

# PRAEHISTORICA MEDITERRANEA

VOLUME 3





# **Site, artefacts and landscape**

## **Prehistoric Borg in-Nadur, Malta**

edited by

**Davide Tanasi and Nicholas C. Vella**

Polimetrica

International Scientific Publisher

*The research and compilation of the manuscript for this final publication were made possible through a generous grant from The Shelby White – Leon Levy Program for Archaeological Publications.*

PRAEHISTORICA MEDITERRANEA

Collana di studi di Archeologia Preistorica diretta da Pietro Maria Militello.  
Comitato scientifico: Fritz Blakolmer (Universität Wien), Nicola Cucuzza (Università di Genova), Neculai Bolohan (Universitatea Al. I. Cuza Iasi), Birgitte Eder (Universität Freiburg), Reinhard Jung (DAI Athen), Evangelos Kyriakidis (University of Kent), Marie-Louise Nosch (University of Copenhagen).

2011 Polimetrica ® S.a.s.  
Corso Milano, 26  
20900 Monza – Italy  
Phone: ++39. 039.2301829  
Web site: [www.polimetrica.com](http://www.polimetrica.com)

Cover illustration – Houel, Jean-Pierre-Laurent. *The Ruins of a Phoenician Structure in Casal Caccia*. Series of preparatory drawings for the engraved edition “Picturesque journey around the islands of Sicily, Malta and Lipari”, 1782-1787. Black chalk. 31x43.5 cm France. Late 1770s. Inv. no. OR-4082.  
Reproduced courtesy of The State Hermitage Museum, St. Petersburg.  
Photograph © The State Hermitage Museum. Photo by Vladimir Terebenin, Leonard Kheifets, Yuri Molodkovets.

ISBN 978-88-7699-223-0 Printed Edition  
ISBN 978-88-7699-224-7 Electronic Edition

The electronic edition of this printed book is not sold and is made available in free access. Every contribution is published according to the terms of “Polimetrica B License”. “Polimetrica B License” gives anyone the possibility to distribute the contents of the work, provided that the authors of the work and the publisher are always recognised and mentioned as such. It does not allow use of the contents of the work for commercial purposes or for profit. Polimetrica Publisher has the exclusive right to publish and sell the contents of the work in paper and electronic format and by any other means of publication. Additional rights on the contents of the work are the author’s property.

The DVD is copyrighted and is produced by the copyright holder(s).

Printed in Italy by DigitalPrint Service s.r.l. – Segrate (MI)



*To family and friends in whose support  
we have found inspiration*



## Contents

<i>List of figures</i> .....	ix
<i>List of tables</i> .....	xix
1. Introduction .....	1
<i>Davide Tanasi, Nicholas C. Vella</i>	
<b>Part I - Antiquarianism and archaeology</b>	
2. Understanding the past: Borġ in-Nadur in antiquarian and early archaeological literature .....	15
<i>Anton Bugeja</i>	
3. Borġ in-Nadur: the excavations of Margaret A. Murray and David H. Trump .....	45
<i>Nicholas C. Vella, MariaElena Zammit, Anton Bugeja</i>	
<b>Part II - Artefacts from the megalithic temple of Borġ in-Nadur</b>	
4. The prehistoric pottery .....	71
<i>Davide Tanasi</i>	
5. The post-prehistoric pottery .....	159
<i>Maxine Anastasi</i>	
6. The lithics .....	173
<i>Clive Vella</i>	
7. The small finds .....	195
<i>Carlo Veca</i>	
<b>Part III - The site in its local and regional setting</b>	
8. A tale of two ridges: topography, connectivity and use at Borġ in-Nadur and Tas-Silġ .....	225
<i>Reuben Grima, Joanne Mallia</i>	
9. Mobility and transitions: the south-central Mediterranean on the eve of history .....	251
<i>Nicholas C. Vella, Davide Tanasi, Maxine Anastasi</i>	

10. Living and dying in a foreign country: Maltese immigrants in Middle Bronze Age Sicily? .....	283
<i>Davide Tanasi</i>	

#### **Part IV Managing the site and its landscape**

11. Hercules' unfinished labour: the management of Borġ in-Nadur and its landscape .....	341
<i>Reuben Grima</i>	
12. Presenting the Bronze Age to the public at the National Museum of Archaeology .....	373
<i>Sharon Sultana</i>	
13. Virtual reconstruction of the Borġ in-Nadur megalithic temple .....	393
<i>Filippo Stanco, Davide Tanasi, Dalma Cultrera</i>	
14. Taking stock .....	413
<i>Davide Tanasi, Nicholas C. Vella</i>	
<b>Index of places</b> .....	419
<b>Index of names</b> .....	423

#### **DVD contents**

1 - Catalogue of the prehistoric pottery (chapter 4) <i>Davide Tanasi, Carlo Veca, Dalma Cultrera, Maxine Anastasi</i>
2 - Colour plates of chapter 4
3 - Catalogue of the lithics (chapter 6) <i>Clive Vella</i>
4 - Catalogue of the findings (chapter 10) <i>Davide Tanasi, Dalma Cultrera, Carlo Veca</i>
5 - Colour figures of chapter 10
6 - Virtual reconstruction of the megalithic temple of Borġ in-Nadur <i>Filippo Stanco, Davide Tanasi</i>

## List of figures

**Figure 1.1.** The Maltese Islands and inset (a) corresponding to the area of south-east Malta with the sites and localities around Marsaxlokk Bay: (1) Żejtun villa, (2) Tas-Silġ, (3) Il-Marnisi, (4) Ta' Kaċċatura villa, (5) Għar Dalam, (6) Borġ in-Nadur. Inset (b) corresponds to Fig. 1.2 (drawn by Maxine Anastasi).

**Figure 1.2.** Aerial photograph of the Borġ in-Nadur area with contour lines superimposed (digitised by Maxine Anastasi).

**Figure 1.3.** The archaeological remains at Borġ in-Nadur. Inset (a) corresponds to Fig. 3.6 (rotated), inset (b) corresponds to Fig. 3.4, inset (c) corresponds to Fig. 9.8 (drawn by Maxine Anastasi).

**Figure 1.4.** Borġ in-Nadur area with St George's Bay in the distance (probably 1958). The megalithic temple remains are arrowed (source: National Museum of Archaeology/Heritage Malta).

**Figure 1.5.** Westwards view of the Bronze Age D-shaped fortification wall (centre right). The Bronze Age huts explored by Trump are arrowed (source: National Museum of Archaeology/Heritage Malta).

**Figure 2.1.** Main sites mentioned in the text: (A) Għar Dalam, (B) Ta' Kaċċatura villa, (C) Borġ in-Nadur megalithic bastion, (D) Borġ in-Nadur huts, (E) Borġ in-Nadur temple, (F) cart-ruts and pits, (G) St George's chapel (drawn by Maxine Anastasi).

**Figure 2.2.** Late eighteenth-century drawing (416) of Borġ in-Nadur by Jean Houel (source: reproduced by courtesy of the State Hermitage Museum, St Petersburg; inv. no. OR-4082).

**Figure 2.3.** A photograph of the part of Borġ in-Nadur depicted by Jean Houel (source: the author).

**Figure 2.4.** One of the megaliths embedded in a rubble wall at Borġ in-Nadur (source: the author).

**Figure 2.5.** An illustration of Borġ in-Nadur published in Vassallo 1851

**Figure 2.6.** Photograph of Borġ in-Nadur taken by the Society of Archaeology, History and Natural Sciences of Malta in 1868, forming part of an album *Antiquitates Phoeniciae in Insulis Melitae et Gaulos* (source: reproduced by courtesy of the National Library, Malta).

**Figure 2.7.** Late nineteenth-century photograph of a drawing of Borġ in-Nadur.

**Figure 2.8.** Mayr's (1901) copy of the plan of Borġ in-Nadur by E. L. Galizia.

**Figure 2.9.** Illustration of part of Borġ in-Nadur appearing in Perrot and Chipiez (1885: fig. 46).

**Figure 2.10.** Photograph of Trump's Hut 2 at Borġ in-Nadur (source: private collection).

**Figure 2.11.** Excavations at Borġ in-Nadur in the 1920s by monitored workmen (top) (source: Murray 1925: pl. 13) and in the 1950s with archaeologist David Trump (bottom centre) excavating (source: private collection).

**Figure 3.1.** Slabs of limestone discovered at Borġ in-Nadur in 1955 (source: National Museum of Archaeology, Heritage Malta).

**Figure 3.2.** The large wall (arrowed) discovered inside an agricultural terrace at Borġ in-Nadur in 1998. A thick ash layer (marked with an asterisk) was also revealed lying over bedrock (source: National Museum of Archaeology/Heritage Malta).

**Figure 3.3.** The Entrance through the Megalithic Enclosure cleared down to bedrock (source: National Museum of Archaeology/Heritage Malta).

**Figure 3.4.** The final plan of the archaeological remains at Borġ in-Nadur published by Murray (1929: pl. 1). The annotations have been re-written for the sake of clarity and other labels given by Murray to features have been added (digitised by Maxine Anastasi).

**Figure 3.5.** The north-east apse of the Absidal Building cleared from the archaeological deposit; the photograph shows the level of the field soil (source: National Museum of Archaeology/Heritage Malta).

**Figure 3.6.** Site plan with the location of the trenches at Borġ in-Nadur (source: National Museum of Archaeology/Heritage Malta archives).

**Figure 3.7.** Elevated view of Hut 1 (left) and Hut 2 (right) after excavation (source: National Museum of Archaeology/Heritage Malta).

**Figure 3.8.** (a) Reconstruction of the position of the trenches excavated by Trump in the area of the huts (drawn by Maxine Anastasi); (b) plan of the Bronze Age huts (after Trump 1961: fig. 2).

**Figure 3.9.** Position of the unpublished section drawing (shown in Fig. 3.13a) through the huts. The photograph was published by Trump (1961: pl. 13, lower).

**Figure 3.10.** Section drawings published by Trump in the report which appeared in the *Proceedings of the Prehistoric Society* (after Trump 1961: fig. 3).

**Figure 3.11.** (a) Detail of Hut 1 with mortar (left), quern (centre) and roller (right) lying on the floor; (b) detail of the rebate round the edge of the top side of the limestone bench lying on the floor of Hut 2 (source: National Museum of Archaeology/Heritage Malta).

**Figure 3.12.** Detail of the photograph reproduced elsewhere in this volume (Fig. 9.4) showing huts excavated in the late nineteenth century behind the large fortification wall.

**Figure 3.13.** (a) Section drawing of the stratification across the hut area (source: National Museum of Archaeology/Heritage Malta archives); (b, c) redrawn stratification with numbers corresponding to layers and features, and shading corresponding to the phasing (drawn by Maxine Anastasi).

**Figure 3.14.** Harris Matrix of the stratification in the area of the Bronze Age huts; TxC = Tarxien Cemetery pottery, BN = Borg in-Nadur pottery according to phase (drawn by Maxine Anastasi).

**Figure 4.1.** Pie chart indicating the percentage distribution of pottery by phase.

**Figure 4.2.** Pie chart indicating the distribution of the five Tarxien phase pottery fabrics together with the percentage of specimens with unclear fabric.

**Figure 4.3.** Incised/scratched motifs: BN/P280: vertical striations; BN/P179: acute angles; BN/P240c: ladder bands; BN/P243a: lozenge lattice; BN/P242c chevron; BNP237a-b, BN/P246: simple and thorned volutes; BN/P239: checkerboard pattern; BN/P245: scales pattern; BN/P246: chains of eye-shaped motifs; BN/P249: ideogram (not to scale, photograph by the author).

**Figure 4.4.** Impressed motifs: BN/P257a: jabbed surface; BN/P260: pitted surface; BN/P258; hatched lines; BN/P263a finger bump pattern; plastic decoration: BN/P274: isolated globes; BN/P255: globular pellets; BN/P256b: ovoid pellets; BN/P295: owl's head motif and hatched globe related to the same vessel; BN/P286: rusticated pattern (not to scale, photograph by the author).

**Figure 4.5.** Carinated bowl Evans 41-42: BN/P242f, BN/P242c, BN/P267a, BN/P258, BN/P267b, BN/P257b; handled bowl Evans 45-46: BN/P250, BN/P223a; miniature vessel Evans 67: BN/P275.

**Figure 4.6.** Coarse vessels: jars with rusticated surfaces: BN/P249e, BN/P296, BN/P24a, BN/P287; bowl with finger-tip-indented rim Evans 40: BN/P299e; jar with tunnel handles Evans 70: BN/278, BN/P280; jar with lozenge lattice pattern: BN/P244; biconical bowl Evans 60 with scratched dashboard pattern: BN/P239.

**Figure 4.7.** Jar with plastic decoration: BN/116; Cup with inverted rim and rusticated surface: BN/P294c; shallow bowl Evans 33 with jabbed surface: BN/P257a; cup with inverted rim: BN/P179.

**Figure 4.8.** A fragment of a strainer, BN/P176, from the Chapel B area (photograph by the author).

**Figure 4.9.** Incised motifs: row of parallel lines: BN/P184; multiple angle and triangles with vertex on top: BN/P143a; hatched triangles alternated to series of vertical lines; BN/P186; hatched lozenges: BN/P191; dotted lozenges: BN/P259 (not to scale, photograph by the author).

**Figure 4.10.** Bowls of type 1 (BN/P21a), type 2 (BN/P17, BN/P21b), type 3 (BN/P21c, BN/P26); Jar (BN/P184); Jug (BN/P20); Model (BN/P74).

**Figure 4.11.** Pie chart showing the percentage distribution of the five Borg in-Nadur phase pottery fabrics.

**Figure 4.12.** Histogram indicating the number of sherds with fabrics 1, 2 and 4, corresponding respectively to Trump's II B1, II B2 and II B3 wares.

**Figure 4.13.** Pie chart indicating the percentage distribution of the principal decorative systems.

**Figure 4.14.** Cut out/incised motifs: BN/P43: motif A; BN/P48: motif B; BN/P41: motif C; BN/P142a: motif D; BN/P40: motif E; BN/P53: motif F; BN/P147b: motif G; BN/P89a: motif H; BRG/010/85: motif I; BRG/010/127: motif L;

BN/P/180: motif N; BN/P99: motif N; BN/P32: motif O; BN/P99b: motif P; BN/P100: motif Q (not to scale, photograph by the author).

**Figure 4.15.** Plastic elements: BN/P64, BN/P8, BN/P86, BRG/010/46, BRG/010/87: pellets; S.N. Box 199 (F), BN/P121, BN/P73, BN/P133a, BN/P97: rope bands; impressed motifs: BN/P34, BRG/010/41 (not to scale, photograph by the author).

**Figure 4.16.** Histogram indicating the quantities identified for each typological class.

**Figure 4.17.** Cup/basin of type 1A: BN/P13, BN/P43.41, BRG/010/128, BN/P135b, BN/P45a.

**Figure 4.18.** Cup/basin of type 1B: BRG/010/90, BN/P136b, BN/P138a, BN/P40, BRG/010/103.

**Figure 4.19.** Cup/basin of type 1C: BRG/010/88, BN/P108c, BN/P49h BN/P45h, BN/P43.1, BN/P43.40.

**Fig. 4.20:** Cup/basin of type 1C: BN/P133a, BRG/010/97, BRG/010/101, BN/P138g.

**Figure 4.21.** Cup/basin of type 2A: BN/P122, BRG/010/117, BN/P173; type 2B: BN/P47c, BN/P48, BN/P49a, BN/P137a, BN/P110.

**Figure 4.22.** Cup/basin of type 2C: BRG/010/127; type 3: BN/P45i; type 4: BN/P127

**Figure 4.23.** Ghar Mirdum, cups/basins of type 1A: MRD64/P/750; 1B: MRD64/P/850; 2A: MRD64/P/596; In-Nuffara, cups/basins of type 1B: NNF60/P/09/1; 1C: NNF60/P/09/14; 2A: NNF60/P/09/11; 2B: NNF60/P/09/10; 2C: NNF60/P/09/8 (drawings by Denise Cali and Carlo Veca).

**Figure 4.24.** Amphoras of type 1A: BN/P104, BN/P164b, BRG/010/113, BRG/010/112, BRG/010/106; type 1B: BN/P30; type 1C: BN/P71.

**Fig. 4.25:** Amphoras of type 2: BN/P162a, BRG/010/111, BRG/010/120, BN/P141h, BN/P141c, BN/P162c, BN/P43.49.

**Figure 4.26.** Juglets of type 1: BRG/010/2; type 2A: BN/P105; type 2B: BRG/010/3; type 3A: BN/P56; type 3B: BN/P120; type 3c: BN/P52.

**Figure 4.27.** Jug of type 3C from Ghar Mirdum (1:2, drawing by Denise Cali and Carlo Veca).

**Figure 4.28.** Dipper cups of type 1: BN/P1; type 2A: BN/P58a, BN/P96; type 2B: BN/P93; type 3: BN/P66, BN/P100, BN/P8, BN/p127a, BN/P68d, BN/p68c, BN/P69.

**Figure 4.29.** Dipper cup of type 3 from Ghar Mirdum (drawing by Denise Cali and Carlo Veca).

**Figure 4.30.** Beaker of type 1: BN/P57; type 2: BN/P101, BN/P58e, BN/P151, BN/P72; type 3: BN/P125; type 4: BN/P55, BN/P58f, BN/P170.

**Figure 4.31.** Beaker of type 3 from Ghar Mirdum (1:1, drawing by Denise Cali and Carlo Veca).

**Figure 4.32.** Trays of type 1: BN/P152; type 2A: BN/P81a; type 2B: BN/81h; type 2c: BN/P81b; type 3: BN/P80 (drawings by Denise Cali); Type 4: BN/P187.

**Figure 4.33.** Tray of type 4: BN/P6.

**Figure 4.34.** Tray of type 1 from Ghar Mirdum; tray type 2A/2B from In-Nuffara (drawings by Denise Cali and Carlo Veca).



**Figure 4.35.** Cooking jars of type 1A: BN/P157; type 1B: BN/P50; type 2A: BN/P109; type 2B: BN/P177; type 3A: BN/P60; type 3B: BN/P134; type 4: BRG/010/119, BN/P166.

**Figure 4.36.** Cooking jars of type 5A: BRG/010/116; type 5B: BRG/010/109; type 6: BRG/010/115, BRG/010/114.

**Figure 4.37.** Storage jar type 1: BN/P103; type 2: BRG/010/4 (1:5).

**Figure 4.38.** Lamp of type 1: BN/P11; type 2: BN/P10.

**Figure 4.39:** Lamp of type 1 from Ghar Mirdum (1:2, drawing by Denise Cali and Carlo Veca).

**Figure 4.40.** Lids of type 1: BN/P153, BN/P73.

**Figure 4.41.** Lid of type 1 from In-Nuffara (Drawing by Denise Cali and Carlo Veca).

**Figure 4.42.** Fragments of clay render BRG/010/94a-c.

**Figure 4.43.** 1) Discoid appendix BN/P85 (1:4, drawing Denise Cali); 2) Specimen from Capo Graziano layers of Lipari's Castle (Bernabò Brea 1985: 80, fig. 63d) 3) Basin with internal bridge from Volimidia (Bernabò Brea 1985: 80, fig. 65b).

**Figure 4.44.** Comparative graph expressing the quantity of examples of fabrics 1 and 2 with cut out, incised, impressed decoration, plastic applications and white inlay.

**Figure 4.45.** Mycenaean kylix BN/P7, reconstruction drawing (Evans 1953).

**Figure 4.46.** Mycenaean kylix BN/P7 (1:2).

**Figure 4.47.** Mycenaean kylix from Phylakopi, Melos (Mountjoy 1999).

**Figure 4.48.** Kalathos BN/P129 (photograph by the author).

**Figure 4.49.** Kalathos BN/P129 (1:2, drawing by Denise Cali).

**Figure 4.50.** Kalathos D07/2007 from Patela of Prinias (Tanasi 2009).

**Figure 4.51.** Body sherd BRG/010/43 (photograph by the author).

**Figure 4.52.** Thapsos potsherds from the Borġ in-Nadur temple (photograph by the author).

**Figure 4.53.** Plan of the temple area indicating the areas of major concentration of Bronze Age pottery (digitised by Maxine Anastasi).

**Figure 5.1.** Selected pottery sherds from Borġ in-Nadur.

**Figure 5.2.** Reconstruction drawings of sherds from Borġ in-Nadur.

**Figure 5.3.** The illustrations recorded by Murray of the few post-prehistoric objects excavated at Borġ in-Nadur (a, d Murray 1923: pl. 12; b Murray 1929: pl. 27; c Murray 1929: pl. 17).

**Figure 6.1.** Chart illustrating the different type of morphological types observed on the lithics from Borġ in-Nadur.

**Figure 6.2.** Chart depicting unimarginal and bimarginal tools observed on the lithics from a number of Maltese Late Neolithic sites.

**Figure 6.3.** Chart showing the various functional types observed on the lithics of Borġ in-Nadur.

**Figure 6.4.** (a) no. 3, knife; (b) no. 2, all-round scraper (scale 1:2, drawn by Maxine Anastasi).

**Figure 6.5.** (a) no. 16, side scraper; (b) no. 14, core; (c) no. 1, all-round scraper (scale 1:2, drawn by Maxine Anastasi).

**Figure 6.6.** (a) no. 25, side Scraper; (b) no. 22, backed blade; (c) no. 13, all-round scraper; (d) no. 23, side scraper; (e) no. 12, all-round scraper, (f) no. 17, thumb scraper; (g) no. 15, all-round scraper (scale 1:2, drawn by Maxine Anastasi).

**Figure 6.7.** (a) no. 11, backed blade; (b) no. 4, blade; (c) no. 5, awl; (d) no. 20, side scraper; (e) no. 7, side scraper (scale 1:2, drawn by Maxine Anastasi).

**Figure 6.8.** Chart illustrating primary, secondary, and tertiary lithics subdivided into non-tools and tools.

**Fig. 7.1:** Small finds: (BN/S15) stone axe; (BN/S16) stone hammer; (BN/S19) hone; (BN/S18) sling limestone; (BN/Sb) ‘phallus’; (BN/S17) stone spindle whorl; (BN/Sa) ‘betyl/idol’; (BN/Sc) cylindrical stone (1:3, drawings by Carlo Veca).

**Fig. 7.2:** Small finds: (BN/P1002a) spindle whorl; (BN/P1002b) spindle whorl; (BN/P1003a) spindle whorl; (BN/P1003b) spindle whorl; (BN/P1004a) spindle whorl; (BN/P1004b) spindle whorl; (BN/Se) spindle whorl (1:3, drawings by Carlo Veca); clay anchor (BN/P1001); (BN/P75) clay hut model (1:3, 1:4 drawings by Denise Cali).

**Fig. 7.3:** Lost or misplaced objects: (1), weight; (2), loom weight; (3), stone; (4), Cover of trapdoor; (5), cover of trapdoor; (6-7), weights; (8), lamp; (9), ring stone; (10), limestone polisher; (11), stone mould; (12), betyl stone; (13), betyl stone; (14), phallus; (15), carved stone; (16), miniature betyl (Murray 1923: pls 8,8, 16-17, 19-23, 26; Murray 1929: pls 8,2-4, 7, 17,6, 19,11a-d, 19, 1, 4, 6, 10).

**Fig. 7.4:** Lost objects: (1), clay anchor; (2), clay anchor; (3-8), clay anchors; (9), loom weight; (10), bronze disk; (11), bronze bar; (12-13), bronze rings; (14), stone figure (Murray 1923: pl. 8,2, 4; Murray 1925: pl. 17,11; Murray 1929: pl. 17,1-2, 4-5, 28,1, 3-6, 8, 9, 19,7-8, 21,3).

**Fig. 7.5:** Small finds: (BN/S15) stone axe; (BN/S16) stone hammer; (BN/S19) hone; (BN/S18) sling limestone; (BN/Sb) ‘phallus’; (BN/S17) stone spindle whorl; (BN/Sa) ‘betyl/idol’; (BN/Sc) cylindrical stone.

**Fig. 7.6:** Small finds photos: (BN/P1002a) spindle whorl; (BN/P1002b) spindle whorl; (BN/P1003a) spindle whorl; (BN/P1003b) spindle whorl; (BN/P1004a) spindle whorl; (BN/P1004b) spindle whorl; (BN/P75) clay hut model (Tanasi 2010); (BN/P1001) clay anchor; (BN/S1) bronze vessel; (BN/S2) lead sheet; (BN/Sd) bone awl; (BN/S20) pebbles; (BN/S21) grinding stone.

**Fig. 7.7:** Parallels: (1), axe from Skorba (Evans 1971: fig. 45); (2), hammer from Tarxien (Evans 1971: pl. 66, 5); (3), sling stones from Hal Saflieni (Evans 1971: pl. 66, 9); (4), spindle whorl from Tarxien (Evans 1971: pl. 64, 10); (5-6), ‘phallic niches’ from Tarxien (Evans 1971: pl. 50, 9-11); (7), ‘phallus’ from Ħaġar Qim (Evans 1971: pl. 41, 4); (8), ‘idol’ from Mnajdra (Evans 1971: pls. 41, 18); (9-10), ‘statue menhir’ from the Brochtorff Circle and Ta’ Trapna (Malone *et al.* 2009a: fig. 10.46; Evans 1971: fig. 57).

**Fig. 7.8:** Parallels: (1-6), hut-models from the Aegean (Tanasi 2009a); (7), bronze rivets from Ghar Mirdum (MAR 1965); (8), clay anchor from Bahrija (photo by D. Tanasi); (9), worked bone object from Tarxien (Evans 1971: pl. 67, 2-5); (10), carved stone from Borġ in-Nadur (Murray 1929: pls. 17,6, 19,11 a-d); (11), relief from Tarxien (Zammit 1930: pl. III, 3); (12), relief from Tarxien (Evans 1971: pl. 18, 4).

**Figure 8.1.** Least Cost Path: Line features show the most cost-effective routes leaving from each of the inland lines to reach only one of the five bays.

**Figure 8.2.** Least Cost Path: Line features show the most cost-effective routes leaving from each of the bays to reach a single point on each of the inland lines.

**Figure 8.3.** The Cost Surface of the area, reclassified into smaller cost bands, shows the difference in the cost required to reach any of the sites included in the study.

**Figure 8.4.** Cost Allocation Analysis: The division of the cost surface into zones according to the each cell's preferred bay.

**Figure 8.5.** Views from the eastern side of Tas-Silġ, taken from slightly different viewpoints to avoid obstruction caused by modern vegetation.

**Figure 9.1.** Dominique Vivant Denon's travel itinerary through Sicily and Malta (after Denon 1993: pl. 1).

**Figure 9.2.** Maritime cultural mobility in the south-central Mediterranean between the Early and Late Bronze Age (drawing by Maxine Anastasi).

**Figure 9.3.** Maltese and Sicilian Middle Bronze Age pottery set from tomb 23 at Cozzo del Pantano, Sicily. 'Maltese' pieces: (1) inv. 11242, (2) inv. 11264, (3) inv. 11246; 'Sicilian' pieces: (4) inv. 11283, (5) inv. 11248, (6) inv. 11266 (drawn by Carlo Veca and Maxine Anastasi).

**Figure 9.4.** Distribution of Sicilian and Maltese or Maltese-type Bronze Age pottery in the two islands. A hypothetical return journey beyond Sicily's south-east coast towards Malta is shown. Drawn by Maxine Anastasi.

**Figure 9.5.** Maltese-type pottery from Final Bronze Age Sicily: 1-7) Thapsos settlement (Voza 1973; Voza 1980-1981); 8) Polizzello, Hut 1 (draw by Denise Cali, scale 1:4).

**Figure 9.6.** Sicilian pottery imports in Malta: (1-5) Fragments of strainer spouted jugs from Bahrija (Peet 1910; Trump 1961b); (6) Triple handled lid from In-Nuffara (Trump's notebook, archives of the National Museum of Archaeology); (7) Fragment of pedestal basin UNP/P/53 held at the National Museum of Archaeology; (8) Plumed ware sherd from Bahrija (Evans 1953); (9-12) Ausonian II pottery sherds from Bahrija (Trump 1961b); (13) Ausonian II pottery sherd from Bahrija? (Evans 1971); (14) Ausonian II pottery sherd from Tas-Silġ (Blakolmer 2005). Not to scale.

**Figure 9.7.** Final Bronze Age pottery from Sicily and Malta: (1) Proto-Elymian bowl from Verderame (Tusa 1992); (2) Bowl fragment from Bahrija (Peet 1910); (3) Bowl fragment B/P103 from Bahrija; (4) Bowl B/P30 from Bahrija. Not to scale.

**Figure 9.8.** Selection of handmade pottery from Phoenician Cerro del Villar (a) and Motya (b) (after Delgado and Ferrer 2007).

**Figure 10.1.** (A) Plan of southern coastal territory of Siracusa with indications of more relevant Middle Bronze settlements: Ortigia, Cozzo del Pantano, Matrensa, Plemmirio; B) Aerial view of the Siracusa's Great Harbour.

**Figure 10.2.** Aerial view of Cozzo del Pantano with indication of the five main groups of tombs (A, B, C, D, E).

**Figure 10.3.** (A) Entrance of tomb 13, from the South; (B) Entrance of tomb 23, from the South.

**Figure 10.4.** (A) Plan and section of tomb 13 (after Orsi 1893); (B) Plan of tomb 23 (after Orsi 1893).

**Figure 10.5.** Tomb 13, Borġ in-Nadur type pottery (11223, 11222, CP13/1, 11244); Thapsos pottery (CP13/3, CP13/4); bronze fibula dated to a later phase of reuse (11221) (1:4, drawn by Carlo Veca).

**Figure 10.6.** Tomb 23, Borġ in-Nadur-type pottery, simple cups (1:4, drawn by Carlo Veca).

**Figure 10.7.** Tomb 23, Borġ in-Nadur-type pottery, pedestal cups (1:4, drawn by Carlo Veca).

**Figure 10.8.** Tomb 23, Borġ in-Nadur-type pottery, simple basins (1:4, drawn by Carlo Veca).

**Figure 10.9.** Tomb 23, Borġ in-Nadur-type pottery, pedestal basins and juglets (1:4, drawn by Carlo Veca).

**Figure 10.10.** Tomb 23, Thapsos pottery, pedestal cups and pedestal basins (1:4, drawn by Carlo Veca).

**Figure 10.11.** Tomb 23, Thapsos pottery, juglet, dipper cups, jars with lid (1:4, drawn by Carlo Veca).

**Figure 10.12.** Tomb 23, Thapsos bronze swords, ivory hilt; bronze fibulas dated to reuse phase (1:4, drawn by Carlo Veca).

**Figure 10.13.** Tomb 13, Borġ in-Nadur-type pottery (11223, 11222, CP13/1, 11244, CP13/6); Thapsos pottery (CP13/3, CP13/4, CP13/5); the bronze fibula is dated to a later phase of reuse (11221) (photo author).

**Figure 10.14.** Tomb 23, Borġ in-Nadur-type pottery, simple cups (photo author).

**Figure 10.15.** Tomb 23, Borġ in-Nadur-type pottery, pedestal cups (photo author).

**Figure 10.16.** Tomb 23, Borġ in-Nadur type pottery, simples basins (photo author).

**Figure 10.17.** Tomb 23, Borġ in-Nadur-type pottery, pedestal basins and juglets (photo author).

**Figure 10.18.** Tomb 23, Thapsos pottery, pedestal cups and pedestal basins (photo author).

**Figure 10.19.** Tomb 23, Thapsos pottery, juglet, dipper cups, jars with lid (photo author).

**Figure 10.20.** Tomb 23, Thapsos phase bronze swords, ivory hilt; bronze fibulas dated to reuse phase (photo author).

**Figure 10.21.** Decorative motifs of simple cups and basins (A-E) and of pedestal cups and basins (F-H).

**Figure 10.22.** Borġ in-Nadur pottery parallels: (A) Chiusazza (after Tinè 1965); (B, H) Thapsos (after Orsi 1895); (C, I) Matrensa (after Orsi 1903); (D, G, O) Borġ in-Nadur temple (BN/P13, BN/P40, BN/P56 drawn by Maxine Anastasi); (E) Mtarfa (after Sagona 1999); (F) Xaghra Circle (Malone *et al.* 2009); (L) Ghar Dalam (after Ashby *et al.* 1916); (M) Tarxien (Evans 1971); (N) Ghar Mirdum (after Trump 2002).

**Figure 10.23.** Tomb 23, Borġ in-Nadur-type (11239, 11240, 11264) and Thapsos pottery set (11238, 11248, 11263) (1:4, drawn by Carlo Veca).

- Figure 11.1.** The first page of Caruana's report of May 1882 (NAM, CSG01 - 11650/1882). A list of five 'Rough Stone Monuments' is pencilled into left margin.
- Figure 11.2.** View of Bronze Age wall circa 1868, before consolidation (source: NMA 11435, Heritage Malta).
- Figure 11.3.** Undated view of Bronze Age wall after consolidation (source: NMA 11434, Heritage Malta).
- Figure 11.4.** Photographic print of Galizia's 1881 plan of Borg in-Nadur, mounted in a copy of Caruana 1882 (source: courtesy of the University of Malta Library).
- Figure 11.5.** View of Bronze Age wall published by Mayr (1901: pl. 10. 1).
- Figure 11.6.** Aerial view of Ta' Kaççatura showing boundary wall around cistern (top right); dated 1925. (source: NMA 11373, Heritage Malta).
- Figure 11.7.** Temi Zammit in the Ta' Kaççatura cistern in 1924. The composition conveys the scale of the cistern (NMA 11376, Heritage Malta).
- Figure 11.8.** The record of the silo pits created prior the construction of a road between 1920 and 1921 (source: CD 100A/62).
- Figure 11.9.** Detail of plan CD 100/114, showing extent of protected length of Wied Dalam.
- Figure 12.1.** The National Museum of Archaeology.
- Figure 12.2.** The display at the National Museum of Archaeology before 1995.
- Figure 12.3.** The display on the ground floor at the National Museum of Archaeology inaugurated in 1998.
- Figure 12.4.** The display at the Domus Romana which was inaugurated in 2005.
- Figure 12.5.** The interpretation panels at the Domus Romana.
- Figure 12.6.** Proposed layout of the Bronze Age room display, drawn by the Exhibitions and Design Unit, Heritage Malta.
- Figure 13.1.** 1. The temple at the time of Murray's excavations: 1. General view from the North-East (1923); 2. Great Upright from the South-East (1923); 3. Great entrance, showing megalith built into wall (1925); 4. North-West Apse (1925); 5. Large biconical pillar (1923); 6. Mortar in situ (1925); 7. Niche showing the three standing stones in position (1923).
- Figure 13.2.** Current conditions of the temple: (1) Main entrance to the Forecourt, from the East; (2) Overview of the Forecourt and the Apsidal Building, from the West; (3) Southern Forecourt and Apsidal Building, from the North; (4) Dolmen and Great Upright from West; (5) Large biconical pillar, now half buried; (6) Grinders grouped together in the southern Forecourt.
- Figure 13.3.** (1) Digital Elevation Model (DEM); (2) DEM with a superimposed aerial photograph; (3) 3D model of the temple, aerial view; (4) Entrance to Apsidal Building; (5) Main entrance to the Forecourt; (6) Detail of the pierced megalith on the northern outer wall of the Forecourt; (7) Detail of the texture used to represent the limestone.



## List of tables

- Table 1.1.** Chronological table for Sicily, Malta, southern Italy and the Aegean.
- Table 4.1.** Comparative table of the occurrence of red slip and burnishing in the five fabrics.
- Table 4.2.** Comparative table of the main decorative systems occurring in the five fabrics.
- Table 4.3.** Comparative chart of typological categories characterised by the presence of fabrics 1 and 2 (F = Fabric).
- Table 4.4.** Murray's description of large concentrations of pottery in the principal areas of the megalithic remains at Borġ in-Nadur.
- Table 6.1.** Functional tool types (source: Vella 2009: 94).
- Table 7.1.** List of misplaced or lost objects (after Murray 1923, 1925, 1929).
- Table 9.1.** Maltese-type pottery in Middle Bronze Age Sicily.
- Table 9.1.** (*cont.*) Maltese-type pottery in Middle Bronze Age Sicily.
- Table 9.2.** Maltese-type pottery in Late Bronze Age Sicily.
- Table 9.3.** Maltese-type pottery in Final Bronze Age Sicily.
- Table 9.5.** Late and Final Bronze Age Sicilian pottery found in sites in the Maltese islands.
- Table 10.1.** Summary of the finds dated to the Middle Bronze Age from tombs at Cozzo del Pantano found in a good state of preservation.
- Table 10.2.** Summary of Maltese-type and Sicilian vessels in tombs 13 and 23, Cozzo del Pantano.
- Table 12.1.** Visitors and Non-Visitors profile according to level of education.





# 1. Introduction

Davide Tanasi – Arcadia University,  
The College of Global Studies, MCAS, Italy  
TanasiD@arcadia.edu

Nicholas C. Vella – Department of Classics and Archaeology,  
University of Malta, Malta  
nicholas.vella@um.edu.mt

For well over a century the study of Maltese prehistory has been dominated by the extraordinary megalithic buildings that are found on the two major islands of the archipelago. Defined as the ‘world’s oldest free-standing stone structures’<sup>1</sup> and inscribed on UNESCO’s world heritage list for their outstanding universal architectural value, these buildings, often called ‘temples’, have attracted attention, aroused curiosity and sparked debate. Indeed, it is common opinion that for almost a millennium, starting about 3600 BC, the Maltese islands set themselves apart from what was happening elsewhere in the Mediterranean<sup>2</sup>. In the view of many, difference was expressed by these Late Neolithic ‘temples’ – a term for which semantic breadth is preferred in order to accommodate different opinions, encourage diverging ideas and even allow unorthodox expressions<sup>3</sup>. By contrast, interest in the period successive to the Temple period, when the Maltese archipelago enters the fold of events in the south-central Mediterranean, has been largely absent<sup>4</sup>.

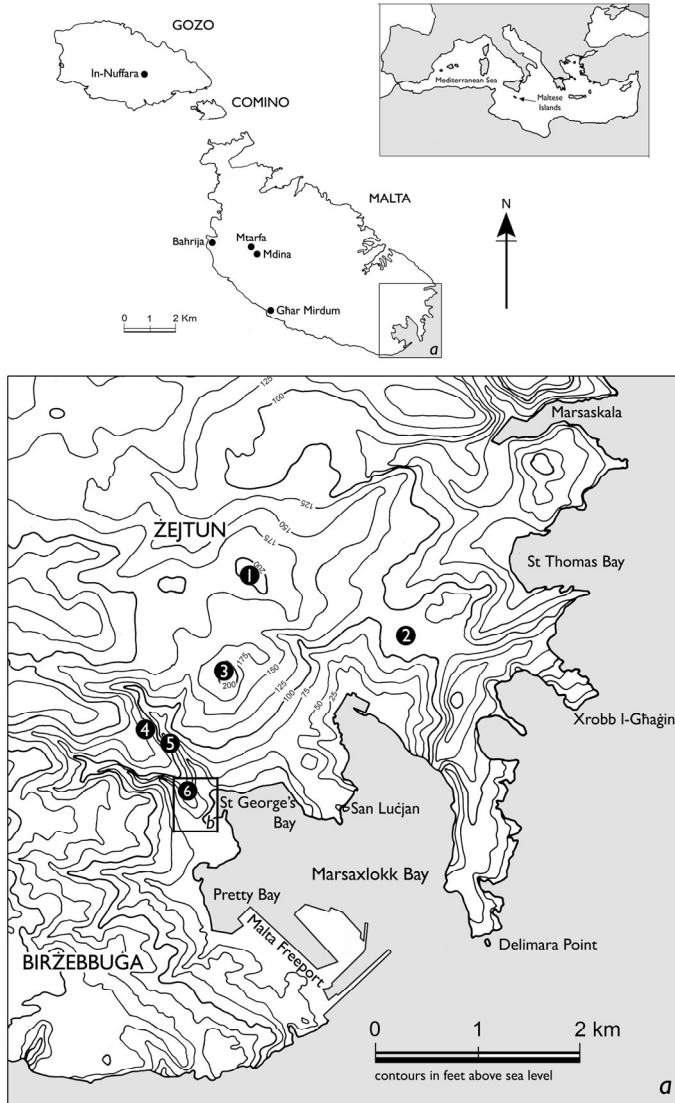
---

<sup>1</sup> Renfrew 2004.

<sup>2</sup> Robb 2007: 331.

<sup>3</sup> See the review of diverse views, academic and otherwise, in Skeates 2010: 26-75.

<sup>4</sup> See the issues raised by Bonanno (1993a; 1993b; 2008), Blakolmer (2005) and Cazzella *et al.* 2007.



**Figure 1.1.** The Maltese Islands and inset (a) corresponding to the area of south-east Malta with the sites and localities around Marsaxlokk Bay: (1) Žejtun villa, (2) Tas-Silġ, (3) Il-Marnisi, (4) Ta' Kaċċatura villa, (5) Għar Dalam, (6) Borġ in-Nadur. Inset (b) corresponds to Fig. 1.2 (drawn by Maxine Anastasi).

This collection of essays is an attempt at filling some gaps in the islands' history during the long second millennium BC by taking a cluster of archaeological sites around the area of Borġ in-Nadur in south-east Malta as the central point of description, discussion, and review.

