaker culture (TRB). Nowadays 53 tombs can be visited in the field, while there is evidence that in total some 80 tombs were erected. Most tombs have been extensively studied which resulted in an extensive corpus of publications. At a first glance, it may appear that thanks to these publications, all that can be said has been said. Or has it?

Midgley's excellent overview *The Megaliths of Northern Europe* (2008) makes clear that for many aspects of megalithic tomb construction and use, the TRB west group provides little evidence. While most of the excavations were carried out by A.E. van Giffen of the former Biologisch-Archeologisch Instituut of the University of Groningen, the field documentation of the research on the Dutch tombs resides with the Groningen Institute of Archaeology. A project was started to re-analyse the old excavations to see if new narratives could be obtained.

The work-in-progress has provided insights into several aspect of the 20th century research history and TRB megalithic tombs. First of all, we can trace Van Giffen's efforts to devise a standard excavation method. By comparing various excavations it becomes clear that Van Giffen's excavations focussed on the location of the entrance to the tomb and the presence of kerb stones. It also is apparent that Van Giffen held a different attitude towards restauration than nowadays accepted. In general, it is concluded that most tombs have seen extensive modifications in the 20th century and that analyses on, for example, the relevance of stone types and colours for the builders are only possible to a limited extent.

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THE WOODEN MONUMENTS OF THE DUTCH WETLANDS: A MONUMENT OUT OF TIME

NOBLES, GARY*

Traditional monumentality does not exist in the Neolithic Dutch wetlands. This is a view which has been indicated by many authors since the distribution of such monuments was first mapped. Monuments in the Dutch 'drylands' are indicated by megaliths (the Hunnebedden), flat graves, and barrows.

In 2013 the concept of monumentality was applied to the more nuanced ritual evidence discussing how concepts of monumentality can be applied to this wetland context (see Amkreutz 2013). Most recently a team of researchers returned to the archives to analyse and publish three Neolithic settlement excavations. The expectation was the discovery of domestic routine. Most unexpected was the discovery of a trapezoidal 22 m long timber framed structure at the Mienakker settlement. This contained a human burial in the wider end, a typical long barrow phenomenon. This linked ritual monumentality to the settlement context.

Only when their chronology and international setting are considered does their true significance become apparent.

This paper aims to introduce Mienakker, the 'ritual site', with reference to the sites biography. It will also discuss the period in which it is constructed and how this could provide ideological links to other European cultures such as the TRB.

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PHENOMENOLOGY OF SPATIAL ORGANIZATION OF KUJAVIAN LONG BARROWS

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ZYCH, RENATA*

Basic categories which can be used by an archaeologist are time and space. Considering phenomenology, the space is treated as a sphere of human activity, creation, influence. Phenomenological reflection is a denial of the abstract treatment of a man, the world and is a constructive proposal to rebuild the relationship between a subject and object. A phenomenological method allows us to understand the »living world«. An archaeologist is trying to get to the meanings of the social world that used to be for human being in the prehistory and notice what cultural patterns used to guide their actions. Speaking of archaeology, the studies of the space were most commonly associated with the so-called settlement archaeology. The aim of this study is to examine the symbolism of space regarding the Neolithic cemeteries of the Funnel Beaker culture. So it is a matter concerning the sphere of »sacrum« aspect of the symbolism derived from sepulchral rituals. The range of sources includes cemeteries of megalithic graves, so-called Kujavian long barrows.

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SLONOWICE CEMETERY. AFTER THIRTY YEARS OF EXPLORATIONS...

TUNIA, KRZYSZTOF*

The idea of constructing monumental tombs was an element of funerary practice of the Funnel Beaker culture (TRB), also documented on the loess upland territories of south-eastern Poland. The region where such constructions have been discovered is the upper Vistula River basin. In the compass of that area we know several sites where traces of monumental tombs have been found. The overground parts of these constructions – built near the middle of the fourth millennium B.C. – have been completely destroyed as a result of intensive agricultural activity. Therefore, it was only in the last thirty years that we could learn more about them. They were mostly earth-and-timber constructions (*megaksylons*), built on a trapezoid-plane, from several up to more than hundred meters in length. The tombs vary in shape, size and details. The prevailing construction is an elongated, trapezoid tomb, marked by vertical timber posts, forming the sides of a tomb.

The burial ritual of the TRB in south-eastern Poland was characterized by the presence of 1–3 graves under the mounds. Therefore, we can conclude that in such tombs only the remains of some chosen individuals would be buried, and other individuals were buried near megalithic tombs, on separate »flat« cemeteries.

Megalithic tombs usually represented the oldest phase of using a particular site for burial. In the centuries that followed, graves of the TRB and the Corded Ware culture (CWC), were dug into those constructions or in their vicinity. One can therefore suppose that there existed a tradition of burial places and a continuity in using cemeteries.

The site which has hitherto brought the biggest amount of data about the construction of *megaksylons* is cemetery in Słonowice, Kazimierza Wielka distr., where up to now several tombs and the »flat« cemetery were discovered, as well as a quadrangular square with sides of over 100 meters in length, surrounded by ditches and an earthen embankment. The biggest tomb was about 110 meters in length and 10 meters wide at the base. Along the side walls long and deep ditches were found, which were dug to obtain the soil necessary to fill in the inside of the tomb. In the vicinity a few smaller tombs without ditches were discovered. Also, in the case of several *megaksylons* from other sites, no ditches or any other types of large depressions made while extracting the soil were discovered. It can therefore be supposed that they were 'houses of the dead' without earthen embankments.

* Tunia, Krzysztof

VERIFICATION PROJECT OF MEGALITHIC TOMBS IN WESTERN POMERANIA (POLAND)

MATUSZEWSKA, AGNIESZKA*

I would like to present the main objectives and results of the project which was aimed at identification megalithic tombs. The project – which was carried out at the Archaeology Unit of Szczecin University – was partially funded by the Minister of Culture and National Heritage as part of the programme *National Heritage, priority 5 Protection of Archaeological Monuments*. The key aim of the project was to reconstruct the most precisely as possible a network of the megalithic cemeteries in the area of Western Pomerania. The programme included several stages. The first thing (**stage a**) of the revision of knowledge to date was to create a multifaceted database of megaliths which considered sources such as literature, archive aerial photographs, the 19th-century maps and results of the research programme called the Polish Archaeological Record (Polish: AZP). Another potential and very inspiring source of knowledge could be toponymic analyses that indicate in the town names the occurrence of traces of megalithic cemeteries in the past, e.g. the well-known 'graves of the giants': *Hünengrab* in Kartlewo and Płońsko. The next stage (**stage b**) involved field survey verification of two regions (Pyrzyce region and Myślibórz region). The verification was carried out cyclically (in spring and autumn). We have selected these two regions on the basis of the currently conducted studies. A complete sequence of Neolithic has been recorded there. The two regions are also potentially the richest in the areas with the remains of the megaliths. This stage of work made it possible to fully catalogue the megalithic tombs (or

elements of them) that still exist. In the next part of the project the so-called non-invasive methods were intended to be: aerial photographs (aerial reconnaissance: **stage c1**) and magnetic survey (**stage c2**). The last part was to publish the research results (**stage d**) in two versions (archaeological and conservation documentation as well as a scientific brochure for the general public).

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ALTHEIM. MONUMENTALITY IN FOURTH MILLENNIUM BC BAVARIA?

SAILE, THOMAS*

The Altheim earthwork belongs to the most impressive features of the fourth millennium BC in Europe. Since its discovery about one hundred years ago it is one of the classic sites of the Central European Neolithic. The archaeological material of the earthwork of Altheim became eponymous for the Altheim cultural complex. Located northeast of Landshut, it was first described by I Reinecke as an oval ditched defensive enclosure.

The extent of the causewayed camp, its palisade trenches and balanced proportions as well as the striking orientation of the longitudinal axis have become evident through excavations, aerial photos and magnetograms. But the interpretation of the site is under discussion until today, as is the enclosed space in the Neolithic in general. Plans sketched during the first excavations show important features and prominent details in the distribution of finds in some sections of the trenches that have received little attention in the extensive discussion of the purpose of the earthwork so far. A second rectangular enclosure was detected during a magnetic survey of the site and its surroundings about 60 m SE of the main earthwork; it is most probably related to the monument that has been known for so long. The evidence of old excavations and the results of recent fieldwork give reason to a re-assessment of the discourse concerning the initial function of the Altheim site.

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MONUMENTS OF WHAT? MEGA-SITES OF THE MICHELBERG CULTURE IN THE NORTHERN UPPER RHINE AND MIDDLE RHINE VALLEY

GRONENBORN, DETLEF*

Between 4200/4100 and 3600 cal BC numerous mega-sites of the Michelsberg culture emerge in the northern Upper Rhine and Middle Rhine valley. Many of them are badly preserved and documented but available evidence suggests that they may not have been in continuous use, or that use underwent fluctuations in intensity.

While some of the sites are located along the River Rhine, others have been built on hill-tops. All of these sites do have a pronounced defensive component; their location close to waterways or over-land transport routes suggests a further component of trade and long-distance networks. Goods that may have been at either end of a much more complicated interaction network might be salt from the Upper Rhine Valley and/or Middle Germany and jade axes from Western Europe.

In any case, the size of these sites suggest considerable population concentrations in the study area which might be interpreted as a secondary core zone of Michelsberg culture from which numerous expansion impulses originated.

* Römisch-Germanisches Zentralmuseum

RITUAL EARTHEN MONUMENTS WITH POTTERY DEPOSITS OF MICHELBERG-TYPE – EXAMPLES OF A COMPLETELY NEW TYPE OF LANDSCAPE INSTALLATIONS OF THE EARLY COPPER AGE IN SOUTHERN BAVARIA

EIBL, FLORIAN*

Cultural relationships and expressions of early copper age (end of 5th and first half of 4th millennium) are still conjunct with many questions in southern Bavaria. There are good possibilities to find answers to these questions on a quantitative and qualitative much better basis now, especially from recent excavations.

As a result we got some new insights firstly on the relationships between cultural and ritual expressions of late Münchshöfen and older Altheim Group and, secondly, on these groups and Michelsberg.

The most impressive features, apart from known places with ditch-enclosures, are surely three ritual monuments of long and narrow ground plan which had been discovered in two rescue excavations in central Lower Bavaria and southern Upper Palatine in 2009.

It is highly likely, due to aerial photography examination from southern Bavaria, that many

more examples of such monuments exist which are a completely new type of ritual monument in the region.

All these monuments had been constructed by post-ditches and maybe by earth banks in relatively exposed topographical locations. The largest monument, according to one of the two ground plans from Neufahrn (central Lower Bavaria), is more than 60 meters long. Because of massive charcoal remains from its features, it seems to have been burnt down intentionally. A deposit of eight Michelsberg-type vessels has been recorded in the centre of the monument layout. Additionally, two smaller deposits with up to four Michelsberg and Altheim vessels had been found close to the monument.

Unfortunately, we are not able to prove a funeral function of this doubtlessly ritual monument because of bad bone preservation conditions.

First attempts in 3d-modelling seem to demonstrate noticeable effects of these installations in their surrounding landscape. Such impressions support an interpretation as ritual monuments which might have been commanding figures in the landscape of a smaller settlement area.

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AN DER PERIPHERIE: EINE TRICHTERBECHER-ZEITLICHE SIEDLUNGSLANDSCHAFT IN MITTELSACHSEN ZWISCHEN ELBE UND MULDE

STROBEL, MICHAEL*/ VEIT, ULRICH**/ FRASE, JÖRG**/ VOGT, RICHARD***

Since 1990 a prehistoric landscape moulded by monumental structures has been discovered in the area around Riesa by the river Elbe in the Meißen district through aerial reconnaissance. By now we know of six enclosures (Riesa, Jahnishausen, Prausitz, Pahrenz, Mehltheuer, Plotitz) and 30 long barrows in an area of only 30 square kilometres. This micro region is located outside the hilly loess-area with its favourable soils that had been populated for the first time by groups of the oldest Linear Pottery Culture. It therefore represents a classic example of an area of »tertiary Neolithisation«. At the moment only the enclosures of Riesa and the long barrows of Prausitz can be dated classing them to the Baalberge Group. The enclosures, being located either in floodplains or on flat hilltops and ridges, show a clear relation to small streams and lowlands. Compared with the threefold or rather fourfold ditch construction of Riesa and the twofold ditch construction of Mehltheuer and Plotitz, the enclosures of Jahnishausen, Prausitz and Pahrenz consist only of a single ditch. In association with these enclosures long barrows occur, regularly orientated in east-west-direction and which appear to be built alongside former roads. By means of drilling within the floodplains of the Mehltheuer- and Keppritz-brook sediments of humid condition could be revealed that hold extraordinary scientific potential regarding

the reconstruction of former landscapes. Additional test trenches, radiocarbon analysis and scientific investigations such as palynological and pedological analysis are to contribute to a more accurate determination of the age of these monuments as well as to the construction of models regarding the structure and genesis of this new landscape of the Funnel Beaker period.

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HALDENSLEBEN-HUNDISBURG: A SMALL REGION WITH TWO TRADITIONS

SCHMÜTZ, KAY* / RINNE, CHRISTOPH*

The southernmost extension of the Altmärkische Tiefstichkeramik meets the northern border of the area of Central Germany, which has been colonized since the Linearbandkeramik, in the vicinity of Haldensleben-Hundisburg. The enclosure Hundisburg-Olbetal of the Central German Young- and Late Neolithic lies just a couple of hundred meters away from the Haldensleber Forest`s megalithic tombs, merely separated by a small river by the name of Beber. The objective of the presentation is a diachronic view on the investigation area with a special focus on the beginning and evolution of monumentality to depict synchronisms and dissimilarities in this area with two different Neolithic traditions. In succession of this analysis the question of intercultural interaction in this cultural borderline situation will be discussed. Is there evidence of interdependence, divergency or acculturation in the respective material culture on both sides of the Beber?

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**WHAT'S GOING ON IN THE SOUTHEAST?
SEARCHING FOR THE FUNERAL AND RITUAL PRACTICES
BEYOND THE MEGALITHIC OIKUMENE.
EXAMPLES FROM THE LAND OF BRANDENBURG.**

BERAN, JONAS (INVITED)*

The core theme of our conference are the monumental buildings of the Northwest European Neolithic, particularly those of megalithic type. We can observe a development from simple inhumation burials to more and more impressive wooden and earthen structures and finally to megalithic circles, chambers, stone walls and stone pavements.

In addition to the presumed primary cause of their construction various other social purposes and functions and meanings are attributed to them. Those are considered as obviously necessary for societies of this stage of development.

But unfortunately impressive events or monuments can be also designed and organized in archaeologically invisible or hardly visible techniques of construction. From written sources we know pre- and protohistoric societies with priests and royal dynasties and glorious kings without any archaeological evidence for palaces, temples, royal tombs and such things.

That's why making every conceivable effort and trials to gain it should be a useful and honorable challenge for archaeological field work. (much more exciting than dealing with the boring megalithic graves again and again and again :))

In the middle of the 4th millennium the boundary line between the northwest group and southeast group of Funnel Beaker Culture is becoming more and more visible. In the vast area south-east of the line Erfurt–Halle–Potsdam–Prenzlau the development from simple inhumation burials to the long barrows can still be observed, but after that there are no more megalithic chambers or nonmegalithic collective burials. Because we do not assume that there have been less developed societies than in the NW, we have to ask: How did they treat the mortal remains of their leading and important people? What did they do for the glory of their clans and communities?

Rescue excavations of the last two decades supplied some evidence especially for the so called Britz Culture, which is regarded as the last stage of the East Type Funnel Beaker Culture, mainly in the areas of Berlin, Potsdam and Cottbus, obviously having much more in common with the Late or Post Baden Culture Complex than with the FBC. Of special interest are places near the border with the NW-FBC. In the older stage we have inhumation graves, mostly without preserved grave gifts. Later there are cremation graves, which are very shallow buried or even laid down on the old earth's surface and thereby preserved only by chance of course. Within one settlement were found three wooden buildings of other size and shape and finds than normal farm houses, possibly used for funeral, ritual and representative purposes.

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MEGALITHIC MONUMENTS IN SARDINIA (ITALY)

CICILLONI, RICCARDO*

On the island of Sardinia, in the western Mediterranean, the megalithic phenomenon is documented at least since the Middle Neolithic age (5th millennium BC), reaches its peak during the Late Neolithic and the Copper Age (first centuries of the 4th-end of the 3rd millennium BC) and develop further till Bronze age. Sardinia excels indeed displaying quite a lot of megalithic monuments: currently, we know 220 dolmenic burials, about 750 menhirs, a hundred of statues-menhirs and at least twenty megalithic circles. The dolmenic tombs are particularly interesting: as it regards the typology, they belong to five main categories: simple type, »corridor« type, »side entrance« type, »mixed« type and »allées couvertes« type. Even though the size of the Sardinian dolmens is not generally so great, they are highly visible in the landscape; many of them are closely related to nature trails, sometimes coinciding with canyons or valleys. These monuments should have not just a funerary or ritual function, but also »political«: these monuments, in fact, could be interpreted as »signs of territorial demarcation of segmentary societies«, according with the hypothesis already carried out by Colin Renfrew, with functions of control and organization of the territory by small groups of farmers and shepherds. Recent researches have highlighted tight structural relationships between the megalithic monuments of Sardinia and some extra-insular regions, as the Iberian Peninsula, France and chiefly Corsica. We can infer that during the prehistoric age Sardinia was not a cut-off region, with only scarce relations with other areas, but that, on the contrary, it had to make part, also from the cultural point of view, of the whole Western region of the Mediterranean basin. This contribution intend to offer the most outstanding testimonies of the megalithic phenomenon in Sardinia, linking it to the chronological and areal correspondences of the western Mediterranean region.

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THE ORIGIN OF MEGALITHS IN THE NORTHWEST CAUCASUS

REZEPKIN, ALEXEJ (INVITED)*

Estimated report will address issues emergence of funerary megalithic structures (tombs, dolmens) in the Northwest Caucasus. The author of these lines for more than 25 years ago has been hypothesized independent European origin of megaliths in the region.

According to this hypothesis, the origin of dolmens associated with domed tomb of Portugal and Spain and their future evolution of the Northwest Caucasus. All dolmens belong to the era of the Middle and Late Bronze Age.

Emphasis will be placed on the megalithic tombs of the Early Bronze Age. Origin, material, chronology.

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EARLY DOLMENS IN THE WESTERN CAUCASUS: EVOLUTION OF CONSTRUCTION

TRIFONOV, VIKTOR (INVITED)*

The most common monuments of the Bronze Age in the Western Caucasus are megalithic tombs or dolmens with a port-hole slab – a distinctive entrance to a burial chamber.

