Session B27
Megalithic biographies: cycles of use and closure

Punctuated stages of megalithic construction: from barrows chronologies to sediments

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Contribution scheme

Contents and arguments of this presentation

1. Presentation overview
   – hypothesis, methods and data

2. Data sets and analysis
   – (i) Archaeological; (ii) Pedosedimentary evidence and (iii) C14 Datings and Chronology

3. Development of the hypothesis
   – Main Results
   – Interpretive Synthesis

4. Further perspectives
   – Topics for the future Agenda of Research
   – Methodological proposals to deal with Mounds and Megaliths: (i) Archaeological Excavations; (ii) Sediments Analysis; and (iii) C14 Datings and Chronology
(1) Presentation overview

Previous research: These data and hypothesis have been anticipated in some works by us:

- Mound Life and biography through stratigraphy and chronology (Mañana 2003)
- Socio-cultural dynamics that can imply social division processes, complexity and resistance (Criado-Boado et al. 2005, Criado-Boado 2012, Pacero-Oubiña & Criado-Boado 2012)
- Methodological – pedological approach (Martínez Cortizas & Moares Domínguez 1996, Martínez Cortizas & Llana 1997)

Main hypothesis: Punctuated stages of megalithic construction

Inside each Monument:
Discontinuous series of building activity and use interspersed with long periods of inactivity

Inside the Megalithic Period:
Particular periods of monumental building, interspersed with long periods of inactivity, perhaps as long as several centuries

http://apps.cmsfq.edu.ec/biologyexploringlife/text/chapter15/concept15.1.html
(2) Data sets

DATA SETS based on Galician (NW Iberia) evidences

• 1st Level
Archaeological Stratigraphic Data, two different well characterized barrows and deeply excavated:
  • Monte da Romea (Lalín, Pontevedra).
  • Forno dos Mouros (Ortigueira, A Coruña).

• 2nd Level
Pedosedimentary evidence

• 3rd Level
The whole collection of C14 Dates of Galician Megaliths
(2.1) Stratigraphic excavations

• First level: empirical data review from 2 different well characterized barrow as
  – Example of this recurrence at a site scale: excavated following Harris stratigraphical methodology; direct C14 datings
  – 2 megalithic mounds that are “typologically” very different from each other and that show that this recurrence and long-life is not exclusive in big monuments, but also in the ones that are apparently more modest and simpler:
    • Forno dos Mouros (Ortigueira, A Coruña, Spain).
    • Monte da Romea (Lalín, Pontevedra, Spain).
(2.1) Stratigraphic excavations
Site 1 - Forno dos Mouros 5 (complex)

General info

- We excavated two mounds (FM5 y FM4) that at the end were three.
- A lot of affections (road, violations...)

- **Forno dos Mouros 5 (FM5):**
  - A huge tumulus that covers an older one.
  - FM5 the oldest: its chamber was preserved intactly, without recent violations; the mound was partially excavated.
  - FM5 recent: great in volume; very altered; the chamber zone completely destroyed.
    - Several tumulation phacies
    - Disimetric shell construction; material use, etc
    - Corridor access

Published first in Mañana-Borrazás 2005; More references in this Digital.CSIC link [http://hdl.handle.net/10261/66317](http://hdl.handle.net/10261/66317)
(2.1) Stratigraphic excavations

Site 1 - Forno dos Mouros 5 (complex)

14C dating

First chamber

Corridor

2 different levels of corridor filling units:
• Alteration: top part removed
• Moment of use: corridor's base
(2.1) Stratigraphic excavations
Site 1 - Forno dos Mouros 5 (complex)

Main phases and chronology

1º Fase
4500-4300 cal BC

2º Fase

3º Fase

4º Fase
3103-2899 cal BC

5º Fase
(2.1) Stratigraphic excavations
Site 2 - Monte da Romea (simple)

General info

• Simple chamber (very altered):
  – Polygonal ground, +- 2 mts diameter, opened in the SE
• Tumular mass with 2 main constructive episodes:
  – The oldest, linked to the construction,
  – Use of the chamber: diameter approx. 8 m, 0,5 m height, with a corridor in SE
    • Refilled with a series of deposits that alternate stones with sediments.
  – The most recent: covers the old one and fills in the corridor, up to 18 m diameter and 1 m height.
  – Without stone elements (shell, ring)
• Pre- tumulus phacie
  – Horizon A and most of Horizon B were removed until the natural vein of the substract could be seen by shallowing the area.