In the archaeological literature the toponym Borġ in-Nadur refers to the sites located on a low, steep-sided spur or ridge of Globigerina Limestone between two converging deep valleys, the Wied Żembaq to the west and the Wied Dalam to the east, overlooking the small cove of St George's Bay in Birzebbuga (Figs 1.1-1.5). The sites consist of a Late Neolithic megalithic temple, explored by Margaret Murray in the 1920s, and a Bronze Age fortified village located 100 m to the north-west on the highest point of the plateau, explored by the antiquarian Antonio Annetto Caruana in the 1880s and later by archaeologist David Trump. The remains of a Roman villa and rock-cut tombs are located further inland at Ta' Kaċċatura whereas the rocky outcrop in between preserves traces of cart-ruts<sup>5</sup>. Along the coast, below the chapel which gives the name to the cove, a series of rock-cut pits were also discovered but most were destroyed by the construction of the road<sup>6</sup>. A pair of cart-ruts also exists nearby, sloping into the sea<sup>7</sup>. Excavations carried out by Trump at the Bronze Age village site resulted in the place-name being given also to a phase in the periodisation scheme of prehistoric Malta (Table 1.1) and also to the culture of which pottery and settlement pattern are defining elements<sup>8</sup>.

The idea of producing this book developed out of an award made to one of us (DT) by the Shelby White-Leon Levy Foundation of Harvard University (Program for Archaeological Publications) for 2010-11 to publish the finds, in particular the pottery, recovered by Murray from the temple area. This task forms part of an exercise with a wider scope and which has seen the study for publication of material from a number of Bronze Age sites, including Ghar Mirдум, In-Nuffara (Gozo), Mtarfa and also Baħrija<sup>9</sup>. It was realised

---

<sup>5</sup> A single pair of ruts has been documented (Magro Conti and Saliba 2005: 207, ref. no. MB\_0016); their position is shown in Fig. 1.2.

<sup>6</sup> These are discussed by Grima, this volume.

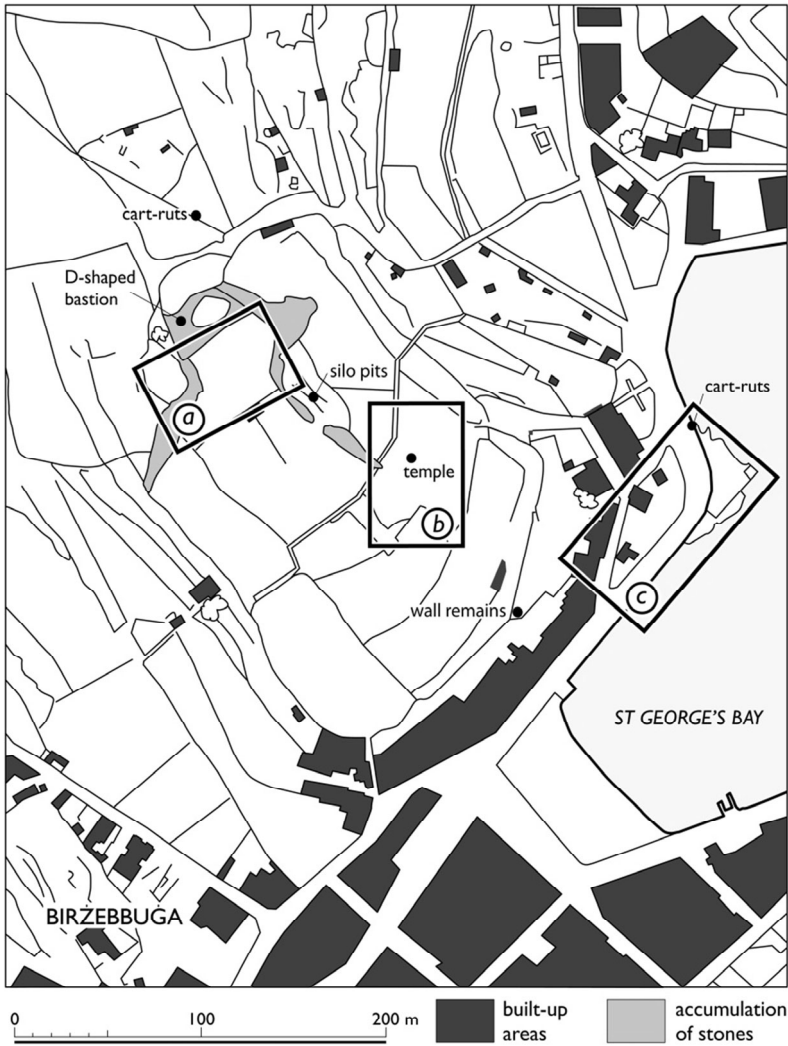
<sup>7</sup> Magro Conti and Saliba 2005: 207, ref. no. MB\_0018.

<sup>8</sup> Evans 1971: 225-227; Malone *et al.* 1994.

<sup>9</sup> See Tanasi 2009; 2010.



**Figure 1.2.** Aerial photograph of the Borg in-Nadur area with contour lines superimposed (digitised by Maxine Anastasi).



**Figure 1.3.** The archaeological remains at Borg in-Nadur. Inset (a) corresponds to Fig. 3.6 (rotated), inset (b) corresponds to Fig. 3.4, inset (c) corresponds to Fig. 9.8 (drawn by Maxine Anastasi).



**Figure 1.4.** Borg in-Nadur area with St George's Bay in the distance (probably 1958). The megalithic temple remains are arrowed (source: National Museum of Archaeology/Heritage Malta).

that there would be much to gain from putting the publication of the finds in a wide, interdisciplinary context and when a meeting was held in August 2010 with colleagues from Heritage Malta, the agency responsible for managing the site of Borg in-Nadur, a rationale for the publication plan was agreed upon. It was decided that sufficient weight should be given to the site and its landscape setting, besides the artefacts discovered during excavations, both in terms of what these tell us about cultural processes in prehistory but also about issues related to past and present public outreach and site management.

The book is divided into four parts. Part I deals with a history of the interest held by antiquarians in the area of Borg in-Nadur (Bugeja, chapter 2) and reviews the major archaeological explorations carried out there in the twentieth century (Vella *et al.*, chapter 3). Bugeja shows how the Borg in-Nadur ruins were thought to be the remains of the Temple of Hercules, the Phoenician Melqart, given coordinates in Ptolemy's *Geography*. No knowledgeable traveller to Malta would leave without having explored this corner



**Figure 1.5.** Westwards view of the Bronze Age D-shaped fortification wall (centre right). The Bronze Age huts explored by Trump are arrowed (source: National Museum of Archaeology/Heritage Malta).

of the island. In the case of the roving eighteenth-century artist Jean Houel, a sketch traced by Bugeja at the Hermitage State Museum reveals the condition of the fortification wall at the end of the nineteenth century. Vella *et al.* describe the remains explored by Murray in the temple area and those discovered by Trump behind the fortification wall. An analysis of Trump's unpublished fieldnotes and other documentation held in the archives of the National Museum of Archaeology shows that the archaeologist's reading of the stratigraphic sequence holds.

Part II is devoted to an exhaustive presentation of the artefacts including the prehistoric pottery (Tanasi, chapter 4), the small group of post-prehistoric wares (Anastasi, chapter 5), the lithics (C. Vella, chapter 6), and the small finds (C. Veca, chapter 7). All inventoried pieces are described, most have been re-drawn purposely for this publication, and a selection of them has been photographed. In order to facilitate the consultation of the inventoried prehistoric pottery (which totals 842 sherds) and the lithics (72 pieces), the

	SICILY		MALTA	S. ITALY	AEGEAN
2200	Early Bronze Age	Castelluccio	Tarxien Cemetery (II A)	Palma Campania	Middle Helladic
1700 1600		Capo Graziano		Middle Bronze Age 1-2 (Protoappennine)	Late Helladic I-II
1550	Middle Bronze Age	Thapsos I	Borg in-Nadur (II B1)	Middle Bronze Age 3 (Appennine)	Late Helladic III A1
1440- 1420		Milazzese I			Late Helladic III A2
1440- 1380		Thapsos II			
1350		Milazzese II	Recent Bronze Age 1 (Subappennine)	Late Helladic III B1	
1310- 1300		Thapsos III			
		Milazzese III			
1270- 1250	Late Bronze Age (Bronzo Tardo)	Pantalica I (Pantalica Nord - Montagna di Caltagirone)	Borg in-Nadur (II B2)	Recent Bronze Age 2 (Subappennine)	Late Helladic III B2
1180 1150		Ausonio I			Late Helladic III C
		Pantalica II (Pantalica Nord - Montagna di Caltagirone)			
1050		Ausonio I		Final Bronze Age 1-2 (Protovillanovian)	
900	Late Bronze Age (Bronzo Finale)	Pantalica III (Cassibile)	Borg in-Nadur (II B3)	Final Bronze Age 3 (Protovillanovian)	Submycenaean Protogeometric
850		Ausonio II		I Iron Age 1a (Villanovian)	Early Geometric
750	Early Iron Age	Pantalica IV (Pantalica South)	Bahrija (II C)	I Iron Age 1b (Villanovian) I Iron Age 2a-b (Villanovian)	Middle Geometric Late Geometric

**Table 1.1.** Chronological table for Sicily, Malta, southern Italy and the Aegean.



catalogue has been transferred to the accompanying DVD. Although an attempt was made to be as exhaustive as possible, several finds published by Murray have not been traced in the stores at the National Museum of Archaeology; these are presumed misplaced or lost. On the other hand, material came to light that was not possible to include here and we return to this matter in the concluding chapter in presenting an agenda for future research.

In part III an attempt is made to put the site in the local and regional setting both in terms of landscape and cultural processes. In chapter 8 Grima and Mallia explore using GIS-based analytical tools the types of connectivity enjoyed by two multi-period sites in the Marsaxlokk Bay area taking as a point of departure coastal and inland topography. The result is that Borg in-Nadur marks a node where multiple terrestrial routes meet at a single outlet to the sea. The connections that existed between the Maltese archipelago, Sicily and the Mediterranean more generally between the mid-second millennium BC and the opening centuries of the first are considered in chapter 9 by Vella *et al.* The authors precede their analysis by discussing the relevance of a spatially-oriented history of archaeological thought and practice. In chapter 10 Tanasi takes up the Sicily-Malta connection through a case study, presenting the Borg in-Nadur-type pottery vessels found in two rock-cut tombs at Cozzo del Pantano, not far from Siracusa in Sicily, considers their significance and offers an interpretation.

Part IV is devoted to issues of cultural heritage management and public outreach. Grima (chapter 11) reviews archaeological site management practices in Malta after the 1880s, considering their repercussions on the sites of Borg in-Nadur and environs, and prehistoric sites more generally. Sultana (chapter 12) presents the plans for the opening of the Bronze Age room at the National Museum of Archaeology, Valletta, explaining the rationale behind the project. The use of virtual reconstructions as an effective medium to convey information about poorly-preserved prehistoric sites is highlighted by Stanco *et al.* (chapter 13). A 3D model of the megalithic temple at Borg in-Nadur prepared by the University of Catania's Archeomatica Project is included in the DVD as a video with a sound track prepared for the purpose by the Maltese

musician Renzo Spiteri<sup>10</sup>. In addition, the model can also be explored interactively on this website: [www.archeomatica.unict.it](http://www.archeomatica.unict.it).

This book does not purport to be the final answer to the many queries posed by the sites, artefacts and landscape of Borg in-Nadur or, indeed, those related to the Maltese and south-central Mediterranean Bronze Age. That many outstanding issues and questions remain will be clear from a reading of the chapters. By way of conclusion (chapter 14) we bring these outstanding matters together in what we think might be a research agenda which could structure fieldwork and research activities in the near future.

It is obvious that this publication would not have been possible without the generous grant received from the Shelby White-Leon Levy Foundation. The award has made it possible to have this book available for free download from the publisher's website thereby ensuring that the ideas expressed here reach as wide an audience as possible. We would also like to thank Prof. Pietro Militello (Università degli Studi di Catania) who accepted to have this volume appear in the *Praehistorica Mediterranea* series which he directs. We are also grateful to Heritage Malta for facilitating the research and for allowing members of the curatorial staff to be involved in this project. Institutions, libraries and archives in Malta and abroad facilitated access to material in their care and allowed us and the respective authors publication; for that we are grateful. Especial thanks go to Maxine Anastasi for preparing most of the illustrations for publication. Finally we thank the contributors and ourselves for making the editorial process a learning and enjoyable experience.

---

<sup>10</sup> Between 2010 and mid-2011 Spiteri worked on a CD entitled 'Silence, Sounds and Spaces'. The music in the CD is not only entirely inspired by a number of archaeological sites in Malta and Gozo but most of the music has been recorded at the sites themselves; see [www.renzospiteri.com](http://www.renzospiteri.com) for more details.

## References

- Blakolmer, F. [2005] “Relations between prehistoric Malta and the Aegean: myth and reality”, in R. Laffineur and E. Greco (eds), *Emporia: Aegeans in the Central and Eastern Mediterranean* (Aegaeum 25), pp. 653-662. University of Liège and University of Texas at Austin, Liège and Austin (TX).
- Bonanno, A. [1993a] “Tarxien and Tarxien Cemetery. Break or continuity between Temple period and Bronze Age in Malta?”, in *Mediterrâneo* 2 (April): 35-47.
- Bonanno, A. [1993b] “The prehistory and protohistory of the Maltese Islands. Current problems and perspectives”, in G. Roselló (ed.), *La prehistòria de les illes de la mediterrània occidental* (X Jornadas d’Estudis Històrics Locals), pp. 215-241. Instituts d’Estudis Balàrics, Mallorca.
- Bonanno, A. [2008] “Insularity and isolation: Malta and Sicily in prehistory”, A. Bonanno and P. Militello (eds), *Malta in the Hybleans, the Hybleans in Malta/Malta negli Iblei, gli Iblei a Malta* (KASA 2), pp. 27-37. Officina di Studi Medievali, Palermo.
- Cazzella, A., Pace, A. and Recchia, G. [2007] “Cultural contacts and mobility between the south central Mediterranean and the Aegean during the second half of the 3<sup>rd</sup> millennium BC”, in S. Antoniadou and A. Pace (eds), *Mediterranean Crossroads*, pp. 243-260. Pierides Foundation, Athens.
- Evans, J. D. [1971] *The Prehistoric Antiquities of the Maltese Islands: A Survey*. Athlone Press, London.
- Magro Conti, J. and Saliba, P. C. (eds) [2005] *The Significance of Cart-Ruts in Ancient Landscapes*. Midsea Books, Malta.
- Malone, C., Stoddart, S. and Whitehouse, R. [1994] “The Bronze Age of Southern Italy, Sicily and Malta c. 2000-800 B.C.”, in C. Mathers and S. Stoddart (eds), *Development and Decline in the Mediterranean Bronze Age* (Sheffield Archaeological Monographs 8), pp. 167-194. J. R. Collis Publications, Sheffield.
- Renfrew, C. [2004] “Foreword”, in D. Cilia (ed), *Malta before History*, pp. 10-11. Miranda Publishers, Malta.
- Robb, J. [2007] *The Early Mediterranean Village: Agency, Material Culture, and Social Change in Neolithic Italy*. Cambridge University Press, Cambridge.
- Skeates, R. [2010] *An Archaeology of the Senses: Prehistoric Malta*. Oxford University Press, Oxford.
- Tanasi, D. [2008] *La Sicilia e l’arcipelago maltese nell’età del Bronzo Medio* (KASA 3). Officina di Studi Medievali, Palermo.
- Tanasi, D. [2009] “Vasellame metallico in Sicilia e nell’Arcipelago maltese nella seconda metà del II millennio a.C. Forme egee per pratiche religiose indigene”, in *Orizzonti* 10: 11-27.

Tanasi, D. [2010] “Bridging the gap. New data on the relationship between Sicily, the Maltese archipelago and the Aegean in the Middle Bronze Age”, in *Mare Internum* 2: 103-111.

# Part I

## Antiquarianism and archaeology





## 2. Understanding the past: Borġ in-Nadur in antiquarian and early archaeological literature

Anton Bugeja – Independent researcher, Malta  
antonbugeja@hotmail.com

**Abstract.** Over the past five centuries various parts of the site of Borġ in-Nadur were documented, cleared and excavated. Borġ in-Nadur was originally grouped with other sites and believed to form part of the temple dedicated to Hercules mentioned in ancient sources. Different areas have now been identified within the site, considered to consist mainly of the remains of a Late Neolithic megalithic building and a fortified Bronze Age settlement. Using the available antiquarian and early archaeological literature this paper provides a review of the history of Borġ in-Nadur.

**Keywords:** history of archaeology, Temple of Hercules, Temple of Melcarte.

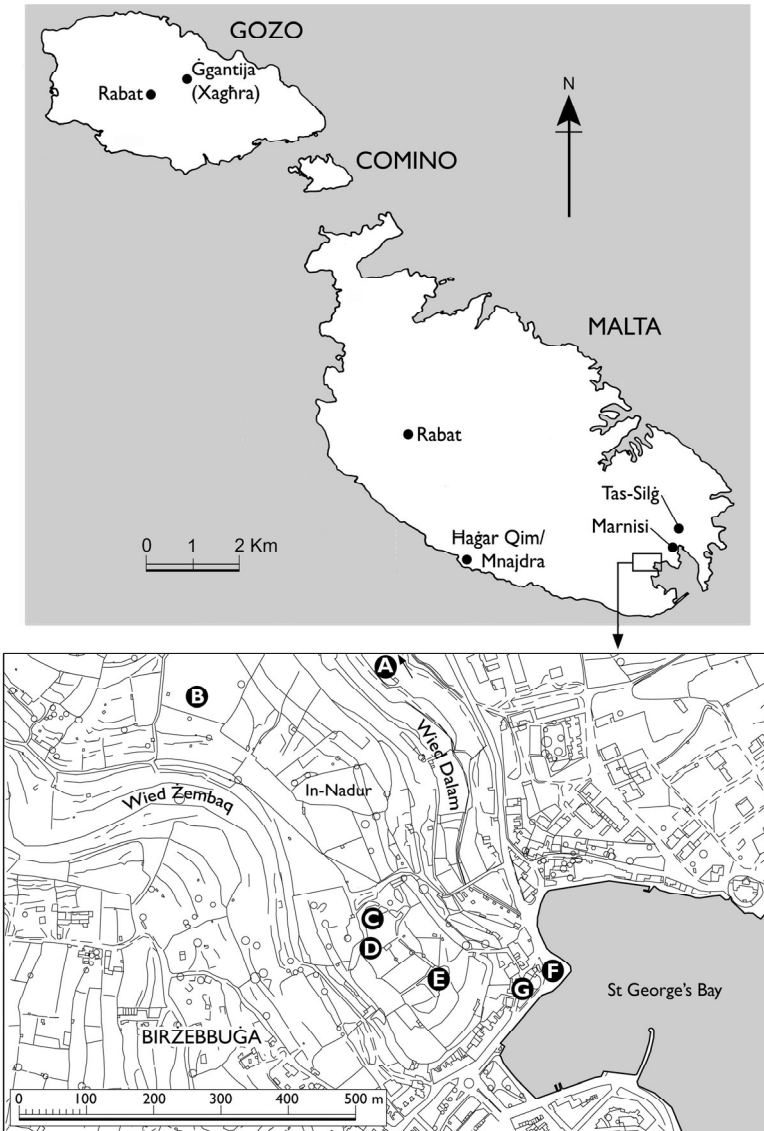
### 2.1. Introduction

The archaeological remains at Borġ in-Nadur are situated on a roughly triangular sloping rocky promontory to the south-east of Malta (Fig. 2.1). Two valleys, Wied Żembaq<sup>1</sup> and Wied Dalam, created as a result of Pleistocene river systems, mark the western and eastern aspects of the area, with the nearby cave of Ghar Dalam (Site A in Fig. 2.1) formed when the river that fashioned the latter valley carved its way through an underground chamber<sup>2</sup>. Borġ in-Nadur

---

<sup>1</sup> Wied Żembaq is the easternmost part of Wied Has-Saptan.

<sup>2</sup> MAR 1937: xxii-xxiii; MAR 1938: xiii.



**Figure 2.1.** Main sites mentioned in the text: (A) Ghar Dalam, (B) Ta' Kaccatura villa, (C) Borg in-Nadur megalithic bastion, (D) Borg in-Nadur huts, (E) Borg in-Nadur temple, (F) cart-ruts and pits, (G) St George's chapel (drawn by Maxine Anastasi).



lies close to Marsaxlokk Harbour and there is convincing evidence that it is slowly coming closer to an imperceptibly encroaching shoreline<sup>3</sup>.

Generally the area has witnessed a long history of human activity and constitutes a rare landscape where the remains of different periods can still be observed within a kilometre of each other. Indeed, one can find evidence for the Early and Late Neolithic (Għar Dalam and Borġ in-Nadur) and the Bronze Age (Borġ in-Nadur and dolmens), as well as remains of buildings or burials belonging to the Punic and Roman periods (area of Ta' Kaċċatura), together with stretches of cart-ruts of an indeterminate and highly debatable age. This paper will only focus on the remains at Borġ in-Nadur, which today are considered to consist mainly of a Temple period megalithic complex and a Bronze Age defended settlement.

As with other archaeological sites, the study of the remains of Borġ in-Nadur has produced scholarly debates on their age, nature, function, and use throughout the centuries. Travellers and scholars have also used different approaches and methodologies to study the remains at this locality. Moreover, the remains at Borġ in-Nadur have been considered as part of a larger antiquarian complex scattered around the Marsaxlokk harbour, an opinion that was rejected in the course of last century when Borġ in-Nadur was found to consist of different archaeological remains dating to different periods. This evolution in the scholarly understanding of Borġ in-Nadur is quite exceptional and will be given particular attention in this paper.

## **2.2. Late Medieval times to the eighteenth century**

### ***2.2.1. Late Medieval toponyms***

A reference to Borġ in-Nadur as a toponym in late medieval documents has still to be discovered. This may suggest that Borġ in-Nadur as a place-name was coined rather late. An early reference to the area may well be contained in the mention of 'nadur, clausura

---

<sup>3</sup> This conclusion has been reached by human-made sub-aerial features which are at present underwater.

in *contrata gadir*’ made in 1548<sup>4</sup>. A chapel dedicated to St George (Site G in Fig. 2.1) in the vicinity has been an often quoted landmark guiding travellers to the ruins at least since the seventeenth century, and together with a spring used for the retting of flax features in the toponymy of Early Modern Malta. Both the chapel and the spring are referred to in the place-name San Ġorġ [tal-] Ġhadir documented in 1520<sup>5</sup>. Two other minor localities of the site, namely Ġnien ta’ Ġhadir (1520)<sup>6</sup> and Ġhajn Kittien (1555)<sup>7</sup>, relate to the water source and retting activity in the area. Other place-names, such as Ta’ Ċapċap (1585)<sup>8</sup> and Ġnien ta’ Dalam (1541)<sup>9</sup> relate to areas now known to contain archaeological sites, namely Ta’ Kaċċatura (Site B in Fig. 2.1) and Ġhar Dalam respectively.

### 2.2.2. *Quintinus*

Probably the earliest published reference to the archaeological remains under study is that provided in 1536 by Jean Quintin d’Autun, better known as Quintinus, chaplain of the French Knights and auditor to the Grand Master of the Order of St John. Quintinus described ancient remains of stupendous height and width around Marsaxlokk Harbour<sup>10</sup> and identified them with the ancient Temple of Hercules given a set of co-ordinates in Ptolemy’s *Geography*<sup>11</sup>. He considered the ruins to be spread over an area with a circumference three miles long<sup>12</sup>. Unfortunately, a certain degree of uncertainty surrounds this reference as Quintinus does not provide recognizable

---

<sup>4</sup> Wettinger 2000: 409.

<sup>5</sup> Wettinger 2000: 493.

<sup>6</sup> Wettinger 2000: 154, literally the garden of the pool or garden of the small lake.

<sup>7</sup> Wettinger 2000: 185, Maltese translation for the spring of flax. For the significance of a spring close to a Temple-period megalithic site see Grima 2004a: 341-342; Bonanno 2009: 25-31.

<sup>8</sup> Wettinger 2000: 90. The contract, preserved in NAV, Not. F. S. Camilleri R138: 2722-2729 (12.xii.1881), related to the acquisition of *utile dominium* of fields at Ta’ Ċapċap following archaeological finds in 1881 reveals that Ta’ Ċapċap is an older name for the area known in the twentieth century as Ta’ Kaċċatura.

<sup>9</sup> Wettinger 2000: 152.

<sup>10</sup> Quintinus uses the term ‘Euri Portum’ meaning the Harbour of the East which is usually considered to be Marsaxlokk Harbour.

<sup>11</sup> Vella 2002.

<sup>12</sup> Quintin 1536 in Vella 1980: 23, 55-56 fn. 91.

landmarks to pin down the location of the remains. Nonetheless, scholars<sup>13</sup> generally concur with the idea that the remains at Borg in-Nadur were included in those described by Quintinus. This is supported by the fact that in the mid-seventeenth century a tradition existed whereby the Temple of Hercules could be identified with the ancient ruins behind St George's chapel in modern Birżebbuġa<sup>14</sup>.

Quintinus' idea of a temple covering a large area shaped the opinion of later writers for a full century<sup>15</sup>. Indeed his ideas were referred to by scholars such as Fazello<sup>16</sup> and Haxiaq<sup>17</sup>. Thevet also followed Quintinus when he described the Temple of Hercules as made of large stones located in the Eastern harbour, but placed the ruins in the fortified promontories of the Grand Harbour<sup>18</sup>. The importance given to Quintinus' account was such that it was often quoted and debated by later writers when describing the antiquities in the area, his attribution of the remains to the Temple of Hercules, the Roman God equivalent for the Phoenician Melqart, later adopted almost to the point of becoming the toponym of Borg in-Nadur and the surrounding area. Furthermore, Quintinus' search for references to Malta in ancient classical sources as well as his attempts to identify the monuments referred to by ancient writers with visible antiquities on the islands became the principal method of studying antiquities until the end of the nineteenth century.

### ***2.2.3. Giovanni Francesco Abela***

Against this background, the description of Malta published by Giovanni Francesco Abela in 1647 emerges as a significant development. This author's detailed knowledge of the Maltese islands allowed him to identify different ancient sites in the area where Quintinus had previously identified a single monument, namely the Temple of Hercules. Abela instead placed the Temple of Hercules in another part of the bay, namely at 'Kasar', now known

---

<sup>13</sup> Evans 1971: 7; Bonanno 1982: 195.

<sup>14</sup> Abela 1647: 22.

<sup>15</sup> Bonanno 1982: 194-195.

<sup>16</sup> Fazello 1558: 10.

<sup>17</sup> NLM Library ms. 465: 42r; for further discussion see Bonanno 1982: 195.

<sup>18</sup> Thevet 1575: 25.

to be a seventeenth-century toponym associated with the archaeological site of Tas-Silġ<sup>19</sup>. Around Marsaxlokk Bay megalithic remains were also seen by Abela to the north-east of Marnisi, specifically at ‘il Ghar’ close to the Cavallerizza built by the Knights of St John. He compared these to the megalithic remains that can now be identified as Haġar Qim and/or Mnajdra and the Xewkija temple remains in Gozo<sup>20</sup>. Abela also mentioned the ancient ruins behind St George’s chapel in another part of Marsaxlokk Bay, undoubtedly a reference to Borġ in-Nadur. Abela was quick to reject the tradition that would have the ruins here form part of the ancient Temple of Hercules. By also mentioning ancient cisterns close to the shoreline (Site F in Fig. 2.1), Abela’s account is an early attempt to make a distinction between the different antiquities in the area of Borġ in-Nadur<sup>21</sup>.

Abela’s account influenced the writings of later authors. Giovanni Antonio Ciantar’s account, published posthumously in 1772, relies heavily on the conclusions reached by Abela; he copies the description of the remains behind St George’s chapel<sup>22</sup> and those at Tal-Kasar<sup>23</sup>, and like Abela identifies the latter with the site for the ancient Temple of Hercules. Another account by Ciantar suggesting that explorations may have been carried out at the Temple of Hercules<sup>24</sup> was later considered by Caruana<sup>25</sup>, Ashby<sup>26</sup>, and Evans<sup>27</sup> to refer to the remains on the Borġ in-Nadur promontory. Nonetheless, a careful reading of the relative text makes it clear that it is much safer to identify the remains described by Ciantar with the archaeological site of Tas-Silġ<sup>28</sup>.

---

<sup>19</sup> Abela 1647: 108; Bugeja forthcoming.

<sup>20</sup> Abela 1647: 21.

<sup>21</sup> Abela 1647: 21-22.

<sup>22</sup> Ciantar 1772: 99-100.

<sup>23</sup> Ciantar 1772: 319-320.

<sup>24</sup> Ciantar 1772: 461-462.

<sup>25</sup> Caruana 1882: 18.

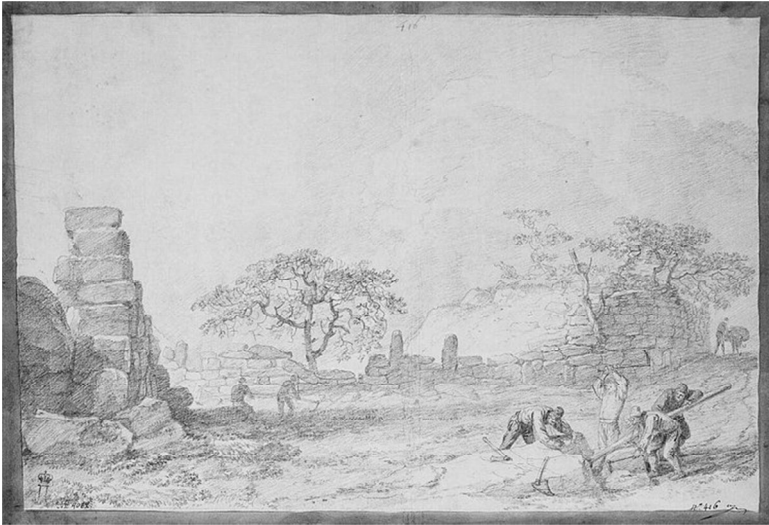
<sup>26</sup> Ashby 1915: 50 fn. 3, 52.

<sup>27</sup> Evans 1971: 7, 18.

<sup>28</sup> The presence of a road cutting right across the remains links Ciantar’s description with Tas-Silġ rather than the ruins near Borġ in-Nadur. For a more detailed discussion see Bugeja forthcoming.

#### 2.2.4. *Jean Houel*

A more useful description of the remains at Borg in-Nadur is that provided by the French traveller Jean Houel, who compares the antiquities there to those of the Giants' temple (that is Ġgantija) he saw in Gozo. Although his account is brief it marks a further development in the recording of the remains at Borg in-Nadur by providing a description of the megalithic structures inclusive of measurements.



**Figure 2.2.** Late eighteenth-century drawing (416) of Borg in-Nadur by Jean Houel (source: reproduced by courtesy of the State Hermitage Museum, St Petersburg; inv. no. OR-4082).



**Figure 2.3.** A photograph of the part of Borg in-Nadur depicted by Jean Houel (source: the author).

Indeed, in his publication, Houel described two circular structures between 23 and 27 m in diameter<sup>29</sup>, joined at right angles by a wall of around 23 to 27 m, the latter wall tangent to one of the circles and stretching beyond it for 15.5 to 20 m. He stated that the other side of this wall formed the radius of the other circular structure.

Further documentation of the site was provided by Houel in a drawing (416) now preserved at the State Hermitage Museum, St Petersburg, Russia (Fig. 2.2)<sup>30</sup>. Although the drawing is described in an official online source as depicting ruins at Casal Caccia, that is Xaghra (Gozo)<sup>31</sup>, and two standing megaliths are comparable to those previously present at the Brochtorff Circle at Xaghra<sup>32</sup>, arguments can be made to identify the remains depicted with those at Borġ in-Nadur. The wall shown in the centre of the drawing may be identified with the wall joining the two curved walls mentioned in Houel's description. The viewpoint can still be identified on the outer and eastern aspect of what is now considered to be the defensive wall of the prehistoric settlement at Borġ in-Nadur (Fig. 2.3). The profile of the wall, shown in cross-section in the foreground and to the left of the drawing, can still be identified on site (Fig. 2.3, left) whereas the outline of the remaining walls in Houel's illustration are traceable even though later walls and the growth of trees obscure details in some parts (Fig. 2.3, centre and right). A megalith embedded vertically in a rubble wall at Borġ in-Nadur (Fig. 2.4) is part of one of the two standing megaliths prominently visible in Houel's drawing. When considered in the context of the realism known for Houel's illustrations<sup>33</sup>, the drawing turns out to be a truthful representation of the Borġ in-Nadur remains in the late eighteenth century. It is, in fact possible that the two standing megaliths marked an entrance

---

<sup>29</sup> Houel uses the 'toise', a French unit of measurement equivalent to 1.949 metres.

<sup>30</sup> I am grateful to Mr Joseph M. Attard Tabone for sharing this observation with me. Ironically Houel's illustration is used in an article by Attard Tabone (1999: 171) to illustrate the destruction of a megalithic site at Xaghra, but the author assures me that this was an unintended editorial insertion.

<sup>31</sup> [www.arthermitage.org/Jean-Pierre-Laurent-Houel/The-Ruins-of-a-Phoenician-Structure-in-Casal-Caccia.html](http://www.arthermitage.org/Jean-Pierre-Laurent-Houel/The-Ruins-of-a-Phoenician-Structure-in-Casal-Caccia.html). Accessed on 14 January 2011.

<sup>32</sup> These megaliths were probably destroyed in the early nineteenth century. See Attard Tabone 1999: 177.

<sup>33</sup> Grima 2004b: 13.



**Figure 2.4.** One of the megaliths embedded in a rubble wall at Borg in-Nadur (source: the author).

to the village of prehistoric huts located beyond. The activity which appears in the foreground in Houel's drawing provides additional confirmation that the location of the remains is in fact Borg in-Nadur. While a person on the right tills the land overlooked by a seated man, four men on the left vigorously attempt to break stone from the underlying rock surface. This scene illustrates the manner in which the Maltese cleared barren rock, seeking low spots, cracks, furrows, and cavities with little soil, and then proceeding by levelling any protruding stones, and filling hollows with the debris produced to create a horizontal surface, before spreading the soil. Houel specifically states that he observed this activity at the ruins behind St George's chapel at Marsaxlokk<sup>34</sup> and describes it in a short paragraph which is followed by an account of his departure from the village and a visit to the tower Tal-Ġawhar<sup>35</sup>. Thus this

---

<sup>34</sup> St George's chapel and the archaeological sites of and immediately around Borg in-Nadur now form part of Birżebbuġa. This village was declared a parish relatively late (1913) compared to other villages, explaining why remains at or immediately around Borg in-Nadur were in the past described as occurring at Żejtun, Ghaxaq or Marsaxlokk.

<sup>35</sup> Houel 1787: 93. Further supporting evidence for the identification of the ruins depicted in drawing 416 comes from the numbers adopted to catalogue Houel's drawings at the Hermitage. The numbers do not follow the order adopted in the

drawing emerges as the earliest known illustration of Borġ in-Nadur. It remains the sole representation for decades perhaps because it was not included in the engravings which illustrate Houel's final publication; consequently, it was not reproduced by later writers such as Boisgelin<sup>36</sup> and Lacroix<sup>37</sup>, known to have based most of their illustrations on Houel's.

## 2.3 Nineteenth century

### 2.3.1 Early nineteenth century

In the first half of the nineteenth century a number of authors refer to the site but other than reproducing ideas from the accounts provided by Quintinus, Abela, and Houel, little new information is added. Boisgelin mentions antiquities behind the small chapel of St George and, unlike Abela, calls the place *Kasar*. The rest of the account may be considered as a mere translation in English of Houel's text, particularly for the comparison of the ruins with the Giant's tower in Gozo (that is Ġgantija) and the description of the remains.<sup>38</sup> On his part, Bres does not provide anything new other than for an Italian translation of parts of Houel's account<sup>39</sup>. Guidebooks for travellers are likewise laconic. Giuseppe Periccioli Borzesi identifies the site with the ruins of the ancient temple of Hercules but claims that 'there is little or nothing there to admire.'<sup>40</sup> Thomas MacGill simply states that the temple of Hercules is at Marsaxlokk, interestingly also

---

published book but grouping of images occurs. For instance, while drawings 413 to 439 relate to Malta and drawings 440 to 449 concern Gozo, the description of Malta follows that of Gozo in the text. In Houel's account the visit to Borġ in-Nadur (drawing 416) follows Tas-Silġ, the latter identified in drawing 415 described as 'The Ruins of the Temple of Jupiter to the East of the Harbour of Marsa Scirocco on Malta'. It also precedes the visit to the round building at Tal-Gawhar, the latter identifiable as drawing 417 'Ruins of Ancient Tower of La Giarda'. In contrast, the ruins at Xaghra in Gozo are depicted in drawings 442 to 446.

<sup>36</sup> Boisgelin 1804.

<sup>37</sup> Lacroix 1842.

<sup>38</sup> Boisgelin 1804: 58.

<sup>39</sup> Bres 1816: 137.

<sup>40</sup> Periccioli Borzesi 1830: 72.



mentioning marble remains at a farmyard 'Ta-Harbat', possibly Ta' Kaċċatura, but confusion with another locality cannot be excluded<sup>41</sup>.

### **2.3.2. Cesare Vassallo**

A slightly more detailed account is provided by Cesare Vassallo in 1851. He compares the remains at Borġ in-Nadur to other megalithic structures in Malta, identifying the former with those of the temple of Melcarte (Melqart), the Phoenician equivalent of the Roman Hercules. Vassallo considers the temple of Melcarte as the earliest amongst the megalithic structures due to the inferior execution of the design<sup>42</sup>. The description provided by Houel, namely the general appearance of one large heap of stones and the two curved walls joined by a straight wall, is included in the description, but Vassallo also mentioned a trilithic megalithic structure closer to the shore, giving its dimensions, providing a rudimentary sketch and documenting its contemporary use as an animal pen (Fig. 2.5)<sup>43</sup>. Vassallo also mentions the pits along the shoreline and, after discussing the ideas of previous scholars, proposed that the pits were furnaces to contain the ritual fires related to the temple of Melcarte on the hill<sup>44</sup>. He also described, measured and published a sketch of a large cistern at Ta' Medewwiet further inland, suggesting that it was connected with the same temple<sup>45</sup>. Through his work, Vassallo was reviving the idea of a temple scattered over a large area, as proposed by Quintinus (section 2.2.2 above), but he was now including with it the megalithic remains, the pits and the large cistern at Borġ in-Nadur and the immediate surroundings. Vassallo's narrative was immediately accepted and soon became a reference point for information on the ruins at the site as may be seen in Tallack's book on Malta<sup>46</sup>.

---

<sup>41</sup> MacGill 1839: 139.

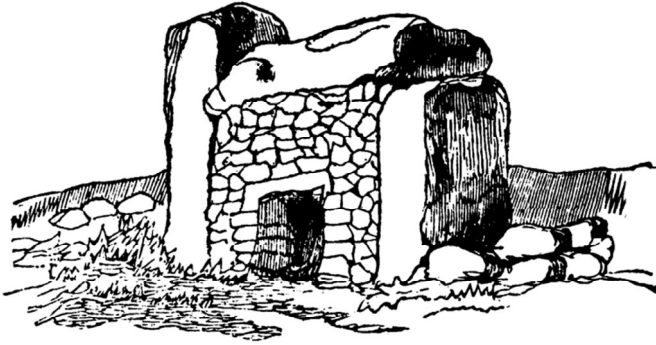
<sup>42</sup> Vassallo 1851: 3.

<sup>43</sup> Vassallo 1851: 4-6.

<sup>44</sup> Vassallo 1851: 6-8.

<sup>45</sup> This is the large reservoir located at Ta' Kaċċatura; Vassallo 1851: 31-32.

<sup>46</sup> Tallack 1861: 127-133.



**Figure 2.5.** An illustration of Borg in-Nadur published in Vassallo 1851.

### ***2.3.3. Society of Archaeology, History and Natural Sciences***

The formation of the Society of Archaeology, History and Natural Sciences in 1866 presented an opportunity to investigate the site. In one of its first meetings, three members were chosen to form a committee to report on what they considered as the Phoenician, Greek and Roman antiquities of the islands<sup>47</sup>. No evidence has been traced to suggest that a serious study of Borg in-Nadur was undertaken by this committee, but three photographs of the megalithic remains are included in a photographic album left by this society. It does not appear that this photograph (Fig. 2.6) was taken as part of investigations into the remains at Borg in-Nadur but rather as one of a series of the Maltese megalithic sites to ‘show in the most effective way the style of building adopted and details of the monuments’<sup>48</sup>. For more details one needs to refer to the work of Andrew Leith Adams, vice president of this society. Already in the inaugural lecture delivered to the society he had brought to the attention of all those present the neglect present on site, particularly with ‘the filling up of stones, in and around these remains’ which was obscuring their outline<sup>49</sup>. In a later publication he reports damage caused recently (‘the moderns’) by the ‘carting of stones and rubbish’

<sup>47</sup> NLM, ms. 588: 11.

<sup>48</sup> Furse 1869: 411.

<sup>49</sup> Adams 1866: 14.

on the remains to the point that only a chamber was visible, the rest ‘covered by stones collected from the neighbouring fields.’<sup>50</sup> Besides providing information on the appearance of the site, Adams’ account emerges as important for it reveals that by 1870 the curved megalithic wall shown to the right of Houel’s drawing (Fig. 2.2) was covered by stones, hence dating this heap of stones amassed against the megalithic wall to the nineteenth century<sup>51</sup>. Adams also notes the cavities on the shoreline nearby<sup>52</sup>, comparing them to the pits discovered at Rabat (Gozo) and proposing for the former an age contemporary with the ruins of the Temple of Melcarte (that is, Phoenician). He records the presence of ruts (running across the opening of some cavities) along one part of the shoreline and also traced the ruts on the opposite side of St George’s Bay. Rather than supporting a gradual submergence of the islands, Adams attributes the occurrence of underwater cavities to erosion<sup>53</sup>.