The material complex and radiocarbon dates show that this type of dolmens appeared in the region as early as 3250 BC and co-existed with the Novosvobodnaya-type of the Maikop culture, located on the northern slope of the main Caucasus ridge. Stone and timber dolmen-like constructions related to socially unequal groups were in use for that period.

The Dolmen culture was responsible partly for the origin of the Novosvobodnaya-type of the Maikop culture and the wide use of dolmens in the funeral practice in the Western Caucasus until the last quarter of the IInd millennium BC.

The distinctive structural characteristic for early dolmens were floor slabs laid between the side slabs, which were embedded in the ground. Later this tradition was changed to slab-on-grade or strip foundation for the side walls and sloped buttresses, cairn and retaining wall were added to secure the burial chamber from deformation shift.

The basis on which early forms of dolmens were developed may have been adopted from architecture of dwelling, storehouses or granaries. The existence of such a connection between ritual and secular architecture could explain specific features of dolmen construction, layout, dimensions, design, decoration and even choice of building material. There is nothing better than stone to build an eternal storehouse of human remains.

In spite of signs of similarities between Caucasian dolmens with a porthole in Europe and Asia, the West Caucasian (Colchis Lowland) origin of the dolmen pottery ware encourages the search for a local origin of the Caucasian dolmens.

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A »REDISCOVERED« MENHIR IN MID-SOUTHERN SARDINIA (ITALY)

CICILLONI, RICCARDO* / PORCEDDA, FEDERICO**

The territory of Mid-Southern Sardinia, and in particular the »Sarcidano« area, is very rich in sites of pre- and proto-historic times.

There are also a lot of megalithic monuments dated to Late Neolithic and Copper Age (early IV – early II millennium BC), such as allées couvertes and menhirs and statues-menhirs. Among those, we report an interesting menhir located in the territory of Serri, called »Sa Porta«. The menhir has been reported in the 40s of last century from the scholar Giovanni Lilliu, who, in a time when the megalithic phenomenon was not yet well known, wrongly dated it to the Roman period, as pertinent to the Roman town of Biora, localized nearby. In the following years the traces of the menhir were lost, so the scholars and the locals believed it was definitely lost or destroyed. During a recent research named »Serri Survey Project« (University of Cagliari), the menhir has been »rediscovered«: thanks to the renovation of a country road, the menhir (which is on the edge of the road) was almost completely covered, by protecting it from removal or damages. This is a discovery of great importance, as it is expected that the menhir is still placed in its original position, event quite unusual with regard to Sardinian menhirs, which has been discovered often collapsed or in secondary position.

The menhir, in good storage conditions, is constituted by a monolith of schist well worked with hammer. It is 1.50 meters tall and it has a sub-ogival profile. It is probably part of the class of »proto-anthropomorphic menhirs«.

The menhir »Sa Porta« is well placed in the megalithic context of Mid-Southern Sardinia, and it has several comparisons with other menhirs in the surrounding area and above all with those of the megalithic and hypogeic site of Pranu Mutteddu–Goni.

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HYPOGEAN BURIALS OF PREHISTORIC SARDINIA (ITALY): THE DOMUS DE JANAS OF SULCIS IGLESIENTE (SOUTH-WESTERN SARDINIA)

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VELLI, ADRIANO* / VELLI, EMILIANO**

This work aims to provide an overview of one of the most significant monumental evidences of prehistory of Sardinia, the so-called Domus de Janas (in Sardinian, »home of the fairies«), hypogeal tombs carved in the rock characterized from simple or complex plants, in which thanks to the presence of some architectural carved elements, it is possible to identify evident connections with contemporary above-ground houses. The presence of ceilings characterized by the accurate reproductions of carved beams and supported by pillars, together with cornices, counters, false doors, small windows, underlines the close relationships between these hypogeal tombs and the houses of the living. The phenomenon of the »Domus de Janas«, which should be placed in the wider context of the prehistoric Mediterranean hypogeism, was born in Sardinia in the Middle Neolithic (4900–4000 BC) with occasional examples of oven tombs with a simple, mono-cellular scheme, built for a single burial. It climaxes during the Late Neolithic, with the culture of San Michele di Ozieri (4000–3200 BC); in fact it is in this period that large-sized necropolises made up by scores of tombs with occasionally very sophisticated layouts, many of whom are decorated with engraved or embossed symbols and patterns, often enriched by the presence of red ochre. This type of hypogeal collective tomb will be used, though less frequently, also during the Chalcolithic, till the Early Bronze Age, when it will ultimately lose its religious and cultural meaning. Domus de Janas are common in the whole Sardinia: some of the most meaningful specimens can be found in the Sulcis Iglesiente (South-Western Sardinia); among them, the imposing necropolis of Montessu (Villaperuccio, CI), actually the most extensive prehistoric necropolis in the Island.

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THE FUNCTION OF THE SPIRIT HOLE OF THE HESSIAN-WESTPHALIAN GALLERY GRAVES

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Until now, the traditional theories assumed that the spirit hole was used as the entrance to place dead bodies into the gallery grave.

Our described findings shed new light on these theories and offer alternative insights for the usage. Due to the levelling, the height of the ceiling to the capstone was too low to freely move in the gallery grave and bury the dead. Thus, an alternative access must have been available to place a dead body into the gallery grave. The most logical access appears to be from above. A number of questions about the practical handling of the capstones were identified. It is possible that in a first step the graves were temporarily covered with wooden joist. Later on, when the graves were completely filled, they were finally closed with capstones. It is assumed that some graves with such an hypothesized wooden cover were not completely filled at the time of the religious change. The interest to close those grave was then lost.

The completely conserved bodies of a man and a woman, as well as five lower jaw halves from foxes which served as grave goods, can be seen as one of the last burials in the gallery graves, at least in the gallery grave of Altendorf. Almost certainly this grave was never finally closed with stones.

According to the new hypothesis, the function of the spirit hole as being the entrance was questionable, and a new function had to be identified. One possible theory is linked to the so-called fox rite, in which the spirit hole plays an important role. In this rite, the spirit hole is the entrance and exit for the fox.

Even if this theory cannot be proven with certainty, a lot of arguments are supporting this theory. Thus, the presence of polished lower jaw halves of the foxes as one, if not the most important grave goods, support the ritual importance of the fox.

Even now a days foxes in wildlife tend to take over already existing lairs, e.g. of other animals like badgers, to find shelter. There is even evidence that foxes use graves. Although rare, human bones with fox bite marks have been found.

The main argument against a simultaneous usage of the spirit hole by human and fox was the presumed disturbance of the fox induced by the presence of humans entering or leaving through the spirit hole. But based on our new insights, this traditional theory of the spirit hole as human entrance must be questioned.

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3-D DOCUMENTATION AND VISUALISATION OF THE LATE NEOLITHIC NECROPOLIS OF ERWITTE-SCHMERLECKE, WESTPHALIA

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Today, the documentation of archaeological remains is done using geodetic methods. A variety of tools are available, but looking at the documentation methods in archaeology, the

level of technology varies. Efficient, accurate and flexible data acquisition techniques are needed. They have to be able to capture single objects, object assemblies as well as the topographic environment comprising both, the geometrical and the visual context. For the latter, especially archaeological fieldwork needs more and more the integration of new and well-adapted digital techniques.

Photogrammetric solutions, especially for single objects, have a long tradition in archaeology, meanwhile based on a complete digital process chain. Preferably, they have to make sure that a geometrical processing is possible, but especially for working under time pressure they might also be captured »free hand«. This method simplifies the recording and can be adapted to the object and needs of the user. Flexibility, short capture times as well as image documentation are important arguments for the use of photogrammetry.

Beside these close-range technologies, a special value now lies on low altitude aerial image measurement, here in particular on the capture of larger excavation sites. Parallel to professional airborne systems, low-cost solutions have been established since the last years. They often combine light aircrafts with a geo-referenced digital medium format camera and can be used very well for the aerial-supported capture of smaller and middle excavation areas (some 10 ha). A new upcoming technology, with rising acceptance in geodetic documentation processes, is based upon the use of unmanned aerial vehicles (uVA). To get geometrical information from the captured aerial images, nowadays often »Structure from Motion« (SfM)-techniques are used.

Terrestrial Laserscanning (TLS) is a measurement technology which expresses objects by 3-D point clouds, consisting of up to several hundred millions of 3-D points. The process offers huge temporal advantages with the local capture of the objects compared with traditional measuring methods. Nevertheless, the subsequent treatment of the data within the scope of evaluation processes is complex, requires highly sophisticated technological engagement and is mostly restricted to be used by geodesists.

3-dimensional visualisation techniques are more and more used to present complex archaeological excavation sites or extraordinary objects to a broader public. This kind of visual presentation often helps to better understand the objects or the concurrence of involved systems, not only for experts but also for interested laymen.

The poster shows a process of documentation und visualisation using the example of a Late Neolithic necropolis with two gallery graves, located in Erwitte-Schmerlecke, Westphalia (Germany).

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ORAL PRESENTATIONS

**LONG-DISTANCE LANDSCAPES:
FROM QUARRIES TO MONUMENT AT STONEHENGE**

PARKER PEARSON, MIKE (INVITED)*

The Middle-Late Neolithic in Britain witnessed an expansion of long-distance networks across the island of Britain (but not apparently across into continental Europe until the arrival of the Bell Beaker phenomenon). Distant places such as Orkney and southern England were linked by shared ceramic styles and architectural forms. Most dramatically, some 80 megaliths (each weighing around 2 tonnes and known as 'bluestones') were brought 140 miles from west Wales to Stonehenge on Salisbury Plain around 3000 BC. Five hundred years later, some 80 sarsen (silcrete) megaliths (some weighing up to 35 tons) were brought to Stonehenge probably from as far as 20 miles, most likely from the Avebury area. Recent excavations at two of Stonehenge's bluestone quarries have provided evidence of how the monoliths were extracted, and of the landscape significance of these outcrops. The sequence of activity at one of them is now radiocarbon-dated, indicating that the monoliths were extracted there during 3500–3120 cal BC, several centuries before they were put up at Stonehenge. This raises the possibility that these monoliths may have had lengthy 'biographies' and 'travel histories' before they were eventually erected (and subsequently re-positioned three times) at Stonehenge. They may also have served to introduce landscape elements of one region of Neolithic monuments in west Wales to another on Salisbury Plain, possibly as part of long-term cultural links and human migrations between distant regions. This paper will examine some of the potential motivations for moving megaliths such long distances, a unique phenomenon among the megalith-building cultures of the Western European Neolithic and Chalcolithic.

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MONUMENTS ON THE MOVE. ASSESSING MEGALITHS' AGENCY OVER NW IBERIAN LANDSCAPES

FÁBREGAS VALCARCE, RAMÓN (INVITED)* / RODRÍGUEZ-RELLÁN, CARLOS*

Monuments as such have implicitly a perennial character and act as presumed means for consecrating or marking out especial places. That would be the case of megalithic mounds, which add their funerary character to the aforementioned features.

But in the last decades an increasing emphasis has been placed on the relationship between megaliths and movement, at first understood in the simpler sense of a correlation between mound location and paths across the landscape, but later on taking on a more structural character, having to do with the internal change (mobilization) of the building components, the incorporation of allochthonous materials both into the construction itself (bringing in orthostats on non-local stones or using river cobbles in stone layouts) and exotic grave goods. In that way they appear to evoke more or less distant places and the displacements implied to gathering them in the framework of the tomb.

The inverse situation might happen, too: thus we can find in the foundation of a hut downhill an imitation or even an original example of the stone idols found at the entrance of passage tombs uphill.

Those observations can now be better substantiated in areas such as the Barbanza Peninsula, where a relatively thorough catalogue of megaliths is available, showing –to start with– that these are far from being bound to the high sierra, though showing higher concentrations over there. The enlisting of new methodologies, such as GIS or Agent Based Modelling, will show how mounds (unlike other kind of – less conspicuous – monuments such as petroglyphs) are very much associated with the transit routes and the main crossroads.

As a result, we may contemplate megalithic architecture not as something exclusively or mainly static but, on the contrary, dynamic and linked to a cognitive geography developed by communities in the Recent Prehistory that carry on the exploitation of different landscapes and resources, from the very coast to the uplands.

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SETTLEMENTS AND MEGALITHS IN EASTERN HOLSTEIN

BROZIO, JAN PIET*

Within the sub-project „Megaliths and Settlement Structures of Funnel Beaker Times (3500–2700 BC) in Eastern Holstein“ of the Priority Program SPP 1400, studies on settle-

ment structures have been carried out in southeastern Schleswig-Holstein since 2009. The objective of the project is to reconstruct Neolithic communities in two small regions that differ from one another by nature due to their locations in the inland and on the coast. In both areas, new research results were gained through prospection, excavations and the analysis of data collected by archaeological recording.

This presentation focuses, on the one hand, on a settlement site and, on the other hand, on a burial ground located at the coast of the Baltic Sea near Oldenburg i.H.

The settlement of Oldenburg belongs to the few sites of the southern Funnel Beaker north group, from which various settlement structures in the form of houses and wells exist. The development of an absolute chronological phase model enables temporal and spatial differentiation and therefore the reconstruction of the settlement history from 3270–2920 cal BC. The megalithic tomb Wangels LA69 is characterized by an *in situ* burial horizon with a rich ceramic inventory. With supporting absolute chronological dating, it is possible to trace the emergence of the site on a fine chronological basis. Spatial and temporal differentiation of the finds facilitates the reconstruction of individual burial activities. The integration of both sites within the region leads to a reconstruction of the settlement and the burial landscape, extending from the Late Mesolithic into the Neolithic.

The presentation concludes with an exemplary comparison of the results with a small inland region in the southern range of the Funnel Beaker north group in order to identify differences and similarities in the use of various natural areas.

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RECENT ARCHAEOLOGICAL STUDIES OF TRB SETTLEMENTS IN NORTHWESTERN GERMANY

MENNENGA, MORITZ*

Northwest Germany was settled by the Funnel Beaker (TRB) and the succeeding Single Grave Culture (SGC) during the 4th and the second half of the 3rd millennium BC. Numerous megalithic tombs and grave mounds, as well as finds of settlements and hoards document the presence of these cultures in the area. Therefore, the region provides an ideally suited environment for investigations into relationships between different findspot ensembles and the nature and extent of human influence on the surrounding landscapes. A multidisciplinary study, realized within the project »Settlement and landuse in northwestern Germany«, involves archaeological and palynological studies to reconstruct the landscape.

In the area between the rivers Elbe and Ems, thousands of graves are proofed and probably many more have been destroyed. The spatial distribution of these tombs provides an idea of how well populated the area was during the middle and young Neolithic. But up to

now, only six settlements with building structures have been documented.

For the present study, the settlement sites Flögel, Lavenstedt, Pennigbüttel and Visbek are object to detailed investigations. While Pennigbüttel and Flögel are now getting re-evaluated, Lavenstedt and Visbek were new excavated during the project. With finds and features it is possible to reconstruct different types of buildings, which are showing relations to the northern and western areas of the TRB. With Lavenstedt it was for the first time possible to excavate and analyse a settlement cultural layer in this area, and in addition infrastructural buildings and the proof of the direct impact of the settlement activities on the surrounding landscape.

Newly obtained AMS 14C Data and re-calibration of already published 14C data enables the refinement of Brindley's connection between ceramic typology and absolute chronological dates which could be used for a more reliable classification of TRB finds in future studies and campaigns.

In summary, the outcome of the project enables new insights in the structure of settlements, the tradition of building and the interaction of people and landscape and therefore provides a comprehensive summary of the TRB in northwestern Germany.

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CONSTRUCTION AND LIFE OF A MEGALITHIC LANDSCAPE: TWO FORMS OF MONUMENTALITY IN THE CHARENTE VALLEY (FRANCE)

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As part of a tri-annual collective research project (2013–2015), funded by the French Ministry of Culture and the General Council of Charente, we are conducting a joint study of two forms of Neolithic monumentality – megalithic tombs and causewayed enclosures – in a small area of the Charente Valley. The main objective is the understanding of the emergence, development and relationships between these two kinds of sites and their role in the construction of living territories and symbolic landscapes. The project combines aerial, geological and geophysical surveys, archaeological excavations and spatial analysis with the most effective tools.

By linking the world of the dead and the living world, artificially separated by the history of research, this project initially sought to identify the habitats of the megaliths' users, previously unknown. Two enclosures, with large causewayed ditch and palisade, discovered by aerial photography, were surveyed and dated from the Middle Neolithic. As we show during this presentation, it seems that these first enclosures were built closer to the necropolis, in a common visibility area, while later enclosures appear more randomly scattered in the space

at the end of the Neolithic, where they form a stronger network coverage in the landscape. The architectural, technological and geological study of two megalithic tombs, partially excavated, as well as the research of peripheral structures closed to the tumulus, allow us to discuss a part of the long history of these sites and wider the megalithic landscape, issue already addressed through visibility analysis (E. Lopez Romero & L. Laporte). The example of the dolmen of »La Motte de la Jacquille«, known for its unique stone door with hinges, shows an exceptional case of reuse of pillars from an older monument dismantled. The long distant origin of the raw material used for the chamber cover slab (7 km), in the area of another megalithic necropolis, is another singular character. This monument lets discuss the likely scenarios to remove a megalithic tomb and its reasons, in other words the life of a »angoumoisien dolmen«. The major role of the Charente Valley as a marker in the landscape and as a transportation route for huge megalithic blocks is also considered.

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THE MICHELBERG CULTURE OF NORTHERN BADEN-WÜRTTEMBERG: A CASE STUDY OF A NEOLITHIC LANDSCAPE WITH ENCLOSURES AND OPEN SITES

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In the surroundings of Bruchsal, four enclosures of the Michelsberg Culture (MK), ca. 4300–3650 calBC, are known: Bruchsal »Aue«, »Scheelkopf«, Heideisheim »Altenberg« and the eponymous earthwork Untergrombach »Michaelsberg«. They are situated above small brook valleys giving access from the Rhine valley to the hill country of the »Kraichgau«. Supported by the DFG-Project »Settlement structures of Michelsberg Culture in the Kraichgau area« (www.denkmalpflege-bw) an evaluation and synthesis of the informations about the enclosures and open sites in this area was undertaken. Included were also the results for the enclosures and open settlements in the adjacent Neckar valley (Seidel 2008).