(2.1) Stratigraphic excavations
Site 2 - Monte da Romea (simple)

14C dating + pottery analysis

• Datation of three main elements:
  – First tumular mass
  – Corridor final refilling
  – Second tumular mass

• Temporality based on the pottery analysis (Prieto 2007, Mañana y Prieto 2010):
  – Complements and precisely periodizes.
  – Points that the site was used up to the Bronze Age, linked to events that do not imply construction

<table>
<thead>
<tr>
<th>Name</th>
<th>Date BP</th>
<th>Cal (2σ) BC</th>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ua 20003</td>
<td>4265 ±50</td>
<td>3020 - 2840</td>
<td>Carbón</td>
<td>Muestra puntual de la parte superior del depósito que se corresponde a la última tumulación, concretamente en la parte S, cerca del acceso a la cámara del monumento.</td>
</tr>
<tr>
<td>UA 20004</td>
<td>4520 ±50</td>
<td>3370 - 3080</td>
<td>Carbón</td>
<td>Muestra puntual del depósito más reciente del relleno del acceso a la cámara, bajo la última capa de piedras.</td>
</tr>
<tr>
<td>Ua 20005</td>
<td>5055 ±55</td>
<td>3970 - 3710</td>
<td>Carbón</td>
<td>Muestra puntual de la parte inferior de la primera masa tumular.</td>
</tr>
</tbody>
</table>

In Mañana-Borrazás y Prieto 2010; Prieto et al.2012
(2.1) First data set / Stratigraphic excavations
Site 2 - Monte da Romea (simple)

Main phases and chronology,
Indicated with colors
where the material is
associated within that period

Punctuated stages of megalithic
construction
(2.2) Pedosedimentary evidence

- Large diversity of pedosedimentary sequences
- Stratigraphy of a tumulary archaeological site = anthropic + natural origin
- Properties of the tumulus mass:
  - construction process
  - previous characteristics of the edaphic material
  - postdepositionary evolution

Published in A. Martínez Cortizas & C. Moares Domínguez 1996

Published in A. Martínez Cortizas & C. Llana 1997

Paleoambiental reconstruction:
plan of record and analysis

Possible evolution of a paleosoil under tumulus

Punctuated stages of megalithic construction
(2.3) C14 Cronology of Galician Neolithic Monuments

- The challenge is to analyze this information that is so heterogeneous;
  - It cannot be treated uniformly
- It is necessary to bear into account that monumental constructions are material products with life-cycles that are very complex.
- Sample origin context importance. What event do we date?
  - A constructive moment? Which one? A reconstruction? An alteration? The closure? The maintenance?
  - Dirt constructions, specific problems
  - Understanding monuments as in Archaeological Architecture
- Intermittent Temporality (indicated by Cruz 1995, Alonso and Bello 1997, etc.)
  - Activity constructive periods followed by inactivity periods
(3) Development of the hypothesis

We must point out the Improvement of archaeological data from excavations in the 15 last years of archaeological field-work carried out in Galicia, be cause of:

– Extension of using **stratigraphic excavation techniques** in Mounds and Megaliths excavation. Which has allowed individualize forms, volumes, relations, sequences between/in the stratigraphic units.

– More C14 Dating with better known contexts: ie, We know in many cases what exactly is being dated (prebuilding activity, actual construction, use, cancellation or abandonment of the monument)

– Increasing of the number of Dating per Site: a single dating does not provide successful information in terms of precising the whole chronology and the different temporalities of the site
(3.1) Development of the hypothesis

Main results

The Principal Result of this presentation is:

Our data verify the existence of important discontinuities in Neolithic Mounds and Megaliths in terms of:

(i) archaeological stratigraphy,
(ii) pedosementary sequence,
(iii) and temporality
These discontinuities point out that ...

in NW Iberia (according to our research) and in the Megalithic Phenomenon in general (according to evidences coming out from different areas), Mounds and Megaliths:

1. had a long and complex life, being their actual appearance the result of a final stage of construction (or even “destruction”)

2. and their building activity was concentrated in particular “puntuacted” moments

3. these account for a different understanding of Neolithic Social Conditions
In brief, Megalithic mounds had a complex and long-standing life and, moreover, they had a complex and multi-stage process of construction; punctuated stages

This conclusion can be developed in four Statements:

– Statement 1: barrows life was not so simple as: construction, use and abandonment
– Statement 2: final form of the monument was the final achievement of a complex process of building, using, reforms and reusings;
– Statement 3: building activity was not constant over the whole “megalithic” period but occurred in some (perhaps few) specific chronological stages
– Statement 4: the identification of how megaliths functioned and what meant within Neolithic Culture, is an issue essentially centered upon identifying different stages of the monument as the general result of a stratigraphic analysis
Social and cultural inferences about Megalithism and Neolithic:

- We should abandon the idea of Megalithism as an uniform and unitary period, a concept that is linked to the traditional teleological conceptualization of History and historic Periods.
- What we call “Megalithism”, instead of being a continuous teleological evolution, a lineal period, graphically as:

- was a “puntuacted” sequence, graphically as:

- ie, a sum of temporalities (together involving two millennia or more) caused and crossed by a dynamic between complexity and equalitarism

- This demands a further interpretation and accounts for an hermeneutics in terms of social conditions and social complexity.
Instead of a line, either continuous or punctuated ...