#### ***2.3.4. Works by the Permanent Archaeological Commission in 1881 and 1882***

Most of the aforementioned authors who wrote about Borġ in-Nadur based their work on that of previous writers, with some visiting the place and providing a new contribution by describing parts of the site not previously noted. Contrary to what happened at some megalithic sites in the Maltese islands, no excavations or clearings are known to have been carried out at Borġ in-Nadur before the late nineteenth century. The formation of a Permanent Archaeological Commission in 1881 changed this situation.

---

<sup>50</sup> Adams 1870: 249. A nineteenth-century amassing of small stones against the large wall at Borġ in-Nadur has also been suggested by Trump 1961: 256-257.

<sup>51</sup> Although Adams witnesses the carting of stones one cannot exclude that the formation of the stone heap was started before. More generally the formation of the stone heap can be dated to between 1787 (publication of Houel’s account on Malta) and 1866 (Adams’ departure from Malta).

<sup>52</sup> Only a few of these features remain visible today. Plan 100A/62, dated 1921, at the Chief Draughtsman’s Office, Project House of the Ministry of Resources and Rural Affairs at Floriana, reveals that at that time 75 pits could be counted and 73 were subsequently surveyed. It is reproduced by Grima in this volume (Fig. 9.8) where he also provides the historical context for the necessity of surveying these features.

<sup>53</sup> Adams 1870: 249-250.



**Figure 2.6.** Photograph of Borġ in-Nadur taken by the Society of Archaeology, History and Natural Sciences of Malta in 1868, forming part of an album *Antiquitates Phoeniciae in Insulis Melitae et Gaulos* (source: reproduced by courtesy of the National Library, Malta).

Formed through the events in the aftermath of the discovery of the mosaic pavements of a Roman House at Rabat (Malta), the Commission embarked on a programme to study and investigate other archaeological remains on the islands<sup>54</sup>. As the prevalent view then was that the megalithic remains of Borġ in-Nadur and the nearby remains at Ta' Ċapċap (later called Ta' Kaċċatura) were considered as parts of the temple of Melcarte they were both included for a clearing operation which was the first task this Commission performed mainly between April and May 1881, with more limited works carried out in 1882. No formal or published report was issued of the works done and it is only through a study of contemporary documentation that snippets of what was discovered obtained and the conclusion reached that the related material is scattered and much has been lost.

Two archival documents provide us with an overview of the work done and reveal the rudimentary level of documentation prevalent at

<sup>54</sup> For an overview see Bugeja 2004. See also Grima, this volume (chapter 11).

the time<sup>55</sup>. From these documents it emerges that clearing the remains by shifting the debris accumulated over the previous hundred years to the side was the methodology of exploration employed. This was done to expose what is now believed to be the Bronze Age D-shaped megalithic enclosure of Borġ in-Nadur. The mound of debris which resulted from this operation remains heaped close to the wall until this day, similar to the heap Ashby found on the remains at Ta' Kaċċatura<sup>56</sup>. It is clear that workmen cleared the site without supervision, and the site was visited by knowledgeable antiquarians every few days or so. In the end, few finds, 'deemed insignificant', were made on site, and with 'nothing of interest' discovered everything was 'covered again' as witnessed at the close of the century by Mayr<sup>57</sup>.

One of these archival documents reveals that two photographs were made of the remains at Borġ in-Nadur, as well as a further photograph of the cistern at Ta' Kaċċatura; unfortunately these were not found in the relevant file when consulted<sup>58</sup>. Despite the fact that several sets of photographs are recorded to have been made in this document, none have ever been traced. Unless challenged by new evidence it is the opinion of the present author that these photographs were photographic reproductions of plans and drawings of the areas explored<sup>59</sup>.

---

<sup>55</sup> NAM, CSG01-11040/ 1882 and NAM, CSG01-12585/1882.

<sup>56</sup> Ashby 1915: 52. Ashby suggested that excavations had occurred here in the eighteenth century basing himself on a coin of Grand Master Pinto (1741-1773) found on site and an account provided by Giovanni Antonio Ciantar. Arguments have been put forth to suggest that the remains mentioned by Ciantar with reference to the Temple of Hercules (1772: 461-462) correspond to Tas-Silġ (see Bugeja: forthcoming) rather than Ta' Kaċċatura. It is here suggested that the heaps Ashby saw were produced by the clearings of the 1880s.

<sup>57</sup> Mayr 1908: 63.

<sup>58</sup> When the files at the National Archives (Malta) were being consulted, nineteenth-century photographs in files were removed to a new folder by archivists for preservation purposes. The photographs related to Borġ in-Nadur in NAM, CSG01-11040/1882 were not traced even though a request to see this folder was granted.

<sup>59</sup> The description of two photographs in the archival document fits that provided by the photographs of drawings of Borġ in-Nadur and the cistern at Ta' Kaċċatura included in Caruana's report (1882: opposite 18 and one of the photographs after 22 respectively). The remaining photograph is likely to be the photographic representation of a plan of Borġ in-Nadur found by Grima this volume. The sets of photographs mentioned in the archival document are probably photographs taken

The drawing, reproduced photographically by Formosa (Fig. 2.7) and signed MB (probably Michele Busuttill the younger)<sup>60</sup>, shows an elevation of the megalithic remains of what is now considered as the temple remains at Borġ in-Nadur (Site E in Fig. 2.1). A comment on the height of one of the megaliths indicates that measurements were made during the clearings of the 1880s. The plan of the remains cleared at Borġ in-Nadur drawn by Emanuele Luigi Galizia which Mayr later reproduced in his publications (Fig. 2.8)<sup>61</sup> further confirms this and reveals that one of the main objectives of the explorations was the surveying and planning of the remains. The absence of the original drawings in the archival holdings related to the Public Works Department, namely the National Archives at Rabat and the plans in the Chief Draughtsman's Office (Project House of the Ministry of Resources and Rural Affairs at Floriana), suggests that finding further information on the excavations in public holdings remains bleak.

Two accounts of the remains published by Antonio Annetto Caruana<sup>62</sup> provide little details. Appearing under the heading 'The Melcarte Monument'<sup>63</sup>, Caruana's accounts summarily refer to the narratives by Quintinus, Bosio, Abela, Houel, and Vassallo. He refers to finds recorded by Cianfar as having been made in the Temple of Hercules, but, as pointed out above, these concern the site of Tas-Silġ. All that Caruana mentions of the 1881 explorations is that columns and tiles were discovered and that the underground sacred spaces of the monument were uncovered<sup>64</sup>.

---

by Giuseppe Lorenzo Formosa to be sold and included in Caruana's report (1882 Guide after vii). These photographs were sold to the public from the photographer's shop in 56 Strada Teatro Valletta, explaining how Mayr (1908: 63) came to know of Galizia's plan of Borġ in-Nadur at a photographer's shop.

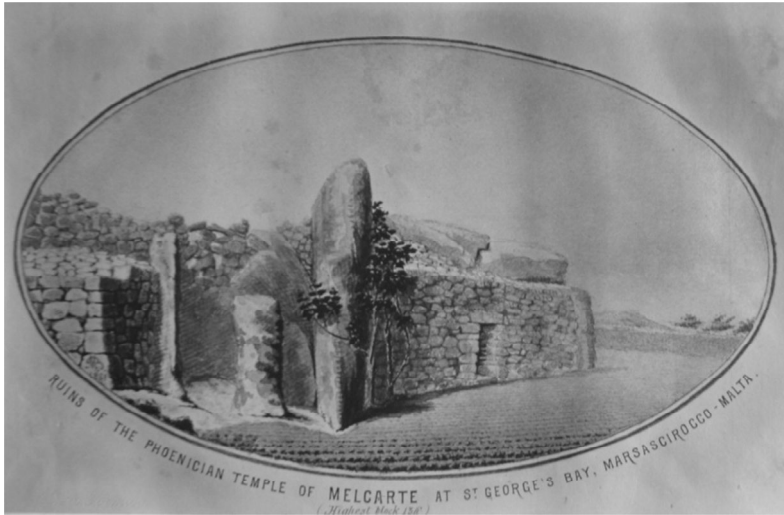
<sup>60</sup> Although possible, Michele Bellanti is unlikely to be the author of this drawing having retired a few years earlier and known to suffer from ill-health at this time (Vella 2010: 128). On the other hand, Busuttill's likely authorship of this drawing emerges from the fact that in 1881 he was an employee of the Public Works Department.

<sup>61</sup> Mayr 1901: 687 fig. 11, 688 fn. 3.

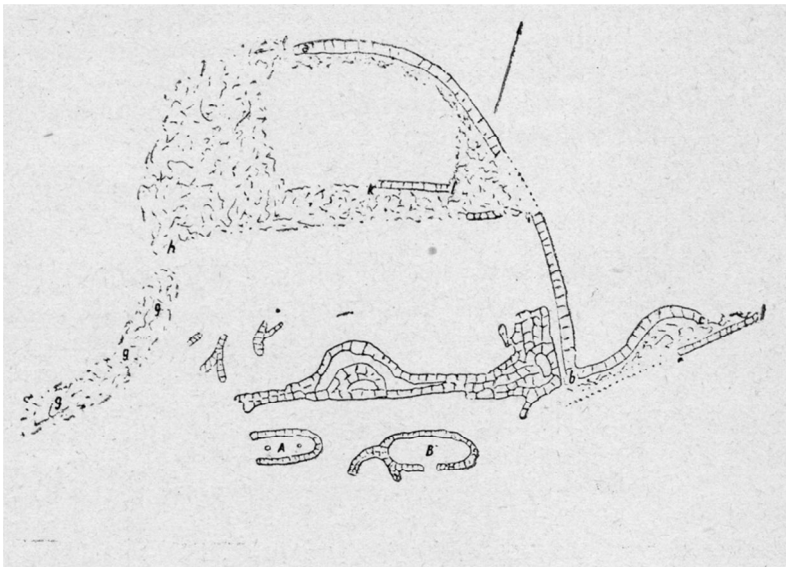
<sup>62</sup> Caruana 1882: 17-19; Caruana 1899: 149-150.

<sup>63</sup> In Italian in the 1899 publication.

<sup>64</sup> Probably referring to the remains at Ta' Kaċċatura, in particular the cistern.



**Figure 2.7.** Late nineteenth-century photograph of a drawing of Borg in-Nadur.



**Figure 2.8.** Mayr's (1901) copy of the plan of Borg in-Nadur by E. L. Galizia.

He also notes that an apse of the Melcarte monument – to be taken to mean the D-shaped wall – was still visible and provides some measurements of the remains. When one considers that Caruana reserves a full separate report on the explorations of the Roman Domus in Rabat<sup>65</sup>, it is surprising that he did not issue a separate report for the ‘Melcarte Monument’ greatly ‘renown[ed] in antiquity.’<sup>66</sup> Equally puzzling for all those who attribute excavations at Borġ in-Nadur in 1881 to Caruana should be the fact that Caruana bases his account for the report submitted to the Colonial Office on a single day’s visit to the site when explorations were drawing to an end<sup>67</sup>. Indeed, these are some of the considerations which lead me to believe that it was the Permanent Archaeological Commission which was responsible for exploration of Borġ in-Nadur and Ta’ Kaċċatura in the early 1880s. Truly Caruana was a member of the Commission but his role appears marginal in the 1881 works, taking a more central role a year later following the impact achieved through the publication of the report on the antiquities of the Maltese islands<sup>68</sup>.

Judging these works summarily, it appears that the nature of the remains at Borġ in-Nadur and late nineteenth-century investigative practices adopted in Malta resulted in few artefacts being discovered at the time. It appears that in the early 1880s the remains of the nearby reservoir at Ta’ Ċapċap proved more attractive. This can be surmised from contemporary accounts<sup>69</sup>, from the decision to limit works to the latter site in 1882<sup>70</sup> and from the fact that land expropriation was only undertaken for the remains near the underground reservoir<sup>71</sup>. Nonetheless, it is clear that attempts were made to preserve the remains of the D-shaped wall. In line with his philosophy for the preservation of antiquities<sup>72</sup>, in September 1882, Caruana proposed the ‘rebuilding of the megalithic wall exteriorly’

---

<sup>65</sup> Caruana 1881.

<sup>66</sup> Caruana 1882: 17.

<sup>67</sup> Caruana 1882: 18.

<sup>68</sup> Referring to Caruana 1882.

<sup>69</sup> Debates of the Council of Government, 17 (6 .v.1881): column 548.

<sup>70</sup> NAM, CSG01-12585/1882.

<sup>71</sup> NAV, Notary F. S. Camilleri R138: 2722-2729 (12.xii.1881).

<sup>72</sup> Referring to the 600-word document transcribed by Grima (this volume), a copy of a document by Caruana.

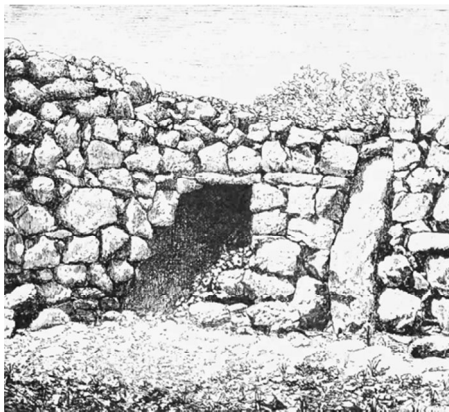


(Fig. 9.5) and the ‘construction of retaining wall ... interiorly’ for what was considered as the remaining apse of the Temple of Melcarte<sup>73</sup>. This remains a landmark event in the preservation of the islands’ archaeological remains, which together with the building of the wall around the reservoir at Ta’ Kaççatura, was ready by February 1883<sup>74</sup>.

## 2.4. The twentieth century

### 2.4.1. *Albert Mayr and the early twentieth century*

No other significant accounts are given in other late nineteenth-century publications about the area of Borġ in-Nadur. In describing Phoenician architecture for a multi-volume World History of Ancient Architecture, the Frenchmen Perrot and Chipiez make reference to the site by repeating what Caruana had said, providing an engraving of part of the remains which is of little use (Fig. 2.9)<sup>75</sup>.



**Figure 2.9.** Illustration of part of Borġ in-Nadur appearing in Perrot and Chipiez (1885: fig. 46).

<sup>73</sup> NAM, CSG01-12585/1882. This is in actual fact the D-shaped part of the Bronze Age wall of Borġ in-Nadur.

<sup>74</sup> NAM, CSG01-12585/1882, correcting Bugeja 2004: 59 fn. 22.

<sup>75</sup> Perrot and Chipiez 1885: 316-317. The engraving is based on one of the photographs of Borġ in-Nadur commissioned by the Society of Archaeology, History and Natural Sciences.

An important contribution, however, was provided by Albert Mayr who visited the islands in 1897-1898<sup>76</sup>. Mayr's work is characterised by an erudite and critical use of available documentation and by a more extensive survey and direct study of the remains. This allowed him to provide further details, give measurements as well as distinguish different areas that make up the site. His conclusions are significant. In the long curved megalithic walling (Site C in Fig. 2.1), rather than the remains of the Temple of Melcarte, Mayr recognised a building with a defensive purpose. He also proposed that 'two small oval enclosures' uncovered in the late nineteenth century were the remains of huts or primitive dwellings. Interesting is his conclusion – still uncontested today – that the plateau of Borġ in-Nadur was a stronghold within which were various buildings, namely huts and sanctuaries<sup>77</sup>. His rejection of the idea that the remains belonged to the Temple of Melcarte, which came in the wake of attributing megalithic remains to prehistory, led Mayr to refer to them under the toponym of the area, namely 'Borj-en-Nadur' by which name the remains would be described during the twentieth century<sup>78</sup>.

#### ***2.4.2. The archaeological reports by Margaret Murray***

An extensive archaeological campaign at Borġ in-Nadur was only carried out in the 1920s by a young Englishwoman, Margaret Murray, who was invited to excavate in Malta by Themistocles Zammit when the two met in London<sup>79</sup>. By this time the practice and organisation of archaeology in Malta had changed radically from that prevalent in the late nineteenth century. The Museum under the curatorship of Zammit had been set up and now it was common practice for local enthusiasts and foreign archaeologists to collaborate in various excavations carried out throughout the islands, contributing their expertise and opinion which slowly but dramatically changed the understanding of antiquities in Malta. The

---

<sup>76</sup> For a general discussion on Mayr's contribution to Maltese archaeology see Stöger 1999.

<sup>77</sup> Mayr 1901: 687-690; Mayr 1908: 61-66.

<sup>78</sup> The toponym was already used by Perrot and Chipiez 1885: 316.

<sup>79</sup> Vella and Gilkes 2001: 359.

knowledge gained during this period was such that a number of publications were issued to describe the individual sites<sup>80</sup> and also to provide overviews of specific historical periods<sup>81</sup>. The publication by Thomas Ashby on Roman Malta<sup>82</sup> is of particular importance for the present study because it established a Roman date for the remains at Ta' Kaċċatura, distinguishing them from Borġ in-Nadur, clearly prehistoric. For centuries considered as parts of a single 'temple', Ta' Kaċċatura was now recognised as the site of a Roman villa equipped with underground water cistern, an opinion which prevails today.

Murray's work at Borġ in-Nadur formed part of a larger enterprise, comprising several sites in southern Malta and an all-female team which included Gertrude Caton Thompson, Dorothea M. A. Bate and K. A. Burke<sup>83</sup>. Caton Thompson worked at Ghar Dalam, a site made famous by the discovery a few years earlier of a tooth believed to belong to *Homo neanderthalensis*<sup>84</sup>. The destruction of an ancient site at Tal-Bakkari on the outskirts of Żurrieq resulted in works at this locality<sup>85</sup> while threat from development led to emergency excavations at Santa Sfia<sup>86</sup>. Borġ in-Nadur, however, took the lion's share of Murray's work in Malta<sup>87</sup>. A trench dug on 20<sup>th</sup> August 1921 revealed several Neolithic and Bronze Age sherds and when further works were done three days later and walls were uncovered, a proposal to clean and survey the area was already being contemplated by Zammit<sup>88</sup>.

In the early twentieth century, beyond interest in architectural details and prestigious finds, equal attention was given by archaeologists to all the items recovered during the excavations, no matter how fragmentary. Murray classified her finds according to type namely spindle whorls, flint, bronze objects, bones, and stone

---

<sup>80</sup> Zammit 1918; Zammit 1926.

<sup>81</sup> Bellanti 1913; Bellanti 1924.

<sup>82</sup> Ashby 1915: 23-80.

<sup>83</sup> The volumes represent an early and landmark contribution by female scholars in the study of Maltese Archaeology

<sup>84</sup> Murray 1923: 6-13; Murray 1925: 1-18.

<sup>85</sup> MAR 1921: II; Murray 1923: 16-20.

<sup>86</sup> Murray 1923: 14.

<sup>87</sup> Murray 1923: 21-32; Murray 1925: 19-27; Murray 1929: 1-8.

<sup>88</sup> Zammit, T. 1921-1924, ff. 4-5.

objects, the latter further subdivided according to shape. A stratigraphic approach was used in which the sequence, nature, contents, and thickness of the deposits were recorded and described by area. The three reports published by the London-based Quartich include scientific reports on vertebrates<sup>89</sup>, soil analysis<sup>90</sup>, as well as a chemical and microscopical analysis of deposits from the excavations<sup>91</sup>. All the volumes related to the work were generously accompanied by photographs and sketches. Dating the remains and finds was also on the agenda. No date or purpose could be proposed for the semicircular megalithic wall (Site G in Fig. 2.1)<sup>92</sup>. In contrast, the temple at Borġ in-Nadur was included among the other megalithic temples and by comparing the architectural forms considered to be of the most primitive architectural set-up<sup>93</sup>.

Murray subdivided her pottery into two chronological periods – Stone Age and Bronze Age<sup>94</sup>. Special attention was given by Murray to the Bronze Age pottery, less well published than the Neolithic group, dedicating an entire volume in the series to a corpus which included the Bronze Age pottery from other sites in Malta<sup>95</sup>.

When compared to the pre-twentieth century accounts, a radical change in the approach to the study of the site is perceived. Rather than consult the classical sources and debate works by previous authors to throw light on the antiquities under study, these antiquities were being excavated to uncover remains and artefacts that were indispensable for throwing light on the remotest past of the islands.

---

<sup>89</sup> Murray 1923: 12-13.

<sup>90</sup> Murray 1923: 46.

<sup>91</sup> Murray 1929: 31-36.

<sup>92</sup> Murray 1929: 20.

<sup>93</sup> Murray 1929: 22-24.

<sup>94</sup> Zammit 1916: 135.

<sup>95</sup> In this monograph, a report on the excavation of a Phoenician tomb was included to indicate the distinction between the pottery of the Bronze Age and the subsequent Phoenician period (Zammit 1934: 5-6). This was also done, it seems, to give publication space to a young Charles Zammit, Themistocles' son, at the beginning of his archaeological career.

### ***2.4.3. Excavations by David Trump***

Generally, in the years following the excavations at Borg in-Nadur the classification of prehistoric pottery according to colour, type, and decoration continued but little progress was registered in the dating of prehistory<sup>96</sup>. Ugolini's work stands out by providing a valid contribution through comparative work and study of stratigraphic sequences in the 1930s<sup>97</sup>. Further developments were achieved two decades later when Evans was invited to compile an inventory of all the prehistoric material stored at the Museum<sup>98</sup>. By attempting to build a pottery sequence (according to typology and with the help of tomb-groups and few stratigraphic sequences available) as well as through comparison with the Sicilian culture sequence, a year later Evans was able to come up with a culture-sequence for the prehistory of the Maltese Islands<sup>99</sup>. The full-scale excavations conducted at Skorba and sondages made at a number of megalithic temple sites by David Trump, curator of archeology, the sequence proposed by Evans for the Neolithic period was confirmed and enlarged but for the Bronze Age results from excavation at other sites was needed<sup>100</sup>.

Trenches dug at Bahrija and Borg in-Nadur by Trump proved useful for this purpose. At the latter site six exploratory trenches were dug, of which one was further extended to reveal two huts (Site D in Fig. 2.1) and seven different phases.

From the report published by Trump it emerges that finds similar to those deemed insignificant in the 1880s were now crucial to support the view that Borg in-Nadur was a Bronze Age settlement. The D-shaped wall was dated and assigned to the Middle Bronze Age following the discovery of pottery of standard Borg in-Nadur style in its interstices<sup>101</sup>.

---

<sup>96</sup> Zammit 1929: 21-25.

<sup>97</sup> Ugolini 1934: 95-100, 159-161, 212-215.

<sup>98</sup> For a background to this initiative see Evans 1971: 4-5; Bugeja 2006: 35-37.

<sup>99</sup> Evans 1953.

<sup>100</sup> Trump 1966: 20-44.

<sup>101</sup> Trump 1961: 260.



**Figure 2.10.** Photograph of Trump's Hut 2 at Borġ in-Nadur (source: private collection).

Like Murray, Trump employed a stratigraphic approach and in his report provides a descriptive sequence of different layers whilst noticing the type of pottery contained in each layer. This not only provided a culture-sequence for the different levels present on site but was also instrumental to determine the Maltese prehistoric pottery culture-sequence. In contrast to earlier views, particularly those of Quintinus and Vassallo, it was recognised that Borġ in-Nadur was not part of a larger complex in the area but was one of a series of Bronze Age settlements scattered across the islands. With the best preserved defensive wall and with huts (Fig. 2.10) recorded so well by Trump it comes as no surprise that Borġ in-Nadur soon became the type-site for this culture.



**Figure 2.11.** Excavations at Borg in-Nadur in the 1920s by monitored workmen (top) (source: Murray 1925: pl. 13) and in the 1950s with archaeologist David Trump (bottom centre) excavating (source: private collection).

Undoubtedly part of the success registered at Borg in-Nadur followed the developments in the understanding of Maltese prehistory and excavation methodology. Further achievements were made through a major development in work practices during excavations. It has already been noted how in the late nineteenth century work on site was often left to workmen, who uncovered the remains to be later documented by knowledgeable antiquarians<sup>102</sup>. No major difference appears to have been registered in the

---

<sup>102</sup> NAM, CSG01-12585/1882.

excavations of the 1920s (Fig. 2.11 top)<sup>103</sup> when only a handful of workmen had experience because they had participated in previous excavations<sup>104</sup>. This picture contrasts with that prevalent in the 1950s where together with the experienced workmen<sup>105</sup> one finds the archaeologist and trained individuals on site daily, not only monitoring but also actually excavating and documenting the remains (Fig. 2.11 bottom). The outcome was that a more detailed documentation of finds was possible as well as achieving significant results with a more conservative uncovering of the remains.

## Abbreviations

NAM	National Archives of Malta
NAV	Notarial Archives, Valletta
NLM	National Library of Malta
NMA	National Museum of Archaeology, Valletta

## References

- Abela, G. F. [1647] *Della Descrittione di Malta, Isola nel Mare Siciliano*. Paolo Bonacota, Malta.
- Adams, A. L. [1866] *Society of Archaeology, History and Natural Sciences Malta*. Inaugural ceremony held at the Public Library, on Monday, the 8<sup>th</sup> January 1866, under the presidency of his honor major-general Ridley, &c.. British Press, Malta.
- Adams, A. L. [1870] *Notes of a naturalist in the Nile Valley and Malta*. Edmonston and Douglas, Edinburgh.
- Ashby, T. [1915] "Roman Malta", in *Journal of Roman Studies* 5: 23-80.
- Attard Tabone, J. [1999] "The Gozo Circle rediscovered," in A. Mifsud and C. Savona Ventura (eds) *Facets of Maltese Prehistory*, pp. 169-81. The Prehistoric Society of Malta, Malta.
- Bellanti, P. F. [1913] *Malta Kadima*. Stamperia G. Muscat, Malta.

---

<sup>103</sup> Repeated requests to use a motor car by Themistocles Zammit to visit Borg in-Nadur suggest that he was not on site every day. See NMA, Reference Book A: 230, 238, 242.

<sup>104</sup> Murray 1923: 1.

<sup>105</sup> The person in the background in Fig. 2.12 bottom is 'Toni l-Baħar' who had already participated in excavations at other archaeological sites.



- Bellanti, P. F. [1924] *Studies in Maltese History*. Empire Press, Malta.
- Boisgelin, L. [1804] *Ancient and Modern Malta: containing a full and accurate account of the present state of the islands of Malta and Gozo*, 2 vols. Richard Phillips, London.
- Bonanno, A. [1982] "Quintinus and the location of the Temple of Hercules at Marsaxlokk", in *Melita Historica* 8/3: 190-204.
- Bonanno, A. [2009] "L'acqua nella cultura dei temple megalitici di Malta", in *Mare internum: archeologia e culture del Mediterraneo* 1: 25-31.
- Bres, O. [1816] *Malta Antica illustrata co' Monumenti, e coll'istoria*, Rome. Facsimile edition of 1985 published by Midsea Books, Malta.
- Bugeja, A. [2004] "Ancient mosaic pavement discovered at Notabile: a historical appreciation", in *Melita Historica* 14/1: 62-66.
- Bugeja, A. [2006] "Dr J. G. Baldacchino and his archaeological bequest to St George's parish church, Qormi (Malta)," in C. Sagona, I. Vella Gregory and A. Bugeja, *Punic Antiquities of Malta and other ancient Artefacts held in Ecclesiastical and Private Collections*, 2 (Ancient Near Eastern Studies Supplement 18), pp. 23-45. Peeters, Leuven.
- Bugeja, A. [forthcoming]. "Land ownership and transfer at Tas-Silġ and environs," in A. Bonanno and N. C. Vella (eds), *Excavations at Tas-Silġ, Malta, conducted by the Department of Classics and Archaeology, University of Malta (1996-2005)* (Ancient Near Eastern Studies Supplement). Peeters, Leuven.
- Caruana, A. A. [1881] *Recent discoveries at Notabile: a memoir*. Government Printing Office, Malta.
- Caruana, A. A. [1882] *Report on the Phoenician and Roman Antiquities in the group of the Islands of Malta*. Government Printing Office, Malta.
- Caruana, A. A. [1899] *Frammento critico della storia fenicio-cartaginese, greco-romana e bisantina, musulmana e normanno-aragonese delle isole di Malta*. Giovanni Muscat, Malta.
- Ciantar, G. A. [1772] *Malta illustrata, ovvero descrizione di Malta, isola del mare siciliano e adriatico, con le sue antichità*, 2 vols. Stamperia del Palazzo di S.A.S., Malta.
- Evans, J. D. [1953] "The prehistoric culture sequence in the Maltese archipelago", in *Proceedings of the Prehistoric Society* 19: 41-94.
- Evans, J. D. [1971] *The Prehistoric Antiquities of the Maltese Islands: A Survey*. Athlone Press, London.
- Fazello, T. [1558] *De Rebus Siculis Decades Duae*. Palermo.
- Furse, P. [1869] "On the Prehistoric Monuments in the islands of Malta and Gozo," in *Transactions of the International Congress of Prehistoric Archaeology Third Session 1868*, pp. 407-416. Longmans, Green & Co, London.

- Grima, R. [2004a] “The landscape context of megalithic architecture,” in D. Cilia (ed.) *Malta before History*, pp. 327-345. Miranda, Malta.
- Grima, R. [2004b]. *The Archaeological Drawings of Charles Frederick De Brocktorff*. Midsea Books and Heritage Malta, Malta.
- Houel, J. [1787] *Voyage pittoresque des Isles de Sicile, de Lipari et de Malte*. Tome IV. Paris.
- Lacroix, F. 1842. *Malte et le Gozo, in L’Univers ou histoire et description de tous les peuples*. Firmin Didot, Paris.
- MacGill, T. [1839] *A Hand Book, or Guide, for strangers visiting Malta*. Luigi Tonna, Malta.
- MAR [1921] *Annual Report on the Working of the Museum Department during 1920-1921*. Government Printing Office, Malta.
- MAR [1937] *Annual Report on the Working of the Museum Department during 1936-1937*. Government Printing Office, Malta.
- MAR [1938] *Annual Report on the working of the Museum Department during 1937-1938*. Government Printing Office, Malta.
- Mayr, A. [1901] “Die vorgeschichtlichen Denkmäler von Malta”, in *Abhandlungen der Königlich Bayerischen Akademie der Wissenschaften* 21: 645-721.
- Mayr, A. [1908] *The Prehistoric Remains of Malta*. Printed for private circulation, Malta.
- Murray, M. [1923] *Excavations in Malta: Part I*. Bernard Quartich, London.
- Murray, M. [1925] *Excavations in Malta, with a chapter by G. Caton Thompson: Part II*. Bernard Quartich, London.
- Murray, M. [1929] *Excavations in Malta, with chapter by C. Ainsworth Mitchell, M.A., F.I.C., and Thomas J. War: Part III*. Bernard Quartich, London.
- Murray, M. [1934] *Corpus of Bronze-Age Pottery of Malta, with chapters by Horace Beck and Charles Zammit*. Bernard Quartich, London.
- Periccioli Borzesi, G. [1830] *The Historical Guide to the Island of Malta and its Dependencies*. Government Press, Malta.
- Perrot, G. and Chipiez, C. [1885] *History of Art in Phoenicia and its Dependencies*, vol. 1. Chapman and Hall Ltd, London.
- Quintin d’Autun, J. [1536] *Insulae Melitae descriptio ex commentariis rerum quotidianarum*. Re-edited, translated and notes in Vella, H.C.R. [1980] *The Earliest Description of Malta*. Interprint Limited, Malta.
- Stöger, J. [1999] *Albert Mayr 1868-1924, a legacy of pioneer work*. Unpublished Long Essay, Department of Classics and Archaeology, University of Malta.
- Tallack, W. [1861] *Malta under the Phenicians, Knights and English*. Houlston and Wright, London.
- Thevet, Á. [1575] *Cosmographie Universelle*. Guillaume Chaudiere, Paris.

- Trump, D. H. [1961] "The later prehistory of Malta", in *Proceedings of the Prehistoric Society* 27: 253-262.
- Trump, D. H. [1966] *Skorba: Excavations carried out on behalf of the National Museum of Archaeology 1961-1963*. Society of Antiquaries, London.
- Ugolini, L. M. [1934] *Origini della civiltà mediterranea*. Libreria dello Stato, Roma.
- Vassallo, C. [1851] *Dei monumenti antichi del gruppo di Malta cenni storici*. Government Press, Malta.
- Vella, N. C. [2002] "The lie of the land: Ptolemy's temple of Hercules in Malta", in *Ancient Near Eastern Studies* 38: 53-82.
- Vella, N.C. and Gilkes, O. [2001] "The lure of the antique: nationalism, politics and archaeology in British Malta (1880-1964)", in *Papers of the British School at Rome* 69: 353-384.
- Vella, T. [2010] "Michele Bellanti: A life in art," in W. Zammit (ed.) *The Bellanti Family: Contributions to Art and Culture in Malta*, pp. 105-136. Fondazzjoni Patrimonju Malti, Malta.
- Wettinger, G. [2000] *Place-names of the Maltese Islands ca. 1300-1800*. P.E.G. Ltd, Malta.
- Zammit, C. G. [1934] "A rock-tomb at Ghain Tiffieha," in M. Murray, *Corpus of Bronze-Age Pottery of Malta, with chapters by Horace Beck and Charles Zammit*. Bernard Quartich, London.
- Zammit, T. [1916] "The Hal-Tarxien Neolithic Temple, Malta", in *Archaeologia* 67: 127-144.
- Zammit, T. [1918] *The Roman Villa Museum at Rabat, Malta*, 2<sup>nd</sup> edition. Government Printing Office, Malta.
- Zammit, T. [1921-1924] *Archaeological Field-Notes Note-book No. 6 (1921-1924)*. Unpublished manuscript preserved at the National Museum of Archaeology, Valletta.
- Zammit, T. [1926] *The St. Paul's catacombs and other rock-cut tombs in Malta*, 2<sup>nd</sup> edition. Government Printing Office, Malta.
- Zammit, T. [1929] "Ta' Hajrat megalithic ruins at Mjar, Malta", in *Bulletin of the Valletta Museum* 1/1: 5-25.

**Anton Bugeja**, a family doctor by profession, has a keen interest in Maltese antiquities and has been active as an amateur archaeologist for years. His current areas of research concern the use of historical and archival records to throw light on Maltese archaeological sites, the contribution made by amateurs to Maltese archaeology, and the development of antiquarianism and archaeology in nineteenth-century Malta.

### **3. Borġ in-Nadur: the excavations of Margaret A. Murray and David H. Trump**

Nicholas C. Vella – Department of Classics and Archaeology,  
University of Malta, Malta  
nicholas.vella@um.edu.mt

MariaElena Zammit – Prehistoric Sites Department,  
Heritage Malta, Malta  
maria-elena.zammit@gov.mt

Anton Bugeja – Independent researcher, Malta.  
antonbugeja@hotmail.com

**Abstract.** Two major excavation campaigns took place at the site of Borġ in-Nadur in the twentieth century, one by Margaret Murray and another by David Trump. This paper highlights the discoveries and interpretations put forth by archaeologists. Archival material is used to throw light on the published stratigraphic sequence from the Bronze Age huts at the site<sup>1</sup>.

**Keywords:** Margaret Murray, David Trump, Borġ in-Nadur, archives, stratigraphy, chronology.

#### **3.1. Introduction**

Like many archaeological sites in Malta and Gozo, Borġ in-Nadur was caught in that great flurry of antiquarian activity which was to

---

<sup>1</sup> We are grateful to Maxine Anastasi for preparing for publication the illustrations appearing here and for discussing with us the appraisal of the stratigraphy.



**Figure 3.1.** Slabs of limestone discovered at Borg in-Nadur in 1955 (source: National Museum of Archaeology, Heritage Malta).

take the islands by storm in the course of the seventeenth and eighteenth centuries. No description of the islands could be had without reference to the Temple of Melkarte (Phoenician Melqart) which allegedly stood there. By the time that the idea of prehistory for Malta was accepted by scholars at the very beginning of the twentieth century, the megalithic ruins at Borg in-Nadur were recognised for what they were and the association with the classical temple largely forgotten<sup>2</sup>. Two major archaeological investigations took place at the prehistoric remains of Borg in-Nadur, the first by Margaret Murray in the area of the megalithic remains and the second by David Trump in the area immediately behind the large fortification wall. Two other discoveries of note were also made over the years. The first concerns the retrieval of two slabs of Globigerina Limestone found in May 1955 whilst digging a trench for the laying of pipes in a field to the north of the megalithic remains<sup>3</sup> (Fig. 3.1). Unfortunately, the exact location of this find is

---

<sup>2</sup> See Bugeja, this volume.

<sup>3</sup> MAR 1956: 7.



**Figure 3.2.** The large wall (arrowed) discovered inside an agricultural terrace at Borġ in-Nadur in 1998. A thick ash layer (marked with an asterisk) was also revealed lying over bedrock (source: National Museum of Archaeology/Heritage Malta).

not known; neither do we know whether the stones were removed from the trench and transferred to a store or museum for safe-keeping. The second discovery concerns ‘a massive masonry structure’ found during illegal construction works on the south edge of the hilltop<sup>4</sup> (Figs 1.3, 3.2). Emergency excavations carried out in 1998 by personnel from the former Museums Department showed that the structure dated to the Borġ in-Nadur phase and that the wall, especially the D-shaped bastion, once thought to close off the promontory on the landward side was in fact part of a more extensive fortification system that encircled the entire hilltop. Three unrecorded rock-cut silo pits have also been noted within the perimeter of the wall<sup>5</sup> (Fig. 1.3).

---

<sup>4</sup> Buhagiar 2000: 45; a photograph is included in this brief report.

<sup>5</sup> Magro Conti 1999: 202. Here Magro Conti specifies that behind the wall the Borġ in-Nadur phase deposit lay over a 1 m-thick ash layer of Tarxien Cemetery phase date. The correct co-ordinates of the wall are 57575E/65505N; those of the silo pits are 57460E/65575N; pers. comm. J. Magro Conti, 3 June 2011.

### 3.2. Margaret Murray at Borġ in-Nadur (1921-1927)

The need to investigate the ruins at Borġ in-Nadur properly was probably a conscious choice on the part of Themistocles Zammit who, starting from the first decade of the twentieth century, was spearheading a programme of archaeological excavations on a number of minor megalithic sites, often depending on local and foreign investigators for the day-to-day work on site, study and eventual publication. His choice for Borġ in-Nadur fell on the young Margaret Murray, an assistant professor of Egyptology at the University of London. He met her there in 1920 when he was entertained by the great Egyptologist William Flinders Petrie<sup>6</sup>. In actual fact, Murray's initial excavations were at two minor sites 'which were urgently required for the new aerodrome'<sup>7</sup>, and it was only after complaining with Zammit 'at being given only the least interesting sites to excavate'<sup>8</sup> did she receive a concession to explore the megalithic site of Borġ in-Nadur.

It is clear that Murray had wished to extend the excavations but it would appear that adjoining fields were not bought by the Government to turn the site into 'a national monument'<sup>9</sup>. This caused difficulties in disposing of the spoil from the excavations which was left in enormous piles on the edges. In all, Murray spent five summers in Malta, four of which digging and the last in the Valletta Museum compiling the seminal corpus of Bronze Age pottery<sup>10</sup>. Publication was aided by the Percy Sladen Memorial Fund of Britain.

Murray's investigations revealed the following remains (Fig. 3.4): an Apsidal Building, an Open Area or Main Enclosure, a Double Chapel, and the Field Stones. She worked to the standards of her time, described the excavations in each area thoroughly in her report, describing and recording (through drawing or photography) any stratification whenever possible<sup>11</sup>, noting the findspots of

---

<sup>6</sup> Zammit 1920.

<sup>7</sup> Murray 1963: 129.

<sup>8</sup> Murray 1963: 130.

<sup>9</sup> Murray 1929: 4.

<sup>10</sup> Murray 1934.

<sup>11</sup> Drawn sections appear in Murray 1923: pl. 7; Murray 1925: pl. 15; Murray 1929: pl. 20.





**Figure 3.3.** The Entrance through the Megalithic Enclosure cleared down to bedrock (source: National Museum of Archaeology/Heritage Malta).

objects<sup>12</sup>, and offering interpretations often on the basis of discussions with Zammit<sup>13</sup>. She often had to go back on conclusions made in a preliminary fashion after the pottery had been studied, noticing that what was thought to be an undisturbed layer was in fact not so<sup>14</sup>. Evans made a detailed appraisal of the site following his study visit in 1958 during which he did not fail to remark that many features noted by Murray were by his time buried under debris<sup>15</sup>. Without access to additional fieldnotes, Evans' assessment remains largely valid<sup>16</sup>.