In the first part we focus on Bruchsal »Aue« because it represents one of the few fully investigated earthworks of the classical MK. An analysis of the ditch features in combination with the allocation of ceramics, animal and human bones, as well as 48 radiometric dates, enabled to identify different datable ditch-fill layers and several reconstruction works. Remarkable modifications of the earthworks layout during up to 6 utilization phases within 600 years show exemplarily the dynamic of a Michelsberg enclosure. Discussed will be the question of an uninterrupted occupation of the place and the relationship between the four earthworks and the open sites in the region (MK IIa–MK V/Munzingen).

As to the interpretation of the functions of the enclosures it seems to be clear that the earthworks had a special function for the MK society, which expresses itself in Baden-Württemberg – i.a. – in the occupation exclusively of regions most favourable for agriculture. The difficulty to detect a representative number of open sites contemporary to the estimated occupation phases of the earthworks, prohibits statements about »territories«. And although the enclosures occupy protruding elevations, widely visible, no visual contacts neither between contemporary earthworks nor to surrounding open settlements can be shown.

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BÜDELSDORF: ENCLOSURE, MEGALITHIC AND NON-MEGALITHIC GRAVES IN A MICROREGION OF THE FUNNEL BEAKER PERIOD

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In the early Neolithic, the region around the town Büdelsdorf was a geographically significant location on the peninsula of Southern Jutland. Numerous graves sites and monumental enclosures (Büdelsdorf LA1) demonstrate an intensive useage of the region. These monuments were used by the people of the Funnelbeaker Culture to mark and structure an opening landscape for the first time. This development begins in the 39th century BC, with the appearance of long barrows, flat graves and early megalithic graves. Only about 100–150 years later, the first enclosures were built, thus an increasingly intensive contact within the Funnel Beaker culture over extensive distances becomes visible. During this temporary event, a 5-acre spur was surrounded with 3 circumferential ditches and accompanying walls and palisades, a project that was implemented only by a very large community. Around 3650 BC changes in burial rites become visible by the transformation of non megalithic long barrows to megalithic burials. Simultaneously, the ditches of the enclosure have been re-dug. In the middle of the 34th century, the settlement, which is built on the boundary of the enclosure reflects a social and economic transformation. This transformation is a result of centralization processes in the beginning of the Middle Neolithic. The village with several hundred inhabitants had extensive contacts, practiced long-distance trade and was probably a distribution center for special goods. In addition a ritual function is most likely. The dead were buried in the Necropolis of Borgstedt, which is characterized

particularly by its longevity and heterogeneity. After more than 100 years there has been a return, the settlement is abandoned and the old enclosure is reopened and expanded to its monumental form. By the middle of the Middle Neolithic the ditches receive at least two recuttings. Thereafter, the monuments of the Funnel Beaker Culture increasingly lost their importance and have been visited only occasionally in the subsequent periods.

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CAUSEWAYED ENCLOSURE AND MEGALITHIC TOMBS BETWEEN THE ELBE AND THE EIDER – STUDIES ON THE NEOLITHIC IN WESTERN HOLSTEIN

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The moraine areas of the penultimate glacial period in the western part of Schleswig-Holstein were already used extensively in the Nordic Early and Middle Neolithic. This is indicated by many monumental tombs as well as by at least one causewayed enclosure rather than by settlement sites from Funnel Beaker times. The ritual enclosure site Albersdorf Dieksknöll is dated unusually early in comparison to most Funnel Beaker enclosures. The impulse for its establishment seems to be a result of contacts to Central European cultural groups. At the same time, first monumental tombs arise, which are built in a non-megalithic manner, but are very soon replaced by megaliths in the true sense. Graves and causewayed enclosure reflect various spheres of ritual behavior patterns of the Funnel Beaker population, last but not least visible in the different periods and intervals of use. On a spatial scale, modifications of the grave architecture, changes in their positioning in the landscape as well as an intensification of land use by humans can be observed. While the causewayed enclosure was still in use in the exactly same way until the North European Young Neolithic, the occupancy of collective graves is already discontinued in the course of the Funnel Beaker period. Megalithic tombs do not gain importance again until the transition to the Late Neolithic, but then apparently related to single burials.

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MEGALITHIC MONUMENTS AS MANIFESTATION OF TRADITION AND SITES OF MEMORY: ANALYSING ARCHITECTURE AND THE DISTRIBUTION OF MEGALITHIC PHENOMENA IN NORTHERN GERMANY

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The megalithic monuments in northern Germany represent a remarkable record, valuable in terms of both quantity and architectural diversity. After 150 years of research, over than 6000 monuments have been identified back. Of those, approximately 600 have been excavated, be it either in their entirety or only in part, and those excavations have provided detailed information to the academic community.

Their analysis has taken different scales and contexts into account. This process began with single monument recording of single features and their subsequent analysis by multivariate statistical analysis. The various classification units which derived therefrom could be statistically evaluated.

The largest scale spatial analysis of features analysed and the classification units which evolved therefrom revealed specific regional patterns. Differences and similarities in architecture and their internal evolution can be used to identify specific regional traditions. This process produces several challenges, nonetheless, including the reconstruction of change within regions, sites or monuments. Unfortunately, the reconstruction of specific monument biographies is rarely a option due to the quality of data required for such endeavors. However, the changes which occurred at a certain site can be reconstructed with increasingly greater frequency. Beginning with small dolmen and moving steadily towards more complex architecture. The rebuilding and modification of monuments as well as variations in the manners of their use reflect what seems to have been the frequent symbolic recharging of a site. In comparison with other archaeological sources (e.g. ceramics), these processes can be traced over a less functional and more intergenerational relationship. The interlaced perspective provides researchers with the option to assess the megalithic phenomenon from a socio-archaeological perspective.

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INVESTIGATIONS AT FRIEDRICHSRUHE BARROW CEMETERY, KR. PARCHIM, MECKLENBURG, GERMANY

DARVILL, TIMOTHY* / LÜTH, FRIEDRICH**

Investigations at the Friedrichsruhe Barrow Cemetery, Kr Parchim, Mecklenburg, contribute one of three main strands to the project 'Frühe Monumentalität in Westmecklenburg', a case-study within the six-year DFG-funded programme 'Frühe Monumentalität und soziale Differenzierung' (SPP1400). The barrow cemetery occupies a flat-topped promontory overlooking a deeply incised river valley and springhead area. Three extant monuments were mapped by Sprockhoff and one was partly investigated by Schuldt. However, investigations since 2010 have shown that what was mapped as Friedrichsruhe 7 in fact comprises two elements: a kerb-edged chamber-less long barrow to the south and an oval or round mound to the north. A further dolmen is known to have been destroyed by agricultural clearance in the late twentieth century ad, and two further possible long barrows have been noted as anomalies during geophysical surveys around the extant monuments. Thus the cemetery as a whole comprised at least seven recognizable components spread over an area about 500 m square.

This paper briefly reports the preliminary results of surveys within and around the cemetery, and excavations at four of the monuments. All the excavated long barrows show evidence of multi-phase development which can be dated to the middle centuries of the fourth millennia BC. The round mound at the north end of Friedrichsruhe 7 has a slightly different history. In contrast to the other monuments its primary mound was constructed of turf and it appears to incorporate in the kerb an unusually large granite block. Initially, this block may have been part of a boulder-train visible in the top of the glacial till before being extracted and set upright as a conspicuous standing stone on the end of the promontory.

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COMPLEXE MEGALITHIC STRUCTURES WITHIN THE LANDSCAPE OF RÜGEN ISLAND. INVESTIGATION RESULTS

BEHRENS, ANJA*

Within the frame of the PP-project »Megalithic landscape of southeast Rügen« several investigations were carried out to improve the knowledge about the Funnel Beaker (TBR)

burial practices. Geophysical surveys took place to detect remains of graves and in combination with historical maps to try a reconstruction of the heavily modern destroyed burial landscape. Excavations on three megalithic graves helped to reconstruct the development of funeral habits within the TRB period by investigating complex architectural structures and gaining datable material. Further investigations within a PhD thesis on an almost intact megalithic cemetery in the center of the island of Rügen and evaluation of recent excavations by the heritage office supplement the results. First conclusions shall be presented.

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CASE-STUDY OF ERWITTE-SCHMERLECKE, WESTPHALIA: AN ARCHAEOLOGICAL CONTRIBUTION TO HESSIAN WESTPHALIAN MEGALITHS AND THEIR ROLE IN EARLY MONUMENTALITY OF THE NORTHERN EUROPEAN PLAIN

SCHIERHOLD, KERSTIN* / GLESER, RALF*

Recent investigations of the last years enabled new insights into the rise and fall of the megalithic phenomenon at the northern border of the Central German Uplands, where up to 50 gallery graves are known today. Two gallery graves in Erwitte-Schmerlecke, municipality of Soest, Westphalia, were completely excavated. Many details like building materials and techniques, well-preserved human bones, and especially the grave goods show the special role of the gallery graves located in a contact zone of the TRB and WBC. Taking the burial place of Erwitte-Schmerlecke as an example, other gallery graves are compared to get an enhanced overview of the character of the Hessian-Westphalian megalithic phenomenon. Furthermore, chrono-typological and other relations to the northern and western neighbour, the TRB with its impressive, landscape-shaping megaliths built from big boulders, have to be discussed. AMS data and archaeological remains illustrate that the tombs were built around 3500 calBC at the latest; some data perhaps indicating an even earlier begin around 3700/3600 calBC. This has to be kept in mind regarding the monumental buildings of Michelsberg enclosures in the Soest region; their use of some of them ends around the same time. Was there a hiatus or not and what does it imply concerning a change (or not?) of social structures and behaviour? In this regard, the new results concerning settlement activity around the tombs are also considered. The gallery graves of Erwitte-Schmerlecke were frequented until the beginnings of the End Neolithic, when single burial mounds were built in closest vicinity to the tombs, using the same place as the ancestors as a cultural memory. This was also verified for other gallery graves in the Soest region, indicating a long-lasting transition to societies with a more distinct stratification.

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A MONUMENTAL BURIAL SITE FROM THE FUNNEL BEAKER PERIOD AT OOSTERDALFSEN (THE NETHERLANDS)

VAN DER VELDE, HENK M.* / RAEMAEKERS, DAAN**

Oosterdalfsen (mun. Of Dalfsen) is situated in the Vecht river valley (East of the Netherlands). The valley of the Vecht witnesses a rich archaeological record and several sites dated to the Funnel beaker period. The find of graves dating from this period was therefore not a huge surprise for in the rescue-excavation which started in February 2015.

During 10 weeks roughly 3 hectares were excavated with traces of an Urnfield and habitation from the Bronze and Iron age and farmsteads from the Middle Ages. In the western part of the excavated area a part of a small sand ridge was uncovered yielding 120 flat graves dating to the Funnel Beaker period. The burial ground covered an area of 120 by 15 meters. Besides the flat graves also a structure of ca 30 by 4 meters delimited by a ditch was unearthed. The majority of the flat graves is dated in Brindley horizon 5, but some flat graves can be dated in horizon 6. The delimited structure is dated in horizon 5. Within the ditch system several burial pits were uncovered. Although a relation between the flat graves and delimited structure is probable, we do not have enough evidence to prove this relation yet. The most probable interpretation of the structure is that of an earthen long barrow, the first in the Netherlands dating to this period. In almost 90 % of the flat graves finds were collected. The find assemblage mainly consists of pottery, but flint tools, three stone axes and three amber bead necklaces were found as well. The number of finds and the way some beakers were decorated (or not) differs from burial to burial suggesting the possibility of studying both the social hierarchy and possible family ties within the burial ground. For instance the richer graves seem to be lying near the supposedly long barrow. Also some flat graves show marks of later rituals like reopening and reburying on the same spot.

The number of flat graves suggests that during 5 to 6 generations 3 to 4 households were using the burial site intensively. The location of this (monumental) burial site, near a Pleistocene branch of the river Vecht, must have been a focus point for a local group. Because further recent research in the Vecht valley is lacking we do not know whether the size and monumentality of the burial group is extraordinary or typical of the way local groups structured the cultural landscape.

In the last week of the excavation we also got a glimpse of the accompanying settlement. On (again) a small sand ridge, just north of the burial site, at least one (possible three) houseplans were excavated.

Because of the early stage in the scientific research of the project, the contributors like to present and discuss the first results hoping for a fruitful discussion about their meaning.

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MONUMENTALITY, LIMINALITY AND THE NEGOTIATION OF RITUAL SPACE IN THE IRISH PASSAGE TOMB TRADITION

MC CORMACK, LYNDA*

Passage Tomb Complexes commonly occupy commanding positions in the Irish landscape which can include upland locations and spaces bounded by waterways.

In their appropriation of these liminal landscape settings, these monuments arguably capitalise upon the sense of sacredness and isolation associated with out of the way places. The liminal character of these places is arguably harnessed for the construction of a monumental landscape and a relationship between the monument and its environment is established for the construction of a bounded space...a Complex.

There are multiple spatial levels to this dynamic. While the relationship between the Complex and the liminal character of its landscape settings has been well established, the relationship between monuments within their Complexes for the construction of developing ritual arenas framed by monuments has been comparatively less well explored.

Drawing on examples from the Irish Passage Tomb Tradition, I will advance that the spaces between monuments are liminal spaces and that movement through the Complex is manipulated by the inclusion of directive features in art and architecture. As the landscape of the Complex developed in the Neolithic, the encounter with the space between monuments became increasingly formalised suggesting increased complexity in terms of how these landscapes were experienced.

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THE GEOMETRICAL MENHIR SETTINGS OF CARNAC (BRITTANY): A NON-ARCHAEOASTRONOMICAL POINT OF VIEW

PERSCHKE, REENA*

The surroundings of the Baie de Quiberon, rich in megalithic alignments, geometrical settings and graves, are lacking in settlement structures of their builders. It is possible that their houses were submerged in the Flandrian transgression, however the slight chance remains that ancient settlement structures have not been previously discovered.

One kind of structure, which has yet to be studied more profoundly, is the current oval or nearly square setting of menhirs (Cromlechs) in the parish of Carnac and its adjacencies.

In most cases these ovals are connected to alignments. Since the beginning of megalithic research, most interpreters construe a ritual or archaeoastronomical meaning from these structures. Excavations, which could reveal new indications concerning the primary intention of the builders, have not taken place since the German occupation of Brittany during World War II. The recovered documentation of a German excavation of one of the Carnac cromlechs shows that the stone circle is younger than the adjacent alignments and a non-megalithic barrow in its vicinity. It is possible that menhirs from the alignments were reused in a later Neo- or Chalcolithic phase to build a protective fence around either a ritual temenos or a settlement place.

Similar outlines of oval wooden palisades around longhouses from the Breton heartland allow researchers to expect possible settlement structures even in the stone circles of the Carnac region. It can thus be considered that the monumental alignments were used in more than one way and over a long period of time in different possible ritual and profane functions.

* Museum Lichtenberg Berlin

THE EUROPEAN ROUTE OF MEGALITHIC CULTURE – PATHWAYS TO EUROPE’S EARLIEST STONE ARCHITECTURE

HAUF, DANIELA STEFANIE* / KELM, RÜDIGER**

The European Route of Megalithic Culture serves as a platform for museums, Geoparks, scientists, and experts in tourism from Denmark, England, Germany, The Netherlands, and Sweden to underline the outstanding importance of the megalithic culture for European history, to rediscover and promote the tourism value of its monuments and, in this way, improve their protection as part of the common cultural heritage.

The project was incorporated into the programme »The Council of Europe Cultural Routes« in 2013.

The Cultural Routes programme was launched by the Council of Europe in 1987. Its objective was to demonstrate, by means of a journey through space and time, how the heritage of the different countries and cultures of Europe contributes to a shared cultural heritage. The Priority of the European Route of Megalithic Culture is given to the use of existing roads and nature routeways as well as promoting mobility in harmony with nature and current social and recreational trends such as hiking and cycling. Moreover, museums and educational institutions such as schools, colleges, universities, charities, and public bodies are being encouraged to develop new cross-border collaborations in the field of youth education and European exchange programmes for children and young people.

As an example for the work of the international Megalithic Routes-cooperation the »Stone Age Park Dithmarschen« in Albersdorf (Schleswig-Holstein, Germany) with its cycle-routes, pathways, exhibitions and forthcoming projects will be presented.

* Megalithic Routes e. V.

** Archaeological-Ecological Centre Albersdorf

JUST PASSING BY? INVESTIGATING IN THE TERRITORY OF THE MEGALITH BUILDERS OF THE SOUTHERN EUROPEAN PLAINS. THE CASE OF AZUTÁN, TOLEDO.

SCHMITT, FELICITAS* / BARTELHEIM, MARTIN* / BUENO RAMÍREZ, PRIMITIVA (INVITED)**

For years it was believed that little happened during prehistoric times in the centre of the Iberian Peninsula. The different peoples of the end of the Neolithic and the Chalcolithic were said to be living nearly exclusively at the Iberian coasts and only poor temporal settlements of small size should exist on the Spanish Mesetas. Like in other parts of Europe, development and progress were believed to derive from the »blessed« lands of the Eastern Mediterranean and therefore the coastland of the peninsula was influenced and developed faster but the hinterland was supposed to remain on the same low level of economy, social differentiations etc. until the Iron Age. Since research in the centre intensified by the end of the 1980s, this view on Spanish prehistory is changing eventually.

A subproject of the Collaborative Research Centre 1070 Resource Cultures of the University of Tübingen is currently investigating in different areas of the Iberian Peninsula. In close collaboration with the University of Alcalá de Henares and the help of the DAI Madrid the project is also focussing on the southern Meseta with emphasis on the surroundings of the dolmen of Azután. Intensive archaeological surveys in spring and geomagnetic surveys in autumn of the year 2014, that focussed on findings and features from the end of the 4th and the whole 3rd millennium, already give insight in the impressive late Neolithic and Chalcolithic structures that bit by bit bring back to life the contemporaneous environment and landscape of this important megalithic monument.

With today's possibilities of different survey methods, interpretation of aerial and satellite images and the close collaboration with archaeobiology as well as pedology the aim will be a reconstruction of the environment and the integration of this area within the communication network of the 3rd millennium BC.

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** Area de Prehistoria, Universidad de Alcalá de Henares Spain

THE MAIN SECTOR OF THE NECROPOLIS IN THE ARCHAEOLOGICAL SITE OF VALENCINA DE LA CONCEPCIÓN (SEVILLA, SPAIN)

VARGAS JIMÉNEZ, JUAN MANUEL (INVITED)*

Valencina de la Concepción represents the largest settlement of the Guadalquivir Valley during the third millennium BC and has been considered a political center of supraregional level where converged materials of foreign origin as ivory, amber or variscita that illustrate their economic and social importance in the context of European prehistory.

At the site of more than 400 hectares, highlights the eastern sector that concentrates some of the most significant megalithic constructions known. In this area the investigations allow us to know the primitive landscape of prehistoric necropolis as well as, indirectly, the differences that showed its nearest physical environment: the current Guadalquivir river valley.

