Chapter 9.

New data on the absolute chronology of the Maltese Middle/Late Bronze Age

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1. Introduction

In the traditional sequence of Maltese prehistory, there is no placeholder for the Iron Age. There is instead an eight-century long Middle/Late Bronze Age (ca. 1500–750 BC) represented by the Börġ in-Nadur culture which in part de facto includes also the Maltese Iron Age. In the absence of substantial cultural changes, a progressive series of five pottery styles provides an internal chronological structure for this culture, which is not yet supported by absolute dates: Early, Classic and Late Börġ in-Nadur (EBN, CBN, LBN), Painted Ware, and Baħrija, whereas the Painted Ware and Baħrija styles partially overlap with the LBN style, elements of which linger until the eighth c. BC (Tanasi 2018).

The chronology of the internal sequence of the Börġ in-Nadur pottery production and the definition of the temporal extent of the Baħrija pottery production are two major issues in the research on the prehistory of the Archipelago on which several scholars have debated. The absence of radiocarbon data from guide sites as Börġ in-Nadur and Qlejgha tal-Baħrija has left specialists arguing on pottery typology based on cross-dating with the also no Sicilian cultures, for which, there are not absolute dates (Cazzella – Recchia 2008, pp. 381-389; Tanasi 2015, pp. 89-95). Such approach has also been supported by the rare but significant occurrence of artefacts highly suspected of being of Sicilian type in Maltese contexts, such as the examples of strainer spouted jugs from Qlejgha tal-Baħrija (Vella et al. 2011) and the double spiral bronze fibula found at Tas-Silġ South (Recchia – Cazzella 2012).

2. Materials and Methods

In the frame of a long term research project aimed at reappraising the results of the excavations carried in the major Maltese Middle/Late Bronze Age sites (Börġ in-Nadur temple: Tanasi – Vella 2011; Börġ in-Nadur settlement: Tanasi – Vella 2015; Għar Mirdum: Tanasi 2014; In-Nuffara: Tanasi 2013) and redefining the sequence of pottery production, animal bone samples from the D. H. Trump’s 1959 excavation at settlement at Börġ in-Nadur and from the D. H. Trump’s 1959 excavations at Qlejgha tal-Baħrija have been submitted for radiocarbon dating.

Two samples were selected namely from trench N/layer 8 and trench H/layer 2 from Börġ in-Nadur settlement (Tanasi 2015) (Figure 1) and one from the trench D, Layer 5 of Trump’s excavation at Qlejgha tal-Baħrija (Figure 2, see chapter 3, Figure 87a) (Table 1).

With respect to the samples from Börġ in-Nadur settlement, as clearly explained elsewhere (Tanasi 2015, p. 89), layer 8 of trench N was a pure Tarxien Cemetery stratum, while layer 2 of trench H, recognized as equal to layer 4 of trench O and layer 5 of trench F and corresponding to the level of use of the floor level of Hut 2, was assigned to a terminal stage of the Late Börġ in-Nadur phase at the transition with the subsequent period characterized by the full emergence of the typical Baħrija pottery. Regarding the sample from Qlejgha tal-Baħrija, it comes from a context related to a second phase of occupation of the site, characterized at the stratigraphic level by a mixture of Late Börġ in-Nadur and Baħrija pottery (see chapters 1 and 3).

The bone samples were collected at the National Museum of Archaeology in Valletta in the Summer of 2017, then processed and prepared for further analyses at the Laboratory for Archaeological Science of the University of South Florida’s Department of Anthropology. Subsequently, they were submitted to the University of Georgia’s Center for Applied Isotope Studies for AMS radiocarbon dating. For the purpose of the analysis, the collagen samples were combusted at 575°C in evacuated/sealed ampoules in the presence of CuO. The resulting carbon dioxide was cryogenically purified from the other reaction products and catalytically converted to graphite using the method of Vogel et al. (1984). Graphite 14C/13C ratios were measured using the CAIS 0.5 MeV accelerator mass spectrometer. The sample ratios were compared to the ratio measured from Oxalic Acid I (NBS SRM 4990). The sample 13C/12C ratios were measured separately using a stable isotope ratio mass spectrometer and expressed as δ13C with respect to VPDB, with an error of less than 0.1‰. The quoted uncalibrated dates have been given...
in radiocarbon years before 1950 (years BP), using the 
$^{14}$C half-life of 5568 years. The error is quoted as one 
standard deviation and reflects both statistical and 
experimental errors. The dates have been corrected 
for isotope fractionation (Table 2).