---

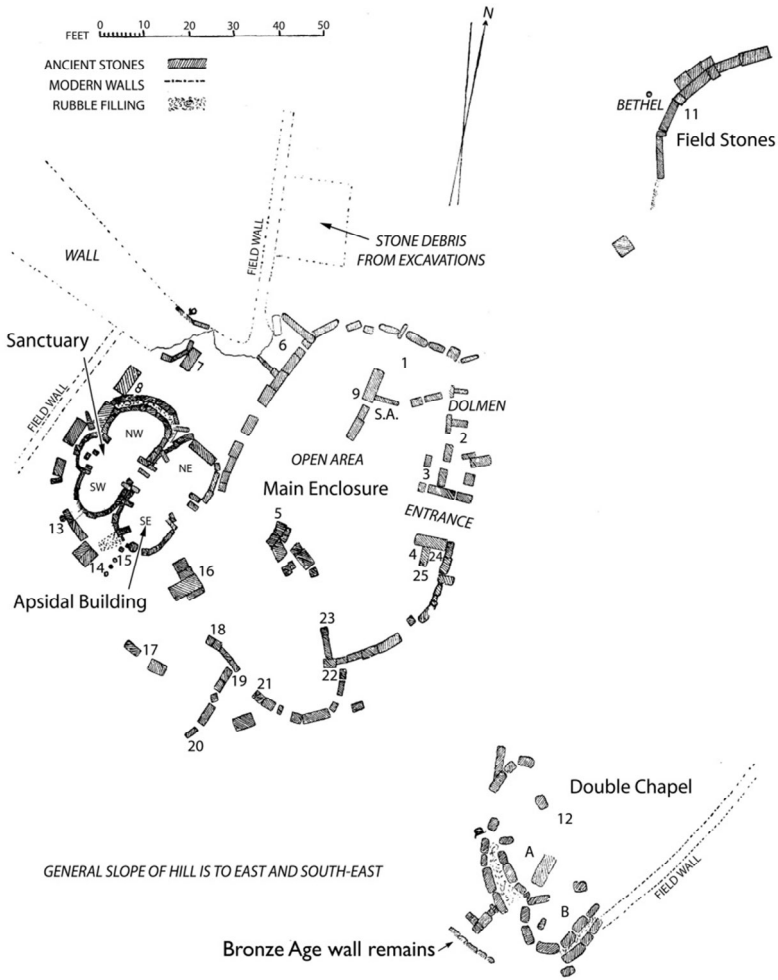
<sup>12</sup> This was done in the textual description but also as annotations accompanying drawn objects, including lithics and pottery; see the catalogue by C. Vella included in the accompanying DVD for those lithics which could be identified to findspot, and Tanasi, this volume on the pottery (chapter 4). See also the comments made in a review by Zammit 1924: 143.

<sup>13</sup> Murray 1923: 25.

<sup>14</sup> Murray 1923: 31.

<sup>15</sup> Evans 1971: 6-14; see p. 12.

<sup>16</sup> Pace 2004: 105-107.



**Figure 3.4.** The final plan of the archaeological remains at Borg in-Nadur published by Murray (1929: pl. 1). The annotations have been re-written for the sake of clarity and other labels given by Murray to features have been added (digitised by Maxine Anastasi).



**Figure 3.5.** The north-east apse of the Apsidal Building cleared from the archaeological deposit; the photograph shows the level of the field soil (source: National Museum of Archaeology/Heritage Malta).

The Apsidal Building is a four-apsed temple with a shallow niche at the end (Fig. 3.5). The walls were generally low but otherwise well preserved; the external north walls were only traced beyond the north-west apse. The floor was made of the usual hard *torba* (pounded, wetted limestone powder mixed with flakes) placed on a preparatory layer of angular pebbles, except in the end niche or ‘sanctuary’ where the floor was the rock surface. In it a conical hole with an oval mouth was found containing two lithic implements, identified by C. Vella elsewhere in this volume as a chert knife and an all-round flint scraper, the first found below the second<sup>17</sup>. In the south-west apse, *torba* and pebbles reached a thickness of about 30 cm. All the *torba* was removed by excavation to reveal the natural rock surface throughout except along the axis where a threshold slab was discovered between the two sets of apses<sup>18</sup>. Objects of note above the floor included a limestone mortar found surrounded with pots that had been crushed in situ and a ‘column’ in the south-east apse and a ‘betyl’ in the north-west

---

<sup>17</sup> Murray 1923: 22; 1925: 21. The pieces were catalogued by Murray 1923: pl. 17, no. 30 and pl. 21 ‘flint implement’ (= lithic no. 3 and lithic no. 1 respectively in C. Vella’s chapter and catalogue).

<sup>18</sup> Murray 1925: 21.

apse<sup>19</sup>; in the south-west apse traces of fire had left a circular impression on the *torba* floor, measuring about 1.5 m in diameter<sup>20</sup>. Below the floor, on the other hand, Murray reports the discovery of flint implements and Neolithic pottery in the north-east apse, nothing under the north-east apse, and fragments of Neolithic pottery in the south-east apse; along the axis, she found shells, flint flakes and Neolithic pottery. Murray accepted Zammit's interpretation of the building as a 'temple'<sup>21</sup> and pointed out that the three stones or pillars found standing on the rock floor in the end niche were 'emblems' in which the deity 'resides'<sup>22</sup>. About such pillars Murray presented a typology in her third report, noting that the crudest, like the ones from her 'sanctuary' often marked 'the most holy place'<sup>23</sup>.

The Open Area or Main Enclosure lies outside the temple and a good part of the megalithic wall was uncovered by excavation<sup>24</sup>. Murray identified an Entrance on the east side (Fig. 3.3) but what she defined as a Dolmen is probably a closed niche, as suggested by Evans<sup>25</sup>. Nothing much can be said about the 'Field Stones', that line of stones curving to the east, northwards of the enclosure; Murray still thought they were 'unexplained' in her last report<sup>26</sup>. They were already buried under a field in 1958, if not wholly destroyed, together with the standing stone which Zammit thought was a 'Bethel-stone'<sup>27</sup> found outside it and marked on the plan. The other outlying building found by Murray to the south of the remains and dubbed by her as the 'Double Chapel'<sup>28</sup> for no clear reason is now practically buried by soil from the surrounding fields and overgrowth. Here the prevailing pottery discovered by Murray was of Bronze Age date but the lowermost layer found on bedrock contained Neolithic pottery, confirming the sequence established by

---

<sup>19</sup> Murray 1923: 22.

<sup>20</sup> Murray 1925: 22.

<sup>21</sup> Murray 1923: 24-25.

<sup>22</sup> Murray 1923: 25.

<sup>23</sup> Murray 1929: 25-28.

<sup>24</sup> Murray 1923: 26-27; 1925: 24-27.

<sup>25</sup> Evans 1971: 8.

<sup>26</sup> Murray 1929: 4.

<sup>27</sup> Murray 1923: 32.

<sup>28</sup> Murray 1929: 4-8.

Zammit at Tarxien<sup>29</sup>. From here came a stone ‘idol’ and a stone mould<sup>30</sup>; the ‘painted sherd’ identified as Mycenaean by Lord William Taylour in 1958<sup>31</sup>, was found outside the Double Chapel to the west beyond a wall identified by Murray as Bronze Age in date<sup>32</sup>.

To what extent the structural remains discovered by Murray at Borġ in-Nadur can be dated back to the Temple period is difficult to determine, even because the sequence of floors in different areas makes it altogether clear that the buildings had a long history of use. The Apsidal Building can be safely identified as a ‘temple’ on the basis of the similarities in ground plan with other sites; even reviewers did not query this at the time of publication<sup>33</sup>. But it is possible that the activities for which remains were found above the *torba* floors date to the Bronze Age, and that mortars, ‘betyls’ and ‘standing stones’ belong to this period; going by the small quantity of Tarxien Cemetery phase pottery recovered from the site, in fact, most activity would seem to belong to the Middle Bronze Age<sup>34</sup>. The megalithic set-up of the Open Area, then, could have defined the temple forecourt already in the Temple period, as Murray thought<sup>35</sup>, although alterations taking place in successive periods cannot be excluded. The arrangement is not dissimilar, in fact, to what artists recorded beneath the temple complex at Ġgantija, Gozo, in the nineteenth century: there, a trilithic structure may have acted as a monumental entrance to the temple complex built above an artificial plaza defined by a megalithic retaining wall<sup>36</sup>.

---

<sup>29</sup> Murray 1929: 7; Tanasi 2008: 15-16 and fig. 6.

<sup>30</sup> See Veca, this volume.

<sup>31</sup> Murray 1929: 8, pl. 20.1; Taylour 1959: 80.

<sup>32</sup> Murray 1929: 8.

<sup>33</sup> Zammit 1924; Childe 1929. Schuchhardt (1928) remained adamant that the ‘temples’ were in fact houses.

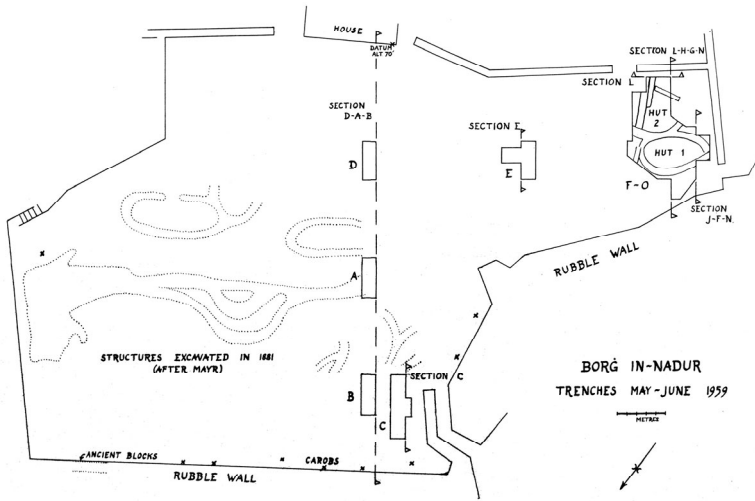
<sup>34</sup> See Tanasi, this volume (chapter 4).

<sup>35</sup> Murray 1929: 22.

<sup>36</sup> Evans 1971: 180-181; Grima 2004: 44-46. The regularity and evolution of temple forms perhaps requires revision on account of the differences apparent at several sites.

### 3.3. David H. Trump at Borg in-Nadur (1959)

The excavations conducted by David Trump in 1959 at the site of Borg in-Nadur were carried out with the intent of throwing light on the periodisation scheme of late prehistoric Malta, in particular the Middle and Late Bronze Ages (periods II B and II C in the chronological scheme devised by John D. Evans)<sup>37</sup>. The type site for period II B was Borg in-Nadur established on account of the pottery with characteristic shiny red slip with a tendency to crackle and flake off, unearthed by Murray in the temple area, which bore resemblance to some pottery Evans had seen in Sicily<sup>38</sup>.



**Figure 3.6.** Site plan with the location of the trenches at Borg in-Nadur (source: National Museum of Archaeology/Heritage Malta archives).

The excavations were split into two campaigns, one of five weeks (11 May to 17 June) and a shorter one of one week in September of the same year. Work was intended to explore the remains that the Permanent Archaeological Commission had investigated behind

<sup>37</sup> Evans 1953: 69-76.

<sup>38</sup> Evans 1953: 88-90.



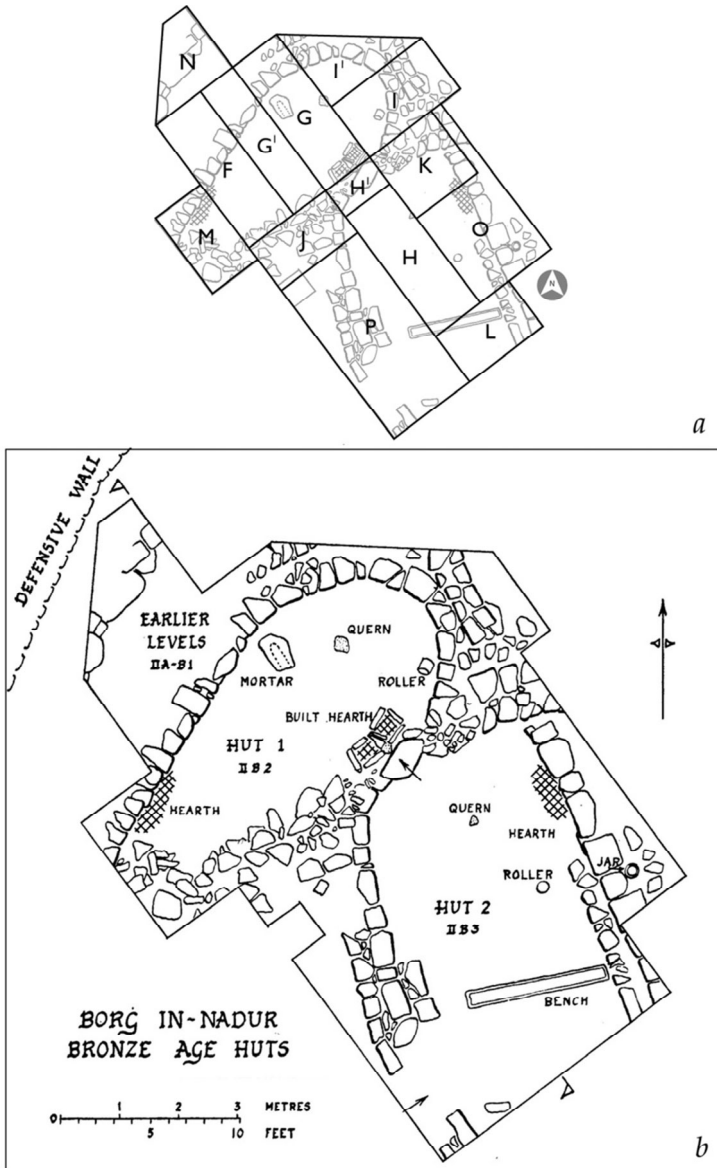
**Figure 3.7.** Elevated view of Hut 1 (left) and Hut 2 (right) after excavation (source: National Museum of Archaeology/Heritage Malta).

the D-shaped wall, recorded by Galizia in August 1881 and known through a photograph appended to a copy of Caruana's report (Fig. 9.4)<sup>39</sup>, but a crop of barley forced Trump to site the trenches in the western half of the same field (Fig. 3.6). Five linear sondages – A to E – were dug, each measuring 4 by 1.5 m; the sixth trench, F, located not far from the rubble boundary wall at the extreme west corner of the field, revealed a stone wall below topsoil. As a result of this discovery, Trump extended trench F to cover an area of 72 sq. m to expose remains which he identified as two contiguous oval huts, Hut 1 and Hut 2 (Figs 3.7, 3.8).

The digging was conducted by two museum labourers and a number of English volunteers who worked under the direction of Trump who was on site every day. A report was submitted for

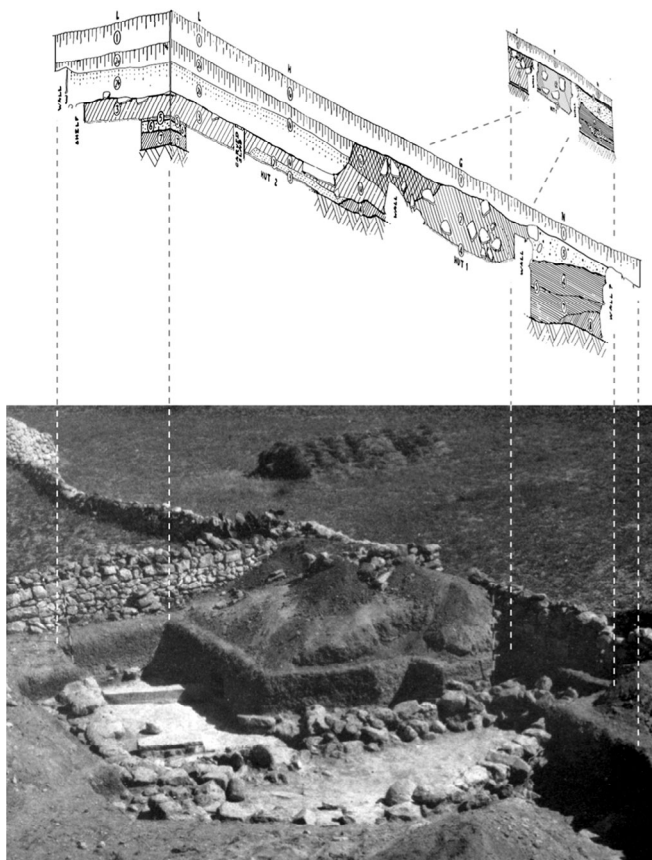
---

<sup>39</sup> See Grima, this volume. Mayr had seen a 'sketch plan' ('planskizze'; Mayr 1901: 688 fn. 3) not a photograph on the basis of which he produced his own drawing (Fig. 2.8). Thanks to Hanna Stöger for checking our reading of the German original.



**Figure 3.8.** (a) Reconstruction of the position of the trenches excavated by Trump in the area of the huts (drawn by Maxine Anastasi); (b) plan of the Bronze Age huts (after Trump 1961: fig. 2).

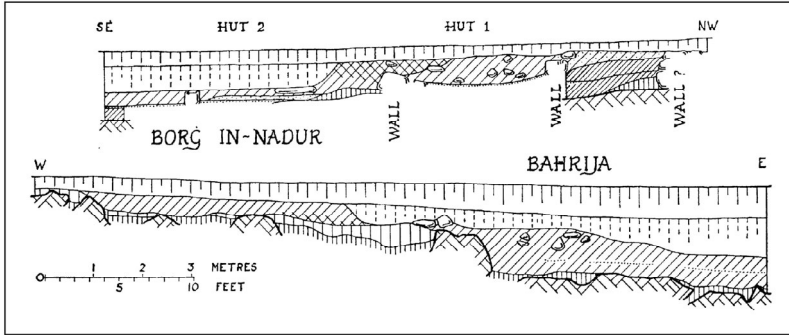




**Figure 3.9.** Position of the unpublished section drawing (shown in Fig. 3.13a) through the huts. The photograph was published by Trump (1961: pl. 13, lower).

publication in the journal of Britain's Prehistoric Society; it appeared in 1961. This included a description and study of the stratification to which were appended a plan (Fig. 3.8b), a section (Fig. 3.10 top) and a number of photographs of the site and finds<sup>40</sup>.

<sup>40</sup> Trump 1961: figs 1 (site location map), 2 (plan of the huts), 3 (section of the trench), pls 12 (photograph of the huts seen from the top of the defensive wall) and 14-15 (photograph of the pottery from each phase: II B1, II B2, II B3).



**Figure 3.10.** Section drawings published by Trump in the report which appeared in the *Proceedings of the Prehistoric Society* (after Trump 1961: fig. 3).

Another report which was published in the museum's annual report provides a history of the site based on the sequence encountered together with a location map showing the trenches, a plan and section drawings<sup>41</sup>.

Trump distinguished seven phases in the trenches he extended beyond trench F (G, H, H', I, I', K, L, M, N, O, P) and in both published reports he described them by making reference to the main section (running NW-SE) which he recorded and published (Figs 3.10 top).

Phase 1 was marked by a settlement of Tarxien Cemetery folk (period II A in Evans' scheme) marked essentially by a wall in the extreme north of the trench. The pottery recovered was identical to what Zammit had discovered at the type site in Tarxien. In phase 2, new pottery was hailed as the arrival of new people who mix with the villagers and produce their bright red-slipped pottery with cut-out and ribbed decoration. No structural remains were made out with the exception of a small patch of floor. Trump associated this phase with the novel pottery style, classifying it as II B1.

Phase 3 produced no structural remains but is marked by the disappearance of Tarxien Cemetery phase pottery.

<sup>41</sup> MAR 1960: 3-4; the illustrations are devoid of pagination or figure number.



(a)



(b)

**Figure 3.11.** (a) Detail of Hut 1 with mortar (left), quern (centre) and roller (right) lying on the floor; (b) detail of the rebate round the edge of the top side of the limestone bench lying on the floor of Hut 2 (source: National Museum of Archaeology/Heritage Malta).

In phase 4 a hut (Hut 1) was built by cutting into the accumulated deposits for the foundations in dry rubble. Oval in shape, the hut measured 3.5 m wide and 7.5 m long, with the major axis running SW-NE. The floor was an irregular layer made from crushed and pounded soft limestone, technically called *torba*. On the floor lay a quern, a stone roller, and a stone mortar; along one wall was an open-air hearth (Fig. 3.11a). The pottery recovered from the rubbish that accumulated over the floor was classified as II B2: it included chevron patterns and the red slip was duller, blotchy, and unpolished.

In phase 5 a second hut, Hut 2, measuring 3.5 m wide and traced for 6 m until it passed under the field wall to the south-east, was

built (Fig. 3.7). The eastern wall was flanked internally by a low bench built in rubble stones. The floor consisted of bedrock to the north and *torba* to the south where a well-dressed slab of stone, 2.9 m long and 0.30 by 0.30 m in section was discovered, with a recessed border along the top face<sup>42</sup> (Fig. 3.11b); the *torba* was renewed by another layer at a later date. A roller, a quern and an open hearth were discovered inside the hut. A fireplace with two compartments was built across the entrance of Hut 1 by now abandoned. In Hut 2, on its floors and inside cracks in the walls, Trump found pottery, some of which was smashed and left to lie where it fell; since the ware was different from the pottery recovered in Hut 1, with fine ware that was ‘dark, most often black with brownish or deep red blotches’, he thought that this represented a third phase, calling it II B3.<sup>43</sup>

Phase 6 was marked by field use in Roman times on the basis of the pottery recovered in the subsoil; topsoil, instead, constitutes Trump’s phase 7.

### ***3.3.1. Appraisal of Trump’s stratigraphy: back to the fieldnotes***

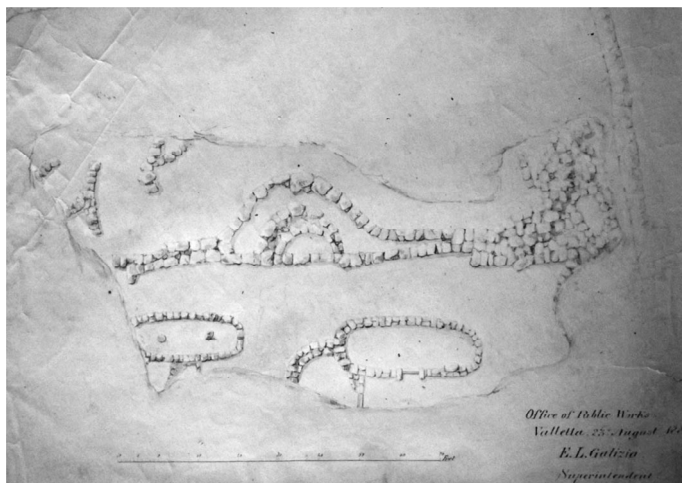
For years following Trump’s work at Borġ in-Nadur, no additional excavation work was carried out that could throw new light on the published sequence. The work by the Italian Missione Archeologica Italiana at Tas-Silġ between 1963 and 1970 was so inconclusive that archaeological investigations were renewed by the University of Malta (1996-2005) in the southern enclosure and by various Italian teams in the northern enclosure after 1997. The University of Malta’s excavations did reveal a sequence of layers of Bronze Age date in one of the trenches and the details will appear in print shortly. In the northern enclosure, the excavators from Rome’s “La Sapienza” University say that an uninterrupted sequence from the Tarxien phase (Late Neolithic) to the Borġ in-Nadur phase (Late Bronze Age) has been revealed in the new trenches dug immediately beyond the area of the Neolithic temple. It is possible that the

---

<sup>42</sup> The stone block is not dissimilar to those found at Borġ in-Nadur in 1955 (fig. 3.1 and above).

<sup>43</sup> Trump 1961: 256, 258, pl. 15.

publication of pottery assemblages and associated stratigraphic sequences, together with the structural remains, from both excavations, and from others carried out by or under the direction of the Superintendence of Cultural Heritage (formerly the Museums



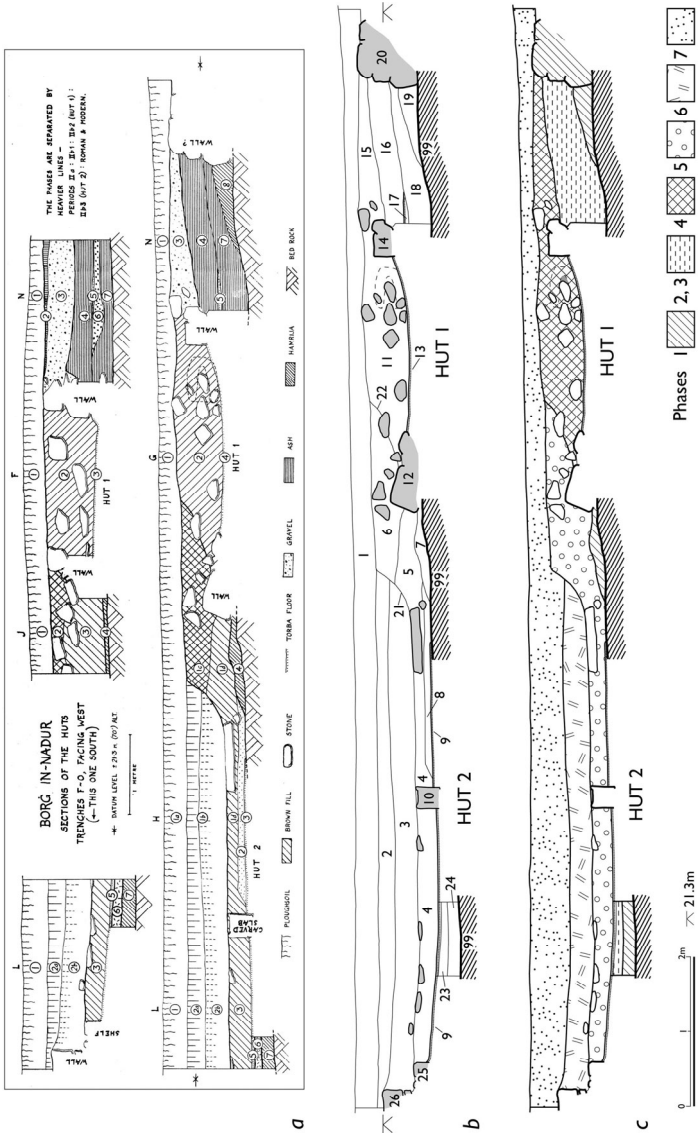
**Figure 3.12.** Detail of the photograph reproduced elsewhere in this volume (Fig. 9.4) showing huts excavated in the late nineteenth century behind the large fortification wall.

Department), will throw additional light on the characterisation and periodisation of Bronze Age Malta.

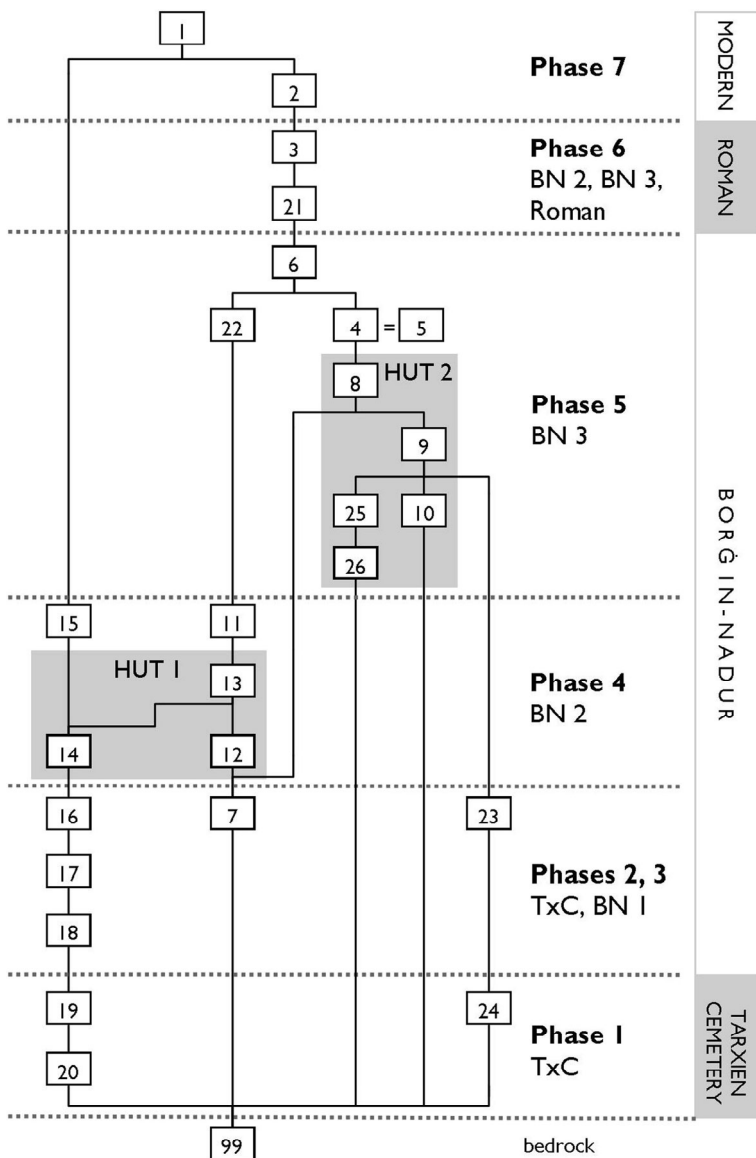
Research carried out in connection with the preparation of this volume, in particular the photograph appended to Caruana's report which shows the remains discovered behind the D-shaped wall (see above)<sup>44</sup>, allows us to note the similarities that exist between the hut remains uncovered by Trump and those explored in the late nineteenth century. The structures are all oval in shape, with marked thresholds and have walls built in what is clearly rubble which act as foundations for a superstructure in another material; they also contained equipment used for processing agricultural produce. The

---

<sup>44</sup> Reference is made to it in Bugeja, this volume and Grima, this volume.



**Figure 3.13.** (a) Section drawing of the stratification across the hut area (source: National Museum of Archaeology/Heritage Malta archives); (b, c) redrawn stratification with numbers corresponding to layers and features, and shading corresponding to the phasing (drawn by Maxine Anastasi).



**Figure 3.14.** Harris Matrix of the stratification in the area of the Bronze Age huts; TxC = Tarxien Cemetery pottery, BN = Borġ in-Nadur pottery according to phase (drawn by Maxine Anastasi).

photograph clearly shows a mortar and what may be a roller lying on the floor of the hut on the left hand (western) side (Fig. 3.12)<sup>45</sup>.

At this stage we feel that we ought to make reference to an essay published recently by the Australian scholar Claudia Sagona who has questioned Trump's interpretation of the stratigraphic sequence at Borġ in-Nadur<sup>46</sup>. Making use of the section-drawing published by Trump (Fig. 3.10 top), where different deposits were given different shading conventions for which an explanatory key was, unfortunately, missing, Sagona suggests that the sequence of hut construction ought to be reversed, and that Hut 2 with its characteristic II B 3 pottery should be earlier than Hut 1 with its II B 2 pottery<sup>47</sup>. In this manner, the II B 3 pottery is interpreted as pottery of sub-standard Tarxien Cemetery type rather than marking the heyday of pottery production in the Bronze Age.<sup>48</sup>

In order to address the matter raised by Sagona, we decided to go through Trump's fieldnotes and other records kept in the archives of the National Museum of Archaeology<sup>49</sup>. Included with the twenty-six-page handwritten account and drawn record of the excavation is the section which corresponds to the western face of trenches L, H (and its extension H'), G and N combined together. For each trench a list of deposits encountered is given<sup>50</sup>. A table also lists the pottery found in each trench according to style<sup>51</sup>. More important for the issue under discussion here is a section drawing located in the museum archives which not only includes the key to the shading conventions adopted for it but a number is also given for every deposit encountered. This section drawing is being published for the first time here (Figs 3.9, 3.13a). These numbers correspond to the sequence of deposits excavated in each trench, described in the fieldnotes.

---

<sup>45</sup> What may be a mortar is located at the bottom of one of the rock-cut silo pits at In-Nuffara in Gozo, visible in Cilia 2004: 226 (top, right).

<sup>46</sup> Sagona 2008.

<sup>47</sup> Sagona 2008: 492-493, fig. 3.1.

<sup>48</sup> Sagona 2008: 494, fig. 4; the repercussions of this reading are discussed elsewhere in this volume (chapter 9).

<sup>49</sup> This was also done in the belief that archival material can throw precious light on the interpretation of a particular site; see Zammit 2008; Pessina and Vella forthcoming; Bugeja, this volume.

<sup>50</sup> Trump 1959-1960: 10r, 12r, 13r.

<sup>51</sup> Trump 1959-1960: 11v.



A close study of the section drawing and the information contained in the fieldnotes makes it clear that the doubts raised by Sagona are misplaced. The deposit of ‘hamrija’ marked with the number 4, and which contained pottery of the Tarxien Cemetery phase, lies *not* on material containing II B 3 material but on bedrock. Moreover, II B 2 fill does *not* ‘lie over both huts 1 and 2’ as Sagona concludes. Unfortunately her reading of the section drawing, rather than of Trump’s written account, has led her to think that the diagonal hatching in Trump’s published section drawing (Fig. 3.10 top), reserved for the area above Huts 1 and 2, corresponds to the same deposit, and hence the same activity<sup>52</sup>. This is not the case. In the section drawing retrieved in the museum archives (Fig. 3.13a), the deposit which accumulated over Hut 1 (marked with the number 2, described in the fieldnotes as ‘soft dark brown’<sup>53</sup>) is hatched in a different manner to the deposit which accumulated over the *torba* floors of Hut 2 (marked with the number 3 in trench L, the number 1d in trenches H and H’, described in the fieldnotes as ‘brown earth’<sup>54</sup> and ‘hardbrown’<sup>55</sup> respectively). It is clear that the deposit numbered 1c, reproduced in cross-hatching, lay over both the deposit that accumulated over the floor of Hut 1 (numbered 2) and also the deposit that accumulated over the floor of Hut 2 (numbered 1d).

In order to facilitate the visual representation of the stratigraphic sequence, the deposits drawn by Trump and represented by him in the section drawing were given a number (Fig. 3.13b, c) and drawn on a Harris Matrix (Fig. 3.14). The matrix has been ‘stretched’ to show a relative time sequence based on the changes in pottery styles proposed by Trump. The matrix itself does not reveal that Hut 1 is earlier than Hut 2. That would have been achieved had a physical link between *torba* floors 9 and 8 in Hut 2 and wall 12 belonging to Hut 1 been present in the section drawing. As it is, it is only the deposit we marked with the number 6, which contained II B 3 pottery, that is stratigraphically later than the deposits accumulated over the floors of Hut 2 (4 and 5 containing only II B

---

<sup>52</sup> Sagona labels this deposit ‘II B 2’ in the section drawing; Sagona 2008: fig. 3.1.

<sup>53</sup> Trump 1959-1960: 10r.

<sup>54</sup> Trump 1959-1960: 12r.

<sup>55</sup> Trump 1959-1960: 10v.

3 pottery) and the deposits which accumulated over the floor of Hut 1 (11 containing only II B 2 pottery). The situation not represented in the section drawing, however, but slightly to the south and described in the fieldnotes and in the published report makes it clear that the walls of Hut 2 ‘buted against the earlier walls’<sup>56</sup>, that is those of Hut 1.

## References

- Buhagiar, C. M. [2000] “National Museum of Archaeology news: 1988 and 1999”, in *Malta Archaeological Review* 4: 44-50.
- Childe, V. G. [1929] “Review of M. Murray, Excavations in Malta”, in *MAN* 29: 147.
- Cilia, D. (ed.) [2004] *Malta before History*. Miranda, Malta.
- Evans, J. D. [1953] “The prehistoric culture-sequence in the Maltese archipelago”, in *Proceedings of the Prehistoric Society* 19: 41-94.
- Grima, R. [2004] *The Archaeological Drawings of Charles Frederick de Brocktorff*. Midsea Books and Heritage Malta, Malta.
- Magro Conti, J. [1999] “Aggression and defence in prehistoric Malta,” in A. Mifsud and C. Savona Ventura (eds), *Facets of Maltese Prehistory*, pp. 191-208. Prehistoric Society of Malta, Malta.
- MAR [1956] *Report on the working of the Museum Department 1955-56*. Malta.
- MAR [1960] *Report on the working of the Museum Department 1959-1960*. Malta.
- Mayr, A. [1901] ‘DieVorgeschichtlichen Denkmäler von Malta’, in *Abhandlungen der Königlich Bayerischen Akademie der Wissenschaften* I, 21/3: 642-721.
- Murray, M. A. [1923] *Excavations in Malta: Part I*. B. Quaritch, London.
- Murray, M. A. [1925] *Excavations in Malta: Part II*. B. Quaritch, London.
- Murray, M. A. [1929] *Excavations in Malta: Part III*. B. Quaritch, London.
- Murray, M. A. [1934] *Corpus of the Bronze-Age Pottery of Malta*. B. Quaritch, London.
- Murray, M. [1963] *My First Hundred Years*. William Kimber, London.
- Pace, A. [2004] “Borġ in-Nadur, Birzebbuġa,” in D. Cilia (ed.), *Malta before History*, pp. 105-107. Miranda, Malta.
- Pessina, A. and Vella, N. C. [forthcoming] “Introduction,” in L. M. Ugolini, *Malta: origini della civiltà mediterranea/Malta: Origins of Mediterranean Civilization. A re-edition with a Foreword and Introduction by Andrea Pessina*

---

<sup>56</sup> Trump 1959-1960: 9v; 1961: 256.

- and Nicholas C. Vella. Translation of the edition of 1934 by Louis J. Scerri, pp. xi-xxix. Midsea Books, Malta.
- Sagona, C. [2008] "Malta: between a rock and a hard place," in C. Sagona (ed.), *Beyond the Homeland: Markers in Phoenician Chronology* (Ancient Near Eastern Studies Supplement 28), pp. 487-536. Peeters, Leuven.
- Schuchhardt, C. [1928] "Review of M. Murray, Excavations in Malta: Part II", in *Gnomon* 4: 427-431.
- Tanasi, D. [2008] *La Sicilia e l'arcipelago maltese nell'età del Bronzo Medio* (KASA 3). Officina di Studi Medievali, Palermo.
- Taylor, W. [1959] *Myceanean Pottery in Italy and Adjacent Areas*. Cambridge University Press, Cambridge.
- Trump, D.H. [1959-60] *Excavation Notes January 1959-June 1960, Vol. 1*. Unpublished manuscript, National Museum of Archaeology, Heritage Malta.
- Trump, D.H. [1961] "The Later Prehistory of Malta", in *Proceedings of the Prehistoric Society* 27: 253-262.
- Zammit, M. E. [2008] "Ta' Haġrat 1923-1926: A Reassessment of the Excavation Archive", in M. E. Zammit and J. Mallia (eds), *Ta' Haġrat and Skorba: Ancient Monuments in a Modern World*, pp. 19-26. Heritage Malta, Malta.
- Zammit, T. [1920] *Trip to Italy, France, UK (May-June 1920) and Misc. Notes*. Unpublished manuscript, National Museum of Archaeology, Heritage Malta.
- Zammit, T. [1924] "Review of M. Murray, Excavations in Malta", in *Man* 24: 142-143.

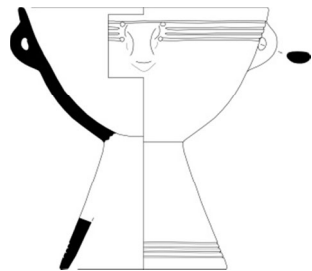
**Nicholas C. Vella** is Senior Lecturer in the Department of Classics and Archaeology at the University of Malta. He co-directs several research projects in Malta and has co-edited *Debating Orientalization: Multidisciplinary Approaches to Change in the Ancient Mediterranean* (Equinox, 2006).

**MariaElena Zammit** studied Archaeology at the University of Malta and is a curator within the Prehistoric Sites Department, Heritage Malta. Her Master's dissertation consisted of an archaeological field survey of Il-Qlejgħa tal-Bahrija and surrounding areas. Before joining Heritage Malta, she worked as a freelance archaeologist on monitoring and excavation projects in Mdina and Rabat.

**Anton Bugeja**, a family doctor by profession, has a keen interest in Maltese antiquities and has been active as an amateur archaeologist for years. His current areas of research concern the use of historical and archival records to throw light on Maltese archaeological sites, the contribution made by amateurs to Maltese archaeology, and the development of antiquarianism and archaeology in nineteenth-century Malta.

## Part II

### Artefacts from the megalithic temple of Borg in-Nadur





## 4. The prehistoric pottery

Davide Tanasi – Arcadia University  
The College of Global Studies, MCAS, Italy  
TanasiD@arcadia.edu

**Abstract.** The excavations carried out by M. Murray between 1921 and 1927 in the area of the Borġ in-Nadur temple produced large amounts of pottery related to the Neolithic and the Bronze Age, thus testifying to the long life-history of this place and highlighting its importance for Maltese prehistory. Following the publication of a number of reports at the time of the excavations, and a partial inventory of the material in the 1950s, the evidence from the megalithic temple of Borġ in-Nadur was never looked at again, a fact which probably contributed towards a less than comprehensive knowledge about the Maltese Bronze Age. In 2007, eighty years after the end of the excavations, a research project was commenced, aimed at a reappraisal of all the finds coming from the temple, with particular emphasis on the Borġ in-Nadur pottery. The intention was to clarify the different phases of occupation of the site and to build a chronotypological sequence for the Borġ in-Nadur pottery production. In this contribution, the results achieved during that research exercise are presented.\*

**Keywords:** Tarxien, Tarxien Cemetery, Borġ in-Nadur, pottery, typology.

### 4.1. Re-discovering the pottery found at Borġ in-Nadur

During the exploration of the megalithic temple of Borġ in-Nadur carried out by Margaret Murray in 1921-1922<sup>1</sup>, 1923<sup>2</sup> and 1926-

---

\* Unless stated otherwise, the drawings in this paper are by Maxine Anastasi and they are all reproduced at a scale of 1:4.

<sup>1</sup> Murray 1923.

<sup>2</sup> Murray 1925.