Geomagnetic surveys carried out around the tholos of La Pastora, indicate the presence of different types of structures and their orderly spatial distribution, with the presence of a double delimiter ditch, large constructions several tens of meters and a multitude of small anomalies between 1 and 2 meters, and also shows building technology used in the tomb of the main monument: La Pastora.

From another part, traces of marine bioerosion of many of the rocks used in this construction indicate their place provisioning and environmental characteristics which were extracted, consolidating the proposal establishes the existence of a large sea inlet that reached the Valencina own. This circumstance is a key element in understanding the hatching of this site and its importance in the development of trade relations, both by the presence of said foreign raw materials as well as by the rise copper metallurgy documented in the most recent archaeological excavations.

That is why with these new data we have an extensive spatial vision of the behavior of this principal sector of the site and their true territorial and environmental impact. The utility of this information is very important not only for historical research but also as a tool for heritage management of the site.

* Museum of Valencina

NEOLITHIC TERRITORY AND FUNERAL MEGALITHIC SPACE IN GALICIA (NW. OF IBERIAN PENINSULA): A SYNTHETIC APPROACH

CARRERO PAZOS, MIGUEL^{*} / RODRÍGUEZ CASAL, ANTÓN A.^{**}

Once completed the »corpus« of Galician Megalithic culture with objective and scientific viable data, obtained throughout an intensive field work during two decades, we have now the possibility to study this phenomenon in an overall perspective, in contrast with previous studies more sectorial and partial. It will be analysed different aspects related with cartographic interpretation, verifying regularities and general emplacement patterns, secondly, the spatial analyses will be carried from an archaeological and ecological point of view, complemented with a study of the different process of monumentalisation and necropolisation present in the whole of Galicia. Furthermore, we consider fundamental to carry on a statistical analysis to interpret the field and laboratory data, based in a Geographic Information System.

This would let us to present, for the first time, a comprehensive study of Galician megalithic culture in the framework of Iberian Peninsula and the Atlantic Europe.

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MEGALITHIC MONUMENTS AND DEPOSITIONS IN WETLANDS: DIFFERENT ELEMENTS, PLACES AND EXPRESSIONS OF RITUAL IN A TRB-LANDSCAPE – A CASE FROM DENMARK

SCHÜLKE, ALMUT (INVITED)^{*}

The diversity and importance of ritual in the Northern Group of the Funnel Beaker Culture has been an intensive matter of discussion. This is e.g. expressed through the building of megalithic monuments, through varied practices of offering at these monuments and in wetland areas, as well as through deposits at settlements places or enclosures. Some of these cultural practices have been analyzed more extensively, as for example the depositions of pots, axes and other objects in wetlands and lakes. However, there are few studies that cast light on the relation between these different modes of ritual, and which look at their differences and similarities. That is to say not only the practices conducted, but also looking at the different landscape-elements that are marked and used by ritualized behavior. My study-area, the Northwestern part of the island of Zealand, is not only one of the

areas with the densest distribution of megalithic monuments in Southern Scandinavia, it is also an area where numerous bog finds from the Neolithic period have been found. In my talk I will try to untangle the spatial and chronological relations of the megalithic tombs and the wetland deposits, discussing the different contemporary ritual spheres that they might be representing. This topic will contribute to a better understanding of the complexity that is represented in the landscapes of the TRB and to social and ritual aspects of TRB-society.

* Museum of Cultural History, University of Oslo

EARLY NEOLITHIC (4000–3300 BC) MONUMENTAL LANDSCAPES IN SOUTHWESTERN SCANIA, SOUTHERN SWEDEN – A NEW PERSPECTIVE

ANDERSSON, MAGNUS* / ARTURSSON, MAGNUS (INVITED)*

During the last 15 years large scale excavations have produced a new picture of the establishment of Early Neolithic monumental landscapes in southwestern Scania, Southern Sweden. Central gathering places with long-barrows, facades, huts and concentrations of offering pits have constituted important social and ritual hubs in the regional polities during the Early Neolithic I (4000–3500 BC). During early Neolithic II (3500–3300 BC), the erection of hundreds of dolmens and passage graves often placed in small clusters or in some cases in large concentrations in combination with palisades, lines of menhirs and offering pits, have enforced the monumentality of landscapes in the region. In combination with offerings in wetlands and on dry land, all these monumental constructions have produced ritualized landscapes during the whole time period (4000–3300 BC), implying a more pronounced social and political complexity with some kind of hierarchical dimension.

In spite of a relatively low population density in the region, large investments in monumental landscapes were made. The economy, based on animal husbandry, agriculture and horticulture, complemented with some hunting, fishing and gathering, have produced a surplus large enough to support these endeavors. How the mobilization of labor and other resources for building monuments have been organized is still largely unknown, but a model based on a political economy approach could give an explanation; in low-density populations resource circumscription is ineffective as a source of political control. Instead, monuments were constructed to generate strong and permanent connections between emergent leaders, land ownership based on inheritance and ritual spaces and ceremonies associated with mortuary practice. The mobilization of labor and surpluses could have been generated through centrally organized seasonal feasts, which had their incentive in religious and ideological beliefs. The construction of social networks and monumental landscapes thus created legitimate claims for political power from emergent regional leaders.

* Swedish National Historical Museums, Excavations Department

SOCIAL MEMORY EMBEDDED IN SACRED SPACE: THE CASE OF A MONUMENTAL LANDSCAPE IN SOUTH-WESTERN POLAND

PRZYBYŁ, AGNIESZKA (INVITED)*

In their studies on Neolithic societies, Polish researchers have so far focused mainly on different aspects of material culture, only infrequently delving into the nuances of the wider spatio-temporal context. Today, the combination of modern methods of non-invasive prospection and geographical information systems allows archaeologists to expand their research perspective to encompass whole cultural landscapes.

The first part of my presentation will be a brief report from the recognition of a unique complex of several monumental cemeteries. They are associated with the Funnel Beaker culture and were recently discovered with the use of airborne laser scanning in a relatively small forested area in south-western Poland. In total, we have documented no fewer than 16 monumental Neolithic cemeteries and 19 clusters of small, and probably much younger, round barrows.

The use of this geospatial data collection method allowed for an entirely new interpretation of the data available, thus shifting the perspective of archaeological observation from individual monuments to the entire cultural landscape in which they acquire their meaning. The use of GIS analytical tools provided statistical justification for our earlier hypotheses by confirming the regularities in the location of the barrows. I will briefly characterize these findings in the second part of my presentation.

Finally, in the third part, I will suggest that the barrows' location that remained virtually unchanged over a long period of time may be interpreted as a case of long-lasting social memory. This memory became deeply embedded in sacred space and was cultivated continually by the communities inhabiting these lands from the Neolithic well until the modern times.

* Institute of Archaeology, University of Wrocław

TRANSFORMING THE HORIZON – TOWARDS THE BEGINNING OF MONUMENTALISED LANDSCAPES IN THE NORTH CAUCASUS AND BEYOND

REINHOLD, SABINE (INVITED)*

Hundreds of thousands of burial mounds of prehistoric date have transformed landscapes in Eurasia from the Atlantic coasts in the West to the lowlands of China in the East. Nearly

no steppe or forest steppe, no piedmont or high mountain horizon without these artificial traces of ancient human presence. Until today they are everywhere, directing lines of sight and movement. These mounds form strong matrices of meaning, linking groups of various inhabitants through time and space in a long-standing large scale network.

There are three spots in Eurasia, where the transformation of the horizons started in the 5th millennium BC – in Mesopotamia tells raised up in the plains, representing specific forms of architecture and dwelling. Brittany in the West and the area between the Caucasus, the rivers Volga and Don in the East saw the first visible monuments built for the dead. It was, yet, not until the early 4th millennium, when during the Maikop epoch in Caucasia and the Late Eneolithic in the Pontic steppes the burial mound became a major focus of monumental architecture. Huge mega-mounds with heights up to 30 m and a large number of smaller mounds bare witness of a process, that irretrievably transformed human lifescapes. This presentation will discuss the importance of the building process within the framework of this domesticating of landscape from a North Caucasian perspective. Collective building seems to have been the social mortar that consolidated communities around core figures of common ancestors. Their burial monuments created social meaning far beyond the singular individuals buried or their successors organising the funerals. Competition and an intentional will to leave visible marks in the pristine landscape reveal communities that have shifted the meaning of material representations. This is likewise reflected in the birth of a highly ranked society using such material representation to classify and order their members visibly.

* Eurasia-Department, German Archaeological Institute

A GIS APPROACH TO THE STUDY OF MEGALITHIC TOMBS

CICILLONI, RICCARDO* / CABRAS, MARCO**

The study of megalithic tombs can have a crucial aid from the analysis of the relationship between these and its surrounding territory. The dolmens, in fact, are closely related to the shapes of the landscape. To understand this relationship we used the tools offered by GIS software. This approach, based on geo-referenced data and on a three-dimensional representation of landscape features, can assist the archaeologist in the interpretation of organizational characteristics of a study area in prehistoric times. Among the potential of GIS, particularly interesting is the possibility to evaluate, with the creation of a model of the costs of travel, the main trends related to the ways of distance in relation to the geomorphological characteristics and their biotic and abiotic factors of the environment in which you configure the pattern of settlement examined. To experience the possibilities offered by this type of analysis, it was chosen a sample area in north-west of the island of Sardinia (Italy). We know over two hundred Sardinian dolmens of various types. It now seems confirmed the rise of phenomenon during the culture of San Michele of Ozieri (Late Neolithic, 4000 – 3300 BC). The Sardinian dolmens, however, had the maximum spread during the Chalcolithic. The phenomenon shows a close relationship with dolmens of Catalonia, Pyrenees, non-coastal departments of French-midi, Corse and Puglia. Here were carried out cost distance and visibility analyzes on monuments of the chosen area. The results showed for these particular monuments locations in areas that would exalt, for most of the analyzed samples, the function of spatial markers linked to transit or contact areas. These were probably in connection with internal exchange paths of short, medium and long range within islanders groups. Also, these are probably have to be related to short or long processes of transhumance.

* Ricercatore universitario di Preistoria e protostoria (L-ANT/01)

Università di Cagliari Dipartimento di Storia, Beni Culturali e Territorio - Sezione Archeologica

** Programa Oficial de Doctorado en Historia y Artes Universidad de Granada

MONUMENTS AND COASTAL LANDSCAPES IN NORTHWEST IBERIA: A REAPPRAISAL

LOPEZ-ROMERO, ELÍAS* / GÜIMIL-FARIÑA, ALEJANDRO** /

MAÑANA-BORRAZÁS, PATRICIA*** / VILASECO VÁZQUEZ, XOSÉ IGNACIO^{4*}

Unlike other European Atlantic regions, the occurrence of Neolithic and Early Bronze Age monuments in low coastal locations or in prominent positions dominating coastal landscapes is rare in Northwest Iberia. The preferred location for such monuments in Galicia and the North of Portugal seems to be related, indeed, with the inner hills and valleys. In the case of monuments located near the coast, the location pattern seems to privilege, again, elevated land with no apparent (e.g. visual) contact with the sea. Models of visual relationships between the monuments, enabling movement across the landscape, have been proposed for some of those cases.

However, in a context where subsistence strategies could largely benefit from the extremely rich coastal and maritime resources in the region, and where there is increasing evidence of long-distance exchange of materials and ideas with other Atlantic communities, the relationship between the monument's builders, the monument's location and the sea needs to be reappraised.

In this presentation we will focus on the evidence from Ría de Arousa in Galicia. We will introduce the landscape characteristics of the area, and we will discuss how the monuments relate to it; special attention will be paid to the monuments at Guidoiro Areoso, an islet in the centre of Ría de Arousa. Finally, we will consider how the establishment of a dedicated research program on the coastal occupation of this area would contribute to the qualitative analysis of the Neolithic and Early Bronze age occupations in the region.

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ORAL PRESENTATIONS

**THE TRB POTTERY FROM OSTENWALDE 1,
KR. ASCHENDORF-HUMMLING: ANOTHER LOOK**

BRINDLEY, ANNA*

Ostenwalde 1 was a relatively well-preserved example of a middle sized megalith when excavated by Dr W.D. Tempel in 1971. The current work is concentrated on a reconstruction of the original ceramic inventory based on the 250 kilos of sherds recovered: the number of pots originally present; their full profiles, and decoration schemes where applicable; their classification and dating within the seven horizons defined in 1986 by Brindley; and their distribution within the chamber in so far as it is possible to reconstruct this.

The reconstructed assemblage is being used to examine the possible function of the many different pot forms present, and how changes in pot types may indicate changes in the ritual activities over the circa 550 year-long activity represented.

It is also being used in an analysis of the local and regional styles within the TRB West Group. Ostenwalde 1 belongs to a group of three megaliths built close together on a low ridge in the Hümmling, east of the river Ems in Germany. The analysis of the pottery throws light on the biography of a hunebed in the area between the megaliths on the Dutch Hondsrug to the west and those further east, in the vicinity of the city of Oldenburg. This is a preliminary step to assessing degrees of contact between contemporary tombs. With the identification of multiple sherds from individual vessels, a fairly reliable picture of the general distribution of the pottery within the chamber is becoming apparent. This shows an unanticipated distribution of activity, without at present obvious explanation. A sample of one third of the pottery was published by Dr M. Fansa in 1982. The results described here highlight the differences between the statistical approach used in the earlier analysis and the traditional approach used here.

* Groningen Instituut voor Archaeologie, RUG

ARCHAEOMETRIC ANALYSES OF POTTERY TECHNOLOGY IN THE FUNNEL BEAKER CULTURE

STRUCKMEYER, KATRIN*

In research on the Funnel Beaker Culture, a central role is played by the usually highly decorated pottery vessels, which are a key element in both chronological studies and the investigation of the communication systems that existed at the time. Traditionally, the focus has been on the shape and decoration of the vessels while technological aspects, such as the selection and preparation of the clay, the production technique and the firing of the pottery were paid less attention. If the technological steps followed by the potter are reconstructed, however, significant information can be obtained regarding the social organisation of the Funnel Beaker Culture on a local, regional and supra-regional level. The lecture will present these aspects with archaeometric analyses of pottery sherds from the area covered by the DFG Priority Program »Early Monumentality and Social Differentiation« as well as from adjacent regions. The methodology employed includes polished-section and thin-section analyses and chemical analyses.

The general, geographically wide-ranging analyses of the pottery technology have shown that the technology varied from region to region so that regional groups with different pottery traditions can be distinguished. In addition pottery analyses can contribute to clarify questions of the connections between the Funnel Beaker Culture and other cultures like the Ertebølle Culture and the Michelsberg Culture. Moreover detailed studies of pottery samples from individual micro-regions within the overall Funnel Beaker Culture area reveal new information regarding the organisation of society. Technological similarities in the production of pottery, in particular conformity in the raw material, point to connections between the different sites within a specific region, so that it will be possible to reconstruct the interaction between neighbouring settlements and between settlements and monuments. The analyses of pottery technology can thus make an important contribution to our understanding of regional communication networks in the Funnel Beaker Culture.

* Lower Saxony Institute for Historical Coastal Research

CONTACT FINDS BETWEEN THE TRB CULTURE AND THE VLAARDINGEN BETWEEN HOEK VAN HOLLAND AND AMSTERDAM

DRENTH, ERIK* / BAKKER, JAN ALBERT (INVITED)**

In a handful Vlaardingen settlement sites between Hoek van Holland, Rotterdam, Utrecht, and Leiden, some TRB sherds were found (provinces of Zuid-Holland, Utrecht and

Noord-Holland). In the central Netherlands, Vlaardingen and Brindley 5 TRB pottery plus a Dutch type of knob-butted battle axe were excavated at Beekhuizerzand, municipality of Harderwijk, prov. Gelderland. Besides, at Gorssel (halfway between Deventer and Zutphen, prov. of Gelderland) a Vlaardingen pot was recently found near the River IJssel. And at Klumpke, north of Nijmegen, a complete large funnelbeaker was found. This is a striking find rather far outside the TRB area, but it was just along Nijmegen that the "Dutch" type of knob-butted TRB battle-axes (Brindley 5) were traded across the rivers Rhine, Waal and Maas towards eastern Noord-Brabant, and one piece even as far as Sainte-Cécile on the river Semois (Belgian Luxemburg). Most of these contact finds date from the Brindley 5 period, but the Klumpke pot is from Brindley 1-4.

These and some other contact finds at the extreme western tip of the TRB expansion between both cultures will be presented here.

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POTTERY OF THE FUNNELBEAKER-WESTGROUP IN NORTHWEST GERMANY

MENNE, JULIA*

The talk will be about the preliminary results of the Phd-project »Studies on Funnelbeaker-Westgroup: A European Comparison« (working title). It will focus the material culture in the context of the phenomenon of early monumentality in the light of the investigation of selected megalithic graves in Northwest Germany. The finds were analysed from a material, functional and typological aspect and were interpreted in a regional and supra-regional context.

Therefore, an in-depth-analysis is providing the basis of all subsequent questions and interpretations. Production processes, preservation conditions, metric analyses as well as pottery units and vessel shapes become perceptible by using example of grave goods, especially the pottery, from megalithic graves of the district Emsland in Lower Saxony. An important aspect will be the analysis of the numerous decoration styles and ornaments, which are significant as well for the subsequent interpretations.

It is the aim to embed this presented material group in a regional context of the Funnelbeaker-Westgroup by a detailed decoding of the different vessel units. The latter allows an identification of individual spatial groups inside the area of research. Decoration styles of different graves give an insight into communication processes between megalithic monuments within the regional neolithic funerary landscapes.

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TYPOCHRONOLOGICAL MODELS FOR FUNNEL BEAKER POTTERY FROM MEGALITHIC AND NONMEGALITHIC GRAVES IN NORTHERN CENTRAL EUROPE

LORENZ, LUISE^{*} / HINZ, MARTIN^{*}

In the project »Communication Structures« of the Priority Programme 1400 of the German Research Foundation »Early monumentality and social differentiation«, a standardized data collection and metrical and typological description of several thousands of ceramic pots and their decoration from Funnel Beaker megalithic and nonmegalithic graves in Northern Central Europe could be carried out.

Based on this data set and radiocarbonated pottery assemblages it was possible to work out several typo-chronological models of pottery development for regional groups of the Northern Central European plains. The method applied is canonical correspondence analysis according to van de Velden, using radiocarbonated pots to find the optimal temporal Eigenvektor of the dataset. This result is compared to purely typological correspondence analysis in order to define chronology.