... a wave is a better graphic metaphor ...

Throughout that wave moments of greater and lesser social complexity occur, causing in fact the presence of more or less visible monuments or even increases, decreases or disappearances of building activity:

As stated in other papers (Criado-Boado et al. 2005, Criado-Boado 2012, Parcero & Criado 2012), this dynamic could be the material consequence of dialectics between social division and complexity against resistance to keep more simple and egalitarian social organizations.

In certain sense, monumental activity could operate as potlachs to consume excedents surplus and as to avoid social stratification.
(4) Further perspectives and the next agenda

AGENDA PROPOSALS

• We suggest that this interpretation may also apply to other megalithic European regions
  – Recently, it was demonstrated that this was the case of the construction of Silbury Hill Mound, but there are several cases throughout the whole of Europe

• Therefore, the research agenda on Megalithism should incorporate this topic in future investigations as it may demand a change in excavation and analysis strategies

• This involves to treat barrows as paleoenvironmental archives and fully incorporating excavations techniques to identify stratigraphic units and pedological analyses to discover their formation conditions and then significance
(4) Further perspectives and the next agenda

METHODOLOGICAL PROPOSALS- ideas

• **1ST LEVEL: Archaeological Stratigraphy**
  – How do we excavate and document sites as to detect these aspects better? Dating?
  – How do we treat mound masses, when they are constructive basic elements:
    • Apply documentation strategies on dirt construction; record the possible material variability, different construction phases; analyze and identify how to construct mound masses (CTO).

• **2ST LEVEL: Pedological Stratigraphy and Sediments**
  – Plan a strategy that allows the characterization of both vertical and horizontal variability.
    • Horizontal variability: describing, sampling and characterizing soil profiles from margins to the central part of the tumulus.
    • Vertical variability: detailed identification of constructive process and the disturbances on the previous soil.
    • Identification on the component and evolutive processes of edaphic material (characterize physical, chemical and biological properties)
    • Consider the properties of paleosoil within the pedological sequence of the monuments in order to compare its properties with the material of the tumulus mass.
Further perspectives and the next agenda

METHODOLOGICAL PROPOSALS - ideas

• **3ST LEVEL: Datings and Chronology**
  - Dating of sites only after the detailed stratigraphic and pedogenetical characterization.
  - Material construction may come from a completely different positions: should be dated seed/charcoal within this material, could produce overestimation of age.
  - Dates from soil organic matter may come from a completely different positions too.
    **Precautions:**
    - Previous stratigraphic contextualization of the tumulus mass and the underlying paleosol (if any) should be very detailed (dominant pedogenetic processes, anthropic disturbances).
    - The physical, chemical and compositional properties of the soil material must be taken into account when selecting a sample and for the interpretation of the date.
    - Use of protocols to ensure that the material is representative of the period of interest: physical pretreatments to remove fresh organic remains (or too old); select the humic fraction of the soil organic matter is the more accurate date (Kaal et al, 2008, Ferro-Vázquez et al, 2014).
  - Alternative to 14C → Luminescence dating:
    - its capacity to reflect the time of construction of the tumulus since it provides a date of the last time the sample received light stimulation.
    - difficulties in sampling when compared to sampling for analysis by 14C.
    - Also analytical accuracy is impaired in some cases, because it is not possible to know the radiation dose received by the sample, and therefore a correct calculation of the time since burial cannot be done.
  - Ideally, both techniques should be combined to strengthen the chronological context.
Thank you!

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You can download this presentation here
URI: http://hdl.handle.net/10261/101378
Please, use the URI to reference it.
References


References about our previous works synthetize in this presentation:


• Ferro-Vázquez, C.; Martínez-Cortizas, A.; Nóvoa-Muñoz, J.C.; Ballesteros-Arias, P.; Criado-Boado, F. 2014. 1500 years of soil use reconstructed from the chemical properties of a terraced soil sequence. Quaternary International. DOI: 10.1016/j.quaint.2014.03.023