1927<sup>3</sup> a large amount of ceramic finds spanning the periods Neolithic to the end of the Bronze Age, were recovered. Reading the preliminary reports, it is clear that the excavation was carried out following the scientific methodology of the time especially for what regards the pottery: ‘Each piece of pottery as it came out of the ground was washed, dried and marked’<sup>4</sup>; ‘All the fragments were collected and sent to the Valletta Museum to be cleaned and built up into their original forms’<sup>5</sup>; ‘The pieces have been put together at the Museum, and drawings and photographs of them are now published’<sup>6</sup>.

In 1952, in his overall reappraisal of all the prehistoric material held at the National Museum of Archaeology meant for a construction of a culture sequence of Maltese prehistory<sup>7</sup>, John D. Evans sorted and catalogued also the pottery found at Borġ in-Nadur. On that occasion he encountered many problems in locating and identifying the materials, as he stated: ‘I was not able to locate much of the other material found and published by her [Murray]’<sup>8</sup>.

A possible justification for those missing pieces can be in a statement made by Murray regarding pottery pieces coming from different strata to construct the site’s stratigraphy: ‘It was therefore a shock to find, when fitting the pieces of pottery together after arrival in England, that no reliance can be placed on it’<sup>9</sup>. This statement can be interpreted in two ways: it can mean that the restoration of the pottery was carried out in Malta after Murray had left for England or that it was done in the British Museum after the completion of the fieldwork<sup>10</sup>. The second interpretation could justify the absence of some relevant pieces when Evans embarked on his inventorying exercise and at the same time points to the possibility that cultural material from the Borġ in-Nadur temple may be found in England.

---

<sup>3</sup> Murray 1929.

<sup>4</sup> Murray 1923: 23.

<sup>5</sup> Murray 1925: 20.

<sup>6</sup> Murray 1925: 33.

<sup>7</sup> Evans 1953.

<sup>8</sup> Evans 1971: 17.

<sup>9</sup> Murray 1923: 31.

<sup>10</sup> Murray 1925: 34, pl. 17,3; ‘This is the vase found in the previous excavation [...] The vase is now in the British Museum’.



During his work, Evans selected all those ceramic fragments which he thought had the diagnostic features to allow him to construct his typology; he inked a new inventory code on them (from B[orġ in-] N[adur]/P[ottery]1 to BN/P311) and drew up inventory sheets, now kept in the museum archives. In these sheets, references to Murray's publications and exact areas of discovery of individual pieces are provided. It is not known in which way Murray marked the fragments after the excavations and no traces of signs previous to those made in 1952 can be observed on the pieces, with the exception of specimen BN/P58c. The Evans selection did not include all the material coming from the excavation of the 1920s, nor was it composed of exactly 311 specimens. In fact, in order to simplify the identification of shape typology, Evans divided all the materials according to shape (i.e., juglets, jars, cups, trays) and morphological characteristics (i.e., rims, bases, handles, walls). This probably facilitated the search for the main typological classes but it also made it difficult to find joining pieces and to restore fragmentary pots. In addition, pottery was divided into three main groups corresponding to separate boxes based on the chronology: 'Neolithic Pottery', 'Tarxien cemetery' and 'Borġ in-Nadur'. When fragments belonging to different vessels were considered to belong to the same typology they were given the same inventory number: in this manner, anything between 2 sherds or 60 sherds were inked with the same inventory number! In actual fact, therefore, the 311 inventory sheets of Borġ in-Nadur correspond not to 311 pieces but to 670 different sherds. Furthermore, other pieces, deemed to be less significant, were marked with the code BN/PX or BN/PY but they were not filed, while many others were not taken in consideration.

In his publication of 1971, Evans published a few pieces coming from the Borġ in-Nadur temple corresponding to the Tarxien Cemetery and Borġ in-Nadur phases. The inventory numbers in the publication, however, strangely and inexplicably do not match the description of the objects with the same number recorded on the inventory sheets.

During the time I spent in the National Museum in 2007 and 2010 studying the pottery from the megalithic temple, I was able to

locate 17 boxes in the storeroom containing the material<sup>11</sup>, together with another three boxes<sup>12</sup> holding pieces selected in recent years by David Trump for the permanent display of the Bronze Age<sup>13</sup>. At times, these last objects had their original inventory number substituted with an Object Identification number, a system recently introduced by the National Museum; on other instances, the ID number was added. Besides the pieces marked with the BN/P code, many had no marking whatsoever.

To put some order to the pieces before detailed cataloguing, I decided to identify 129 unmarked pieces with the code BRG/010 (from BRG/010/1 to BRG/010/129). On consultation with the curator of the collection, I then adopted a system whereby single sherds having the same inventory number were catalogued thus: when those pieces having the same number were less than 10 I just added a letter to the existent code (for example, BN/P45a, b, etc.) but when the pieces were many, for instance over 60 as for BN/P43, I introduced an extra progressive number to the code (for example, BN/P43/1, 2 etc.). Only one example, BN/P58c, had Murray's code written in ink: '1924'. Added to this problem was the fact that it was not possible to locate 50 pieces that had been described by Evans in the inventory sheets amidst the material described as coming from the temple at Borg in-Nadur<sup>14</sup>. The task of cataloguing the entire collection, identify joining sherds located in different boxes, and provenance individual pieces was a daunting task. Matters were also complicated by the fact that a lot of the pottery was in an extremely fragmentary state, complicating the attempt at identification and the construction of a typology. The outcome of this exercise resulted in a study of 1065 sherds, of

---

<sup>11</sup> Boxes 197, 198, 199, 200, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217 and 335.

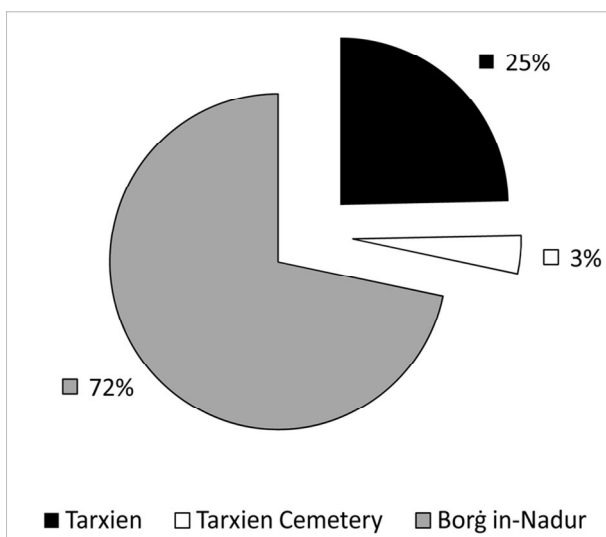
<sup>12</sup> 'Box display 1', 'Box display 2', 'Box pottery typology'.

<sup>13</sup> See Sultana, this volume (chapter 12).

<sup>14</sup> BN/P9, BN/P12, BN/P14, BN/P15, BN/P16, BN/P19, BN/P22, BN/P23, BN/P27, BN/P28, BN/P29, BN/P36, BN/P38, BN/P44, BN/P51, BN/P54, BN/P61, BN/P63, BN/P83, BN/P84, BN/P88, BN/P102, BN/P123, BN/P129, BN/P132, BN/P151, BN/P171, BN/P174, BN/P175, BN/P178, BN/P182, BN/P183, BN/P185, BN/P192, BN/P193, BN/P194, BN/P197, BN/P213, BN/P215, BN/P217, BN/P218, BN/P220, BN/P225, BN/P226, BN/P227, BN/P231, BN/P232, BN/P310, BN/P311.

which a substantial part was unsorted and unpublished. Of these, 842 were catalogued and another 223, deemed to be less important, were labelled with the Object ID number and inserted in the list with a related photograph. New photographic documentation for each piece was completed and 130 drawings representing all those sherds with a clear pot profile were prepared.

Since it was not possible to analyse the material found by Murray and those studied by Evans, and to arrange and match data published by Murray, included by Evans in his 1952 catalogue and his publications of 1953 and 1971, it is important to state here that in this contribution only the pottery located in the storeroom of the museum and known to come from the Borg in-Nadur temple is discussed.



**Figure 4.1.** Pie chart indicating the percentage distribution of pottery by phase.

The catalogue is included in the accompanying DVD. It is organised as an Excel file and contains also 45 plates in colour. It is divided in three sections, corresponding to the main phases of occupation of the temple: Temple period (Tarxien phase), Early Bronze Age (Tarxien Cemetery phase) and Middle Bronze Age

(Borġ in-Nadur phase)<sup>15</sup>. The largest part of the catalogued pieces consists of Borġ in-Nadur phase pottery (579 specimens), while 231 sherds are related to the Tarxien phase whereas just 32 belong to the Tarxien Cemetery phase (Fig. 4.1).

Since the Borġ in-Nadur phase pottery has received less attention in studies dealing with prehistoric ceramics from the archipelago, particular attention will be drawn to it in this contribution.

## 4.2. Temple period: Tarxien phase

Since the provenance of all the pottery catalogued is the megalithic temple of Borġ in-Nadur it comes as a surprise that the quantity of pottery dated to the Temple period is minimal when compared to the number of Bronze Age sherds which clearly belong to the period of reuse of the temple. Although the fragmentary nature of the pottery complicated the identification process, it was possible to conclude that the site was not occupied in the earlier parts of the Temple period, since all the sherds studied clearly belong to the Tarxien phase.

### 4.2.1 *Fabrics and decoration*

The visual analysis of the Tarxien phase pottery led to the identification of six fabrics that were identified with letters from A to F. Two main fabrics, A and F, correspond respectively to the ‘fine dark polished ware’ and the ‘sandy pink ware’ recently identified as the most common Tarxien phase fabric varieties amongst the Xagħra Circle assemblage<sup>16</sup> (Fig. 4.2).

*Fabric A* (fine dark polished): very hard, rarely porous, with calcareous inclusions (very fine 2%); grey body (from 7.5 YR 7/4 pink to 7.5 YR 7/1 gray), black core; surfaces polished and burnished; incised or scratched decoration.

*Fabric B* (semi-fine brown): hard, with calcareous (medium 5-10%) and quartz inclusions (very fine 2%); brown surface (5 YR 6/4 light reddish brown): gray core (7.5 YR 7/1 gray); generally with white inlay and black blotches.

---

<sup>15</sup> Malone *et al.* 2009.

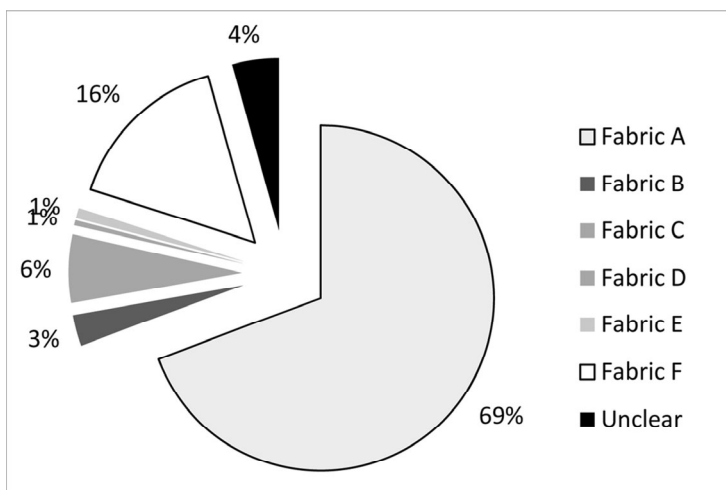
<sup>16</sup> Malone *et al.* 2009: 206.

*Fabric C* (yellow slipped): porous, very hard with calcareous inclusions (from very fine 1% to medium 1%); pink surface (2.5 YR 7/6 light red); yellow slip (10 YR 8/6 yellow).

*Fabric D* (red slipped): very hard and very porous with calcareous inclusions (very fine, 5%); orange surface (5 YR 7/6 reddish yellow) with red slip (10 R 5/8 red).

*Fabric E* (coarse pink): very hard, very porous, lithic and calcareous inclusions (fine-medium 10%), voids (medium 2%); dark pink surface (2.5 YR 7/6 light red) unpolished surfaces.

*Fabric F* (Sandy pink ware): very hard, porous, sandy, with calcareous inclusions (very fine 5%), dark brown surface (7.5 YR 7/4 pink); unpolished surfaces; sometimes fabric is enriched by sea shell fragments.



**Figure 4.2.** Pie chart indicating the distribution of the five Tarxien phase pottery fabrics together with the percentage of specimens with unclear fabric.

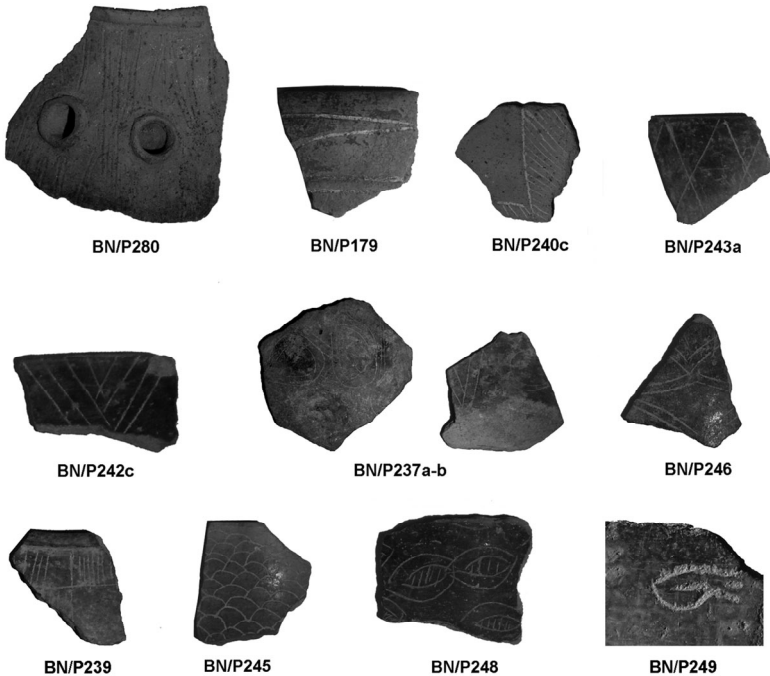
Tarxien phase pottery is characterised by a large variety of decorative techniques<sup>17</sup>, which is well testified by the evidence of Tarxien<sup>18</sup> and Xaghra Circle<sup>19</sup>. Amongst the fragments studied, it is

<sup>17</sup> Trump 2004: 249.

<sup>18</sup> Zammit 1930: 99-119.

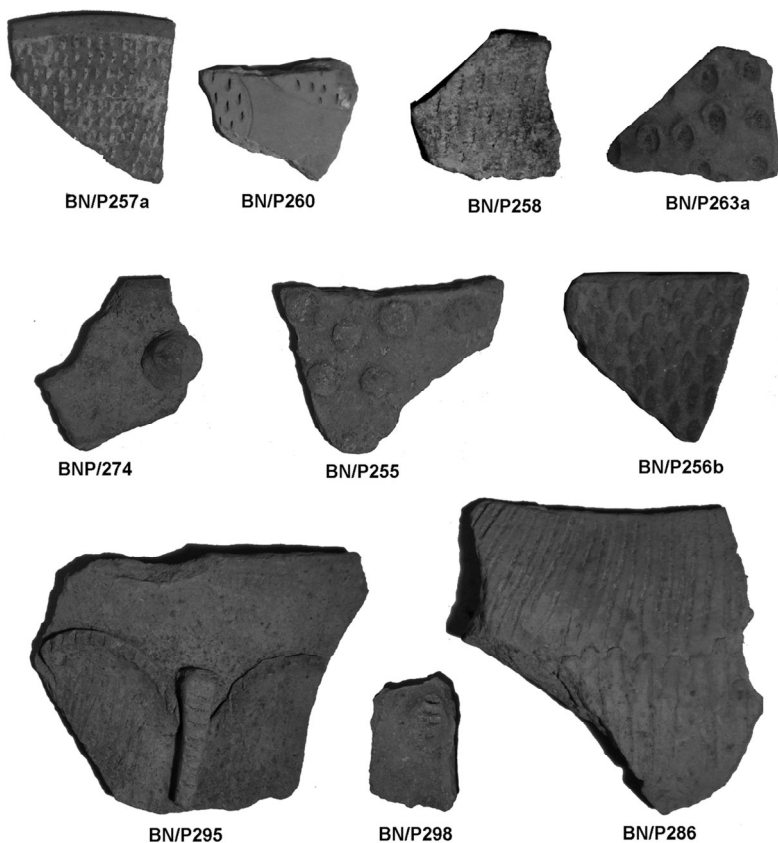
<sup>19</sup> Malone *et al.* 2009: 206-212.

possible to distinguish incised/scratched, impressed and plastic decorations. In addition, occasionally an ochre inlay can be found. Incised/scratched decorations include rough vertical striations, acute angles with side apex, ladder bands, lozenge lattice, chevron, simple and thorn volutes, checkerboard pattern, scales pattern and chains of eye-shaped motifs (Fig. 4.3).



**Figure 4.3.** Incised/scratched motifs: BN/P280: vertical striations; BN/P179: acute angles; BN/P240c: ladder bands; BN/P243a: lozenge lattice; BN/P242c chevron; BN/P237a-b, BN/P246: simple and thorned volutes; BN/P239: checkerboard pattern; BN/P245: scales pattern; BN/P246: chains of eye-shaped motifs; BN/P249: ideogram (not to scale, photograph by the author).

In addition to repertoires of incised/scratched decorative motifs, an unusual inscribed symbol must be emphasised. It occurs on



**Figure 4.4.** Impressed motifs: BN/P257a: jabbed surface; BN/P260: pitted surface; BN/P258: hatched lines; BN/P263a finger bump pattern; plastic decoration: BN/P274: isolated globes; BN/P255: globular pellets; BN/P256b: ovoid pellets; BN/P295: owl's head motif and hatched globe related to the same vessel; BN/P286: rusticated pattern (not to scale, photograph by the author).

BN/P249 (Fig. 4.3, Pl. 36) and is located below the lower attachment of a nose bridge handle belonging to a bowl.

The mark is not known and it not seem to be a decorative motif but a kind of ideogram recalling those on a greenstone cylinder and a polished pebble from Tarxien<sup>20</sup>.

Impressed decoration is represented by pitted or jabbed surfaces, hatched lines and finger bumped surfaces (Fig. 4.4). Plastic decoration include single isolated studs, studded surfaces with patterns of globular or ovoid pellets and rusticated surfaces (Fig. 4.4).

The most peculiar of the plastic decorative motifs is the owl's head combined with striations or rusticated patterns and with a series of hatched globes, as can be observed in a complete vessel from Tarxien<sup>21</sup>.

#### ***4.2.2 Typology, function and parallels***

Due to the fragmentary condition of the pottery, it is not easy to identify clearly typological ceramic classes.

A large part of the selection is represented by examples of a carinated bowl without a handle or with a nose bridge handle, classified by Evans as 41/42<sup>22</sup>. In addition to the six diagnostic examples represented in Fig. 4.5, 11 nose bridge handles<sup>23</sup> testify to the presence of at least 17 bowls of this type.

This vessel, usually occurring in fabric A and at times in fabric B, must have been of particular significance for the acts, presumably of a ritual nature, performed inside the megalithic temples. It is always attested in high numbers at all the other Temple-period sites. Another variety of bowl is represented by BN/P250, BN/P223a (Fig. 4.5, Pls 31, 36) which is comparable with Evans 45-46<sup>24</sup> recognisable by the peculiar handles with triangular surmounting termination. Due to the absence of the lower part of the body it is impossible to establish if such pieces had a strainer base as in the

---

<sup>20</sup> Bonanno 1999.

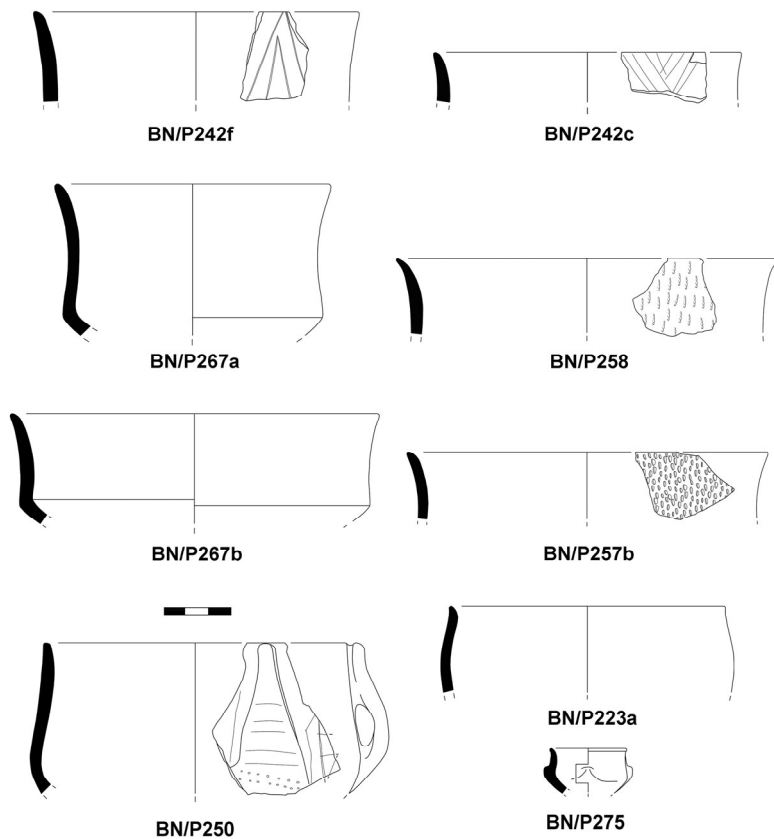
<sup>21</sup> Trump 2004: 242.

<sup>22</sup> Evans 1953: 59, fig. 9.

<sup>23</sup> BN/P249, BN/270g, BN/P270h, BN/P236b, BN/P236c, BN/P270a, BN/P270b, BN/P270b, BN/P270d, BN/P270e, BN/P270f.

<sup>24</sup> Evans 1953: 59, fig. 9.



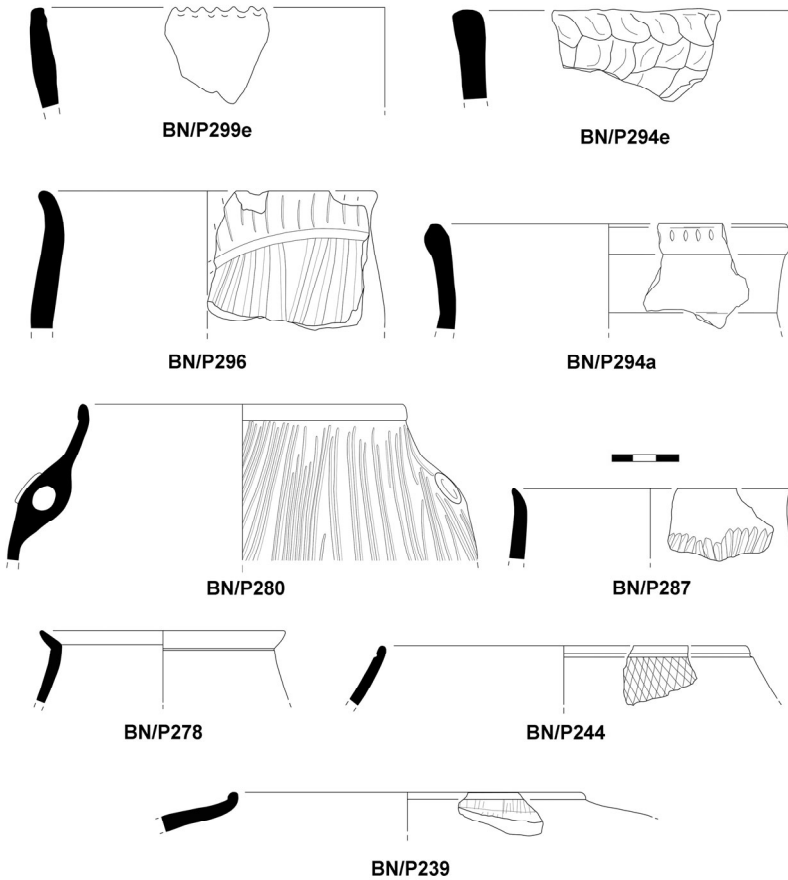


**Figure 4.5.** Carinated bowl Evans 41-42: BN/P242f, BN/P242c, BN/P267a, BN/P258, BN/P267b, BN/P257b; handled bowl Evans 45-46: BN/P250, BN/P223a; miniature vessel Evans 67: BN/P275.

Evans archetype. Furthermore, a miniature version of Evans type 67<sup>25</sup> is the carinated bowl BN/P275 with a lug on the carination (Fig. 4.5, Pl. 41).

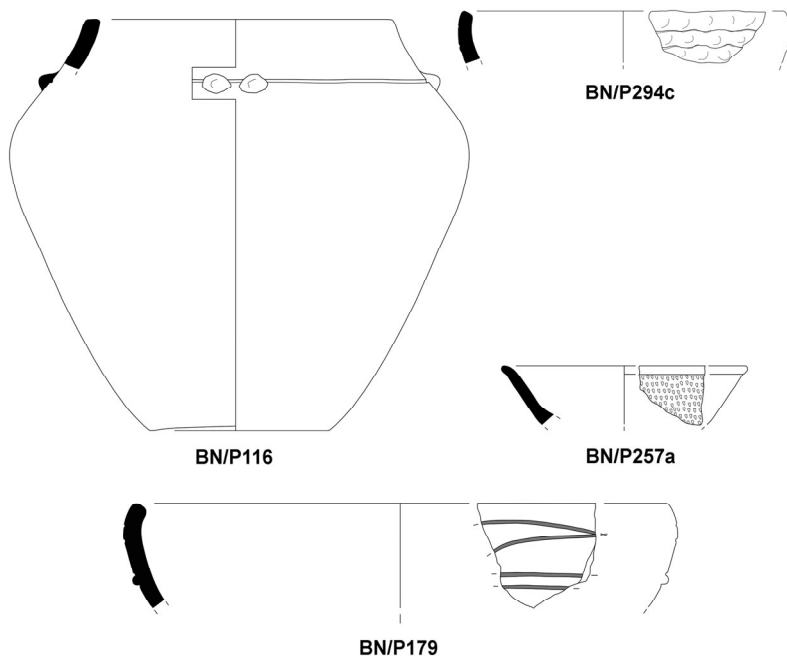
Coarse vessels come generally in fabric F with sandy temper. Many of them consist of jars, the typology of which can hardly be identified due to their fragmentary condition. They have rusticated

<sup>25</sup> Evans 1953: 59, fig. 9.



**Figure 4.6.** Coarse vessels: jars with rusticated surfaces: BN/P249e, BN/P296, BN/P24a, BN/P287; bowl with finger-tip-indented rim Evans 40: BN/P299e; jar with tunnel handles Evans 70: BN/278, BN/P280; jar with lozenge lattice pattern: BN/P244; biconical bowl Evans 60 with scratched dashboard pattern: BN/P239.

surfaces (BN/P287, BN/P294a, BN/P294e, BN/P296) (Pls 43, 44) or a scratched decoration (BN/P244) (Fig. 4.6, Pl. 36).



**Figure 4.7.** Jar with plastic decoration: BN/116; Cup with inverted rim and rusticated surface: BN/P294c; shallow bowl Evans 33 with jabbed surface: BN/P257a; cup with inverted rim: BN/P179.

Among them the bowl with finger-tip-indented rim BN/P299e recalls Evans 40<sup>26</sup>, while the biconical bowl with scratched checkerboard pattern BN/P239 is comparable with Evans 60<sup>27</sup> (Fig. 4.6, Pl. 35).

The same fabric occurs on some examples of a jar with tunnel handles (BN/278, BN/P280, BN/P236a) (Pls 32, 42).

Amongst the bowls, a type of shallow bowl with jabbed surface, BN/P257a, must be pointed out for it finds a fine comparison in Evans 33<sup>28</sup> (Fig. 4.7, Pl. 37). Two cups with inverted rim, BN/P294c (Fig. 4.7, Pl. 44) with rusticated surfaces and BN/P179

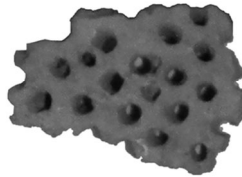
<sup>26</sup> Evans 1953: 59, fig. 9.

<sup>27</sup> Evans 1953: 59, fig. 9.

<sup>28</sup> Evans 1953: 59, fig. 9.

(Fig. 4.7, Pl. 29) with a slipped surfaced and incised decoration with acute angles and with inlay, have no known comparanda, as with the jar with plastic decoration, BN/P116, made of fabric A, the typology of which appears to be a novelty (Fig. 4.7, Pl. 19).

Finally, a curious object (BN/P176) is hard to classify. It is a straight strainer wall sherd (Fig. 4.8, Pl. 20), found in the Chapel B area and published by Murray together with a second larger fragment<sup>29</sup>. Absent from the repertoire of Maltese prehistoric pottery, it was interpreted by Trump as a fragmentary perforated funnel imported from Ausonian II Lipari (1050-850 BC)<sup>30</sup>.



BN/P126

**Figure 4.8.** A fragment of a strainer, BN/P126, from the Chapel B area (photograph by the author).

The recent discovery of a similar piece, belonging to the pierced foot of a pedestal vase from the Tarxien phase layers of the Xaghra Circle<sup>31</sup> confirms, however, its assignment to the Temple period.

### 4.3. Early Bronze Age: Tarxien Cemetery phase

The pottery related to the Tarxien Cemetery phase is very scanty, amounting to just 32 pieces. Their presence, however, is significant as it points out that also the temple at Borġ in-Nadur was reoccupied after the end of the Temple period, as happened with other temple sites. This evidence together with the layers containing the same kind of material identified during the excavation of hut 2

<sup>29</sup> Murray 1929: 7, pl. 16,1-2.

<sup>30</sup> Trump 1961: 261.

<sup>31</sup> Malone *et al.* 2009: 209-210, fig. 10.16,o.

in the Borg in-Nadur settlement testify to a continuous occupation of this area between the Late Neolithic and the Bronze Age<sup>32</sup>. Furthermore, the data indicate the absence of any cultural and chronological break at this site.

Some relevant pieces published by Murray and Evans were not traced in the museum; instead different material was found to be marked with the inventory numbers given by Evans. Only the wall sherd BN/P186 (Pl. 29) of our catalogue, published by Murray<sup>33</sup>, seems to belong to the restored carinated bowl indicated by Evans as 'BN/P13' and now missing<sup>34</sup>. In addition, few new shapes were identified.

#### 4.3.1 *Fabrics and decoration*

The specimens analysed, although related to different shapes, shared the same fabric.

*Fabric I*: very hard fabric, rarely porous, with rare calcareous inclusions (fine, 2%), usually with dark lithic inclusions (very fine 10-20%), rare voids (medium, 2%); orange-yellow surface (from 5 YR 6/8 reddish yellow to 10 YR 7/3 very pale brown), rare red (10R 5/8 red) or yellow fading slip (5 YR 6/8 reddish yellow); gray core, inner walls usually blackened in open vessels; external surfaces polished and burnished.

As for the technology, all pottery was found to be handmade but had a very fine manufacturing procedure that resulted in very symmetric shapes. Few specimens, like BN/P186 (Pl. 29) and BN/P259 Pl. 37), are completely burned, while others are well fired in a uniform way. BN/P21a and BN/P26 (Pl. 6) have the inner walls irregularly blackened with traces of fire possibly due to their use as funerary urns.

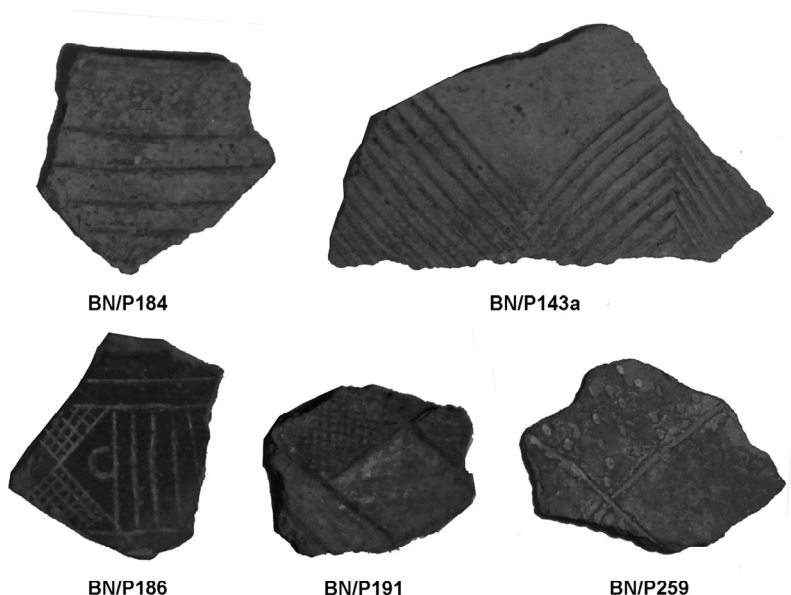
Decoration when present is incised with geometric motifs, like triangles and lozenges filled with cross hatching pattern or dots combined with rows of narrow vertical or horizontal lines, and excised with rows of parallel horizontal lines below the rim or chevrons on the body, as shown in Fig. 4.9.

---

<sup>32</sup> See Vella *et al.*, this volume (chapter 3).

<sup>33</sup> Murray 1929: pl. 15.3.

<sup>34</sup> Murray 1929: pls 10.5, 22.200; Evans 1971: pl. 32.1.



**Figure 4.9.** Incised motifs: row of parallel lines: BN/P184; multiple angle and triangles with vertex on top: BN/P143a; hatched triangles alternated to series of vertical lines; BN/P186; hatched lozenges: BN/P191; dotted lozenges: BN/P259 (not to scale, photograph by the author).

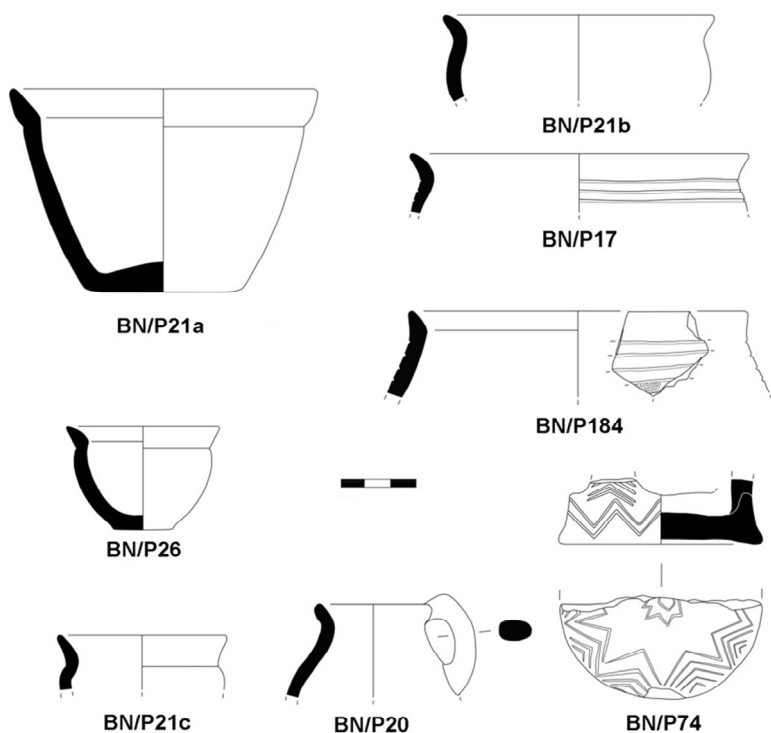
#### **4.3.2 Typology, function and parallels**

Among the identifiable shapes, at least three types of bowl can be distinguished.

Type 1 (BN/P21a) (Fig. 4.10, Pl. 6) has a conical body, slightly curving profile and a distinct everted lip; type 2 (BN/P17, BN/P21b) (Fig. 4.10, Pls 5, 6) presents a globular body, a curving profile and an indistinct everted lip; type 3 (BN/P21c, BN/P26) (Fig. 4.10, Pl. 6) has a globular body, a curving profile and a distinct everted lip forming a low distinct neck. BN/P21a, (Fig. 4.10, Pl. 6) published by Murray<sup>35</sup> and Evans<sup>36</sup>, has a peculiar shape which does not find a match in the main types of Evans' classification, besides a rather uncommon red slip. Bowls of type 2 and 3, very

<sup>35</sup> Murray 1929: pl. 24,244.

<sup>36</sup> Evans refers to it as BN/P15; Evans 1971: 17, fig. 4.8.



**Figure 4.10.** Bowls of type 1 (BN/P21a), type 2 (BN/P17, BN/P21b), type 3 (BN/P21c, BN/P26); Jar (BN/P184); Jug (BN/P20); Model (BN/P74).

common in the Tarxien Cemetery repertoire, are comparable with shapes Evans 73-75<sup>37</sup>, while it is remarkable that both bowls of type 2 are in miniature version. The specimen BN/P94 (Pl. 29) belongs to a jug with a high horned handle similar to vessel TC/P38 from Tarxien<sup>38</sup>, while fragments BN/P18 (Pl. 5), BN/P24 (Pl. 6), BN/P143 (Pl. 24) and BN/P304 (Pl. 45), although not joining, are related to the same footed bowl Evans shape 75<sup>39</sup>. BN/P184 (Pl. 29) is a simple jar with curving profile and everted rim and the jug with vertical strap handle BN/P20 (Fig. 4.10, Pl. 5) corresponds to

<sup>37</sup> Evans 1953: 66, fig. 10.

<sup>38</sup> Evans 1971: 158, fig. 25.8.

<sup>39</sup> Evans 1953: 66, fig. 10.

Evans 81<sup>40</sup>, familiar to this repertoire. In the absence of a peculiar decoration and morphological features and since shapes identified are very common, it is unnecessary to provide additional parallels.

For fabric and decorative pattern the specimen BN/P74 (Fig. 4.10, Pl. 15) is compatible with the Tarxien Cemetery production although its surface has a colour much closer to greyish brown. Problematically identified as a ‘platter’ in the inventory sheets of the museum and referred to shape 98 of the Borġ in-Nadur repertoire, it is probably a terracotta model the lower part of which is preserved: on the circular base, slightly curved, a low wall follows the perimeter of the object from which two symmetrical rectangular projections rise. Unfortunately the condition of the piece makes it very hard to suggest the original shape. It can probably be interpreted as a kind of open stand for which no striking comparisons are currently known.

#### **4.4. Middle Bronze Age: Borġ in-Nadur phase**

The pottery belonging to the Borġ in-Nadur phase represents the largest part of the pottery assemblage coming from the temple excavations (72%). Whilst we wait for the final publication of the excavations at Tas-Silġ, where pottery of Borġ in-Nadur type has been discovered<sup>41</sup>, the 579 diagnostic pieces presented here constitute the most comprehensive ceramic documentation so far known for the Middle Bronze Age.

##### ***4.4.1. Fabrics and decoration***

The visual analysis led to the identification of five fabrics, three related to fine ware, one semi-fine ware and one coarse ware (Fig. 4.11). It is obvious that a petrographic analysis on thin sections would have been more reliable for the distinction and the characterisation of the fabrics.

The in-depth study confirmed the identification of three classes of fine wares recognised by Trump, which, in his vision, were

---

<sup>40</sup> Evans 1953: 66, fig. 10.

<sup>41</sup> Cazzella and Moscoloni (2004-2005: 266) report the discovery of 1032 potsherds of Borġ in-Nadur type from the excavations of the 1960s.



representative of three chronological phases named II B1, II B2, II B3 spanning seven centuries, from 1500 to 700 BC<sup>42</sup>.

In fact, fabric 1, 2 and 4 of our analysis correspond exactly to his II B1, II B2, II B3 pottery classes (Fig. 4.12). Despite the chronological value Trump gave to those three wares, which will be discussed later on in this paper, that main distinction still remains the more reliable and is shared by many scholars. For this reason, the labels ‘fabric 1/II B1’, ‘fabric 2/II B2’ and ‘fabric 4/II B3’ will be used here. For the definition of fabrics 1 and 4, the label adopted by MariaElena Zammit in a recent work about prehistoric pottery coming from a survey carried out at Bahrija shall be used<sup>43</sup>. In addition, a type of semi-fine ware, fabric 3, and another one of coarse ware, fabric 5, were recognised. With the exception of a reference to a ‘coarse unslipped fabric’ among the Borġ in-Nadur phase ware given by Evans<sup>44</sup>, the coarse variety has never been discussed.

#### **Fine ware**

*Fabric 1* (Reddish yellow fabric with thick red slip): soft powdery fabric, with calcareous inclusion (very fine-fine, 2-5%) and voids (fine-medium, 2-5%); orange body (5 YR 7/6 reddish yellow), gray core (2.5 Y 6/2 light brownish gray); thick crackling slip from red to scarlet (from 10 R 5/8 red to 10 R 6/4 pale red), sometimes applied in two layers, generally burnished. Linear cut out decoration with white inlay. Corresponding to Trump’s II B1 ware.

*Fabric 2* (Pink fabric with red mottled slip): hard-very hard fabric, rarely porous, with calcareous inclusions (fine-medium 5%) and voids (fine 5%); pink body (10 Y 7/4 pale red), gray core (2.5 Y 6/2 light brownish gray); mottled crackling slip with several shades of red (from 2.5 YR 4/8 red to 10 R 6/4 pale red) marked by large irregular black blotches, frequently not burnished. Linear cut out and simple geometric decoration with white inlay. Corresponding to Trump’s II B2 ware.