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FLINT USE IN RITUAL CONTEXTS

LARSSON, LARS (INVITED)^{*}

In southern Scandinavia and northern continental Europe, flint has a special position as raw material for making a variety of tools. Flint was not only an important element in daily activities, however; it was also the material that provided the foundation for what was almost industrial-scale mining and specialized flint knapping. Flint was therefore an important economic basis for the prosperity of certain societies. Flint soon became an extremely significant commodity for contact between societies. The distribution was so extensive that it was a regular element in the transfer of goods, and also of knowledge about the manufacture and repair of more advanced flint tools.

The flint axe, an object that was produced in large numbers, became a catalyst of exchange, function and ritual. A large number of flint axes acquired a special status by being deliberately deposited, chiefly in wetland contexts, even while still intact, and sometimes in unpolished state. A considerable number of other axes suffered the same fate after being used for some time. Axes also occur in combination with causewayed enclosures and megalithic graves. In addition, some axes and other flint tools were heated with fire. Heated flint was also used as an element in megalithic construction, as an ingredient in the floor layer.

Its water-absorbing ability could be combined with the aesthetic quality bestowed by the light colour. As ground surfacing outside megaliths structures, burnt flint could likewise be used as a striking aesthetic feature. In the Late Neolithic, axes took the place of daggers. The objects reflect forms prevailing at the time of deposition, since it is rare to find combinations of older and younger types.

* Institute of Archaeology and Ancient History, Lund University

CAUSEWAYED ENCLOSURES UNDER THE MICROSCOPE – PRELIMINARY RESULTS OF A LARGE SCALE USE-WEAR ANALYSIS PROJECT

BYE-JENSEN, PETER*

Causewayed enclosures are some of the most significant monuments in the Early Neolithic, with a distribution over most of Europe. A recent programme of radiocarbon dating has refined our understanding of the chronology of this important class of monuments (Whittle et. al. 2011), many sites having relatively restricted periods of use. However the precise character of the activities that occur at these is still unclear; are these sites gathering places, mortuary sites, stock enclosures or defensive structures?

This paper will focus on use-wear analysis of the flint assemblages from the primary phases of a number of well excavated sites in southern Britain, as a way of characterizing activities at these sites. The sites selected for analysis so far are: Etton, Haddenham, Hambledon Hill, Stains, Windmill Hill, Carn Brea, Crickley Hill, Briar Hill, Orsett, Kingsborough 1. Primary phases will be focused on as these provide the best evidence for the initial use of these sites. In addition to the comparison of sites across southern Britain, the British sites will also be compared to the well-excavated site of Sarup on Fyn, Denmark (Andersen 1997). This is to make a trial transect across Europe and potentially include more continental sites in the analysis.

At the conference in Kiel 2015 there will be preliminary results ready from this project, that runs until 2017. The flint assemblages that will be part of this will be from the Etton, Stains and Sarup causewayed enclosures. This paper will explain the method utilized and thereafter the results and prospect of further analysis.

This project is funded by the South West and Wales Doctoral Training Program (SWW DTP). Advisor's: Dr. Alasdair Whittle (Cardiff University), Dr. Andrew M. Jones and Dr. Joshua Pollard (University of Southampton).

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LISELUND: AN EARLY NEOLITHIC CAUSEWAYED ENCLOSURE FROM THY, NORTHWEST DENMARK

DANBORG TORFING, TOBIAS*

This paper will presents new results on the date and function of a causewayed site named Liselund. The site is located in Thy which is a peninsular in north-western Denmark, and as such on the periphery of the TRB-area. To the west lies the North Sea and to the north across the Skagerak Sea, lies Southern Norway, which is the northern frontier of TRB-finds. The geographic periphery is contrasted with the sites location in relation to central prestige resources. To the north is the Hov flint mines, and along the coast is a rich amber resource. We could thus see the region of Thy and the Liselund site as central in the exchange networks of the western part of the TRB north group.

It is therefore unfortunately that the site have not received much attention in research. This paper will be a first step in including it into the wider model of the TRB. First, the site will be dated through both traditional ceramic chronology and around 20 new C14-dates. Secondly, a preliminary model for its function in local and regional exchange networks will be presented. This will point to a general discussion of when and why this form of monumentality was introduced in Scandinavia.

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THREE BAALBERGIAN MONUMENTS NEAR BELLEBEN, SALZLANDKREIS: FINDS, FEATURES AND EXPLANATIONS

RÜCK, OLIVER*

In the summers of 2009 to 2011 a roundel near Belleben has been excavated entirely. In the year 2014 followed the excavation of a trapezoidal mortuary enclosure with a central 'tomb'. Adjacent to the latter a further roundel, Belleben II, was located. From this one ditch terminal and some meters of the continuing ditch have been investigated.

Besides the formal similarity of both roundels, deduced by geomagnetic prospection, there are similarities concerning the frequency of finds in the ditch terminal. Contrary to the site Belleben I, the excavated one out of the three prominent pits in Belleben II, yield not a single find. The ditch of the latter site showed two phases and a significant relocation and modification of the ditch terminal.

During the excavation of the »Trapezgrabenanlage« we unearthed an unusual structure: a small grave pit inside a 3 to 1.5 meter measuring feature. Adjacent to the bones of the feet of the badly preserved skeleton we discovered a completely conserved amphora in oblique position. Favourable circumstances allowed it to excavate and investigate the filling (sedimentation) inside the amphora using plana and profiles. The feature as a whole, that means the observations during fieldwork and observations made by the investigation of the amphora make it possible to draw conclusions about the architecture of the mausoleum.

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NEOLITHIC OBJECTS ORNAMENT PRESERVED IN THE MEGALITHIC CEMETERY IN EASTERN ANDALUSIA

PAU, CLAUDIA*

The many megalithic graves in eastern Andalusia (Spain) offer a rich picture and diversified objects ornament Neolithic period by typology and raw materials used as support. The aim of this paper is to give a complete picture of these jewels in a particular answer chronological and spatial (the megalithic graves in eastern Andalusia during the Neolithic). There has been a (morphological, technological, functional) comprehensive review of the pieces found in the grave goods of the tombs. Thanks to this analysis we have information on the support (hard stuff animal, lithic material or metal) and on the state of conservation of ornamental objects, collect data on the processes of exploitation of raw materials, manufacturing methods manufactured and its use (traceológico analysis), putting its possible symbolic and ritual in evidence.

It has also studied the evolution of jewelry (technological aspects, dimensions, raw material used for its manufacture) during the phases of the Neolithic, highlighting the elements that remain from the Early Neolithic to the Late Neolithic.

This work has been completed, analyzing the similarities and differences between the studied ornaments and ornamental objects discovered in other megalithic tombs of Spain and northern regions of the western Mediterranean basin to observe the distribution of each type of object and the possible exchange between the Neolithic societies. Our work is focused on determining to what extent the variability of decorative elements belonging to the Neolithic culture in eastern Andalusia has to do with ethnic factors.

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ORAL PRESENTATIONS

THE POLLEN EVIDENCE FOR EARLY PREHISTORIC FARMING IMPACT: TOWARDS A BETTER UNDERSTANDING OF THE ARCHAEOLOGICAL FIELD EVIDENCE FOR NEOLITHIC ACTIVITY IN WESTERN IRELAND

O'CONNELL, MICHAEL (INVITED)*

Neolithic impact in Irish pollen records has long been the subject of considerable interest and detailed research (e.g. Smith 1958. *Proc. R. Ir. Acad.* 59B, 329-343; Mitchell 1965. *J. R. Soc. Antiq. Ireland*, 95, 121-132). These early investigations often involved continuous or near continuous sampling, high pollen counts and radiocarbon dating (Smith and Willis 1962, *Ulster J. Archaeol.* 24/25, 16-24; Pilcher *et al.* 1971, *Science* 172, 560-562; Molloy and O'Connell 1987, *New Phytol.* 106, 203-220), with particular attention being paid to early Neolithic Landnam, including intensity and duration of Landnam phases, and the practices involved in achieving the exceptionally high levels of impact on the natural environment.

In recent years, the information has been considerably supplemented by detailed pollen analytical investigations in the north Mayo and Sligo regions of western Ireland (e.g. Molloy and O'Connell 1995. *Probl. Küstenforsch.* 23, 187-225; Stolze *et al.* 2013. *Quat. Sci. Rev.* 67, 138-159; O'Connell *et al.* 2014. *Quat. Res.* 81, 35-49). These regions are of particular importance given the archaeological evidence for substantial Neolithic activity that includes dense concentrations of megalithic tombs, especially court and passage tombs (Waddell 2010. *The prehistoric archaeology of Ireland*, Wordwell), extensive and highly developed Neolithic field system at Céide Fields, north Mayo (Caulfield 2013 in *Secrets of the Irish Landscape*, Cork University Press), a large causewayed enclosure dating to the early Neolithic at Magheraboy, Co. Sligo (Danaher 2007. *Monumental beginnings*, Wordwell) and critical new 14C data relating to the passage tombs at nearby Carrowmore (Bergh and Hensey 2013, *Oxford J. Archaeol.* 32, 343-366). In this presentation an overview will be presented of the pollen evidence relating to Neolithic activity in these parts of Ireland and the relationship to the archaeological field evidence will be discussed.

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CHANGING ENVIRONMENTS IN A MEGALITHIC LANDSCAPE: THE ALTMARK CASE

DIERS, SARAH^{*} / FRITSCH, BARBARA^{**}

Recent studies about Neolithic population in the Altmark region (Germany, Saxony-Anhalt) display a differentiated pattern of the development of human settlements, the importance of megaliths and the influence of environmental changes between c. 4000 and 2200 BCE. During the Funnel Beaker period (FBC) the Altmark Tiefstich Group constructed multi-phased megalithic tombs of different types. After 2800/2500 BCE economy and society changed during Single Grave period, but megaliths were still in use for different social practices. Pollen-analytical results of the Western and Southern Altmark were synchronized with the distribution of dated archaeological sites and excavations of two megalithic tombs. Clear signs of intensified landscape use show up during known construction and usage periods of megalithic tombs. Furthermore clearer signs of anthropogenic influence on the environment in the course of the Single Grave Culture correlate with an increase in archaeological sites. Both data sets correlate well and indicate changes in the use of the megalithic landscape between the Funnel Beaker Tiefstich group and the Single Grave groups in the Altmark.

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ZOOMING IN: REGIONAL TO LOCAL HUMAN- ENVIRONMENT INTERACTIONS DURING THE NEOLITHIC IN NORTHERN GERMANY

FEESER, INGO^{*} / DÖRFLER, WALTER^{*}

Palynological investigations of the project »Agriculture and Environment as Basis for Early Monumentality« focussed on the southern area of the Funnel Beaker North group during the time period 4500 to 2000 Cal BC. Analyses of different archive types (i.e. off-, near and on-site) were carried out in order to facilitate palaeoenvironmental reconstruction on different spatial scales. This paper aims at presenting selected results for human activity and environmental change from an over-regional down to a local level.

Hereby, detailed comparison of well-dated high-resolution lake profiles allowed the identification of over-regional and regional developments of human impact.

Over-regionally, the beginning of the Neolithic is generally characterised by changes in the woodland composition and structure. Evidence for agricultural activity is limited

and we propose woodland pastoralism and small scale cereal cultivation.

From ca. 3750 to 3500 cal BC there is evidence for a distinct expansion of cereal cultivation which involved the creation of larger open field systems most likely in connection with the introduction of the ard. This land use change seems to be a rather synchronous phenomenon in the Funnel Beaker North group. In the centuries after ca. 3350 cal BC, there is evidence for widespread woodland regeneration in context of declining land-use activity. Although the beginning of the decline seems to vary between different region, it is in the century before 3000 cal BC for which an over-regional lull in human activity is evident. Shortly after 3000 cal BC human activity recovered and achieves in most regions at least pre-collapse levels.

For the time between 3000 to 2000 cal BC several over-regional phases of increased human activity have been identified. Evidence for associated climatic fluctuations raises the question of the role of climate for land use and cultural development.

The analyses of near shore sediments in context of archaeological sites aimed at the reconstruction of local vegetation and settlement dynamics. As this requires suitable archives in the vicinity of archaeological sites this approach was only possible for a selection of archaeologically investigated sites. These sites are generally characterised by a near shore highly dynamic environment. Beside insights into the local environmental development detailed reconstructions of human activity are often hampered by the complex nature of these archives, i.e. the highly variable sedimentation regime resulting in strongly varying pollen preservation and deposition processes. As an example results from Bad Oldesloe-Wolkenwehe (LA154) will be presented where it was possible to identify local phases and changes of human activity at the settlement site.

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VEGETATION IN CHANGE – NEOLITHIC LAND USE IN NORTHWESTERN GERMANY

KRAMER, ANNETTE* / BITTMANN, FELIX*

Peat profiles from five exemplary sites between the rivers Ems and Elbe were palynological analysed to reconstruct the vegetation and land uses history in northwestern Germany during the Neolithic. The profiles were recovered from larger bog complexes to get an overall picture of the chronology and degree of regional vegetation changes. Insights in small scale disturbances and local effects of early farming were provided by profiles from smaller bogs. Some of these profiles were investigated already during the 90s but chronological control was improved during the current project.

The results indicate that smaller vegetation disturbances occurred after 4200–3800 cal BC and might reflect early Neolithic activities like wood pasture and pollarding but, definite

human impact on vegetation remains unclear. After ~3500 cal BC, continuous landscape opening and increases of settlement indicators probably reflect intensified application of agricultural techniques and wood pasture. Visible at most investigated sites, another change in vegetation is recorded in the pollen spectra that involved pronounced forest openings and strongly increasing Poaceae values after 3000–2800 cal BC. This might point to the establishment of larger grazing grounds in the area that could have been promoted by fires. The period roughly matches the transition from the Funnel Beaker to the Single Grave Culture in the area.

Generally, regional vegetation opening appeared relatively moderate and is more comprehensible on basis of a qualitative evaluation of species composition. In contrast, pronounced vegetation opening is visible on the local scale which point to a highly heterogenic vegetation pattern in the Neolithic woodlands.

*Niedersächsisches Institut für historische Küstenforschung

WINTER CLIMATE VARIABILITY IN CENTRAL NORTHERN EUROPE DURING THE NEOLITHIC

BUTRUILLE, CAMILLE* / WEINELT, MARA**

A mid-Holocene interval of particular interest centers around 3500 to 2200 BC when in northern Germany fundamental changes coincide in climate, environmental and archaeological archives. Societal and environmental changes include the emergence and intensification of agriculture in the region, and a regression of the forest in favor of grassland and cultivated landscapes, as well as the erection of tens of thousands of megaliths. These changes are believed to be co-determined and shaped by climate, yet underlying linkages are poorly understood.

Here we present new reconstructions of regional winter climate as expected to be crucial for Neolithic economies. Temperature records have been reconstructed from Skagerrak sediment cores and are discussed together with other regional climate records, in turn mostly reflecting summer or annual mean conditions. The high-resolution records of deepwater-renewal, sea surface temperature and atmospheric temperature are punctuated by abrupt climate deteriorations and high climate instability related to North Atlantic Bond events 4 and 3, characterized by cold and dry winter conditions and also by cooler summer conditions, and increased seasonality. The start of the earlier of these phases, roughly marking the end of the Holocene climate optimum coincides with the onset of neolithisation and predates the widespread erection of megaliths in the region. The 2nd phase marks an 700 year lasting interval at the end of the Mid Holocene and precedes the Bronze Age population boost. Both periods may thus played a role in fostering societal strategies to overcome difficult climate constraints.

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DEVELOPMENT OF NEOLITHIC PLANT ECONOMY IN NORTHERN GERMANY AND SOUTHERN SCANDINAVIA

KLOOSS, STEFANIE^{*} / FISCHER, ELSKE^{*} / KIRLEIS, WIEBKE^{*}

Transition from hunting-fishing-gathering to farming economy and the development to a progressively differentiated society can be discovered by archaeobotanical investigations of plant macro remains. Two phases of economic development can be stated which accompany the Neolithic social differentiation. Introduction of diverse crops, planted by hoe cultivation on individual household level, and continuing use of wild plants is detected during Early Neolithic.

Alongside with societal change, expressed in the building of monuments, the mood of farming economy has changed and from now on was organised on a community level: Cereal growing was performed more extensively, on large ploughed fields, and the number of crops and used wild plant species was restricted. The use of wild plants was now concentrated on those species which are suitable for storage.

Is it possible to scale down the process of societal dynamics and to identify either the ritual or the economic sphere as trigger of societal change? Archaeobotanical evidence for small-scale crop growing regularly originates from domestic contexts below megalithic tombs and thus pre-dates tomb erection. Weed spectra of domestic assemblages account for a contemporaneous to subsequent agricultural change. In this paper, we will discuss the pros and cons for the sequential arrangement of economic and socio-ritual change based on the archaeobotanical record.

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NEOLITHIC HUMAN-ENVIRONMENT RELATIONSHIPS

WHITEHOUSE, NICKI^{*}

Not available.

^{*}School of Geography, Earth and Environmental Sciences, Plymouth University

TRACING DIETARY CHANGE OF THE MEGALITHIC POPULATION IN SOUTHWESTERN SWEDEN

BLANK BÄCKLUND, MALOU*

This paper will compare dietary results from middle Neolithic individuals with late Neolithic individuals. Based on stable isotope results from passage graves and gallery graves in the inland of south western Sweden, the megalithic economy and subsistence will be discussed.

Falbygden, in the inland of Southwestern Sweden, is an important area for the research on Neolithic megalithic graves in Scandinavia. The area has one of Northern Europe's largest concentrations of megalithic tombs. The calcareous soils of Falbygden have resulted in a large amount of preserved bone material, which enables new radiocarbon dates and stable isotope analyses on skeletal remains from already excavated graves. There is an ongoing debate about when agriculture was fully established in Sweden. Some argue that the population increase and the spread of new megalithic graves into new areas, in the late Neolithic, are indications of extensive agriculture. Others claim that agriculture already had an important role in the middle Neolithic and can be linked to the megalithic building. By studying diet isotopes another piece of the puzzle can be added.

This paper aims to investigate if any differences in diet of the megalithic people can be traced. If there is a variation, can it be correlated with time and/or can diet be linked to different forms of megalithic graves?

New results of stable isotopes (^{13}C , ^{15}N) and new radiocarbon dates will be presented and discussed with already existing isotope data from the area.