The dates below were calibrated using the Calib 
Radiocarbon Calibration Program Rev. 7.0.4, using 
2 sigma probability ranges obtaining the following 
results: 100121, 1774-1680 cal BC (93.4%); 100122, 939-
837 cal BC (94.5%); 100065A, 860-807 cal BC (78.0%) 
(Figure 3).
Table 1. List of the samples submitted to radiocarbon dating.

<table>
<thead>
<tr>
<th>Sample no.</th>
<th>Sample type</th>
<th>Site</th>
<th>Context</th>
<th>Pottery type found in the context</th>
</tr>
</thead>
<tbody>
<tr>
<td>100121</td>
<td>Proximal phalanx</td>
<td>Borġ in-Nadur settlement</td>
<td>Trench N, layer 8</td>
<td>Tarxien Cemetery</td>
</tr>
<tr>
<td>100122</td>
<td>Metapodium (Bos Taurus)</td>
<td>Borġ in-Nadur settlement</td>
<td>Trench H, layer 2</td>
<td>Late Borġ in-Nadur/Qlejgħa tal-Bahrija</td>
</tr>
<tr>
<td>100065A</td>
<td>Horn (Ovis vel Capra)</td>
<td>Qlejgħa tal-Bahrija</td>
<td>(Trench D, Layer 5)</td>
<td>Late Borġ in-Nadur/Qlejgħa tal-Bahrija</td>
</tr>
</tbody>
</table>
3. Discussion

With respect to the date obtained for the pure Tarxien Cemetery stratum from trench N, layer 8 of the Borg in-Nadur settlement, it appears perfectly compatible with other absolute dates obtained for this period on samples from the cemetery of Tarxien and from Xagħra Circle (Recchia – Fiorentino 2015) (Figure 4).

The novelty is instead represented by the other two dates, imperative to chronologically define the pottery production of Borg in-Nadur and Bahrija. That the two pottery productions belonged to two separate and progressive periods was already known (Cazzella – Recchia 2012, p. 34, Tanasi 2015a) and the absolute dates confirm it while pointing to a possible and perfectly expectable moment of overlap. This new data, however, disproves the traditional interpretation that the end of the Borg in-Nadur pottery production and, therefore, of the Late Borg in-Nadur style, occurred at the end of the 12th c. BC (Recchia and Cazzella 2011). Even unlikely seems the hypothesis that the Late Borg in-Nadur style developed in the second half of the 13th c. BC (Tanasi 2015a) as there are too many typological gaps to infer that the style evolved throughout four centuries. At the same time, the idea that the Bahrija period started already in the 11th c. BC (Recchia – Cazzella 2011; Tanasi 2015a) has to be dropped. In the light of these new data, the chronological definition for the latest production of Borg in-Nadur pottery and the emergence of the Bahrija style offered by D. H. Trump (II B3/IIC period) to 950–750 BC seems definitely closer to the absolute dates obtained (Trump 1961).

Another major contribution offered by these data is related to the comparative chronology between Sicily and Malta. All the Borg in-Nadur pottery found in sites of Middle Bronze Age Sicily (Tanasi 2008; 2011; 2015b) can be clearly interpreted as related to the Classic Borg in-Nadur phase. In the Early Iron Age layers of the settlement of Thapsos (Cassibile facies 1050–850 BC) examples of Late Borg in-Nadur pottery were instead found in a good number (Vella et al. 2011). The alleged presence of Bahrija pottery in those same layers was never confirmed and this information derives by a misinterpretation of the Late Borg in-Nadur materials, totally understandable considering the limited data available at that time (Voza 1973; 1980–1981; see chapter 10). But the possible contemporaneous relationship between the Bahrija period with the Cassibile facies is testified by the discovery of some sherds of plumed painted pottery and one double spiral bronze fibula both related to the Sicilian Cassibile culture, which were found together in a layer dated to Bahrija period in Apse IVC of Tas-Siġ North (Cazzella – Recchia 2012). The absolute dates obtained definitely confirm the contemporaneity between the Late Borg in-Nadur phase and Bahrija period with the Cassibile culture and even partly, with the subsequent Pantalica South culture in Sicily.