*Fabric 4* (Reddish yellow fabric with dark red to black mottled slip): Hard-very hard fabric, porous, with calcareous inclusions (very fine 2-5%); dark red surface (from 5 YR 7/6 reddish yellow to 2.5 YR 2.5/1 reddish black), grey core (2.5 Y 6/2 light brownish gray); thin slip roughly burnished or not burnished with irregular dark blotches. Linear cut out and simple geometric decoration with white inlay. Corresponding to Trump’s II B3 ware.

---

<sup>42</sup> Trump 1961: 262.

<sup>43</sup> Zammit 2006.

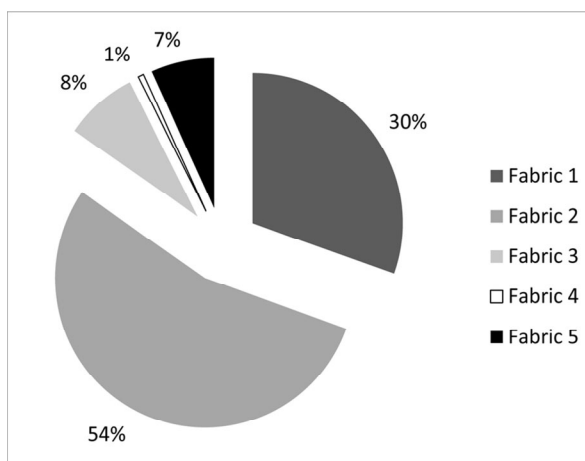
<sup>44</sup> Evans 1971: 226.

### Semi-fine ware

*Fabric 3*: very hard fabric, with lithic inclusions (very fine 10%) and voids (very fine-fine 2%); orange-gray surface (from 5 YR 7/6 reddish yellow to 7.5 YR 7/3 pink); dark grey core (5 Y 4/1 dark grey); not slipped and generally undecorated; surfaces burnished.

### Coarse ware

*Fabric 5*: hard powdery thick walled fabric, with several lithic inclusions of different type (fine-medium 25%) and many voids and cracks (medium-coarse 10%); orange surface (from 10 R 7/6 light red, to 5 YR 8/3 pink), dark grey core (5 Y 4/1 dark grey); surfaces roughly polished.

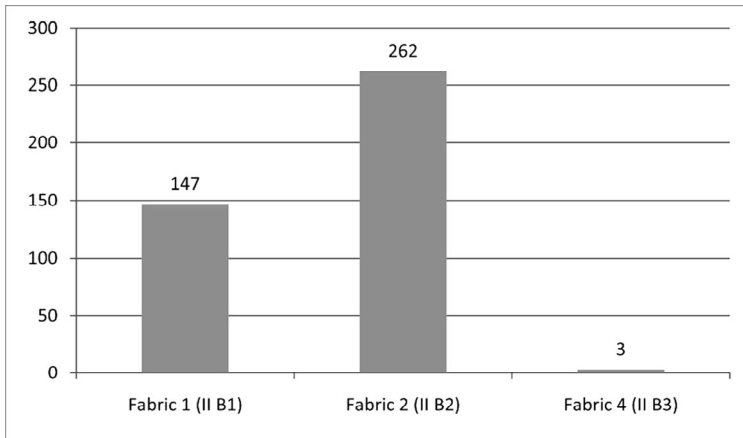


**Figure 4.11.** Pie chart showing the percentage distribution of the five Borg in-Nadur phase pottery fabrics.

The occurrence of just 18 specimens showing repair holes<sup>45</sup> in all the fabrics are indicative of the general toughness of the fabrics, even of the softer fabric 1, and could also suggest that broken examples could be easily substituted.

As it clear from the pie chart (Fig. 4.11), fabrics 1 and 2 typical of fine ware, are the most representative in the pottery groups,

<sup>45</sup> BRG/010/62, BRG/010/75, BRG/010/100, BRG/010/76, BRG/010/112, BRG/010/125, BNP/37, BN/P43/2, BN/P43/30, BN/P49c, BN/P134g, BN/P138g, BN/P140n, BN/P150, BN/P154a, BN/P154c, BN/P162g, BN/P187.



**Figure 4.12.** Histogram indicating the number of sherds with fabrics 1, 2 and 4, corresponding respectively to Trump's II B1, II B2 and II B3 wares.

while fabric 4 is scarcely attested. Fabrics 3 and 5 related to semi-fine and coarse wares have a very limited distribution. With regards to the relationship between the fabrics we identified and the wares Trump associated with his three phases, it is possible to highlight significant data by analysing the histogram (Fig. 4.12). There is a gradual increase in diagnostic pieces from fabric 1 (II B1) to fabric 2 (II B2), the most common of the fabrics, whilst fabric 4 (II B3) is represented by 3 sherds only.

The more common technical features of the Borğ in-Nadur pottery is treatment of the surfaces, with are generally polished and covered with a red slip, usually burnished. Table 4.1 makes it clear how these treatments are scarcely attested or are indeed absent in semi-fine and coarse wares (fabrics 3 and 5), while, with the exception of fabric 4, they are very frequent in fabrics 1 and 2. In particular it is remarkable that 173 specimens of the 261 representing fabric 2 present burnished surfaces which are unslipped.

Aspects of the manufacturing process of Borğ in-Nadur pottery is a largely neglected argument.

	<b>Fabric 1</b> (II B1)	<b>Fabric 2</b> (II B2)	<b>Fabric 3</b>	<b>Fabric 4</b> (II B3)	<b>Fabric 5</b>
<i>Red slip</i>	58	67	3	-	-
<i>Burnishing</i>	75	173	4	-	-

**Table 4.1.** Comparative table of the occurrence of red slip and burnishing in the five fabrics.

In her first publications about Bronze Age pottery coming from the temple, Murray stated: ‘The greater number have been thrown on the wheel, but a few are hand-made’<sup>46</sup>. In my survey of Borg in-Nadur pottery from several Maltese sites, undisputable traces of the use of a potter’s wheel were never found. Nevertheless, in many cases it was possible to observe irregular horizontal traces in internal walls of closed shapes that could be interpreted as signs of the use of a polishing tool as well as pot making using a poorly developed potter’s wheel. No finger or palm prints were identified on the pottery from Borg in-Nadur and mat and wattle impressions on the base are limited to trays, like BN/P6 (Fig. 4.33, Pl. 5), because of the surface polishing which, as mentioned above, was rather common.

A significant technical feature is that connected with an embossed base, a peculiar tract of Borg in-Nadur production, present only in 12 examples<sup>47</sup> in the group of 579. That characteristic could be related to a method of working the clay body on a small pedestal of cylindrical shape, which can be rotated by hand or around which it is possible to work<sup>48</sup>.

With regards to the firing conditions, it is possible to clearly distinguish between specimens of fabric 1, characterised by a uniform red/scarlet colour, fired in a controlled oxidizing atmosphere and examples of fabric 2, with a surface mottled by black blotches, probably fired in oxidizing-reducing atmosphere<sup>49</sup>. What is not clear is if the mottled appearance of vessels of fabric 2

<sup>46</sup> Murray 1923: 35, 38 (no. 179).

<sup>47</sup> BRG/010/46, BRG/010/52, BRG/010/58, BRG/010/63, BRG/010/68, BRG/010/72, BN/P3, BN/P4, BN/P8, BN/P58e, BN/P152c, BN/P152d.

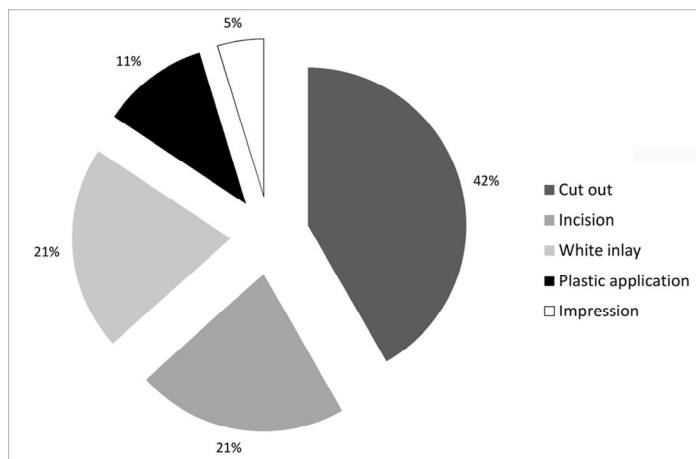
<sup>48</sup> Cuomo di Caprio 2007.

<sup>49</sup> Cuomo di Caprio 2007.

was a random outcome of an uncontrolled oxidizing-reducing firing conditions or if it was a desired result of skillfully controlled firing conditions in specific kinds of kilns.

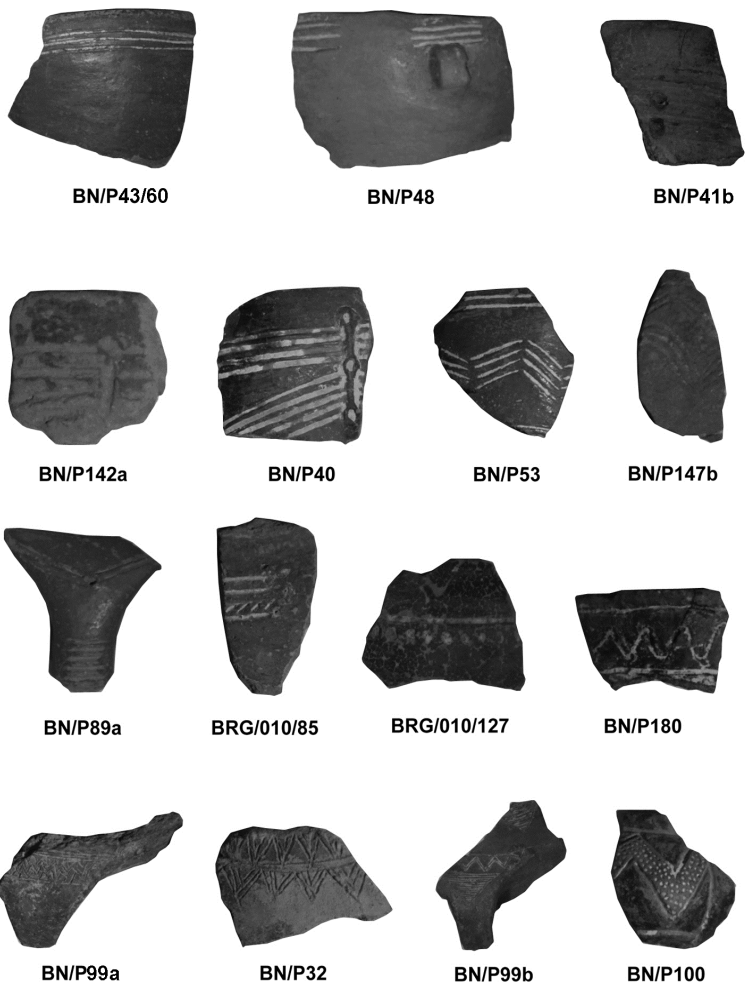
Just 51 specimens of 579 were totally burned and their fabric was not properly identifiable. The conical bowl BN/P135b (Pl. 21) presents an over burned rim, while the internal walls seem more well fired going towards the base, suggesting that it was fired in an overturned position in a furnace with a lower firing chamber.

One peculiar feature of Borg in-Nadur pottery, when present, is the decoration which is essentially characterised by simple geometric patterns and an absence of zoomorphic and anthropomorphic representations. Of 579 specimens studied, 282 were decorated.



**Figure 4.13.** Pie chart indicating the percentage distribution of the principal decorative systems.

Four main types of decoration can be found: cut out, incised, impressed or stamped and with plastic application; in addition, in the first two cases very frequently a secondary decorative element, represented by an inlay of white paste, usually occurs (Fig. 4.13).



**Figure 4.14.** Cut out/incised motifs: BN/P43/60: motif A; BN/P48: motif B; BN/P41b: motif C; BN/P142a: motif D; BN/P40: motif E; BN/P53: motif F; BN/P147b: motif G; BN/P89a: motif H; BRG/010/85: motif I; BRG/010/127: motif L; BN/P/180: motif M; BN/P99a: motif N; BN/P32: motif O; BN/P99b: motif P; BN/P100: motif Q (not to scale, photograph by the author).

It was impossible to locate the examples of dribbled ware reported by Murray as coming from the Apsidal Building<sup>50</sup>. The difference between cut out and incised decoration is not in the motif repertoire, which is basically the same, but in the production caused by the use of different tools. Cut out motifs were done with a pointless tool, or better with a truncated point, since the section of grooves is quadrangular and not triangular, while the incised decoration was done with a sharp pointed utensil.

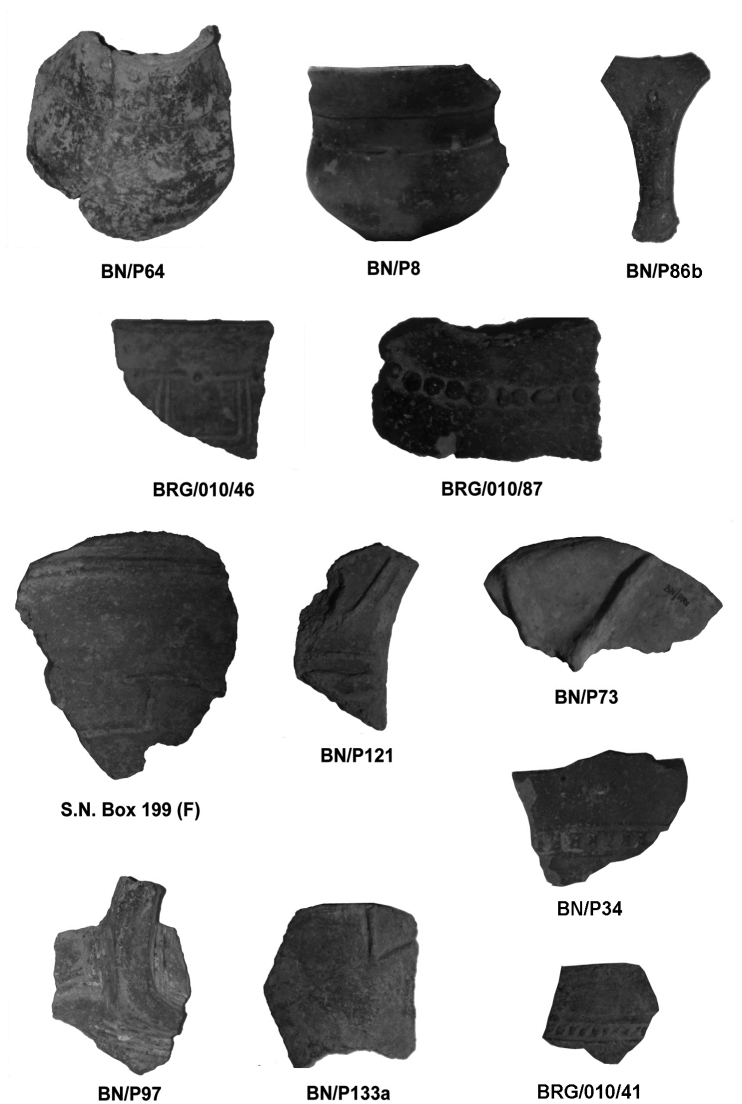
The principal motifs of the cut out/incised decoration, which are the more common, 15 of them can be indentified (A-Q). In order to explain these features, 15 examples in which decoration is clear were taken as a representative schematic model (Fig. 4.14).

- *Motif A* (BN/P43/60): continuous row of horizontal lines.
- *Motif B* (BN/P48): series of rows of horizontal lines.
- *Motif C* (BN/P41/b): row of horizontal lines marked with dots.
- *Motif D* (BN/P142a): row of horizontal lines crossed by a vertical line flanked by dots.
- *Motif E* (BN/P40): row of horizontal lines and a chevron crossed by a vertical plastic line flanked by dots.
- *Motif F* (BN/P53): chevron motifs in horizontal series.
- *Motif G* (BN/P147b): row of curved lines.
- *Motif H* (BN/P89a): multiple triangles with a dot on the apex.
- *Motif I* (BRG/010/85): row of alternated continuous and dotted horizontal lines flanked by dots.
- *Motif L* (BRG/010/127): horizontal line and horizontal series of dots.
- *Motif M* (BN/P/180): wavy line between a pair of horizontal lines.
- *Motif N* (BN/P99a): irregular series of broken lines.
- *Motif O* (BN/P32): opposite horizontal series of multiple triangles.
- *Motif P* (BN/P99b): triangle filled with horizontal lines.
- *Motif Q* (BN/P100): chevrons filled with a dotted pattern.

While usually cut out and incised decoration occur together, plastic applications are often the only decorative system, at times combined only with the cut out technique. The two main plastic elements used are pellets and ropes (Fig. 4.15). Small pellets in horizontal series can occur by the necks of closed shapes, as on

---

<sup>50</sup> Murray 1923: 38, pl. 20,5; Murray 1925: pl. 20, 209; Trump 2002: 272.



**Figure 4.15.** Plastic elements: BN/P64, BN/P8, BN/P86b, BRG/010/46, BRG/010/87: pellets; S.N. Box 199 (F), BN/P121, BN/P73, BN/P133a, BN/P97: rope bands; impressed elements: BN/P34, BRG/010/41 (not to scale, photograph by the author).



BN/P64 (Fig. 4.15), or set into a cut out horizontal groove, as in dipper cup BN/P8 (Fig. 4.15).

They can be also present alone and marked by an impressed dot, as for BN/P86b (Fig. 4.15), or combined with a simple geometrical square pattern as in BRG/010/46 (Fig. 4.15). Finally, pellets can appear as a tight series, horizontally in shallow cut out grooves, as in BRG/010/87 (Fig. 4.15).

The other more common plastic application is the rope band, with triangular and U-shaped section. It can be present in a combination so as to form a net pattern, as in the not catalogued sherd S.N. Box 199 (F) (Fig. 4.15), or it can be imitating other patterns usually through incision, as in BN/P121 (Fig. 4.15). In other cases, single angular (BN/P133a) (Fig. 4.15) or curvilinear rope bands (BN/97) (Fig. 4.15) can occur, even combined in a radial pattern as in BN/P73 (Fig. 4.15).

Decoration impressed with roller stamps is rather rare and, as stressed further on, it seems to belong to a later phase of the production. In the few examples identified, two kinds of roller stamps can be made out. The first one resulted in a pattern with a horizontal series of dots flanked by a couple of lines (BN/P34) (Fig. 4.15) and a second one marking a horizontal series of diagonal lines flanked by a couple of lines (BRG/010/41) (Fig. 4.15).

The white inlay is in general always present, combined with both cut out and impressed decoration. The filling paste, probably composed of gypsum, was set with a very weak natural adhesive, which caused, in most occasions, its partial or total detachment. Comparisons with the Borg in-Nadur-type pottery found in Sicily and scientific analyses could provide more information about the technical aspects of this decorative method<sup>51</sup>.

The quantitative relationship between the five fabrics and the decorative techniques is presented in Table 4.2.

The most relevant points that must be made here include the substantial scarcity or total absence of decoration of the semi-fine and coarse ware (fabrics 3 and 5) and, excepting the under-represented fabric 4, the high number of cut out examples in fabric 1 and of plastic decorated specimens in fabric 2.

---

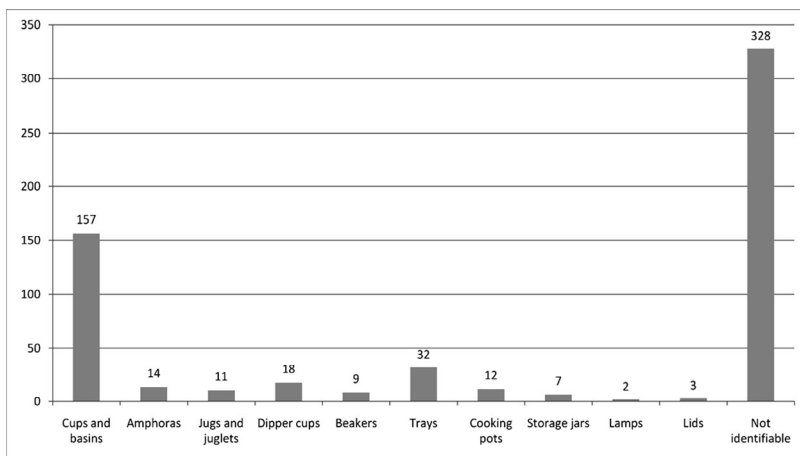
<sup>51</sup> See Tanasi, this volume (chapter 10).

	Fabric 1 (II B1)	Fabric 2 (II B2)	Fabric 3	Fabric 4 (II B3)	Fabric 5
<i>Cut out</i>	65	45	3	1	-
<i>Incised</i>	19	26	1	-	-
<i>Plastic</i>	5	20	4	-	-
<i>Impressed</i>	4	5	2	1	-
<i>White incl.</i>	22	32	2	1	-

**Table 4.2.** Comparative table of the main decorative systems occurring in the five fabrics.

#### 4.4.2. Typology, function and parallels

With regards to typology, 10 main groups were identified: cups and basins, amphoras, jugs and juglets, dipper cups, beakers, trays, cooking pots, storage jars, lamps, and lids. Within each category, sub-types and varieties were distinguished using a system of numbers and letters (i.e., type 1A).



**Figure 4.16.** Histogram indicating the quantities identified for each typological class.

Classification criteria were based exclusively on morphological features. In addition to the 10 groups, another category labelled 'varia' included clay objects which were difficult to interpret. A large part of the material (328 sherds) was unfortunately represented by body or wall sherds or by very small fragments for which it was impossible to make out the original shapes; for this reason these pieces were omitted from the typological classification (Fig. 4.16).

To find typological comparisons for the identified shapes was a rather difficult task considering the scarcity of published data for Borġ in-Nadur phase pottery. Besides the few publications in which drawings or photographs of good preserved exemplars are provided, like the contributions about the Borġ in-Nadur settlement<sup>52</sup>, Mtarfa<sup>53</sup> and the Xagħra Circle<sup>54</sup>, the widest selection of Borġ in-Nadur pottery is that presented in Murray's publications<sup>55</sup> and especially in her *Corpus of the Bronze-Age pottery of Malta* of 1934<sup>56</sup>. For the classification of the repertoire the seminal works remains Evans' publications of 1953 and 1971<sup>57</sup>.

Given such limitations, the recent analysis of Borġ in-Nadur pottery from the sites of Għar Mirdum, In-Nuffara (Gozo), Mtarfa and Bahrija, carried out by the author between 2007-2010 and aimed towards an overall reappraisal of the Borġ in-Nadur culture<sup>58</sup>, offer new and useful comparative data. Furthermore, the exhaustive study of Borġ in-Nadur-type pottery found in Sicily provides additional significant information.

### ***Cups and basins***

Conical cups and basins, with simple base or pedestal, represent the most common vessels of the Borġ in-Nadur repertoire. They are also the most frequent vessels amongst the ceramic finds from the temple totalling 157 pieces, although many of them were so tiny

---

<sup>52</sup> Trump 1961.

<sup>53</sup> Sagona 1999.

<sup>54</sup> Malone *et al.* 2009.

<sup>55</sup> Murray 1934.

<sup>56</sup> Murray 1934.

<sup>57</sup> Evans 1953; Evans 1971. In our survey, all the types identified by Evans in 1953 were found with the exception of E 107, which was later labelled as BN/P10 (Evans 1971: fig. 4.5).

<sup>58</sup> Tanasi 2010a; Tanasi and Vella forthcoming.

that it was impossible to define precisely the typology. Corresponding to shapes 92 and 93 of Evans' classification<sup>59</sup>, they are the more recognisable pottery type for this period in the Maltese archipelago and in Sicily<sup>60</sup>.

Since the cups and basins are essentially the same as far as morphology and decoration go (only dimensions differ), 30 diagnostic pieces of both shapes were identified and divided in typological groups. Due to the fragmentary nature of the sherds it was not possible to distinguish which of them belonged to the footed type. As for the completely restored pedestal cup BN/P13, since its entire profile is not preserved, it cannot be considered reliable as the vessel type for this shape.

The guideline used for the typological distinction was represented by peculiarities of the rim and in some cases also by body profile. Four main types were identified. For both types 1 and 2, three sub-types were distinguished (1A, 1B, 1C and 2A, 2B, 2C).

*Type 1A* (BRG/010/129, BN/P13, BN/P43.41, BN/P45a, BN/P135b): conical or hemispherical body with straight indistinct rounded rim; cut out decoration with white inlay or undecorated; vertical strap handles or lug handles below the rim (Fig. 4.17, Pls 5, 10, 11, 21).

*Type 1B* (BRG/010/90, BRG/010/103, BN/P40, BN/P136b, BN/P138a): conical or hemispherical body with straight indistinct rim with quadrangular section; cut out decoration with white inlay or undecorated; vertical strap handles below the rim (Fig. 4.18, Pls 3, 7, 21).

*Type 1C* (BRG/010/88, BRG/010/97, BRG/010/101, BN/P43/1, BN/P43/40, BN/P45h, BN/P49h, BN/P108c, BN/P133a, BN/P138g): conical shallow body with straight indistinct rim with quadrangular section curving inward; cut out decoration with white inlay or undecorated; plastic applications in shape of rope bands with geometric patterns; vertical strap handles below the rim (Figs 4.19, 4.20, Pls 3, 7, 10, 12, 13, 19, 20, 22).

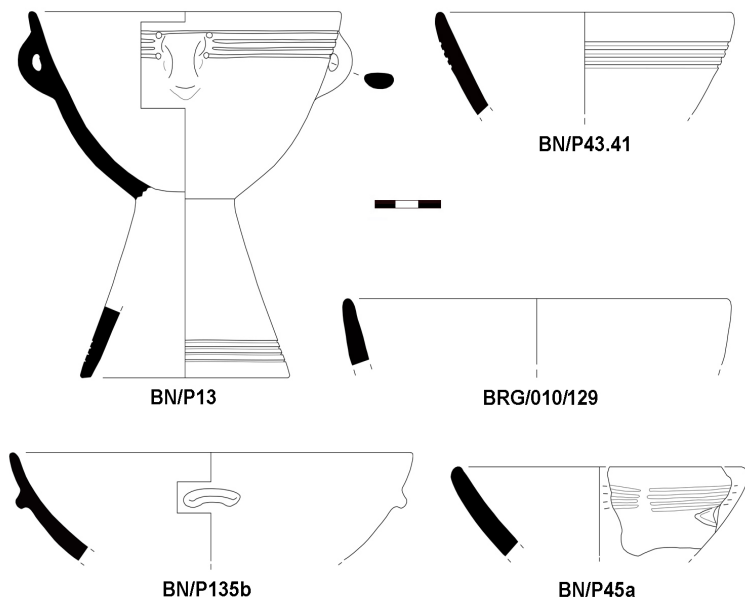
*Type 2A* (BRG/010/117, BN/P122, BN/P173): conical shallow body with curving profile, straight indistinct thinned rim; cut out decoration with white inlay; vertical strap handles below the rim or on the rim (Fig. 4.21, Pls 4, 20, 28).

*Type 2B* (BN/P47c, BN/P48, BN/P49a, BN/P110, BN/P137a) conical body with curving profile, straight indistinct rim with quadrangular section; cut out decoration with white inlay or undecorated; plastic applications like rope bands and pellets; vertical strap handles or lug handles below the rim (Fig. 4.21, Pls 12, 19, 21).

---

<sup>59</sup> Evans 1953: 70, fig. 11.

<sup>60</sup> See Tanasi, this volume (chapter 10).



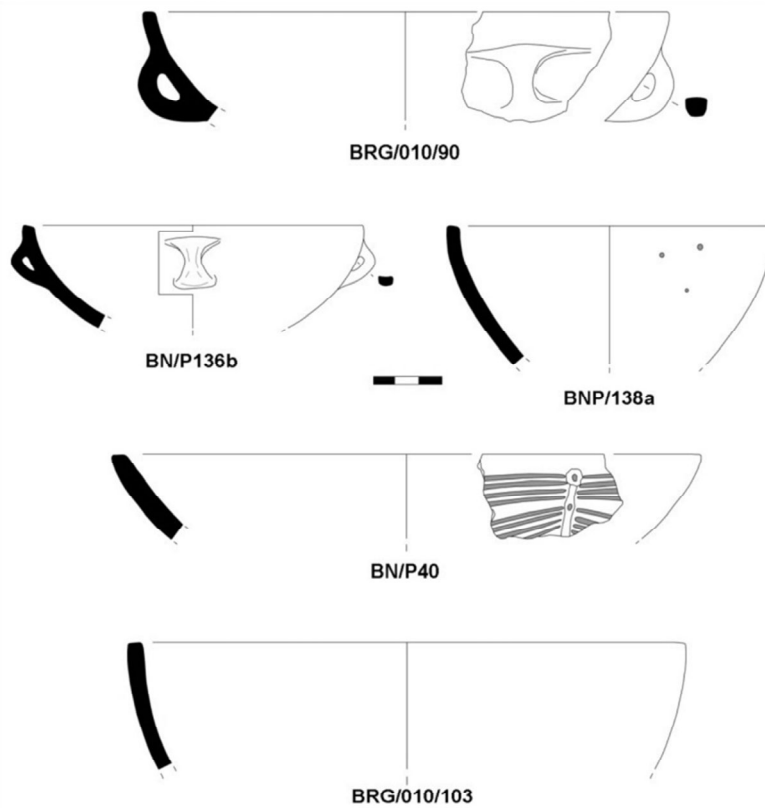
**Figure 4.17.** Cup/basin of type 1A: BN/P13, BN/P43.41, BRG/010/129, BN/P135b, BN/P45a.

*Type 2C* (BRG/010/127): conical body with curving profile, straight indistinct thickened rim with quadrangular section slightly curving inward; cut out and impressed decoration with white inlay (Fig. 4.22, Pl. 4).

*Type 3* (BN/P45i): hemispherical body with curving profile, indistinct thinned rim; cut out decoration with white inlay (Fig. 4.22, Pl. 12).

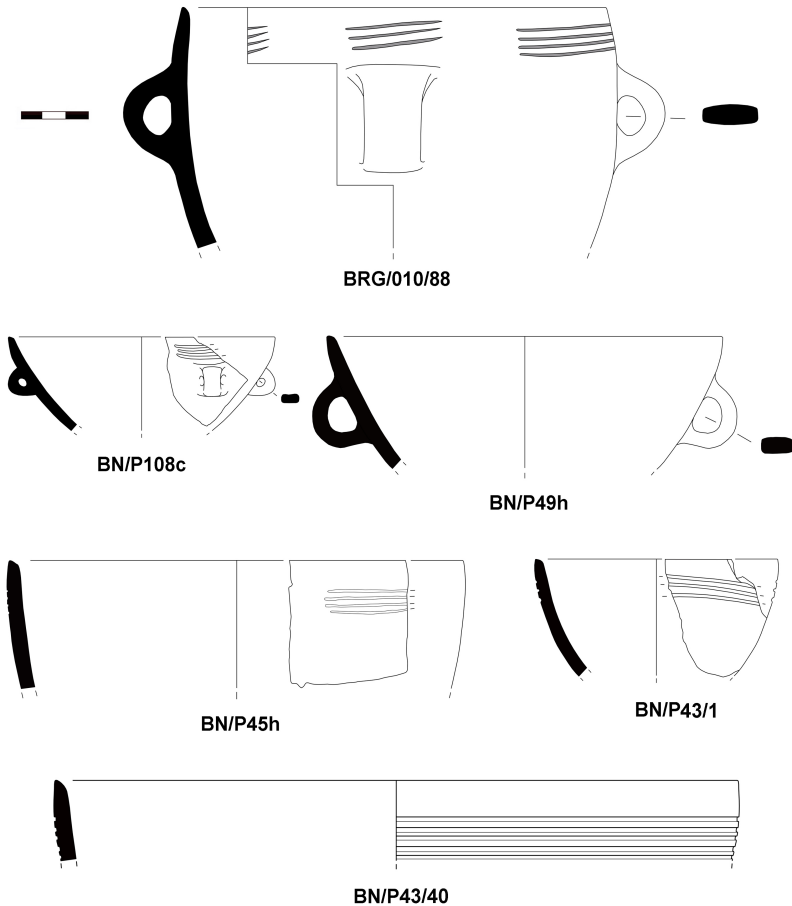
*Type 4* (BN/P127a): carinated body, with continuous convex profile; distinct rim with quadrangular section; undecorated (Fig. 4.22, Pl. 20).

For what regards size, basins have a rim diameter which goes from 36 cm (BN/P40) to 44 cm (BN/P43.40), while cups are between 8 and 32 cm (BRG/010/90). For cups a standard seems to be a diameter of the mouth set between 20 and 24 cm although it is not possible to detect two examples which are identical. About the pedestal, the only evidence comes from the over-restored example BN/P13 which shows an elongated conical hollow foot with indistinct end with quadrangular section, with a foot diameter of 14 cm and a rim diameter of 20 cm; the pot stands at 34 cm.



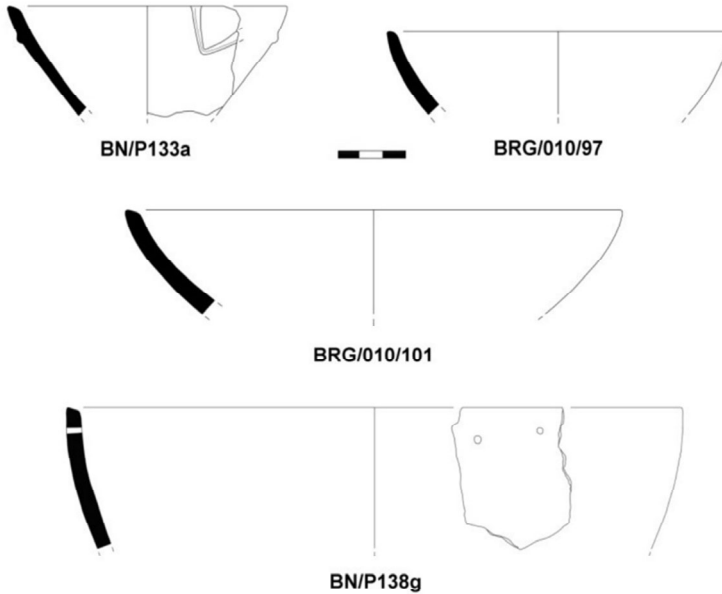
**Figure 4.18.** Cup/basin of type 1B: BRG/010/90, BN/P136b, BN/P138a, BN/P40, BRG/010/103.

To interpret the function of these pots is a rather difficult task. Considering the average dimensions, cups do not seem apt to have been used as drinking vessels although specimens of type 1C have rim features suitable for the purpose of drinking. Handles, when present, seem to have had the function of holding the vessel rather than lifting or carrying it.



**Figure 4.19.** Cup/basin of type 1C: BRG/010/88, BN/P108c, BN/P49h, BN/P45h, BN/P43/1, BN/P43/40.

Flat based and pedestal cups could be used for mixing liquids or another suggestion is that they were used for holding solid food or liquid food to be consumed with wooden spoons. Since no data are available about furniture for this period it can be assumed that pedestal cups could be used for eating in a seated position with crossed legs.



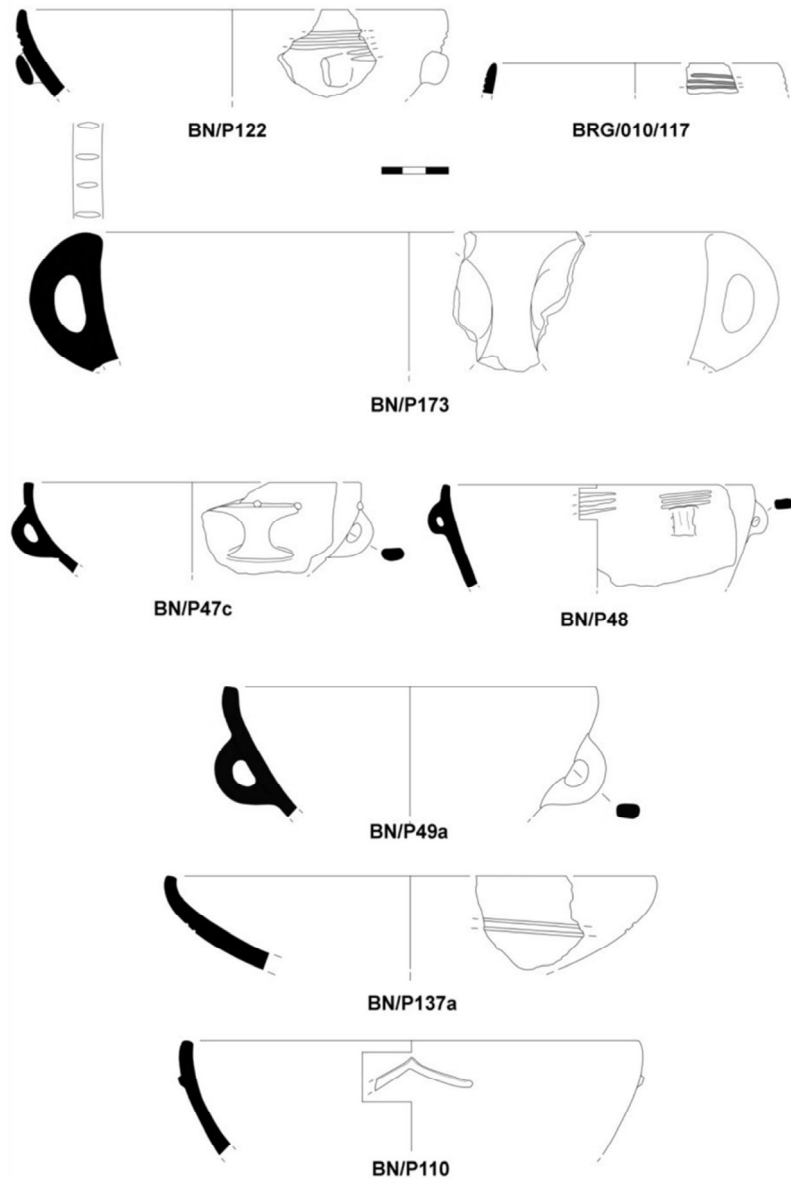
**Fig. 4.20:** Cup/basin of type 1C: BN/P133a, BRG/010/97, BRG/010/101, BN/P138g.

Having said this, they can certainly be considered as part of the table ware of this period. Despite their sizes, basins were actually not storage jars. Take, for instance, the Borg in-Nadur-type pottery found at the necropolis of Cozzo del Pantano in Sicily<sup>61</sup>. One can observe that a well proportioned pedestal basin with a rim diameter of 28 cm was 37 cm high<sup>62</sup>. In this case, pedestal basins from Borg in-Nadur with a rim diameter in the 36-44 cm range, if proportioned in a similar manner, were probably higher than 58 cm. Considering the essential similarity between cups and basins, it can be suggested that the vessels were meant for holding different amounts of the same kind of solid or semi-liquid food.

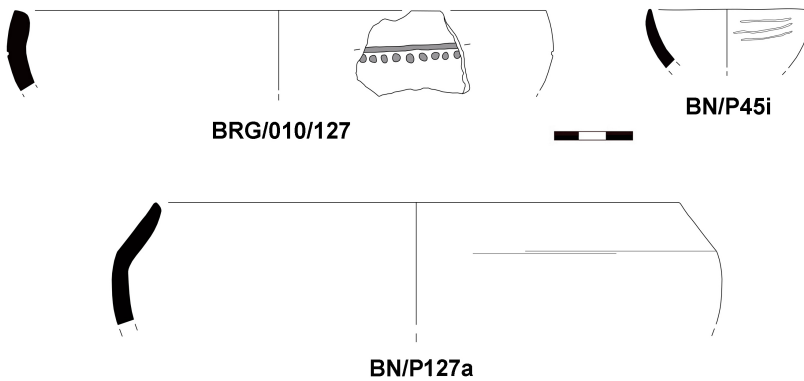
<sup>61</sup> See Tanasi, this volume (chapter 10).

<sup>62</sup> See Tanasi, this volume (chapter 10).





**Figure 4.21.** Cup/basin of type 2A: BN/P122, BRG/010/117; BN/P173; type 2B: BN/P47c, BN/P48, BN/P49a, BN/P137a, BN/P110.



**Figure 4.22.** Cup/basin of type 2C: BRG/010/127; type 3: BN/P45i; type 4: BN/P127a

Maybe basins, especially the pedestalled ones, were used for feasts involving more persons, as in Middle Bronze Age Sicily, where pedestal basins were used together with pedestal cups during the feast in funerary rituals<sup>63</sup>.

Morphologically, type 1A can be compared with TSG96/205/15 from Tas-Silġ<sup>64</sup>, with vessels P1, P2, P6, P11 from Mtarfa<sup>65</sup>, and with the unpublished cup MRD64/P/750 from Ghar Mirдум (Fig. 4.23). In Sicily, the type is also comparable with a bowl from Chiusazza cave<sup>66</sup> and with conical cups 11250, CP23/9, 11242, 11240 from tomb 23 of Cozzo del Pantano<sup>67</sup>.

Type 1B is equivalent to cups P4a, P10, P13a, P13b from Mtarfa<sup>68</sup> and to two unpublished vessels: MRD64/P/850 (Fig. 4.23) from Ghar Mirдум and NNF60/P/09/1 (Fig. 4.23) from In-Nuffara. Good Sicilian comparisons come from tombs 13 (11222, 11223) and 23 (11241, 11244, 11246, 11247, 11249) of Cozzo del Pantano<sup>69</sup>.

<sup>63</sup> Maniscalco 1999; Tanasi and Vella forthcoming.