* University of Gothenburg

NEOLITHIC SUBSISTENCE IN FALBYGDEN. SOME NEW DATA

SJÖGREN, KARL-GÖRAN (INVITED)*

Neolithic cultivation and husbandry practices are a continuing matter of debate, with opinions ranging from long term, stable cultivation to shifting, long fallow agriculture. In this talk, I will present some results from ongoing fieldwork and isotope analyses in Falbygden. In particular, I will concentrate on the settlement site of Logården, where excavations have been carried out 2012-2014, and the passage grave at Frälsegården, where an extensive series of isotope analyses on human bone has been carried out. In sum, these data lend support to a view of MN TRB agriculture as based on stable, fertilised fields, integrated with a complex system of husbandry, and with a substantial vegetable input in the total diet.

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MEGALITHS, PEOPLE AND PALAEOECONOMICS IN PREHISTORIC MALTA

MALONE, CAROLINE*

Neolithic Malta is renowned for its so-called megalithic temples and these have occupied a curious and peripheral position in the formation of ideas about megalith building and the prehistoric societies who built them. Neither traditional megaliths of the standard European type, nor formal architecture, the temples represent a unique development. Much theory and speculation has been presented about their function, principally of the ritual type employing priests and goddesses. However, those ideas have found little support in the archaeological evidence from the sites, many of which were cleared more than a century ago. In recent years new work focused on the temples, landscapes and related funerary hypogea have provided opportunities to investigate the role of the temples, and to question what economic, social or environmental conditions within the small island world of the central Mediterranean triggered the huge investment in construction in Neolithic times. The current research (funded by the ERC) to explore issues of sustainability and collapse in Malta has undertake a range of new fieldwork and environmental analysis that potentially may reveal how the early populations coped with diminishing resources and finite landscape. Work has concentrated on the temple of Ggantija on Gozo and its related hypogeum of the Brochtorff-Xaghra Circle, on a settlement at Tac Cawla, on dating, soils,

and environmental cores and vegetation reconstruction. The palaeoeconomic story that is emerging from these studies suggests that early in the settlement of Malta, the population developed controlling mechanisms of food control, land-management and tenure, controlled ritual feasting and the construction of central places for the consumption and redistribution of food. This paper introduces some of the evidence and the interpretations of our new and ongoing research.

* Queen's University Belfast

DIETARY DIVERSITY DURING THE NEOLITHIC

FERNANDES, RICARDO*

Neolithic diets are predominantly described as based on cultivated plants and domesticated animals. This is contrasted with hunter-gatherer subsistence strategies followed during the Mesolithic. However, recent case studies have introduced gradations to the global dietary categorization of the Neolithic. In particular, instances have been acknowledged of significant contributions from aquatic foods towards Neolithic diets.

This paper will summarize recent research and introduce new examples to illustrate the diversity of diets followed during the Neolithic. Novel case studies within the German context, including examples associated with monumental sites, will be presented. Multi-proxy approaches were adopted to reconstruct Neolithic dietary and culinary practices. These included the use of nitrogen and carbon stable isotopes measured in human bone collagen. Obtained human isotopic values were compared with isotopic signatures of potential food groups and quantitative dietary estimates obtained using the Bayesian mixing model FRUITS. Radiocarbon measurements were also used to identify potential human dietary reservoir effects associated with an aquatic diet. Finally, lipid-residue analysis of ceramic shards was employed to identify the presence of biomarkers associated with aquatic foods. Obtained research results indicate that main dietary contributions probably originated from domesticated food sources, however, variable but often significant dietary contributions from aquatic food groups were also identified. These results offer a more complex picture of Neolithic diets and suggest the use of more refined descriptions that consider temporal and local variability.

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"BAALBERGE" SCRUTINIZED OR THE NOMADOLITHIC IN CENTRAL GERMANY

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RÜCK, OLIVER*

House architecture, house construction and housebuilding have undergone major changes in Neolithic Central Europe. The huge houses of the early Neolithic serving accommodation for whole clans, are given up in middle Neolithic times. Evidence for houses from formerly populated regions (»Altsiedellandschaften«) is almost lacking then.

Concerning the Baalbergian culture the interpretation of various structures as floor plans can be questioned. The lack of definite house structures cannot be considered as a gap in research. Moreover, from other regions (e.g. North Germany and Denmark) and other ecologically niches (like at the inland lakes and along the rivers in circumalpine regions) we know numerous floor plans. The reasons for the absence in the »Altsiedellandschaften« are multi-layered. One can be supposed in the reduction in size and thickness of the load bearing construction, i. e. the use of smaller and less deep driven posts with the result that the ground plans are not conserved. The reason for a different house form and architecture could be triggered by an altered social system on the one hand and a different economic system on the other hand.

In addition the existing archaeological remains of the Baalbergian culture point to a significant lack of flint tools with sickle gloss and millstones. Adzes and axes too (survived by thousands from the Danubian culture), are rare and from uncertain contexts. Compared with the preceding centuries the pig appears to be less important while cattle and sheep/goat increase in number. This suggests a fundamental change in the economic system. The lack of axes and adzes can be explained with a changed architecture: mobile and transportable dwellings instead of the longhouse.

The dispersal of the Baalbergian culture coincides with the driest and warmest zone of the Central German arid region. On the other hand stands the hilly landscape with its small streams between the foothills of the Harz in the West and the river Saale in the East: an ideal living space for a pastoral economy. The stated observations allow the following hypothesis: the Baalberge Group is based on a nomadic life style; the prevailing way of life was the seminomadic pastoralism or agropastoralism.

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THE SITE OF DABKI 9 AND THE NEOLITHIZATION OF POMERANIA

KABACINSKI, JACEK^{*} / CZEKAJ-ZASTAWNY, AGNIESZKA^{**} /

KOTULA, ANDREAS^{***} / SCHMÖLCKE, ULRICH^{4*} / TERBERGER, THOMAS^{5*}

Since the 1980s the site of Dabki located c. 2 km from the modern Pomeranian sea coast is under discussion as one of the key sites of the neolithization in the Baltic Sea region. During the last decade intensive new research was conducted at the site and the lecture summarizes the major evidence. The settlement activities reflected by waste layers and features on a c. 200 m long stretch of the lake shore are now reliably dated to c. 4900 to 3600 calBC with a possible hiatus in the early 4th millennium. No major changes of the subsistence strategy become visible during this period and hunting and fishing were the economy of choice. Interestingly the hunt of fur bearing animals such as the beaver was very important and fur trade was probably the reason for intensive contacts to farming communities further south: a considerable number of vessels of Linienbandkeramik, Brzesz Kujawski and even Bodrogkersztur culture origin were found. The start of pointed bottom pottery production is dated to c. 4750 calBC and is ending at the end of the 5th millennium cal BC. Unfortunately the start of Funnel Beaker pottery on the site is still badly described. Nevertheless, Dabki was a central site of late hunter-gatherer-fishers reflecting influences from the West (imports/ similarities to the Ertebölle culture), the South (imports of objects; far reaching exchange contacts) and the East (introduction of pottery)

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ORAL PRESENTATIONS

FORMS OF DIFFERENTIATION IN THE DEAD DURING THE 4TH MILLENNIUM BC IN NORTHERN FRANCE

SALANOVA, LAURE (INVITED)*

The collective graves from Northern France are characterised by stereotyped plans, with rectangular chambers and axial entrances. All of the 400 monuments known had moreover been built at the same period, around the middle of the 4th millennium BC.

Despite this homogeneity, the way of building and using these graves varied from one monument to the other. The number of dead deposited inside the chambers is closely related to the duration of the grave's use. The amount of grave goods and their location in the graves demonstrate a first level of differentiation among the individuals, yet buried according to the same collective practices. The size and the duration of use of the collective graves show another level of variability, which seems to be linked with the context and visibility of the monument. Finally, the organisation of the dead inside the chambers reveals a third level of variability, more connected with regional differences. These differences can only be interpreted taking in account the domestic patterns, which seem to vary considerably according to the environmental background, but also cultural preferences.

This deconstruction of all the levels of information allows reconstructing the coexisted systems in which the societies from the 4th millennium BC have taken place and their dynamics of evolution.

* CNRS

STRUCTURAL CHANGES IN SOCIAL ORGANISATION OF TRB SOCIETY IN EASTERN JUTLAND

MADSEN, THORSTEN (INVITED)*

The paper sums up some of the results from an ongoing study of the Neolithic period in a 640 km² large area centred on Horsens Fjord in central eastern Jutland.

During the first 500 years of the Neolithic (EN I) a dispersed settlement covered the area, mostly in the coastal region, but also inland. In addition to stray finds and settlements we find a few graves and also the first causewayed enclosure.

During the next 300 year (EN II and MN A I) settlement activity virtually exploded in the coastal regions, while not much happened inland. The coastal settlements and the megalithic tombs form clusters centred on causewayed enclosures, and during this period the way megalithic tombs were utilized changed. The monumental long dolmens in EN II with simple rectangular chambers meant for a single person are substituted by larger tombs with a passage meant for repeated burials over time. Several such neighbouring tombs were in contemporary use.

During the next 150 years (MN A II-IV) the strict symbolic display in pottery breaks down. At the same time all traces of inland settlement disappears, while settlements in the coastal areas become fewer, but perceptibly larger and more permanent. Changes in material culture almost grind to a hold, and for the following 600 years (MN A V and MN B I) we find a stable, uniform society restricted to the coastal areas.

Inland, a new culture (EGK) emerged midway in the late period, and for 3-400 years (MN B I) it was separated from the coastal TBK culture by a clear no-man zone. Cultural contacts between the two areas, however, existed and in the end the two cultures were amalgamated into one, although differences between coast and inland persisted.

* University of Aarhus, Department of archaeology (retired)

HOW MAJOR MONUMENTS DEFINED THE IDENTITY OF NEOLITHIC FARMERS

ANDERSEN, NIELS H. (INVITED)*

In Denmark, the most extensive construction of large monuments took place in the second half of the 4th millennium BC. In association with the Funnel Beaker culture, thousands of unchambered long barrows, dolmens, passage graves and causewayed enclosures were built. This enormous building activity took place at the same time as the great changes in the region's c. 500 year old Neolithic economy. Huge areas of woodland were now taken into cultivation; the forest was felled, trees, stumps and roots were removed and countless moraine boulders of various sizes were transported away. Prior to sowing crops, these cleared areas were prepared with a primitive plough, the ard, which required large arable plots.

Rendering the cleared forest areas cultivable was no one-man job, but an operation requiring the coordinated efforts of many individuals, perhaps in a cooperative system that also proved effective in Danish agriculture in later times. Becoming sedentary farmers required fundamental changes to the way people thought and planned their activities throughout

the year, how they secured and maintained the right to use the cultivable land and so on. A cooperative system is best maintained and expanded by large gatherings and by communal works. The monuments of the Funnel Beaker culture can be seen as being an active part of these measures. It is also striking that there are no finds testifying to the existence of a stratified, hierarchical society at the time of these fundamental changes and the construction of the great Neolithic monuments. The period has also produced some of the finest pottery ever known, which – together with exquisite flint and stone tools – tells of communal activities that took place by and in the monuments and of contacts across great distances.

During the last 40 years, excavations and studies have been carried out at monuments of the Funnel Beaker culture in the Sarup area in southwest Funen. The findings from this area, compared with observations from other well-investigated monuments, will be included in this presentation.

* Moesgaard Museum

SOCIAL DIFFERENTIATION OF NEOLITHIC COMMUNITIES IN POLAND

SZMYT, MARZENA (INVITED)*

Graves with stone slabs or blocks set vertically around a rectangular or trapezoid chamber, often accompanied by a stony bottom and lid are called cist graves (*Steinkisten*, *groby skrzyniowe*, *ящичные гробницы*). In Central and Eastern Europe such grave form appeared in the fourth and third mill. BC, although with more or less intensity it was used also later. This study is devoted to outlining the basic research problems associated with the presence of stone cist graves in the border area of Western and Eastern Europe, that lies between the Vistula and the Dnieper rivers. So far archaeologists dealt mainly with questions of origin and spread of stone cist graves on the area in question and devoted less attention to their cultural context and social meaning. For years, the primary motive was to combine genetic ties of cist graves from Central and Eastern Europe, the Crimea and the Caucasus and to consider them on the background of history of Indo-European peoples. However, many researchers depart from that approach and emphasizes the specificity of cist graves in individual contexts of such cultural phenomena as the steppe Eneolithic, Globular Amphora, Yamnaya and Kemi Oba. Lessons learned from a critical review of previous concepts are a good basis for assumptions of the new program of research on stone cist graves of the IV and III mill. BC on the border of Central and Eastern Europe.

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CHOSEN OR EQUAL? SOCIAL ORGANISATION IN MIDDLE AND LATE NEOLITHIC POLAND REVISITED

POSPIESZNY, ŁUKASZ^{*} / KRENZ-NIEDBAŁA, MARTA^{**}

In Poland early monumentality of the Neolithic is mainly represented by two types of megalithic tombs. These are Middle Neolithic earthen long barrows, left behind by the societies of the Funnel Beaker culture (broadly 4th millennium BC), and Late Neolithic stone cists of the Globular Amphora culture (mainly 1st half of the 3rd millennium BC). The latter in many aspects resemble earlier passage graves and small dolmens typical of the northern group of the Funnel Beaker culture. Considering the sex and age structure of individuals buried in both types of monuments it is commonly assumed that they had different social and ritual roles. This is seen as a result of distinct forms of social organisation in the Middle and Late Neolithic. These hypotheses are largely based on the results of archaeological excavations and anthropological examinations done till the end of the 70ies. Since then the majority of osteological materials got lost, which prevents anthropological re-analyses and radiocarbon dating.

In our paper we intend to present the outcome of re-evaluation of selected published results of anthropological assessments of human remains dated from Early to Late Neolithic. We first of all revisited the basis of sex and age assessments of individuals buried in central and accompanying graves in earthen long barrows of the Funnel Beaker culture and inside the burial chambers of Globular Amphora culture tombs. Our aim was to assess whether in both societies the form of burial was determined by the sex and age of the deceased. As a comparative background we used anthropological data available for relatively numerous individuals from an Early Neolithic cemetery of the Late Linear Pottery culture in Kujawy and Final Neolithic Corded Ware cemeteries in Little Poland.

Individual assessments of sex and age-at-death were juxtaposed with information about the form of burial and type of grave goods. The aim was to find out if for the period from Early to Late Neolithic it is possible to identify signs of social differentiation and appearance of groups of privileged social status.

In the presentation we will emphasise the risk of too advanced social interpretations based on limited datasets. We will also discuss the difficulties and limitations of the research using data on age-at-death and sex distributions caused by differences in estimation and classification of basic biological individual features used today and at the time of discovery of skeletal human remains.

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SOCIAL DIFFERENTIATION AS REFLECTED IN THE CORDED WARE CULTURE BURIAL RITE IN THE SOUTHERN POLAND

JAROSZ, PAWEŁ *

Studies of the burial customs allow reconstruction of the hierarchy of the dead individuals and also the organization of social structure. Barrows are a distinctive feature of the burial rite of the Corded Ware culture in the Europe wide horizon. These barrows were not only a place of interment but also sites of considerable importance to the local community. The grave goods and the monumental outlook of the mortuary features suggest that the barrows were raised for the elite, who would have been groups of privileged men, and in exceptional cases also children who may have been their offspring. In reconstructing social stratification based on the burial rite we have to note that the main element of social structure was small family groups, in which full rights belonged to adult males. The tradition of barrow burial was probably sanctioned by an ideology in which the mound (the »sacred mountain«) was the place of burial for honoured members of the community.

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THE MILITARY ELITE AND THE MEGALITHIC TRADITION OF MAIKOP-NOVOSVOBODNAYA COMMUNITY

KORENEVSKIY, SERGEY *

»A megalithic architecture« is a part of the burial rites of the of Maikop-Novosvobodnaya community (or The Maikop culture) But it is not look quite specifically, without determining what is it for the Maikop culture? So first of all we have to correct such notion and understand that of megaliths of Maikop-Novosvobodnaya community are the burial constructions of stone slabs, cromlechs, including stone slabs, stone anthropomorphic or quozianthropomorphic slabs.

All funeral rites of stone cists of the Maikop-Novosvobodnaya community are above-ground buildings. Its were divided previously into the usual boxes including: mini megaliths as burial for children, simple grave as boxes for adults with a length of 1.8 m on the long wall, boxes-tombs for adults are larger structures with a length on the long wall more than 1.8 m up to 3,13 m (Nalchik tomb, Kishpeksky the tomb Grachowska, 6/5,8/2). Then it is possible to admit boxes with portals and hole in a transverse plate belonging to the Novosvobodnaya group: tombs 1 and 2 excavated by N. A.Veselovsky, tombs of cemetery »Klady«, excavations by A. D. Resepkin K. 28/1, 30/1, 5/31.

The tombs of stone presented with complexes Dolinsky variant and with the Novoslobodskaya group connected with the burials of the elite with the symbols of the organizers of the feast, military and carpentry crafts, with the symbols of magic, manifested with gold, silver and semi-precious stones.

A common feature of burials military elite is placing pebbles on the bottom of the graves or the position of deceased men on the bottom of the stone slabs. In other words, it is observed the general principle of rite to arrange a bottom of burial with the symbolism of the burial ritual and avoiding contact of the deceased with a ground. Other common features are the shift of the deceased men to the wall of the burial construction and the declaration of the »cult of fear« before buried man in a stone tomb. Many of such rites it is possible to admit among non megalith graves of military elite of the Maikop culture.

The manifestation of anthropomorphism in the construction of megaliths of the Dolinsky variant reflected using of primitive anthropomorphic steles of stone not only in elite complexes, but also in non elite graves. We do not know of many cases such practices. And it is possible to guess that such rite was underlined the unusual value big graves of stone as cult and religious complexes.

Burials in the megaliths of the Novosvobodnaya groups are also associated with the military-industrial elite, but illustrate the particular point of view on the relationship with the anthropomorphism in the mythology of the funeral rites with special magic draws and marks, placed on the walls of the tombs.

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THE HOLE IN THE DOUGHNUT. ENCLOSURES, PRESTIGE AND SELECTIVE ADOPTION IN THE SOUTH GERMAN LATER NEOLITHIC

HOFMANN, DANIELA^{*} / HUSTY, LUDWIG^{**}

The later Neolithic in Europe is characterised by far-flung contacts and a flood of innovations, concerning new inter-regionally valid forms of symbolism, representation and ritual behaviour, changes in the settlement system and domestic architecture, and new sets of long-distance links centred on so-called prestige goods (such as jadete and copper). Yet these inter-regional tendencies are paired with a profusion of increasingly small-scale archaeological cultures, many of them defined through pottery only. This tension between large-scale interaction on the one hand and regional or local development on the other remains to be adequately addressed. In this context, earthen enclosures, now built in large numbers and occasionally associated with the structured deposition of humans, animals and objects, hold a key position in southern central Europe. Were these the sites at which local elites displayed their new power and mediated between foreign innovations and local traditions?