Such revolutionary chronological redefinition of the last stage of the Borg in-Nadur period and the Bahrija period seems to put an end to the controversy about the end of prehistory in Malta and the beginning of the Phoenician era. The majority of scholars are inclined to assign the first contact between the Maltese natives and the Phoenicians travelers to the the second half of the 8th c. BC, on the basis of the chronology offered by

<table>
<thead>
<tr>
<th>Specimen</th>
<th>δ¹³C, %</th>
<th>δ¹⁵N, %</th>
<th>C/N</th>
<th>δ¹⁴C, years BP</th>
<th>±</th>
<th>pMC</th>
<th>±</th>
</tr>
</thead>
<tbody>
<tr>
<td>100121</td>
<td>-20.6</td>
<td>7.3</td>
<td>3.3</td>
<td>3430</td>
<td>20</td>
<td>65.26</td>
<td>0.18</td>
</tr>
<tr>
<td>100122</td>
<td>-20.9</td>
<td>5.8</td>
<td>3.3</td>
<td>2760</td>
<td>20</td>
<td>70.93</td>
<td>0.19</td>
</tr>
<tr>
<td>100065A</td>
<td>-21.6</td>
<td>5.2</td>
<td>3.4</td>
<td>2690</td>
<td>20</td>
<td>71.52</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Table 2. AMS radiocarbon dating results for samples 100121, 100122, 100065A.
Greek pottery imports found in the earliest Phoenician tombs (Vella 2005). Claudia Sagona, a specialist on Phoenician/Punic Malta, however, has not embraced this interpretation, inferring instead that that first contact already had happened around 1000 BC (Sagona 2011). The foundation of her interpretative angle relies on a very problematic context, a rock-cut pit at Mtarfa, where a bell-shaped Bronze Age pit (Trump 1961; Evans 1971) containing a deposit of ceramics was excavated in 1939 by J. B. Ward-Perkins, and erroneously interpreted as a tomb. The deposit, clearly defined by the excavator himself as being ‘evidently rifled in antiquity’, was essentially composed of a homogenous group of Borg in-Nadur pottery of a later style and in the lowest level, a Phoenician double-nozzled lamp. Underplaying the fact that the deposit was disturbed and without further supporting evidence, Sagona has incorporated this rather weak evidence into her entire chrono-typological system in which the repertoire of Mtarfa represents a phase in which Phoenicians and Borg in-Nadur communities already co-existed in the Archipelago (Malta I Archaic 1000–750 BC), de facto anticipating by 250 years the arrival of the early Phoenician travelers (Vella 2005). To not have found any Phoenician material in layer 2 of trench H at the Borg in-Nadur settlement (Tanasi 2015a) and in layer 5 of the trench D at Qlejgha tal-Bahrija (Tanasi in press) seems to corroborate the hypothesis of the arrival of the first Phoenicians in the archipelago not earlier than the second half of the 8th c. BC.

4. Conclusions

These long awaited absolute AMS radiocarbon dates have provided extremely significant data to address a previously unanswered research question shedding light on critical subjects such as the transition between the Late Borg in-Nadur phase and the Bahrija period, the relationship between Sicily and Malta at the crossroads between the Bronze and Iron Ages, and most importantly the chronological term for the end of Prehistory and the beginning of the Phoenician era in Malta.

Waiting for the publication of new radiocarbon dates obtained on samples analyzed from several Bronze Age locations in the Archipelago in the frame of the Fragsus Project (Caroline Malone, personal communication) and on samples from the excavation of the Italian Archaeological Mission at Tas-Silġ North (Giulia Recchia, personal communication), the data obtained for the sites of Borg in-Nadur and Qlejgha tal-Bahrija finally offer the necessary chronological frame for the hard work of reappraisal already concluded (Tanasi – Vella 2011; Tanasi – Vella 2015; see Introduction).

References

Cazzella, A., Recchia, G. 2012. Tas-Silġ: the Late Neolithic megalithic sanctuary and its re-use during the Bronze Age and Early Iron Age, Scienze dell’Antichità 18, pp. 15–38.