<sup>64</sup> Sagona 2000: 86, fig. 14.4.

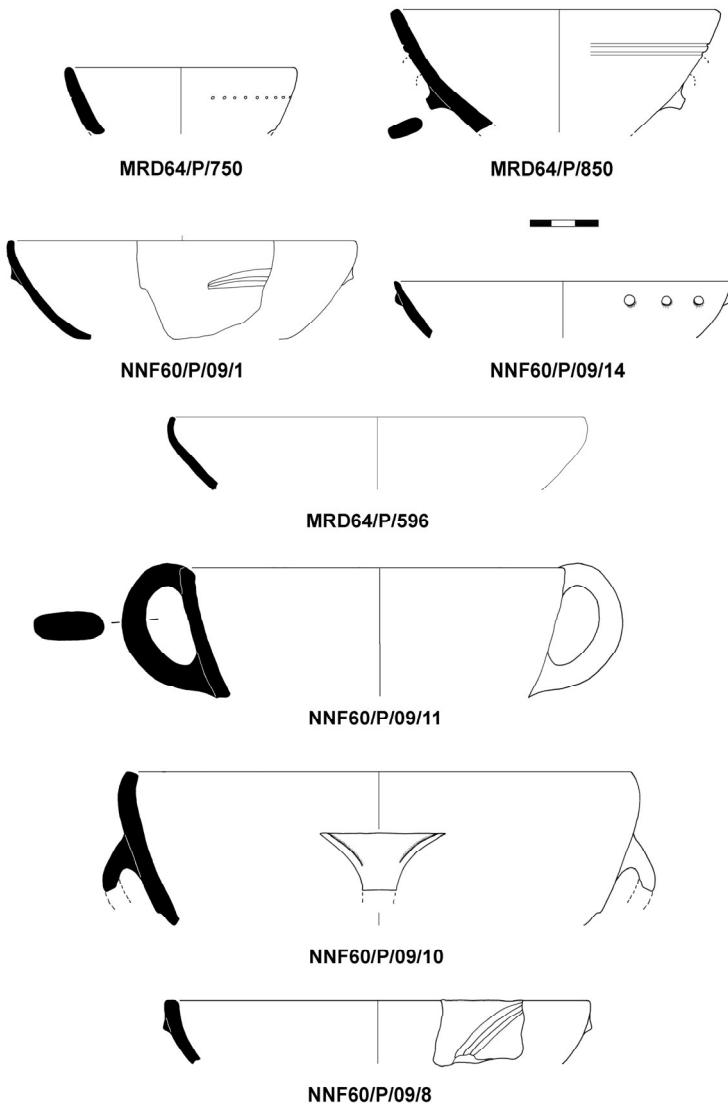
<sup>65</sup> Sagona 1999: 54-55, fig. 3:1, 3:5, 3:6, 3:7.

<sup>66</sup> Tinè 1965: 237 (no. 431), 239, fig. 18,1, pl. 36,1-5.

<sup>67</sup> See Tanasi, this volume (chapter 10).

<sup>68</sup> Sagona 1999: 30-31, fig. 3.2, 3.8, 4.2, 4.4, p. 55.

<sup>69</sup> See Tanasi, this volume (chapter 10).



**Figure 4.23.** Ghar Mirdum, cups/basins of type 1A: MRD64/P/750; 1B: MRD64/P/850; 2A: MRD64/P/596; In-Nuffara, cups/basins of type 1B: NNF60/P/09/1; 1C: NNF60/P/09/14; 2A: NNF60/P/09/11; 2B: NNF60/P/09/10; 2C: NNF60/P/09/8 (drawings by Denise Cali and Carlo Veca).

In addition, this type of pedestal cup is widely diffused in several other Sicilian contexts (Thapsos, Matrensa, Ognina, Vendicari)<sup>70</sup>.

Type 1C can be related to the profile of specimen 916 (65) from the Xaghra Circle<sup>71</sup>, and with the unpublished cup NNF60/P/09/14 from In-Nuffara (Fig. 4.23). Furthermore, cup BN/P133a, although it has a different typology, shares the same plastic decoration of example P12 of Mtarfa<sup>72</sup>. Finally, the same typology is shared by examples 11251, 11253, 11254, 11258, 11259 found in tomb 23 of Cozzo del Pantano, in Sicily<sup>73</sup>.

Type 2A finds comparison with vessel P28a from Mtarfa<sup>74</sup> and with the unpublished piece MRD64/P/596 (Fig. 4.23) from Ghar Mirдум. Furthermore, shape BN/P173 is equivalent to the unpublished example NNF60/P/09/11 (Fig. 4.23) from In-Nuffara.

Type 2B is recalled by cup P5a from Mtarfa<sup>75</sup> and the unpublished vessel NNF60/P/09/10 from In-Nuffara (Fig. 4.23).

Type 2C can be compared only to the unpublished cup NNF60/P/09/8 from In-Nuffara (Fig. 4.23). In addition, with its shape and decoration it is basically identical to a cup found in tomb 6 of the Sicilian necropolis of Matrensa<sup>76</sup>.

For types 3 and 4 it was not possible to find a typological match in the available documentation.

### ***Amphoras***

The amphora is one of the less known shape of the Borg in-Nadur pottery repertoire. Simply defined ‘ovoid jar with conical neck’ and identified as type 100 by Evans, its features have never been discussed<sup>77</sup>. The 13 specimens analysed here can be distinguished in two main typological groups: type 1 (with its sub-types 1A, 1B, 1C) and type 2 (split in types 2A and 2B).

<sup>70</sup> Tanasi 2008: 62 (tipo IIA).

<sup>71</sup> Malone *et al.* 2009: 215, fig. 10.19,v.

<sup>72</sup> Sagona 1999: 30-31, fig. 4.1, p. 55.

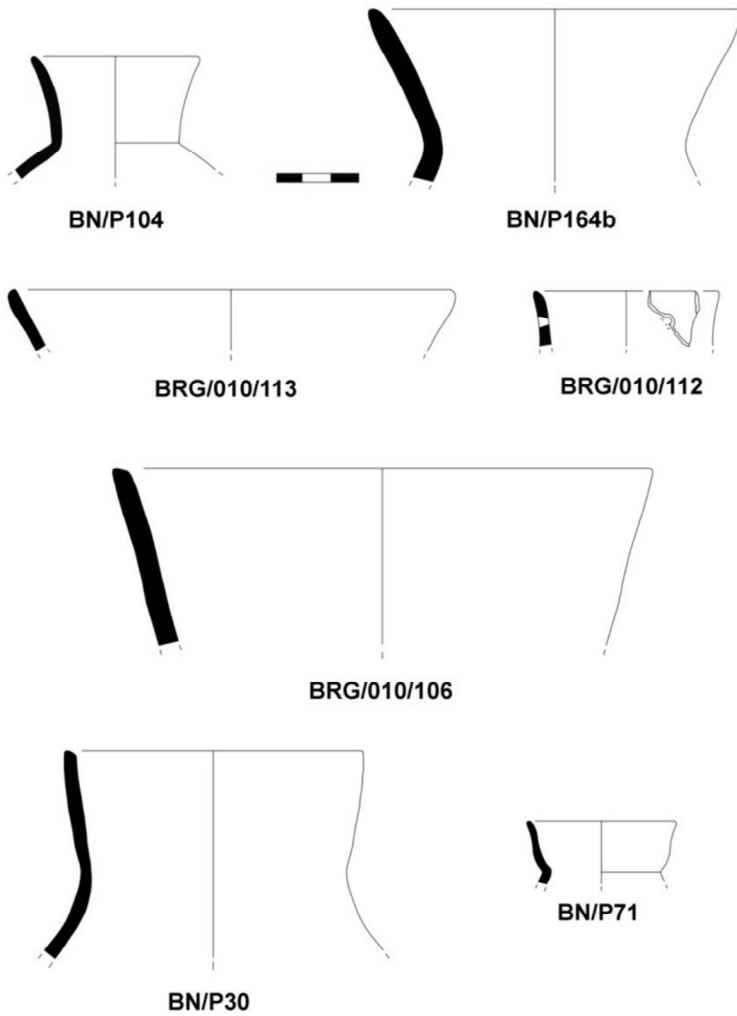
<sup>73</sup> See Tanasi, this volume (chapter 10).

<sup>74</sup> Sagona 1999: 30-31, fig. 3.4, p. 56.

<sup>75</sup> Sagona 1999: 31, fig. 4.3, p. 55.

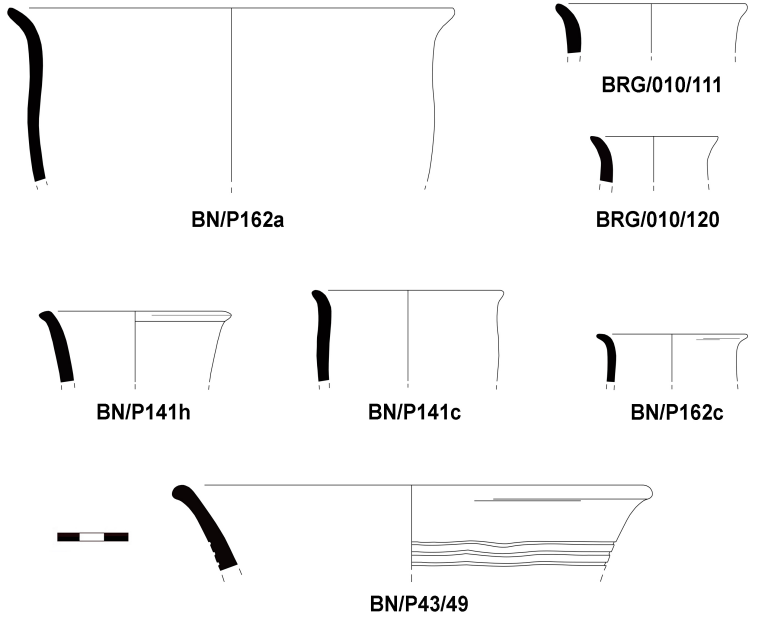
<sup>76</sup> Orsi 1903: 147, pl. 10,3.

<sup>77</sup> Evans 1953: 70-71, fig. 11.



**Figure 4.24.** Amphoras of type 1A: BN/P104, BN/P164b, BRG/010/113, BRG/010/112, BRG/010/106; type 1B: BN/P30; type 1C: BN/P71.

*Type 1A* (BRG/010/112, BRG/010/113, BN/P104, BN/P164b): distinct high conical neck with indistinct rounded rim (Fig. 4.24, Pls 4,18, 27).



**Fig. 4.25:** Amphoras of type 2: BN/P162a, BRG/010/111, BRG/010/120, BN/P141h, BN/P141c, BN/P162c, BN/P43/49.

*Type 1B* (BRG/010/106, BN/P30): indistinct high neck slightly conical with indistinct rim with quadrangular section curved inward (Fig. 4.24, Pls 4, 6).

*Type 1C* (BN/P71): distinct low conical neck with indistinct rounded rim and a wall thickening by the attachment point (Fig. 4.25, Pl. 15).

*Type 2* (BRG/010/111, BRG/010/120, BN/P43/49, BN/P141c, BN/P141h, BN/P162a, BN/P162c): high neck with concave profile with indistinct everted thinned rim; undecorated or with cut out decoration with white inlay (Fig. 4.25, Pls 4, 10, 23, 26).

This shape presents a wide variety in size, from very large examples with a rim diameter of about 24 cm (BN/P162a, BN/P43.49, BN/P30) to miniature vessels with a rim diameter of 6.8 cm (BRG/010/120). With the exception of pieces of type 1B, in general rim features do not seem to have been intended to receive clay lids. This suggests that this shape was probably not meant to be a transport jar or a vessel intended for long-term storage of dry substances, but more likely a liquid container.

Comparisons for the types of amphoras are rather scarce. Specimen BN/P104 of type 1A seems to recall the fragmentary piece P23 from Mtarfa<sup>78</sup>.

### ***Jugs and juglets***

Just like conical cups and basins, jugs of different sizes are the most common shape of the Borġ in-Nadur repertoire, largely attested also in Sicily<sup>79</sup>. Despite this, the specimens coming from the temple area are not so numerous. Three types can be distinguished: type 1, type 2 (divided in 2A and 2B) and type 3 (divided in 3A, 3B and 3C).

The terminological distinction between jug and juglet is based on dimensions. Jugs are considered examples of types 1, 2A and 2B with a rim diameter of 12 cm and a height up to 18 cm. Juglets are vessels of types 3A, 3B and 3C, with a standard rim diameter of 8 cm. Their function is inferred from the rim features which generally suggest their use as pouring vessels, although types 1 and 2A seem more apt for containing liquids.

*Type 1* (BN/P3): neckless ovoid body with slightly inverted distinct rim with quadrangular section; embossed indistinct base; two vertical strap handles, one surmounting and the other smaller and regular; cut out decoration with plastic applications like large pellets (Fig. 4.26, Pl. 5).

*Type 2A* (BN/P105): low distinct cylindrical neck with straight indistinct thinned rim; vertical strap handle between neck and shoulder; undecorated (Fig. 4.26, Pl. 18).

*Type 2B* (BN/P4): ovoid body, low distinct cylindrical neck with straight indistinct thinned rim; surmounting vertical strap handle with probable axe-shaped appendix; undecorated (Fig. 4.26, Pl. 5).

*Type 3A* (BN/P56b): distinct high conical neck with indistinct rounded rim; vertical strap handle; undecorated (Fig. 4.26, Pl. 13).

*Type 3B* (BN/P120): distinct low conical neck with distinct everted rim; surmounting vertical strap handle with probable axe-shaped appendix; undecorated (Fig. 4.26, Pl. 19).

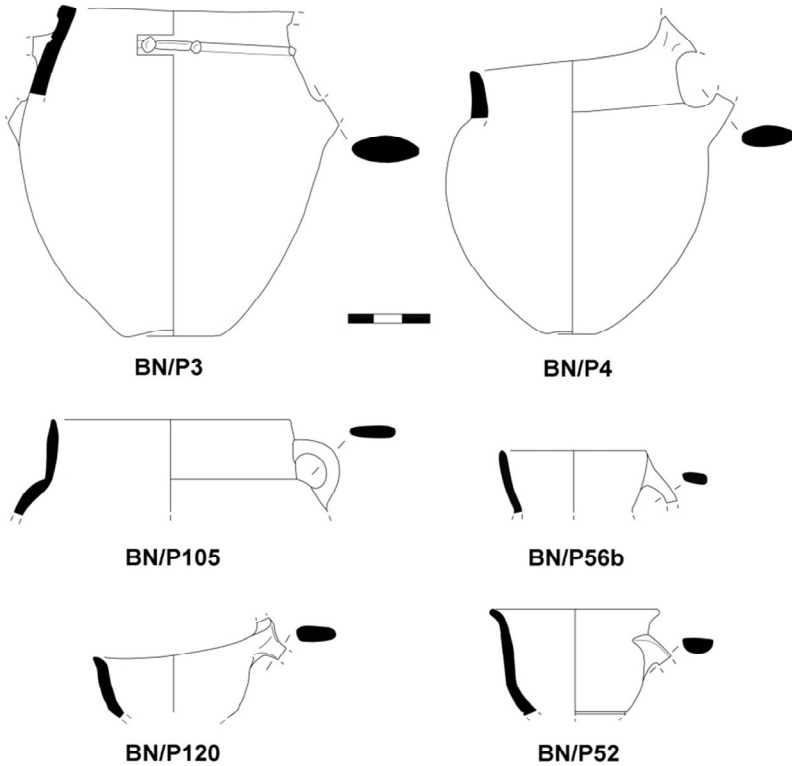
*Type 3C* (BN/P52): distinct low conical neck with distinct everted rim; vertical strap handle; cut out decoration (Fig. 4.26, Pl. 13).

In addition to these diagnostic specimens, few other examples can be recalled. Juglet BN/P66 (Pl. 14) belongs to type 2B,

---

<sup>78</sup> Sagona 1999: 32, fig. 5.3, p. 55.

<sup>79</sup> Tanasi 2008: 57-60.



**Figure 4.26.** Juglets of type 1: BN/P3; type 2A: BN/P105; type 2B: BN/P4; type 3A: BN/P56b; type 3B: BN/P120; type 3c: BN/P52.

fragmentary vessel BN/P56a (Pl. 13) is related to type 3A, and BN/P64 (Pl. 14) and BN/P65 (Pl. 14) belong to type 3C.

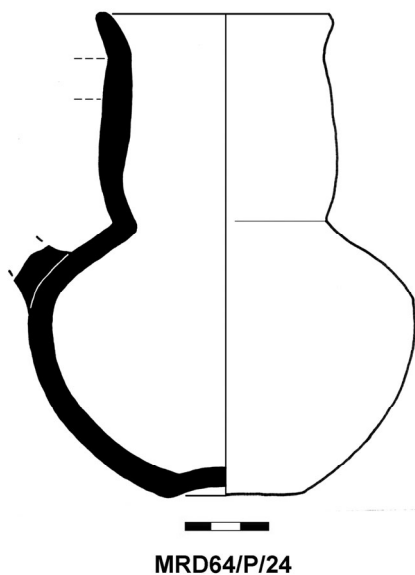
The types identified more or less match Evans' classification. Type 1 corresponds to Evans 103, type 2B to Evans 105, type 3A to Evans 106 and types 3B and 3C can be compared to Evans 101<sup>80</sup>. Only the jug of type 2A seems to be a completely new type.

<sup>80</sup> Evans 1953: 70-71, fig. 11.



Type 1 remains without comparisons although it seems to recall slightly vessel P33 from Mtarfa<sup>81</sup>.

Type 2A cannot be precisely related to any other examples even if the handle with axe-shaped termination which could also be peculiar to it, is rather common. During my survey of Bronze Age pottery at the National Museum, I found two examples from In-Nuffara, another two (MRD64/P/66, MRD64/P/154) from Ghar Mirdum, and one from Bahrija (B/P21). Outside the Maltese archipelago, the type is known in Sicily from two pieces, namely from tombs 6 e 27 of Thapsos<sup>82</sup> and a third one from the settlement<sup>83</sup>, and one from Ortigia (Siracusa)<sup>84</sup>.



**Figure 4.27.** Jug of type 3C from Ghar Mirdum (1:2, drawing by Denise Cali and Carlo Veca).

<sup>81</sup> Sagona 1999: 32, fig. 5.5, p. 56.

<sup>82</sup> Orsi 1895: col. 101, fig. 7 and col. 112, fig. 19.

<sup>83</sup> Pelagatti and Voza 1973: 44 (no. 138), pl. 9,138.

<sup>84</sup> Orsi 1919: col. 486, fig. 77.

Type 2B finds a striking match with an unpublished vessel found in tomb E<sup>85</sup> of the Thapsos necropolis, currently on display at the archaeological museum of Siracusa.

Type 3A can be compared to juglet TC/P44 from Tarxien<sup>86</sup> and in Sicily with vessels from tombs 34, 38 and E of Thapsos<sup>87</sup> and tomb 6 of Matrensa<sup>88</sup> and with specimen 11224 from tomb 13 and 11264 from tomb 23 of Cozzo del Pantano<sup>89</sup>.

Type 3B recalls a juglet from tomb 23 of the Sicilian necropolis of Plemmirio<sup>90</sup>.

Type 3C has a perfect match just with the unpublished example MRD64/P/24 from Ghar Mirdum (Fig. 4.27).

### *Dipper cups*

Small handled dipper cups are rather common in the Borg in-Nadur repertoire. Even though one is dealing with fragmentary material, the peculiar surmounting handles with axe-shaped (axe handle) or T-shaped terminations (T handles or catapult handles) make the identification of some types possible<sup>91</sup>. Three main types can be distinguished: type 1, type 2 (divided in sub-types 2A, 2B), and type 3.

*Type 1* (BN/P1): deep conical body with straight indistinct thinned rim; flat based; vertical strap handle slightly surmounting with axe-shaped termination on top; cut out decoration with white inlay (Fig. 4.28, Pl. 5).

*Type 2A* (BN/P58a, BN/P96): shallow hemispherical body with indistinct rounded rim; surmounting strap or loop handles with quadrangular profile, with probable termination of unknown type; undecorated (Fig. 4.28, Pls 13, 18).

*Type 2B* (BN/P93): shallow hemispherical body with indistinct rim with quadrangular section; vertical strap handle slightly surmounting with axe-shaped termination on top; undecorated (Fig. 4.28, Pl. 18).

*Type 3* (BN/P8, BN/P66, BN/P68c, BN/P69, BN/P100, BN/P127b,): deep carinated body; everted distinct rounded rim; surmounting vertical strap handle; cut out decoration with application of plastic pellets (Fig. 4.28, Pls 5, 14, 18, 20).

---

<sup>85</sup> Gentili 1951: 215-216.

<sup>86</sup> Evans 1971: 160, pl. 55:9.

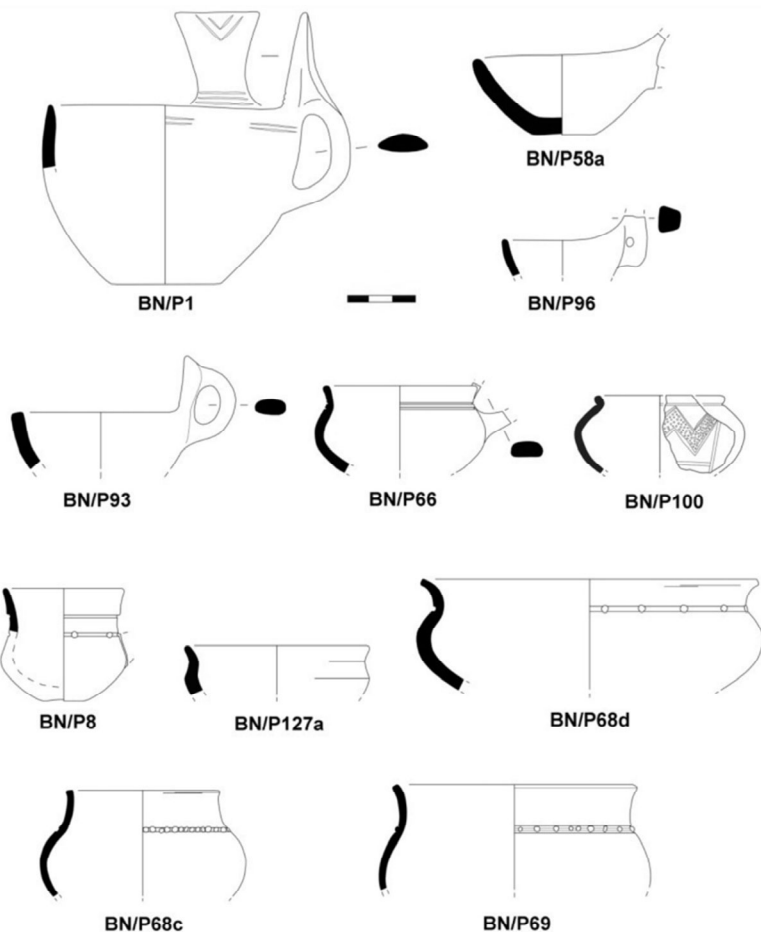
<sup>87</sup> Tanasi 2008: 36-37, 57 (tipo IIA).

<sup>88</sup> Orsi 1903: 147, pl. 11,6.

<sup>89</sup> See Tanasi, this volume (chapter 10).

<sup>90</sup> Orsi 1891: 132, pl. 11,21.

<sup>91</sup> Evans 1953, pl. 13.



**Figure 4.28.** Dipper cups of type 1: BN/P1; type 2A: BN/P58a, BN/P96; type 2B: BN/P93; type 3: BN/P66, BN/P100, BN/P8, BN/p127a, BN/P68d, BN/p68c, BN/P69.

Type 1 corresponds to the archetype Evans shape 94, type 2A can be related to Evans 94 or 95, depending on the kind of terminations, while type 2B is basically a variety of type 1<sup>92</sup>.

<sup>92</sup> Evans 1953: 70-71, fig. 11.

Morphologically different is type 3 that can be compared with Evans 101/102<sup>93</sup>. The presence of a fourth type, comparable with Evans 95<sup>94</sup>, can be identified by the presence of five examples of catapult or T-shaped handles (BN/P86a, BN/P86b, BN/P89a, BN/P89b, BN/P87) (Pl. 17) which probably belong to dipper cups. Moreover, two fragmentary strap handles with curved profile, axe-shaped terminations and central septum (BN/P90, BN/P93) (Pls 17, 18) seems to belong to a fifth type equivalent to Evans 96<sup>95</sup>.

The surmounting handle, common in these examples, and the limited size of the base, point to their use as dippers. The dimensions – a rim diameter ranging between 8 to 12 cm – and the rim features fit with that function. The only exceptions are BN/P1 and BN/69 which are larger than the others, but even in this case the massive handle of BN/P1 could imply the same use. It is significant that only type 1 and type 2B present the typical axe-shaped termination above the handles, which is considered as one of the easily distinguishing feature of Borg in-Nadur phase pottery. This kind of termination is exclusive of dipper cups of types 1 and 2b (Evans 94) and jugs of type 2B (Evans 105), suggesting that they were parts of the same set used for specific activities or that they were just used at the same time. Because of this, it is not possible to assign with precision five specimens of axe-shaped terminations found (BN/P76, BN/P92, BN/P91, BN/P 95) (Pls 17, 18) to their original shapes, even though we know that this would have had to be a dipper cup or a jug.

Although dipper cups are prominent shapes in the Borg in-Nadur phase repertoire, and are numerous among the finds from the temple area, comparisons are yet very rare. For type 1 only one similar example from the Xaghra Circle<sup>96</sup> is known. For what regards the diffusion of handles with axe-shaped terminations, what was said about the juglets of type 2A holds.

Types 2A and 2B find no parallels. Type 3 seems to match with vessel P21 from Mtarfa, specimen BN/P127a (Fig. 4.28, Pl. 20) recalls the unpublished cup MRD/64/P/406 from Għar Mirdum (Fig.

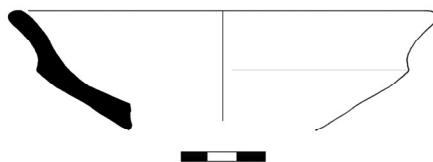
---

<sup>93</sup> Evans 1953: 70-71, fig. 11.

<sup>94</sup> Evans 1953: 70-71, fig. 11.

<sup>95</sup> Evans 1953: 70-71, fig. 11.

<sup>96</sup> Malone *et al.* 2009 : 215, fig. 10.19,w.



MRD/64/P/406

**Figure 4.29.** Dipper cup of type 3 from Ghar Mirдум (drawing by Denise Cali and Carlo Veca).

4.29), and the profile of BN/P68d matches that of two undecorated dipper cups found at Bahrija<sup>97</sup>. A surmounting loop handle probably belonging to a dipper cup, the typology of which is not clear, was also found at the Ghar Dalam site<sup>98</sup>. Catapult or T-shaped handles, belonging to dipper cups of type 4, are attested at Ghar Mirдум (MRD64/P/157) and the Borġ in-Nadur village site<sup>99</sup>. In Sicily they are also attested in the Thapsos settlement<sup>100</sup>. No comparisons can be found instead for the fifth type.

### ***Beakers***

The basic shape of the tableware set is represented by drinking cups, which come into a variety of types.

Because of the fragmentary condition of the assemblage from Borġ in-Nadur, many small open vessels cannot be properly interpreted. Among them, at least three different types of beakers can be identified: type 1, type 2 and type 3.

*Type 1* (BN/P57): deep elongated hemispherical body with indistinct rounded rim; flat indistinct base; undecorated (Fig. 4.30, Pl. 13).

*Type 2* (BN/P58e, BN/P72, BN/P101, BN/P151): deep conical body with indistinct rounded of thinned rim; embossed base; undecorated (Fig. 4.30; Pls 14, 15, 18).

*Type 3* (BN/P125): deep hemispherical body with indistinct rounded rim; small and rough vertical strap handle; undecorated (Fig. 4.30; Pl. 20).

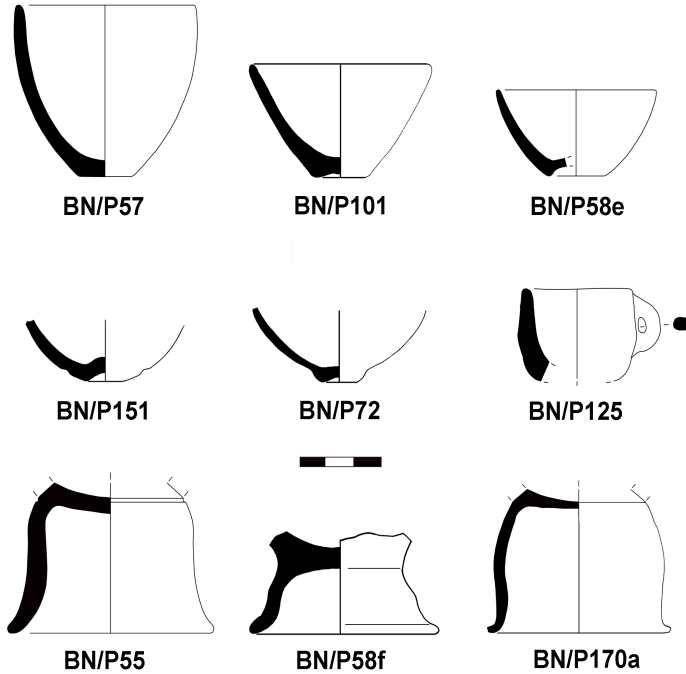
*Type 4* (BN/P55, BN/P58f, BN/P170a): low bell shaped pedestal with everted edges on which is set a body which features are not clear for the fragmentary state of the specimens (Fig. 4.30; Pls 13, 14, 28).

<sup>97</sup> Trump 1961: pl. 16 (lower left figure, middle).

<sup>98</sup> Ashby and Despott 1916: pl. 8, fig. 1:11.

<sup>99</sup> Trump 1961: pl. 14 (middle).

<sup>100</sup> Pelagatti and Voza 1973: 44-45 (nos 139, 140), pls 9:139-140.

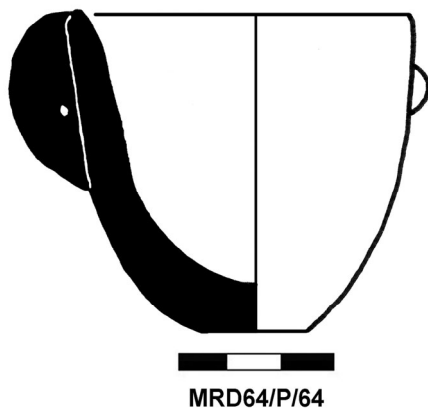


**Figure 4.30.** Beaker of type 1: BN/P57; type 2: BN/P101, BN/P58e, BN/P151, BN/P72; type 3: BN/P125; type 4: BN/P55, BN/P58f, BN/P170a.

While types 1-3 are basically absent from Evans' classification, type 4 can be compared with Evans 99<sup>101</sup> and it is reasonable that specimens BN/P55, BN/58f and BN/P170a shared the same morphology as the body of the archetype chosen by Evans for this shape. The variety of shapes – handle-less, handled and footed – for such a simple vessel suggests that different customs involving drinking activities may have existed; alternatively different shapes were used for holding different liquids.

Despite their common use, only a few comparisons can be provided for the beakers identified.

<sup>101</sup> Evans 1953: 70-71, fig. 11.



**Figure 4.31.** Beaker of type 3 from Ghar Mirdum (1:1, drawing by Denise Cali and Carlo Veca).

Type 1 seems to be the only known example with its features. The peculiar embossed base of type 2 finds a comparison in specimen P17a from Mtarfa<sup>102</sup>. Type 3 has a striking comparison in the unpublished handled beaker MRD64/P/64 from Ghar Mirdum (Fig. 4.31). Unfortunately, the three examples of type 4 cannot be related to other known shapes.

### ***Trays***

Trays, simple and with central septum, are one of the few shapes documenting the existence of a coarse ware in the Borg in-Nadur phase pottery production. Three main types can be distinguished: type 1, type 2 (divided in sub-types 2A, 2B and 2C), and type 3.

*Type 1* (BN/P152a): shallow conical body with markedly everted profile; indistinct thinned rim curved outward; indistinct flat base (Fig. 4.32, Pl. 25).

*Type 2a* (BN/P81a): shallow conical body with slight everted profile; indistinct thickened rim with quadrangular section; distinct flat base with slightly protruding edges (Fig. 4.32, Pl. 16).

*Type 2b* (BN/P81h): shallow conical body with everted profile; indistinct rounded rim curved outward; distinct flat base with markedly protruding edges.

<sup>102</sup> Sagona 1999: 55, fig. 6.2.

*Type 2c* (BN/P81b): shallow conical body with markedly everted profile; indistinct rim with quadrangular section curved outward; distinct and thickened flat base (Fig. 4.32; Pl. 16).

*Type 3* (BN/P80): deep hemispherical body: indistinct rim with quadrangular section markedly curved inward; distinct thickened base (Fig. 4.32, Pl. 16).

*Type 4* (BN/P6, BN/P187): shallow conical body with slightly everted profile; indistinct rim with quadrangular section; distinct and thickened flat base with markedly protruding edges; divided by a central septum (Figs 4.32, 4.33; Pls 5, 29).

Among the 32 trays coming from Borg in-Nadur, 25 of them belong to a simple kind (BN/P80, BN/P81a-BN/P81p, BN/P82a, BNP/82b, BN/P152) (Pls 16, 17, 25) while 8 can be interpreted as trays with a central septum (BN/P6, BN/P79a-BN/P79f, BN/P187) (Pls 5, 15, 29). Unfortunately, only specimen BN/P6 is sufficiently well preserved to be recognised as a distinct type.

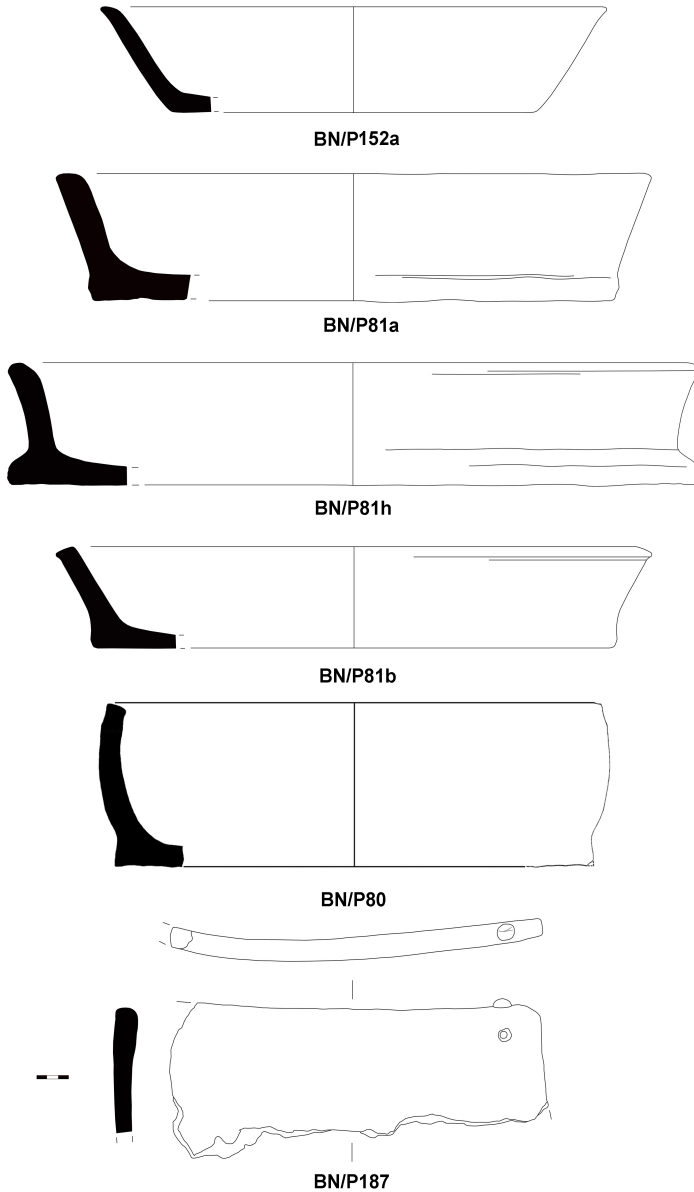
The singular features of piece BN/P187 (Fig. 4.32; Pl. 29), which consists of a septum edge with one of the short sides complete and not fragmentary (like the other one), suggest the existence of an additional typology of rectangular basin with central septum opened on one side.

Furthermore, this specimen is also the only one with a plastic decoration, represented by a pellet, a very unusual feature in coarse ware. Simple trays are generally undecorated, while those with a central septum are red slipped. One characteristic common to all the pieces of any type is the impression of wattle, cloth and fig leaves indicating a specific manufacturing process for this shape which probably took place on a worktop covered with those materials.

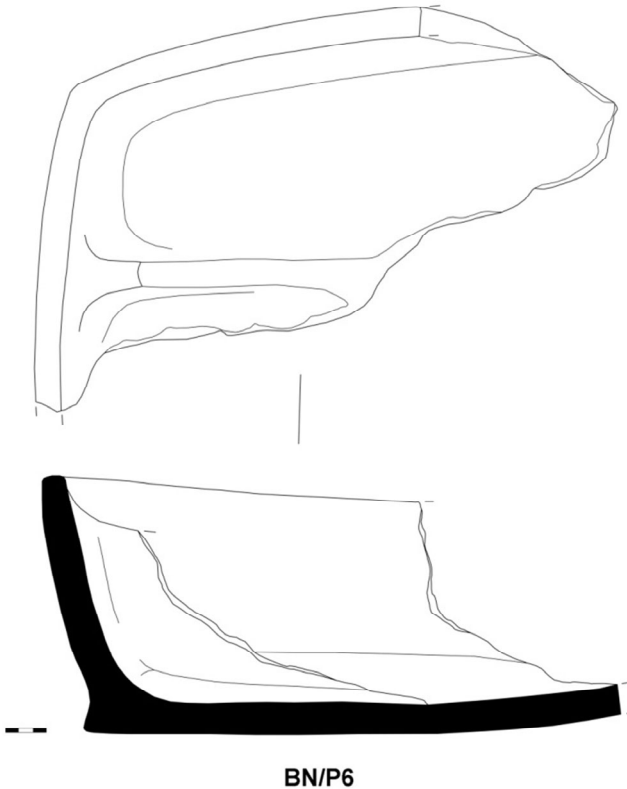
The functions of the simple tray and the tray with a central septum must have differed. Thick walls, a coarse fabric and the remarkable dimensions of the simple trays (mouth width from 30 to 49 cm) seem to imply that they were used for some kind of hand-crafting. In particular, the bases with protruding edges were clearly aimed to increase the support area of the vessels; this can be taken to suggest that something was squeezed inside them, perhaps olives or grapes.

The need to have two contiguous spaces within the same vessel, together with simpler morphology inform us about a different aim for trays with central septum, like for example dyeing activities.





**Figure 4.32.** Trays of type 1: BN/P152a; type 2A: BN/P81a; type 2B: BN/81h; type 2c: BN/P81b; type 3: BN/P80 (drawings by Denise Cali); Type 4: BN/P187.

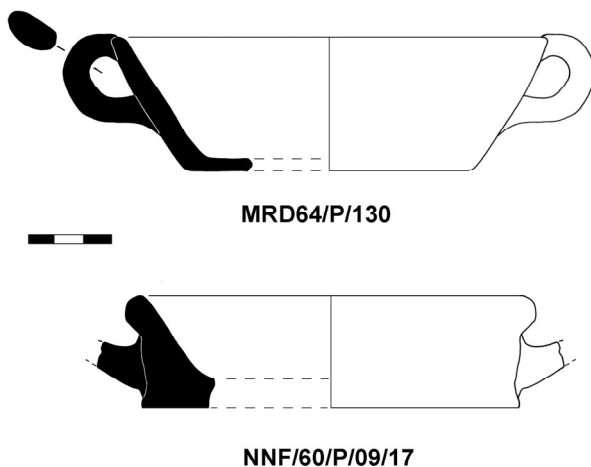


**Figure 4.33.** Tray of type 4: BN/P6.

Although their decoration (red slip and plastic applications) could suggest a more ‘noble use’ for these vessels, maybe connected with ritual performances, this is conjectural.

Trays are, in fact, a rather novel shape for the Borg in-Nadur phase repertoire with few examples known. Type 1 matches the unpublished example MRD64/P/130 from Ghar Mirdum, provided with a vertical loop handle (Fig. 4.34).

Types 2A and 2B are represented by the unpublished specimen NNF/60/P/09/17 from In-Nuffara which presents features common to both sub-types (Fig. 4.34).



**Figure 4.34.** Tray of type 1 from Ghar Mirdum; tray type 2A/2B from In-Nuffara (drawings by Denise Cali and Carlo Veca).

Furthermore, type 2B is comparable with the shallow tray 1039/52 from Tas-Silġ, which Sagona claims to belong to Melita Phase I (1000-750 BC) of her chronological chart<sup>103</sup>.

Type 2C can be compared with the vessel P35b from Mtarfa<sup>104</sup> and is strikingly similar to 1043/144 from Tas-Silġ and has been dated to the same phase<sup>105</sup>. Type 3 is still without comparisons, while type 4 can be compared with some similar pieces recently identified in the Sicilian site of Monte San Paolillo near Catania<sup>106</sup>.

A significant element that must be remarked is the absence of other trays with a central septum besides those from Borg in-Nadur. During my survey of the pottery from the pit at In-Nuffara, 88 specimens of rectangular (simple) trays were found but not one belonged to that typology.