The present paper investigates these questions using the comparatively little-known Münchshöfen culture (МНК) of southern Bavaria. Centrally located between the large cultural blocks of the *Schulterbandgruppen* to the west and Lengyel-associated cultures to the east, the МНК seems ideally placed to play a large role in newly formed exchange networks. However, both copper and jadeite largely seem to pass it by, leaving a large hole in the distribution patterns of these goods. In contrast, objects such as pottery and practices like structured deposits and enclosure construction indicate far-flung connections. Based on the enclosure of Riedling, we discuss possible reasons behind these unusual patterns of selective adoption, including the idea of resistance to the new ‘prestige-good ideology’ and the role that enclosures as sites of public gatherings may have played in this context.

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A ROOM WITH A VIEW (ON THE LAKE). TRACING BACK SOCIAL ORGANIZATION IN THE NEOLITHIC THROUGH PILE DWELLING ARCHITECTURE

VERDONKSCHOT, JADRANKA*

Although this presentation is not dedicated to a topic directly related to megaliths it is of relevance within the thematic of this conference. Often no evidences of Neolithic architecture are left for archaeologists to study, apart from monumental structures. Although these monuments are of great interest without any doubt, when we study monumental architecture alone part of the picture is still missing. What is missing is the daily, not exceptional, reality. This is where lakedwelling research comes in. Central Europe is famous for its pile dwelling sites, which have recently even been declared UNESCO world heritage and even earlier sites of similar conditions have been discovered in Southern Europe too. Pre-historic, often Neolithic villages located in the vicinity of lakes and wetlands which provide a unique window into Neolithic life thanks to the preservational qualities of wetland sites. With much of the organic remains being preserved data regarding for example architecture are available for study.

This presentation aims to assess different architectural features from Central European pile dwelling sites in order to create an idea of the social organization and its implications on daily life in the Neolithic.

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BURIAL PRACTICES AND SOCIAL HIERARCHISATION IN COPPER AGE SOUTHERN SPAIN: NEW EVIDENCE FROM VALENCINA DE LA CONCEPCIÓN (SEVILLE, SPAIN)

GARCIA SANJUAN, LEONARDO*

Social complexity, social inequality and social hierarchisation are among the most hotly debated topics in the study of the Iberian Copper Age (c. 3200–2200 cal BC). Since the impact of processual archaeology in Iberian prehistory in the early 1980s, a large number of papers have been devoted to these subjects – see for example Gilman, 1987; 2002; Chapman, 1990; 2008; Micó Pérez, 1995; Kunst, 1995; Díaz-del-Río, 2004; 2011; García Sanjuán, 2006; Garrido-Pena, 2006; Ramos Millán, 2013; García Sanjuán and Murillo-Barroso, 2013, to name but a selection of those that have been published in English. Factors such as the very geographical nature of the Iberian peninsula, where wide-ranging ecological diversity is a powerful underlying feature, and the limitations of the available empirical the evidence, have made the establishment of a single theory difficult: quite on the contrary, the number of hypotheses and theories that have been put forward is quite wide-ranging. In this paper I intend to contribute further to this debate by analysing fresh evidence from Valencina de la Concepción (Seville, Spain), perhaps the largest 3rd millennium settlement in Iberia. The excavation of c. 2 hectares at the Valencina sector called PP4-Montelirio in 2007 and 2008 revealed more than 160 features, including some remarkable megalithic construction, that provide new evidence to examine the issue of Copper Age social organization.

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BUILDING AND ACCEPTING DIVERSITY: POLITICAL CONTROL, SOCIAL INTEGRATION AND DIFFERENTIATION IN LOWER ANDARAX RIVER (ALMERIA, SPAIN) DURING THE CHALCOLITHIC PERIOD (3300–2150 CAL BC)

CÁMARA SERRANO, JUAN ANTONI*/ GONZÁLEZ, FERNANDO MOLINA*/ MARRERO, JOSÉ ANDRÉS AFONSO*/ FERNÁNDEZ, GABRIEL MARTÍNEZ*/ SPANEDDA, LILIANA*/ COLINO, TRINIDAD NÁJERA*/ HERNÁNDEZ, FRANCISCO MIGUEL ALCARAZ*

The formal differences between Los Millares site tombs (Santa Fe de Mondújar, Almería, Spain) and those found in the nearby mountains of Alhama and Gádor had been traditionally used to refer to the existence of a political border in the area. This line of argument seemed to be supported by the spatial distribution of the 13 Los Millares hill-forts which surround the settlement to the south and east. The proximity of highland settlements and their associated orthostatic graves to Los Millares settlement make it difficult to maintain the existence of an impermeable boundary for approximately one millennium. A broad process of integration is also suggested by some data. First, some graves with circular chambers are located in certain highland necropolises. Secondly, some orthostatic graves are located in Los Millares necropolis where most of tombs are built in masonry. These orthostatic tombs include specific items (e.g. geometrics) and they can be included among the richest graves in the necropolis. Finally, territorial control system which includes hill-forts is completed by orthostatic graves which especially regulate the pathways to the Alhama and Gádor mountain ranges through the Andarax tributaries. The distribution of orthostatic tombs in those areas in different alignments replicates the forts arrangement in two lines. In fact, the east end of the second line of forts, located across the Rambla de Huéchar in front of the innermost area of Los Millares, is marked by two large masonry tombs placed outside the main necropolis.

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LANDSCAPES OF COMPLEXITY IN SOUTH PORTUGAL DURING THE 4TH AND 3RD MILLENNIUM BC

VALERA, ANTÓNIO CARLOS (INVITED)*

During the late 4th and 3rd millennium BC, Alentejo's hinterland (South Portugal) was one of the important regions of development of social complexity in Iberia. Internationally displayed by the work of the Leisner couple, this region became to be known as a landscape

dominated by megalithic passage graves, open settlements and some few hill forts, with a well established separation between domestic areas and funerary ones. A land of farmers, and later also of metallurgists, that organized their territory in a simple and dichotomist way, where monumentality was essentially expressed by the funerary monuments, at least until the advent of the few walled fortified sites.

This perception suffered profound transformations in last decade. The discovery of the real expression of enclosures in the region, the role they have been showing to have played as main architectures in the organization of cosmological landscapes and of social life, the proliferation of different forms of burial and body manipulations and the new observable scales of interaction changed drastically our perception of the regional landscapes during this period.

New forms of social organization of the landscape emerged and, underneath a certain regional cultural unity, diversity can be perceived. The clear frontier between domestic and funerary spaces is now more blur, landscapes highly codified go side by side with others apparently more ambiguous, perceptions of monumentality changed of scale, geological and topographical diversities seem to have more interference than was previous considered and peripheries revealed themselves important core zones.

In the present paper, an overview of the most relevant new data will be presented in order to delineate some of the outlines of these new »landscapes of complexity« in Alentejo, South Portugal.

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DIACHRONIC SPATIAL ANALYSIS OF THE DISTRIBUTION AND FUNCTION OF NORTHERN CENTRAL EUROPEAN FUNNEL BEAKER GRAVE POTTERY

LORENZ, LUISE*

In the project »Communication Structures« of the Priority Programme 1400 of the German Research Foundation »Early monumentality and social differentiation«, a standardized data collection and metrical and typological description of several thousands of ceramic pots and their decoration from Funnel Beaker megalithic and nonmegalithic graves in Northern Central Europe could be carried out.

Based on typo-chronological models for several regions of Northern Central Europe it is possible to describe, analyse and interpret carefully the standardisation and diversity in pottery shape and decoration and their spread in space and to draw conclusions on the processes of distribution and function of pottery in grave contexts in the 4th Millennium BC. Aspects of individuality and collectivity in life and work of the probably female potters as well as the burying groups become visible.

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THE BONE PUZZLE. RECONSTRUCTING BURIAL RITES IN COLLECTIVE TOMBS

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SCHIESBERG, SARA*

This analysis of human bone inventories explores the burial rituals performed in collective tombs. In doing so the question of whether the corpses have been interred as secondary or primary burials is settled. Of additional concern is the spatial arrangement of bones with regard to sex, age and kinship. Yet another question of interest is whether the interments represent a social group or just a part of the respective population.

Data was collected from several case studies dealing with deceased from mortuary houses and megalithic tombs. This comprises dolmen and passage graves built in the North European Plain by the people of the Funnel Beaker North Group. Furthermore, collective burials from Central Germany are considered by including gallery graves of the Wartberg-Culture and the mortuary houses of the Bernburger Group.

Collective burials do not emphasize the individual. This might indicate an effective social control within the corresponding living communities. Burial rites of collective tombs have been largely discussed in the context of the »*Ossuarientheorie*«. This discussion is deeply influenced by ideas of secondary burials observed for bone depositions at Christian ossuaries. However, considering the plurality of secondary burials in traditional societies, an alternative model is suggested. According to this model, transfer of the deceased was conducted in cyclical intervals. Therefore, the deceased were buried secondarily at different stages of decay. In doing so, relatives were laid down next to each other, while sex and age categories were of no importance to the position of the deceased. However, it is highly questionable whether the deceased represent a whole kin group. Since collective tombs have been used over a longer period of time, only a few of the buried individuals could have lived contemporaneously.

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THE SOCIAL IMPLICATIONS OF CONSTRUCTION: A CONSIDERATION OF THE EARLIEST NEOLITHIC MONUMENTS OF BRITAIN AND IRELAND

CUMMINGS, VICKI (INVITED)*

This paper considers the very earliest Neolithic monuments constructed in Britain and Ireland. These are a rather diverse range of sites including timber mortuary structures, small, single-chambered tombs (once known as 'protomegaliths') and dolmens (also known as portal tombs). Drawing on the recent excavation of a number of these sites, this paper will

emphasise the different types of material used to create these monuments, the location of the monuments in the landscape and how the construction of these sites were tied into particular social strategies of emerging Neolithic communities. It will be argued that these sites represent the fusion of incoming ideas from continental Europe and indigenous notions of place and descent.

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HOW ROUTINE LIFE WAS MADE SACRED: SETTLEMENT AND MONUMENTALITY IN LATER NEOLITHIC BRITAIN

POLLARD, JOSHUA (INVITED)*

Discussion of Neolithic monumentality often includes talk of ‘ceremonial’ or ‘monumental’ landscapes, giving the impression that monument creation and use took place within defined spaces separated from more quotidian activity. Yet, fieldsurvey and excavation projects undertaken since the late 1970s around major Neolithic monument complexes in the British Isles have shown the presence of traces of contemporary settlement and other non-monumental activity. More recently, we have witnessed the discovery of a major late Neolithic settlement associated with the timber monuments at Durrington Walls, which is likely linked to the building of the main megalith phase at Stonehenge. It is, of course, obvious that people had to live within proximity to monuments while they were being built and used. However, here, an even closer relationship between monumentality and settlement is posited, in which histories of occupation could contribute to the emergent sacredness of places that were subsequently monumentalised, and in which (as recently advocated by Richard Bradley) the house could provide the template for the architecture of timber and megalithic monuments.

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NON-MEGALITHIC AND MEGALITHIC MONUMENTS IN BRITAIN AND IRELAND FROM THE LATE 5TH TO THE 3RD MILLENNIUM BC: TRACING TRAJECTORIES AND BUILDING PLAUSIBLE NARRATIVES

SHERIDAN, ALISON*

The appearance of megalithic and non-megalithic monuments in Britain and Ireland was one important element in the Neolithisation of these isles, and it reflects the multi-strand nature of that process, with the closed megalithic chambers and simple passage tombs found along the Atlantic façade of Britain and around the coast of the northern part of Ireland relating to one strand originating in the Morbihan region of Brittany at some time between 4300 and 3900 BC; the non-megalithic timber mortuary chambers and long earthen mounds that predominate in eastern Britain forming part of the Carinated Bowl Neolithic, appearing around 4000–3800 BC (with the megalithic tombs around Coldrum in Kent offering a slightly earlier and unusually megalithic element in the same strand of Neolithisation); and the simple passage tomb at Broadlands in Devon plus the dry-stone closed chambers and simple passage tombs around the Severn, belonging to a third strand emanating in Normandy and/or northern Brittany and affecting south-west England during the first quarter of the 4th millennium. The subsequent trajectories of development of megalithic and non-megalithic monuments over the next 1500 years will be summarised, highlighting major trends and patterns, and the rationale for these particular trajectories, in terms of the social dynamics of changing Neolithic societies, will be explored.

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TITLE NOT AVAILABLE

O'SULLIVAN, MUIRIS (INVITED)*

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**REGIONAL TRADITIONS AND DISTANT EVENTS –
PARKNABINNIA AND OTHER ATYPICAL
COURT TOMBS IN NORTH MUNSTER, WESTERN IRELAND**

JONES, CARLETON*

In the northern part of the province of Munster in western Ireland, there are at least four atypical court tombs that may belong to a distinct regional tradition. These atypical court tombs, along with other court tombs throughout Ireland, appear to have been initially used c. 3700–3570 BC. The north Munster atypical court tombs are characterized by very narrow, straight-sided ‘courts’, short heel-shaped cairns, and a gallery of two chambers. Interestingly, dating evidence from one of these tombs, Parknabinnia, indicates that shortly after c. 3000 BC, its rear chamber was blocked and only the front chamber continued to receive deposits. Somewhat earlier, sometime in the second half of the 4th millennium BC, deposits seem to have ceased at the nearby Poulmabrone portal tomb. Looking beyond north Munster, the late 4th millennium BC appears to have been the era of construction of some of the massive, developed passage tombs elsewhere in Ireland such as the Boyne Valley in eastern Ireland. Various interesting questions are raised, particularly in the areas of social differentiation and the construction of identities. For instance: Are the distinctive north Munster atypical court tombs the result of an isolated population? If so, how should we explain the north Munster portal tombs and other monuments that seem to indicate connections with areas farther afield? Also, are the patterns of construction, use, blocking, and disuse evident in the north Munster megaliths related to events farther afield such as the construction of massive passage tombs in distant parts of Ireland and beyond? If so, what might this tell us about different scales and layers of identity in the Neolithic? As a first step, this paper discusses the architecture and dating of these north Munster atypical court tombs and then places them in the wider context of contemporary megalithic activity in Ireland.

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UNDERSTANDING CEREMONIAL MONUMENT COMPLEXES IN WESSEX, ENGLAND, IN RELATION TO CONCEPTS OF POWER

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GREANEY, SUSAN*

There are striking similarities between Neolithic ceremonial complexes in Britain in terms of monument sequences, practices and common architectural types, which imply a shared understanding of the world. But what were the conditions under which monument complexes emerged, and why were they maintained, reused and renewed over long periods of time? More importantly, what was the social organisation of the communities who built them – were the monuments of the Neolithic built through shared participation or competition?

In order to start answering these questions, this paper will critically review previous approaches to the conceptualisation of power and social stratification in relation to Neolithic monument complexes, using examples from Wessex, with particular reference to Stonehenge. Starting with Renfrew (1973), who described monuments as indexes reflecting social models derived from ethnographic studies, this review will then look at how later scholars argued that ideological control was a means of obtaining and maintaining power within unequal societies.

The shift in thinking to acknowledge the active and knowledgeable human agent, and more recent approaches that incorporate a broadened view of agency, where both human and non-human agents have potential power, have led to useful theories of the local circumstances in which specific monuments were built and used. Power is now seen as part of a network of relationships, both ‘power over’ and ‘power to’, maintained by repeated actions and performances.

However, it can be argued that larger-scale questions about the potentially unequal structure of Neolithic society have been neglected, including the ways in which power relations were negotiated, legitimised and controlled through monuments. This paper will attempt to identify some archaeologically visible actions that shed light on potential sources of power at monument complexes, including the past, certain materials and natural features or events.

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ORAL PRESENTATIONS

**THE EARLY NEOLITHIC IN NORTHERN GERMANY
IN THE LIGHT OF ARCHAEOMETRIC RESULTS
ON HUMAN REMAINS**

TERBERGER, THOMAS^{*} / LÜTH, FRIEDRICH^{**} / PIEZONKA, HENNY^{***} / SCHULZ,
ANNA^{4*} / BURGER, JOACHIM^{4*}

The last decade saw increasing progress in the analysis of human remains by archaeometric methods. Here we present results of systematic isotope ($^{13}\text{C}/^{15}\text{N}$) and palaeogenetic studies on Stone Age human remains from northern Central Europe. The individuals cover the time period from the Preboreal to the Subboreal (c. 9500 to 2000 calBC). The isotope analyses show a considerable consumption of fresh water resources during the Mesolithic and (early) Neolithic. It is interesting to notice that a major shift towards farming economy is visible not before the 3rd millennium calBC. Palaeogenetic studies show a consistent pattern of Mesolithic individuals belonging to the U-family of mitochondrial lineages, like most of other pre-Neolithic humans from this area. During the Funnel Beaker period new lineages appear and the lecture will discuss the way of neolithization of the North in the light of these palaeogenetic data.

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**STAGES AND CYCLES: THE DEMOGRAPHY OF
POPULATIONS PRACTICING COLLECTIVE BURIALS
THEORIES, METHODS AND RESULTS**

ZIMMERMANN, ANDREAS^{*} / SCHIESBERG, SARA^{**}

Regarding the demography of prehistoric populations, neoevolutionary theories are still important. According to these theories historical processes depict a trend towards higher

complexity within each development stage. However, cyclic models suggest the possibility of multiple and more complex historical paths. Considering societies using early forms of monumental architecture the size of the groups acting collectively is of special interest. This group size can be examined for archaeological phenomena in varying dimensions. Key among these are megalithic chambers or rather local groups of tombs and the monumental enclosures. Another worthwhile topic to explore is the population density. In order to investigate these demographic phenomena a bundle of methods was applied. These include the computation of life tables, as well as geostatistical calculations and the quantitative analysis of archaeological datings. The resulting variables, which are related to different geographical scale levels, are linked in a calculation model, thus allowing controlled upscaling and downscaling processes.

Results have been subject to synchronic and diachronic comparisons. For example, megalithic tombs in different German regions have been arranged in an identical structure. This structure is formed by clusters of monuments, which in turn display a regular pattern. However, the size of these groups as well as the ground area of the chambers varies among regions. This could reflect a regional diversity in regard to the social units beyond the monuments. Calculated population densities have been confronted to various published demographic estimations concerning societies practicing collective burials. Transforming these estimations into comparable units produces a rather uniform range of values. These values turn out quite low as diachronic comparisons show. Considering these diachronic comparisons however, it is argued that long-term developments would best be described through a neoevolutionary model, whereas the unique developments during each stage can be depicted in detail by approach through a cyclic model.

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NIEDERTIEFENBACH RELOADED: THE BUILDERS OF THE WARTBERG GALLERY GRAVE

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In this paper we are presenting first results of the re-examined gallery grave Niedertiefenbach. Therefore we applied a multidisciplinary approach including dating models based on new radiocarbon dates, anthropological analysis of traumatic and disease traces on the human skulls, aDNA studies and new three dimensional measurements of the dentition and related pathologies.

The grave is located in Central Germany (Hessen) and is associated to the Wartberg Culture. As a part of the monument has been destroyed during construction work, only the northern end of the chamber remained and was excavated in 1961. The remains of at least

177 human individuals were found and documented during the campaign. In a previous study the grave was dated in the beginning of the 3rd mil B.C. by radiocarbon dating of three human specimens.

Based on 15 new radiocarbon samples our chronological model shows a complex utilization of the grave between 3.350 and 2.900 cal B.C.. The anthropological examinations could identify traces on the human skulls for symptoms of unspecific infections and increased blood formation activity indicating that a major part of the buried population suffered from inflammatory diseases. The exceptional cases of a healed forehead fracture and a survived trepanation of a children calotte in a late Neolithic context is reflecting the knowledge of disease and care during this time. Ancient DNA results from seven individual provide first insights into the population genetic composition of the buried humans. Furthermore high-throughput sequencing and metagenomic analysis of the tooth and dental calculus of these individuals could identify pathogenic bacteria and viruses and shed a spotlight on the dietary bases. The jaws and teeth were scanned by using a dental CAD/CAM Computer system to obtain three-dimensional models. In addition to By comparing the models of Niedertiefenbach with recent ones objective statements to traditional examination of abrasion, caries and parodontitis a comparison of possible variations to modern teeth or further prehistoric samples is possible.

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THE PHYSICAL STRAIN ON MEGALITHIC TOMB BUILDERS FROM NORTHERN GERMANY – RESULTS OF AN ANTHROPOLOGICAL-PALEOPATHOLOGICAL INVESTIGATION OF HUMAN REMAINS FROM THE HESSIAN-WESTPHALIAN MEGALITHIC SOEST GROUP IN ERWITTE-SCHMERLECKE

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The human remains from two megalithic tombs were examined within the DFG-Projekt „Genese und Struktur der hessisch-westfälischen Megalithik am Beispiel der Soester Gruppe“ (Genesis and Structure of the Hessian-Westphalian Megalithic Soest Group). This project is part of the DFG-Priority Program 1400: „Frühe Monumentalität und soziale Differenzierung. Zur Entstehung und Entwicklung neolithischer Großbauten und erster

komplexer Gesellschaften im nördlichen Mitteleuropa“ (Early Monumentality and Social Differentiation. On the origin and development of neolithic large-scale buildings and the emergence of early complex societies in Northern Central Europe).

The two megalithic gallery graves were erected near Erwitte-Schmerlecke, Westphalia, by the people of the Wartberg Culture approximately between 3500 and 2800 calBC. The graves were excavated by two cooperation partners (Westfälische Wilhelms-Universität Münster: Prof. Dr. Ralf Gleser und Dr. Kerstin Schierhold, LWL Olpe: Prof. Dr. Michael Baales). In addition the human remains of four other megalithic tombs (Rheine, Großenrode, Calden and Völlinghausen) were examined during the course of two medical dissertations for comparative purposes. The results obtained from these six megalithic tombs provide a broad overview of the frequency of diseases and various non-physiological changes in these early Neolithic populations in north-west Germany.

The human remains excavated, altogether more than 31,000 bones und bone fragments, were examined macroscopically, radiologically, endoscopically, by low power microscopy, by scanning electron microscopy and biochemically.

A large proportion of these remains showed signs of physical strain due to intensive physical activity as might be the case during the work on these megalithic tombs. Stress markers are seen at the bone surfaces of the builders.

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THE GALLERY GRAVE OF BURY AND BAZOCHES-SUR-VESLE: AN INTER-SITE COMPARISON OF TWO LATE NEOLITHIC DECEASED POPULATIONS OF THE PARIS BASIN

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The deceased individuals resting within the collective burial structures of the 4th millennium BC have for a long time been neglected during excavation as the focus lay mainly on material objects (grave good assemblages) and on the architecture of their monumental structures.

Today, with excavation and documentation methods specifically adapted to collective burials and thanks to the archaeo-anthropological method (comprising paleodemography, spatial repartition of the deceased, and individual biological data) it may be possible to reconstruct to a certain extent the social identity of these interred populations, and perhaps also to understand the bond that united them in death.

This contribution aims to present the comparison (on a spot test basis) of the deceased populations of two gallery graves located in the Paris Basin, which are dated to the 2nd half of the 4th millennium BC.

Distant of approximately 100 km to each other, these two burial structures were discovered in two different landscapes: in contrary to the gallery grave of Bury (Oise), the gallery grave of Bazoches-sur-Vesle (Aisne) had been built within an anthropogenic setting (earlier earthwork). These two wooden graves (Bury is of mixed architecture) differ furthermore both in their use duration and in their dimensions. Similarities are on the other hand given regarding the deceased, especially with the selection criteria and spatial repartition of non-adult individuals.

The comparative analysis of the interred populations at an inter and intra-site level, is an attempt for providing a new perspective via the spatial repartition (horizontal and vertical dimension) of the deceased individuals according to paleodemographical and biological criteria.

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BONES WITHIN TOMBS: CHARACTERIZING BUILDERS AND USERS OF TOMBS DURING THE 4TH-3RD MILLENNIA BCE IN PORTUGUESE ESTREMADURA.

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In Portuguese Estremadura different types of tombs appear to have been contemporaneous in use, or at least during periods of their uses. This could be indicative of different groups with diverse cultural origins. Nevertheless, anthropological studies show that physiological and pathological individual's characteristics do not sustain clear distinctions between different types of tomb populations. Similar conclusions were obtained from paleodiet and mobility studies.

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TOWARDS OTHER ATLANTIC BANKS : REVIEWING SENEGAMBIAN MEGALITHISM

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The Senegambian megalithism, appeared in the European scientific literature from the beginning of the 20th century. It counts around 17 000 monuments and 2000 sites scattered on over 30,000 km². They nowadays look as standing stones circles, east of which rise a single front stone or a row of several monoliths.

The current study of Wanar megalithic cemetery, listed on the Unesco World Heritage, sheds a new light onto this topic. The standing stones circles stand now for the remains of a frontage, made elsewhere of rubble stones , and sometimes partly of adobe. The front monoliths connected to one monument were not always simultaneously erected. Some could indeed be related to memorial-like deposits. This architectural sequence could be preceded by the destruction of the house of the dead, or even by the construction of an adobe building above the sepulchral pit location. This pit can appear as a silo, used as the chamber of a collective burial; other successive deposits could only be accounted for by the presence of a perishable material structure on the base of larger pits, in the manner of a house of the dead. In all cases, the accompanying dead, by no means systematic, appear in rather unusual circumstances.

All these elements help reconsider this singular type of megalithism in a wider context of funerary practices, specific to Protohistoric people in Western Africa. They also can draw one's attention on unexpected features that could occur within some of the Western Europe Atlantic megaliths, in other times and other places.

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THE MEGALITHS OF SUMATRA: PHENO-MENOLOGICAL AND CONTEXTUAL APPROACHES

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This paper resumes the research on megalithic complexes in different highland areas of Sumatra including the Pasemah plateau, the highlands of Jambi and the Minangkabau highlands. Due to systematic field research during the last two decades it has partly become possible to classify and date these complexes, to clarify their archaeological contexts and improve assumptions on their historical meaning and function. Thus the phenome-

nological and contextual approaches towards a better understanding of the megalithic complexes of Sumatra shed new light on the temporal and spatial diversity of cultural developments in this particular region. The same approaches might be applied to megalithic remains in other world regions and hence discussed as the methodological frame for the investigation of megaliths in a worldwide archaeological perspective.

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WHY DECORATING MONUMENTAL TOMBS? A VIEW FROM SOUTH-EAST ASIA

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The starting point of this paper are the Neolithic rock-cut chambered tombs of Sardinia, which, besides having complex architectural design, are famous for their rich and diversified cattle-head decorations. Since the early twentieth century, research on this bucranium imagery has focused on typo-chronological classification and, to a lesser extent, on interpreting their symbolism, meaning or assumed religious signification (e.g. bull god). But archaeologists have rarely asked why it was so important for Neolithic Sardinians to create bucrania on the walls of their tombs, why there was such an obsession with cattle-head imagery and, most importantly, what bucrania were actually used for in tombs. In order to gain further ideas about Neolithic bucranium-art practices it was very tempting to look at ethnographic parallels, in particular societies where sculptures and painting of cattle-heads are frequently and intensively associated with household buildings and monumental tombs. In that perspective, three well-documented societies in South-East Asia appeared as excellent case studies: the Naga in North-East India, the Toraja in Sulawesi and the people from West Sumba, Indonesia. The aim of this study was not to find out about the signification of the bucrania themselves but to identify the social practices and interactions associated with them. Through a review of old and recent ethnographic literature dedicated to these groups I have focused on the origin and context of bucrania display, the different actors (sponsors and targeted audience) involved in these practices, the nature of their relationships and the active role of art within these relationships. In these groups, bucranium motifs are codified, prestigious evidence of buffalo sacrifices associated with competitive feasting and, as such, they are conspicuously displayed as index of wealth, prosperity and status. But the review also shows that bucrania motifs are efficiently acting through several types of cumulated effects at both social and ritual levels, and that they are actively used as strategic agents in simultaneous social interactions with the living, the ancestors and supernatural forces.

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BUILDING WORKFORCES FOR LARGE STONE MONUMENTS: THE LABOUR DYNAMICS OF A LIVING MEGALITHIC TRADITION IN EASTERN INDONESIA

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Megalithic monuments are clear signifiers of labour mobilization at a significant scale. In addition to their impressive size and the intriguing implications they present for the social and symbolic features of ancient societies, megaliths can provide important insights into modes of prehistoric labour mobilization as some of the earliest examples of manipulating large labour pools. In this paper, I present an ethnoarchaeological examination of the labour dynamics associated with the living tradition of building megalithic tombs in West Sumba, Indonesia. The case of West Sumba shows how large labour pools can be assembled for tomb building in societies of limited scale, while offering important insights into potential modes of labour mobilization in megalithic societies of the ancient past.

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SOCIAL IMPLICATIONS OF MEGALITHIC CONSTRUCTION – A CASE STUDY FROM NAGALAND AND NORTHERN GERMANY

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Megalithic monuments of the Funnel Beaker societies in Northern-middle Europe can be seen as potential symbols of collaboration but also competition both within and between different communities. The analysis of possible social implications and the influence of megalith building on socioeconomic features of the communities involved in this practice can be broadened by the inclusion of ethnographic examples.

Recent megalith building activities can be found in Nagaland, Northeast India. These building traditions are closely connected with a certain degree of competition and representation of individuals and/or communities. The close connection between megalith building and »Feasts of Merit« illustrate the socioeconomic meaning of this tradition. The construction of megalithic monuments and the organisation of feasts require a high amount of labour and resources. Moreover, the production of the necessary material means can foster the creation of inequalities. Similar observations can be made among other societies with megalithic traditions.

Thus, in analysing social implications of megalithic constructions, an inclusion of economic and spatial information seems promising. One of the areas with dense evidences of Funnel

Beaker activities in Northern Germany is southeastern Schleswig-Holstein and northwestern Mecklenburg. Extensive research on environmental conditions, settlements and grave structures by various projects provide good conditions for further analyses. The potential influence and importance of megalith building on the socioeconomic structure of related communities shall be examined on this basis. Factors such as the economic potential of different communities and the necessity of cooperation and production of surplus will be integrated with regard to the available archaeological data.

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BUILDING COMMUNITY: SIGNIFICANT PLACES NOW AND BEFORE

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This presentation intends to summarise the objectives and premises of an ethnoarchaeological research project focused on understanding European Prehistoric monumental earthworks. The project will make use of data from ethnographic sources and fieldwork carried out among contemporary populations in South America.

It will first analyse the difficulties inherent to the process of making analogies from perceived similarities between past material culture patterns and present behaviours and ideas. Secondly, it will focus on the concept of 'meeting place', which has been extensively applied to European Prehistoric monumental enclosures. The category will be critically examined and defined on the basis of some ethnographic case studies.

Finally, the research project shall attempt to recognise other forms of conceiving space and construction of significant places relatively to the communities that live in it, in order to advance our understanding of ditched enclosures and other Prehistoric European monumental places.

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MORAINES, MEGALITHS AND MOO: PUTTING THE PREHISTORIC TRACTOR TO WORK

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Models estimating the effort necessary to construct the megalithic monuments of Northern and Western Europe are usually based on manpower (e.g. Müller 1990). They appear to be heavily influenced by ethnographic analogies derived from cultures where suitable draught animals are not available. The use of cattle for traction, however, is now well attested in the Funnel Beaker groups and related cultures as osteological evidence, wheel marks preserved under megalithic monuments, as well as pictorial evidence (Milisauskas/ Kruk 1991; Zich 1992; Johannsen 2006).

Following a review of such models and a summary of the evidence for the use of cattle traction in the Funnel Beaker and related groups such as Wartberg, we will present calculations for the construction of a dolmen with teams of cattle used for the hauling of boulders. In such calculations, the size of the animals and harness type (Masson/Rosenstock 2011) as a proxy for tractive power, implementation of sledges and sliding surface preparation as proxies for friction, as well as the reconstructed size and frequency of erratic boulders in the moraines of the postglacial landscape have to be taken into account as variables. Our hypothesis is that a thorough »clean-up« of the boulders in the landscape took place during the Funnel Beaker period.

The results might give us the possibility to infer the number of teams needed and thus to locate the degree of specialization of cattle traction in the Funnel Beaker socio-economy on a scale between multipurpose cows used for meat, milk and traction on the household level on the one end and specialized draught oxen kept on community level on the other.

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PERSONAL TESTIMONIES INSIDE MEGALITHIC MONUMENTS

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When investigating the construction in well preserved megalithic monuments you cannot avoid imaging the construction process in the specific site several thousand years ago: What happened? What did the construction site look like? What did the individual builders think and why did they act as they did? Apart from sparse direct evidence of Neolithic people and the testimonies of the final monument itself we may use the general human way of thinking and making choices in an attempt to understand the complexity in the building process of megalithic monuments. It is obvious that the monuments contain more than stones, wood and earth. Ideas, ambitions, manifestations and religious needs transformed the building itself into a piece of architecture. Ritual acts and irregular construction details demonstrate that the building process did not proceed in a straight way. The studies of such specific elements can contribute to our idea of why megalithic builders acted as they did when working on the construction site. Obviously, this paper is not a presentation of facts but the author's reflections after a working life inside megaliths.

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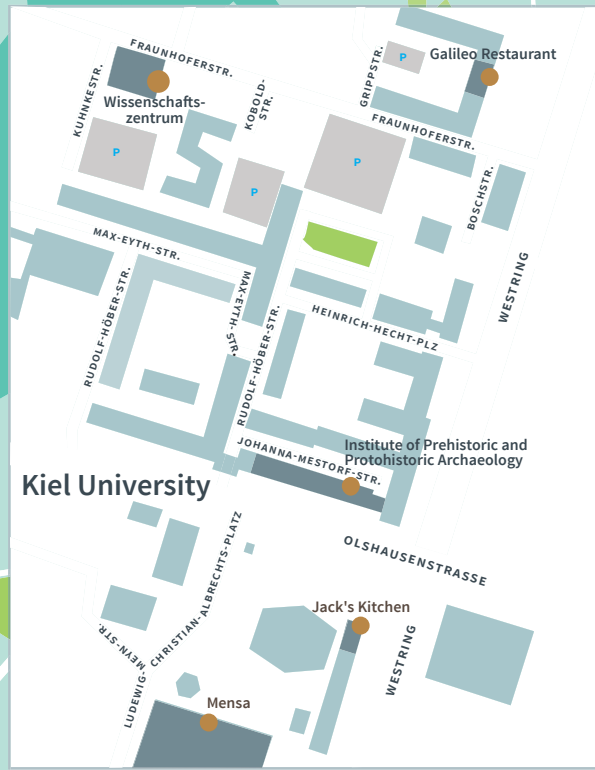
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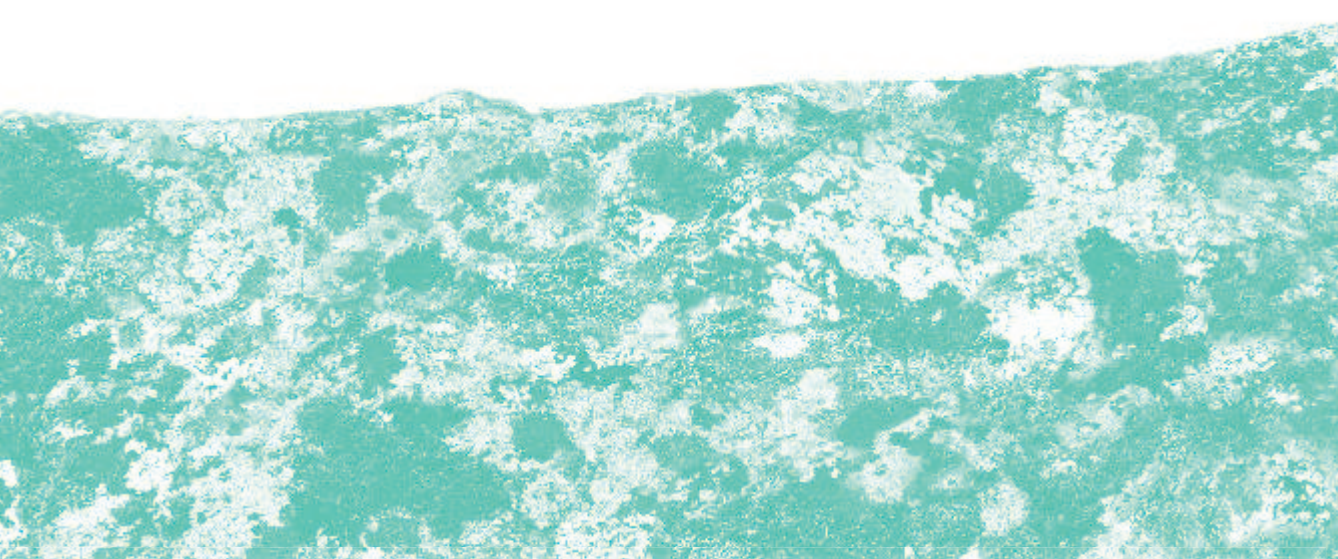
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Map of Kiel





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