<sup>103</sup> Sagona 2008: 500, 506, 527, fig. 15.7.

<sup>104</sup> Sagona 1999: 56, fig. 7.

<sup>105</sup> Sagona 2008: 506, 527, fig. 15.6.

<sup>106</sup> Tanasi 2010b.

### ***Cooking pots***

Cooking pots are the hardest class to be analysed for two main reasons: the very wide morphological variety and the extreme fragility brought about by being subjected to heat continuously. Among the less fragmentary pieces from the Borg in-Nadur temple, it was possible to distinguish six different types, four of which could be further divided in two sub-types: 1A, 1B, 2A, 2B, 3A, 3B, 5A, 5B.

*Type 1A* (BN/P157): globular body with slightly everted indistinct rounded rim; couple of vertical strap handle on the shoulder; undecorated (Fig. 4.35; Pl. 25).

*Type 1B* (BN/P50): ovoid body with rim curved inward and everted lip with quadrangular section; couple of vertical strap handle on the shoulder; plastic rope bands in relief (Fig. 4.35, Pl. 13).

*Type 2A* (BN/P109): conical body with indistinct rounded rim curved inward; couple of large and rough arch-shaped lug handles below the rim; undecorated (Fig. 4.35; Pl. 19).

*Type 2B* (BN/P177): ovoid body with indistinct rim curved inward with quadrangular section; couple of large and rough arch-shaped lug handles below the rim; undecorated (Fig. 4.35; Pl. 29).

*Type 3A* (BN/P60): ovoid body, with indistinct thinned rim curved inward; couple of thin rope bands in relief below it, more decorative than functional (Fig. 4.35; Pl. 14).

*Type 3B* (BN/P134a): ovoid elongated body, with indistinct rounded rim curved inward; couple of thin rope bands in relief below it, more decorative than functional (Fig. 4.35; Pl. 20).

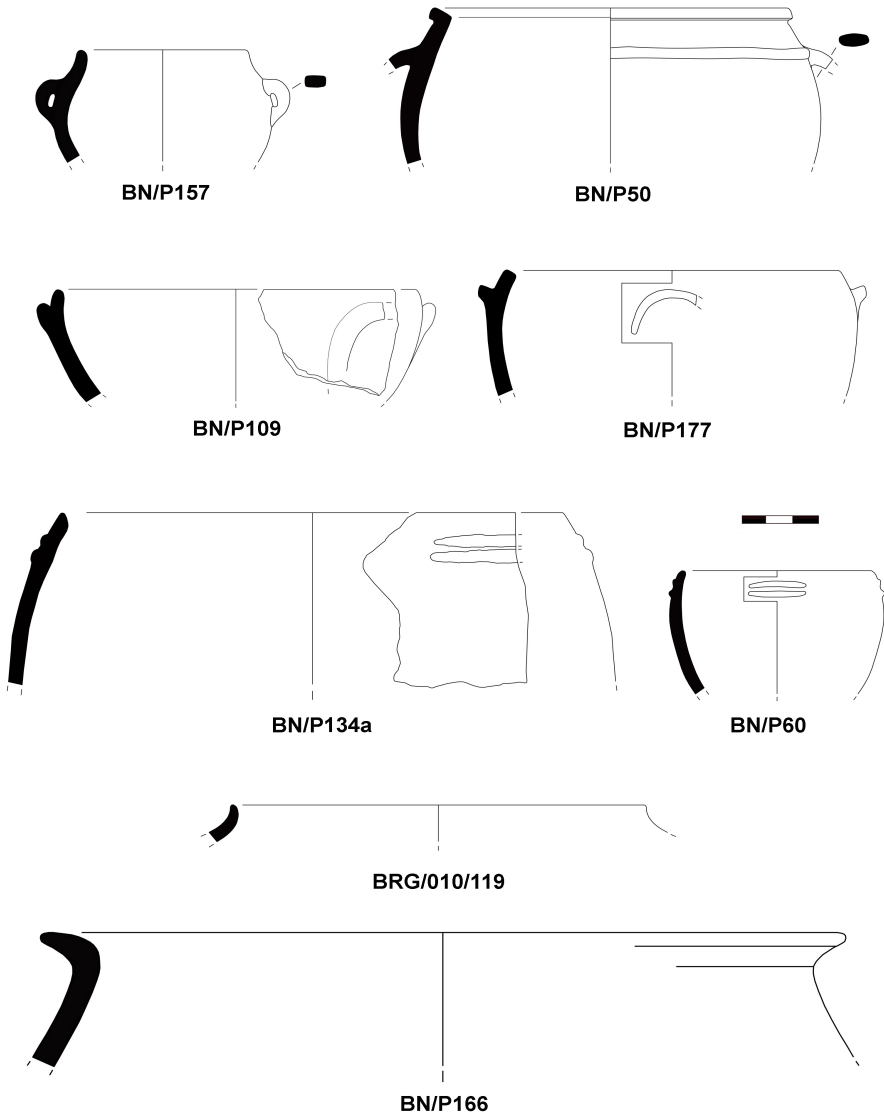
*Type 4* (BRG/010/119; BN/P166): ovoid body with low distinct neck with concave profile and markedly everted rounded rim; undecorated (Fig. 4.35; Pls 4, 27).

*Type 5A* (BRG/010/116): low indistinct neck with straight indistinct rim with quadrangular section; cut out decoration (Fig. 4.36; Pl. 4).

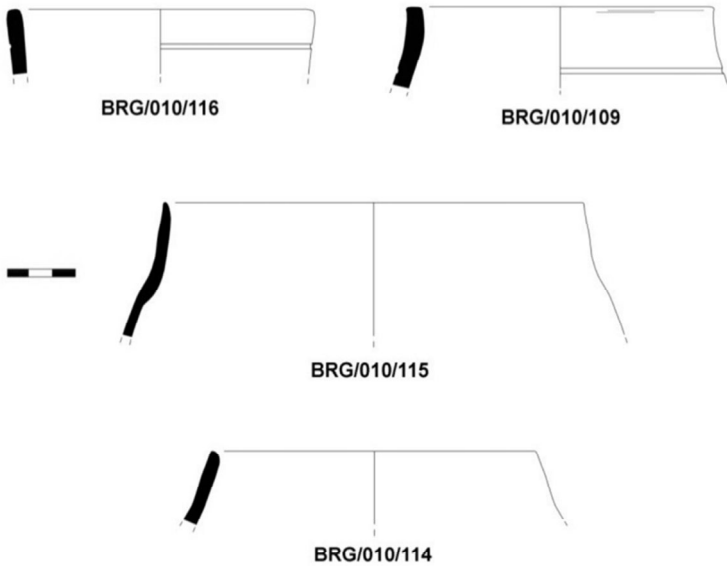
*Type 5B* (BRG/010/109): low indistinct neck with indistinct rim with quadrangular section slightly everted; cut out decoration (Fig. 4.36; Pl. 4).

*Type 6* (BRG/010/114, BRG/010/115): high indistinct neck with straight indistinct thinned rim; undecorated (Fig. 4.36; Pl. 4).

With the exception of specimen BN/P50, belonging to type 1B, all the other examples taken into consideration present clear traces of repeated exposure to heat after the initial firing. The absence of bases is caused by the fragility of that part of the body which was in touch with the flames.



**Figure 4.35.** Cooking jars of type 1A: BN/P157; type 1B: BN/P50; type 2A: BN/P109; type 2B: BN/P177; type 3A: BN/P60; type 3B: BN/P134a; type 4: BRG/010/119, BN/P166.



**Figure 4.36.** Cooking jars of type 5A: BRG/010/116; type 5B: BRG/010/109; type 6: BRG/010/115, BRG/010/114.

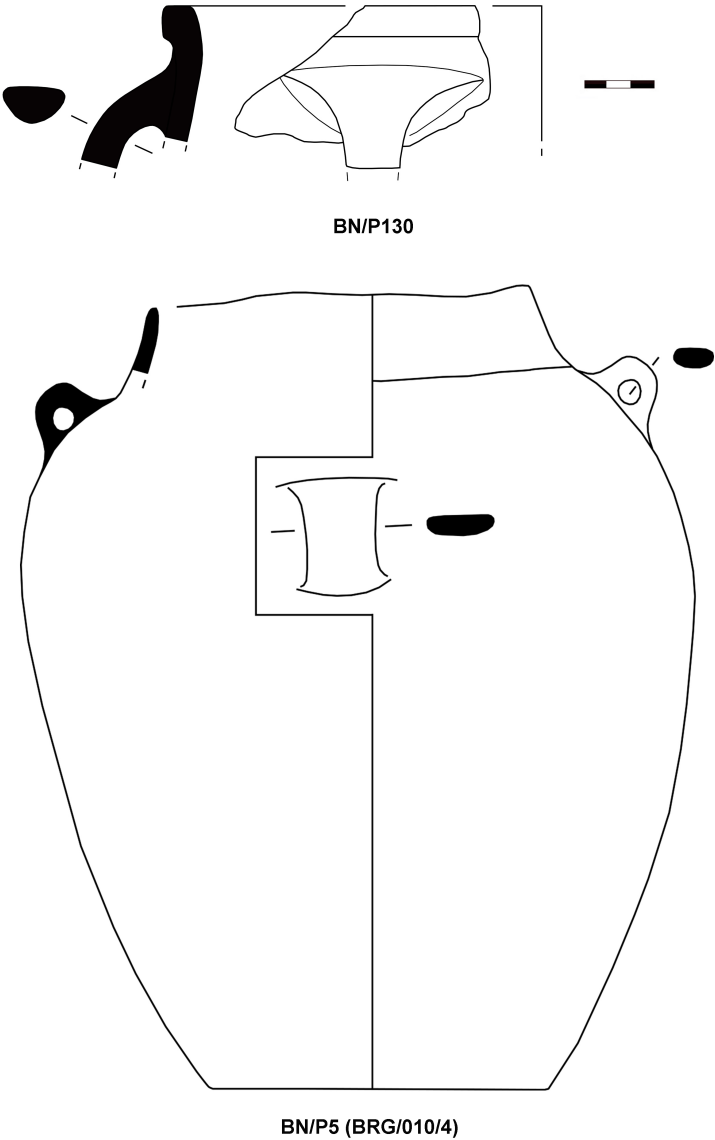
Their dimensions show a range of rim diameter from 12 to 44 cm, with the large ones suggesting that they probably acted as cauldrons. Due to their fragmentary state it is not possible to say more about their use other than that they were placed on small *focula* for cooking.

Unfortunately no comparisons for the cooking pots being published here can be found in the available documentation. Only one match for BN/P177 comes from the Ghar Dalam site<sup>107</sup>.

### ***Storage jars***

The discovery of some pieces of large storage jars in the temple is a significant datum that will allow us to interpret how the site was used (see below). At least seven different pieces were identified.

<sup>107</sup> Ashby and Despott 1916: fig. 1.9.



**Figure 4.37.** Storage jar type 1: BN/P103; type 2:BN/P5 (BRG/010/4)

Four bases (BRG/010/48, BRG/010/54, BN/P172a, BN/P172b) (Pls 2, 28), one fragment of a neck with rim (BN/P130) (Fig. 4.37; Pl. 20), one handle BN/P77 (Pl. 15), and the entire jar BN/P5 (Fig. 4.37; Pl. 5) were found.

Furthermore, in Box 199, many wall sherds were found belong to other storage jars. For some pieces Murray also provided the findspot: BN/P5 at the entrance of the SE apse of the Sanctuary, BRG/010/48 in the ‘West Sanctuary’ (which effectively means in the SW or NW apses), and BN/P130 in the Open Area<sup>108</sup>.

Regarding the typology, two types can be distinguished.

*Type 1* (BN/P130): distinct rim with thickened projecting lip with quadrangular section with vertical strap handle set right below it (Fig. 4.37; Pl. 20).

*Type 2* BN/P5 (BRG/010/4): ovoid body, low distinct neck with straight indistinct thinned rim; flat indistinct base; two pairs of vertical strap handles, two set in the shoulder and two on the point of maximum expansion of the body; red slipped and burnished surfaces (Fig. 4.37; Pl. 5).

Type 2 corresponds to the shape used by Evans as an archetype for Evans 104<sup>109</sup>. Handle BN/P77 seems to belong to type 1. Since bases of type 1 are unknown, the four indistinct flat bases can easily belong to either type 1 or type 2.

Comparing the dimensions of type 2 (height 54 cm, rim diameter 20 cm, base diameter 23 cm) with other fragmentary pieces, it seems to represent the dimensional standard for the storage jars used in the temple area.

Given their features, they were not suited for being transported but to be set in storage facilities for containing dry or liquid substances. The absence of lids suitable for covering these jars suggests that they were probably closed with a lid made of perishable material.

Regarding the parallels for the types, during my survey of the Ghar Mirdum pottery, four fragmentary large storage jars were identified (Box 253, 252, 250); unfortunately it was not possible to establish the shape without proper restoration of the pieces. One neck belonging to storage jar of type 2 (MRD64/P/941) was also found. Among the material from In-Nuffara, 149 sherds belonging to at least five storage jars were also noted.

<sup>108</sup> Murray 1925: 33-34.

<sup>109</sup> Evans 1953: 70-71, fig. 11.

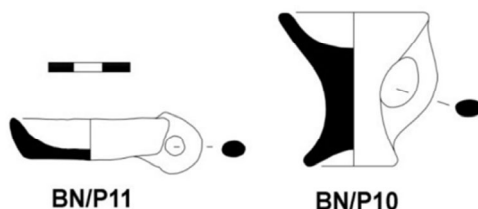


### ***Lamps***

Lamps are rather uncommon in the Maltese Middle Bronze Age pottery repertoire. The two examples known from Borg in-Nadur became the archetypes in Evans' classification. Specimen BN/P11 (Evans 98)<sup>110</sup> can be identified as type 1, while BN/P10 (Evans 97)<sup>111</sup> is distinguishable as type 2. However, it must be pointed out that the piece we are claiming to belong to type 2 matches, in fact, the description provided by Evans but not the shape of the archetype as drawn.

*Type 1* (BN/P11): low dish with indistinct flat base; indistinct everted thinned rim; vertical strap handle slightly curved downward below the base level; undecorated (Fig. 4.38; Pl. 5).

*Type 2* (BN/P10): shallow conical cup, with indistinct everted rim with quadrangular section; hollow low conical foot with indistinct edges; vertical strap handle; undecorated (Fig. 4.38; Pl. 5).



**Figure 4.38.** Lamp of type 1: BN/P11; type 2: BN/P10.

As for the use, it is clear that the two types were aimed to fulfill the same function, that of holding small flames, probably fuelled by oil or animal fat. But while type 1 can stand on a specific edged surface or stand because of the handle, type 2 can be easily set on different surfaces.

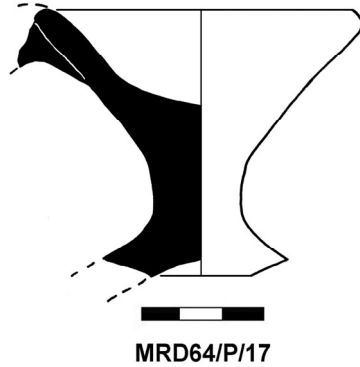
Regarding parallels, while type 1 is without comparisons, type 2 matches GD/P1 from Għar Dalam<sup>112</sup> and the unpublished piece MRD64/P/17 from Għar Mirdum (Fig. 4.39). Outside the Maltese archipelago, a similar vessel comes from tomb 1 at Thapsos<sup>113</sup>.

<sup>110</sup> Evans 1953: 70-71, fig. 11.

<sup>111</sup> Evans 1953: 70-71, fig. 11.

<sup>112</sup> Evans 1971: 20, pl. 32.10.

<sup>113</sup> Orsi 1895: coll. 96-97, fig. 3.



**Figure 4.39:** Lamp of type 1 from Ghar Mirdum (1:2, drawing by Denise Cali and Carlo Veca).

### *Lids*

Lids are noteworthy for their scarcity in the assemblage. Only three fragments were identified which can be said to belong to two types, 1 and 2.

*Type 1* (BN/P73, BN/P153): discoid lid with a slight concave profile with indistinct thinned edges, sometimes with quadrangular section; radial rope bands set on the upper surface (Fig. 4.40; Pl. 15, 25).

*Type 2* (BN/P208): discoid lid with a slight concave profile with surmounting loop handle set in the middle of the upper surface; undecorated (Pl. 31).

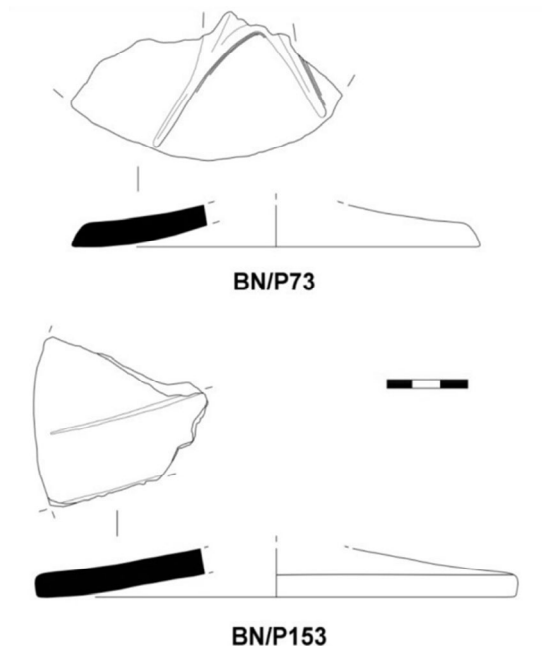
The fragmentary conditions of the type 1 example prevent us from assessing if they also had or not a surmounting loop handle. The typological distinction in this case is based on the difference in decoration.

The size of the lids of type 1, with a diameter ranging between 22-24 cm, seems to fit only the amphoras; they are clearly smaller than the rim diameters of storage jars.

Type 1 finds a close match in the unpublished example NNF60/P/09/18 from In-Nuffara (Fig. 4.41) and in morphological terms recalls lids P4b and P4c from Mtarfa<sup>114</sup>. Type 2 could

<sup>114</sup> Sagona 1999: 54, fig. 6.1, 6.8.

probably be compared with specimen P18 from Mtarfa<sup>115</sup> or better still with lid B/P7 from Bahrija<sup>116</sup>.



**Figure 4.40.** Lids of type 1: BN/P153, BN/P73.

### *Varia*

Besides pottery, other significant – but problematic – clay objects were found amongst the material coming from the temple. The first one is represented by three sherds clearly belonging to the same object (BRG/010/94a-c) but having no joins (Fig. 4.42; Pl. 3).

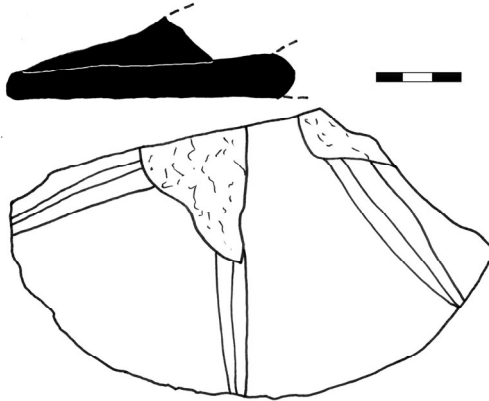
One of them was published by Murray<sup>117</sup> who provided this description: ‘a flat sherd of a peculiar kind of pottery, of which Peet found a fragment at Bahrija. It can only be described as semi-

<sup>115</sup> Sagona 1999: 55, fig. 6.6.

<sup>116</sup> Evans 1971: fig. 11.5.

<sup>117</sup> Murray 1925: 26.

perforated, for the holes are on one side only of the pottery and are not pierced through; until a more or less complete vessel of this ware is found, the use of it must be conjectural.’



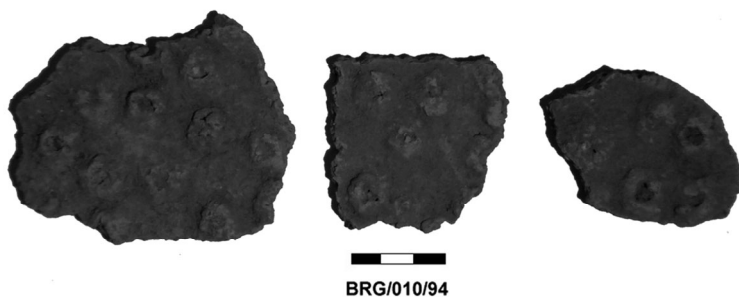
**NNF60/P/09/18**

**Figure 4.41.** Lid of type 1 from In-Nuffara (Drawing by Denise Cali and Carlo Veca).

These pieces have a very rough and fragile gritted fabric and seem to be misfired or else were originally sundried. Less than 0.5 cm thick, they have one flat side with irregular and unclear impressions, as if they were set on something; the other side is covered by rough, pierced spheres. The flat side presents also ferrous brown blotches which are hard to interpret. The assignment of these specimens to the Middle Bronze Age is supported by the identification of identical pieces from Bahrija<sup>118</sup> and from the sealed deposit of In-Nuffara<sup>119</sup>, dated to the Borg in-Nadur phase. A possible interpretation for this object is that it was a kind of clay render maybe used for covering earth or stone structures.

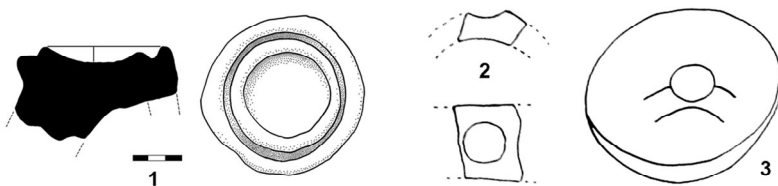
<sup>118</sup> Peet 1910: 159, pl. 15.53.

<sup>119</sup> 4 fragments in 'In-Nuffara' Box 6.



**Figure 4.42.** Fragments of clay render BRG/010/94a-c.

The second object (BNP/85) is a kind of discoid termination with edges distinguished by a groove, which shows on the lower part signs of two attachments (Fig. 4.43,1; Pl. 17).



**Figure 4.43.** 1) Discoid termination BN/P85 (1:4, drawing Denise Cali); 2) Specimen from Capo Graziano layers of Lipari's Castle (Bernabò Brea 1985: 80, fig. 63d) 3) Basin with internal bridge from Volimidia (Bernabò Brea 1985: 80, fig. 65b).

It is not clear if this piece can be related to a clay figurine or model of some kind or if it was a handle termination. Its morphology does not fit with any type of artefact known to me from this period, while its assignment to the Borg in-Nadur phase is certain as testified by its typical red crackled slip. It is possible that it could belong to a basin with an internal bridge (*scodellone tronco-conico con ponticello interno*) similar to those present in the Aeolian archipelago and in the Aegean in the Early and Middle Bronze Age<sup>120</sup> (Fig. 4.43, 2-3).

<sup>120</sup> Bernabò Brea 1985: 79-80, figs 63d, 65b.

#### 4.4.3. Towards a chrono-typological sequence of the Borġ in-Nadur phase pottery

The overall analysis of the major pottery types broadens our knowledge of the variety that exists in the Borġ in-Nadur repertoire. Once the typological sequence is completed the next step is to provide chronological references to anchor it, or at least parts of it, in a temporal framework for the Middle Bronze Age.

The first reference could come from the identity between fabrics 1 and 2, which we identified, and Trump's phases II B1 and II B2. In the documentation available for this period, largely characterised by de-contextualized materials, the only certainty is represented by the stratigraphic sequence of the village at Borġ in-Nadur as noted by Trump. Despite inconclusive attempts to reinterpret the sequence he produced<sup>121</sup>, the recent reappraisal of the stratigraphy observed by him<sup>122</sup> has clearly demonstrated that there was a succession between layers with cultural material belonging to II B1 and layers with material belonging to II B2. A preliminary survey of the material coming from the village supports further Trump's conclusions; the results of this exercise will be published separately. This means that wares connected to those two phases were chronologically distinguishable and were *not* the outcome of different workshops producing pottery at the same time. However, it does not mean that pottery types of II B1 could not also be typical of II B2 since the two phases belong to the homogeneous cultural phenomenon represented by the Borġ in-Nadur *facies*.

In this perspective, while we wait for new data from the stratigraphic excavations at Tas-Silġ (north and south enclosures), Trump's chronological classification remains the more reliable one. Having made this point, it is possible to use different fabrics as a chronological discrimination criterion for the typologies

Table 4.3 shows all types and sub-types identified divided on base of the fabric 1/II B1 and fabric 2/II B2.

---

<sup>121</sup> Sagona 2008.

<sup>122</sup> See Vella *et al.*, this volume (chapter 3).

F.	TYPES								
	Cups / basins	Amphoraras	Dipper cups	Trays	Jugs / juglets	Lamps	Beakers	Storage jars	Cooking pots
F. 1 II B1	3	-	1 2B	-	3B	1 2	1	-	-
F. 1 II B1	1A 1B 1C 2B	1A 2A	2A 3	-	-	-	2	-	-
F. 2 II B2	2A 2C 4	1B 1C 2B	-	1 4	1 2A 2B 3A 3C	-	4	2	2A 2B 3A 3B 4 5A 5B 6

**Table 4.3.** Comparative chart of typological categories characterised by the presence of fabrics (1 and 2) (F = Fabric).

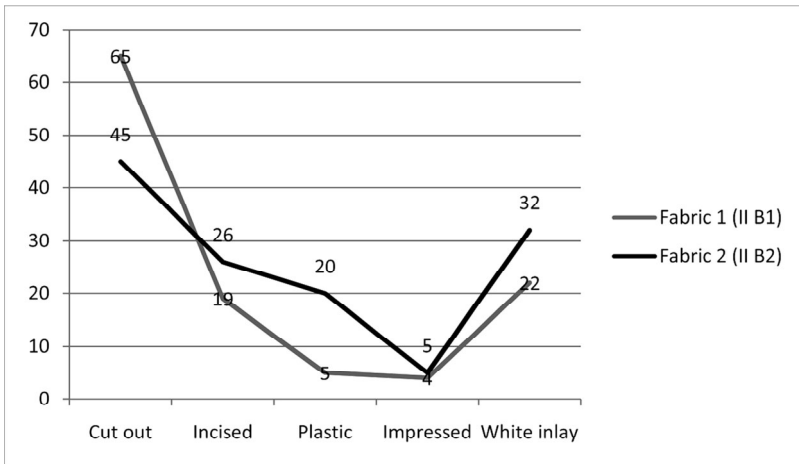
To each typological category correspond types exclusive to fabric 1, types shared between fabric 1 and fabric 2, and types exclusive to fabric 2. From this visual summary, it is possible to better characterise the pottery repertoires of II B1 and II B2 going beyond the simple list of shapes and features provided by Trump<sup>123</sup>. The numerous typologies shared by the two fabrics point to the existence of a cultural continuity between II B1 and II B2 with a reasonable transitional period during which the repertoire was slowly updated.

Since decoration is used by Trump as a criterion to discriminate between II B1 and II B2, it is useful to emphasise here the relationship between fabrics 1 and 2 and the decorative techniques occurring in the material we have selected for study. Regarding the identification of fabrics 1 and 2 with phases II B1 and II B2 respectively, it can be observed that, moving from II B1 to II B2,

<sup>123</sup> Trump 1961.

there is a gradual decrease of cut out decoration and a general increase of incision, plastic applications and white inlay (Fig. 4.44). The low occurrence of impressed decoration fits well with phases II B1 and II B2, since it became common later in phase II B3, which in our data set is hardly represented. Again this evidence sustains the reconstruction of the features characterising pottery production in each of the three phases as put forward by Trump. Furthermore, the exclusive presence or indeed absence in the two phases of some typological categories or of single types/sub-types could provide significant information about the different use and exploitation of the temple area. It could also provide us with data regarding traditional customs and cultural innovations connected to the use of pottery.

The continuity noticed in the use of cups, basins, amphoras, dipper cups and beakers indicates that the activity performed in the temple did not change substantially. But the appearance of trays, storage jars and cooking pots in II B2, together with the abandonment of lamps and the multiplication of typological varieties of jugs and juglets are clear indicators of something new.



**Figure 4.44.** Comparative graph expressing the quantity of examples of fabrics 1 and 2 with cut out, incised, impressed decoration, plastic applications and white inlay.



The second chronological reference point is represented by the cross dating with other well known cultural contexts in which Borg in-Nadur pottery (or to be precise, what elsewhere we have called Borg in-Nadur-type pottery) has been found, namely Sicily. But before we move on, some clarifications are called for.

It is very important to remember that the chronological system currently available for prehistoric Sicily, particularly the most common one on which I rely (Table 1.1)<sup>124</sup>, makes it clear that the Sicilian sequence is different from that of southern Italy. For the Sicilian Middle Bronze Age, in particular its most significant site Thapsos, two different hypotheses have been offered by scholars over the last two decades. The first one by Luigi Bernabò Brea was based on a careful analysis of all the material coming from Orsi's excavations and held at the museum of Siracusa. He proposed the first culture sequence for Sicilian prehistory, which is still considered the standard yardstick in relative terms. The second one was put forth between the 1970s and 1980s in a number of preliminary reports published by Giuseppe Voza, the excavator of the settlement at Thapsos.

Without going into the detail which has been debated several times in the scholarly literature, it is possible to summarise the main points by paraphrasing the thoughts expressed by La Rosa in a seminal work<sup>125</sup>. Bernabò Brea dated the Middle Bronze Age which he called the Thapsos culture to the period between the mid-15<sup>th</sup> and mid-13<sup>th</sup> century BC. This was followed by a Late Bronze Age called North Pantalica culture which lasted from the mid-13<sup>th</sup> to mid-11<sup>th</sup> century BC. Since the evidence from Thapsos showed only features belonging to the Middle Bronze Age and not to the Late Bronze Age, Bernabò Brea suggested that during the Late Bronze Age the site was abandoned. On the other hand, Voza identified three architectural phases on the basis of the Thapsos stratigraphy. The first and the second one had features typical of the Middle Bronze Age and the third one was related to a later reoccupation of the area in the Early Iron Age. The absence of elements connected with the North Pantalica culture, allowed Voza

---

<sup>124</sup> See Tanasi and Vella, this volume (chapter 1).

<sup>125</sup> La Rosa 1989.

to affirm that the Thapsos culture belonged to the Middle and Late Bronze Age, lasting without interruption from the mid-15<sup>th</sup> to the mid-11<sup>th</sup> century, and that North Pantalica was not a culture but simply an isolated pottery style. However, whereas Bernabò Brea provided incontrovertible data coming from the stratification he noted when he excavated at Pantalica to make his case, Voza's hypothesis cannot be checked because the results of his excavations have only been published in the most preliminary of manners with no supporting data. Thus, generally Bernabò Brea's culture sequence is the most widely accepted.

More recently, Alberti produced new data which sustains Bernabò Brea's sequence<sup>126</sup>. He has proposed a distinction in three sub-phases for the Middle Bronze Age, which he labelled Thapsos I, II and III, and pegged these to two phases of the Aeolian Milazzese culture (Table 1.1), basing himself on a meticulous typological analysis of local pottery found in association with Mycenaean vessels in a few untouched contexts. Alberti's proposed sequence has been widely accepted and it is the one to which we refer until new evidence is forthcoming.

After this *caveat* we return to our case. By referring to Alberti's chronological division for the Thapsos culture and to a previous work in which Borg in-Nadur-type pottery found in Sicilian contexts was also dated<sup>127</sup>, we can highlight what follows.

Cups/basins of types 1A, 1B, 1C (related to the transitional phase between II B1 and II B2) and of type 2 (related to II B2), and trays of type 4, together with jugs/juglets of types 2A and 3A (related also to II B2): these all have parallels in Sicilian contexts dated to Thapsos II (1440/1380-1310/1300 BC). This datum provides us with a reliable chronological anchor for the typological sequence that has been presented here.

As far as Trump's II B3 phase is concerned, as previously stated, the fabric 4 we identified earlier (which corresponds to wares of phase II B3) occurs on just three specimens (BN/P100, BN/P155, BN/P157), of which only BN/P100, a dipper cup of type 3, is clearly recognisable. Other materials published by Murray and

---

<sup>126</sup> Alberti 2004; Alberti 2006; Alberti 2007; Alberti 2008.

<sup>127</sup> Tanasi 2008.

related to phase II B3, that I could not find during the survey at the Museum, were probably lost<sup>128</sup>.

The scarcity of II B3 material is particularly significant as it highlights a reconfiguration of the temple area if not its partial abandonment. The preliminary survey of the pottery coming from the exploration of the village points to a certain abundance of II B3 pottery, something already noted by Trump<sup>129</sup>.

Unfortunately, the semi-fine and coarse fabrics 4 and 5 cannot provide further chronological data since they were not discussed in the other literature. But to point out for the first time the existence of such a production, which is rather specialised (especially for storage jars), in the Borg in-Nadur pottery repertoire is a significant discovery which will undoubtedly provide more information about pottery technology when it will be possible to carry out archaeometric analysis on the pottery.

## 4.5 Foreign imports

In addition to local pottery, foreign imports of different origin and chronology were identified and studied. New significant data about the Mycenaean sherd (Figs 4.45, 4.46; Pl. 5) found to the south of Chapel A during the excavations of 1926-1927<sup>130</sup>, were added.

The sherd was identified for the first time by Evans in 1953 who stated that it was 'part of the rim of a kylix painted with a stylised octopus pattern and the style shows that it probably belongs to the L.H. IIIB period'<sup>131</sup>. Evans also provided a reconstruction drawing of the original shape<sup>132</sup>. In his later publication of 1971, a brief description of the sherd, labelled BN/P7, confirmed the previous interpretation<sup>133</sup>. This position remained unchanged in later publications<sup>134</sup>, until it was recently criticised by Blakolmer who

---

<sup>128</sup> Murray 1923: pl. 12,97-101; Murray 1925: pls 13,124, 20,208; Murray 1929: pl. 25,262.

<sup>129</sup> Trump 1961.

<sup>130</sup> Murray 1929: 16, pl. 20,1.

<sup>131</sup> Evans 1953: 72, pl. 24,1-2.

<sup>132</sup> Evans 1953: pl. 14,1-2.

<sup>133</sup> Evans 1971: 17, fig. 42, pl. 32,6.

<sup>134</sup> Trump 2002: 292; Stampolidis 2003: 282, no. 224; Pace 2004: 212.

disagreed with Evans' reconstruction and analysis and instead defined the piece as 'part of a decorated Mycenaean kylix or cup to be dated somewhere in Late Helladic IIIA2 or IIIB1'<sup>135</sup>. No further attempts to identify better BN/P7 and specify precisely the type of shape and motif represented were carried out since then.



**Figure 4.45.** Mycenaean kylix BN/P7, reconstruction drawing (Evans 1953).

In the recent reappraisal of the pottery coming from the Borg in-Nadur temple, a new drawing and visual analysis of the sherd led to a more precise interpretation.

#### **BN/P7**

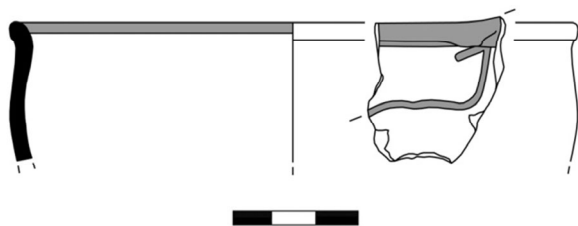
H. 3.8, Ø 15.5, th. 0.3 cm

Indistinct everted rounded rim, on which is preserved the attachment of a handle. Painted band on the inner and outer part of the rim; on external surface, below the rim, curved line with diagonal line at the end in correspondence of the handle's attachment. Surface: 7.5 YR 8/6 reddish yellow; slip: 7.5 YR 7/6 reddish yellow; paint: 2.5 YR 5/8 red. Wheel made. FS 258, kylix; FM 21(12), octopus below the handle; LH IIIB.

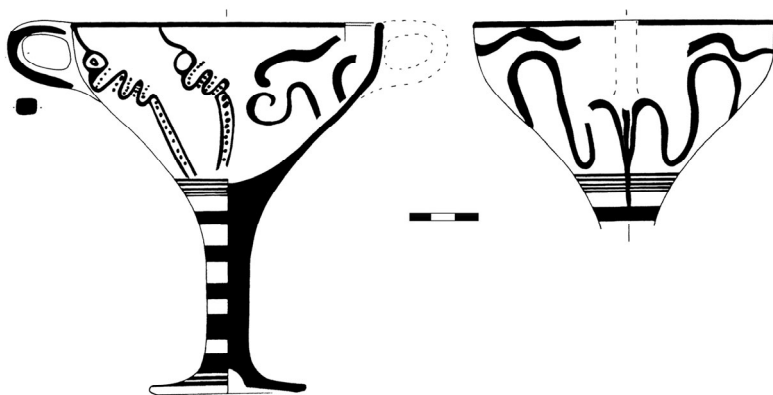
---

<sup>135</sup> Blakolmer 2005: 658.

As it clearly seen in the drawing, the curved line which was interpreted as one tentacle of the octopus ends where the handle was attached. This means that the octopus was not set in the frontal part of the vessel but on one of the sides. In this scenario, the interpretation provided by Evans remains substantially correct but the reconstruction drawing must be rejected.



**Figure 4.46.** Mycenaean kylix BN/P7 (1:2).



**Figure 4.47.** Mycenaean kylix from Phylakopi, Melos (Mountjoy 1999).

The shape must correspond to Furumark's 'Form 79 stemmed cup - FS 258 kylix'<sup>136</sup>, while the fragmentary decorative motif corresponds to Furumark's FM 21(12)<sup>137</sup> 'octopus below the handle';

<sup>136</sup> Furumark 1992: pl. 142.

<sup>137</sup> Furumark 1941: fig. 49.

in our vessel it was the secondary decorative motif, located on one side. The best comparison for BN/P7 is a kylix from Phylakopi on the island of Melos, dated to LH IIIB, in which two different motifs are set in correspondence of the sides, namely FM 23 (whorl-shell) and FM 21 (octopus)<sup>138</sup> (Fig. 4.47).

Another significant piece is the rim sherd BN/P129 (Figs 4.48, 4.49; Pl. 20), which is one of the many sherds not described by Murray. Reviewed by Evans during his analysis of material from Borg in-Nadur carried out in 1952, the piece was described in the inventory sheet as a ‘painted sherd of bowl with everted rim’ but it was never discussed in his publications.



**Figure 4.48.** Kalathos BN/P129 (photograph by the author).

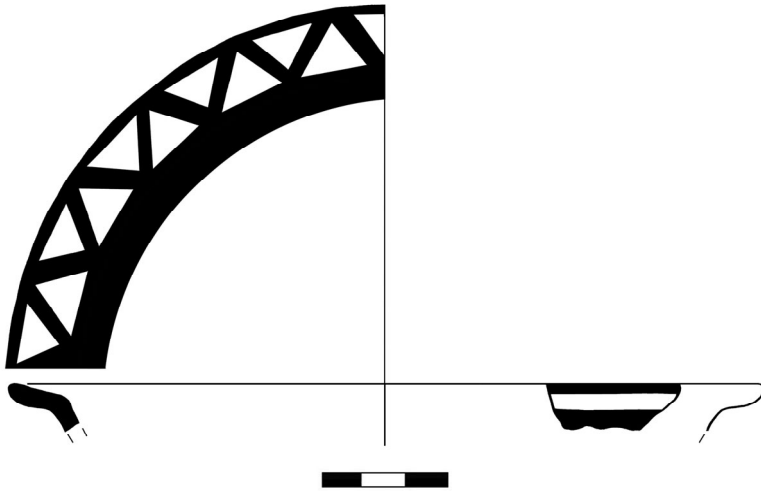
#### **BN/P 129**

H. 1.8; Ø 19; th. 0.4 cm.

Distinct markedly everted rounded lip. Painted decoration: band in the outer part of the rim and on the upper part of the lip, a second parallel band below it; on the lip continuous zig-zag motif; inside, below the rim, horizontal band. Surface: 5 YR 7/6 reddish yellow; self slip 5 YR 7/6 reddish yellow; paint 2.5 YR 4/2 weak red. Wheel made. Very hard fabric without grits.

The high technical quality of the sherd, testified by its hard fabric made from well levigated clay, use of the potter's wheel and painted decoration with geometric pattern suggests to me that this piece was not produced locally. These technical qualities exclude Sicily too as the origin of the sherd; besides, decoration and shape are not at home in Sicilian prehistoric pottery repertoires.

<sup>138</sup> Mountjoy 1999: 911, n. 110.



**Figure 4.49.** Kalathos BN/P129 (1:2, drawing by Denise Cali).

A close visual analysis coupled with the drawn record of the piece provided new data to allow me to interpret this sherd as belonging to a kalathos imported from Crete<sup>139</sup>. In fact, striking matches for BN/P129 are represented by the kalathos D07/2007 recently found at Patela of Prinias<sup>140</sup> (Fig. 4.50) dated to Early Geometric (820-800 BC), and by a second example coming from the excavations in the Geometric levels of Phaistos<sup>141</sup>, both sites set in the Messara Plain in southern-central Crete.

Kalathoi of the same type and chronology have been found in other sites in the surroundings of Phaistos<sup>142</sup> and at the nearby site of Petrokephali<sup>143</sup>. In addition, the peculiar decorative zig-zag motif on the lip is rather common on kalathoi produced in eastern Crete between Protogeometric B and Early Geometric<sup>144</sup>. While only

<sup>139</sup> Tanasi 2009.

<sup>140</sup> Palermo *et al.* 2008: 179-208; Tanasi 2009: 537, fig. 5.

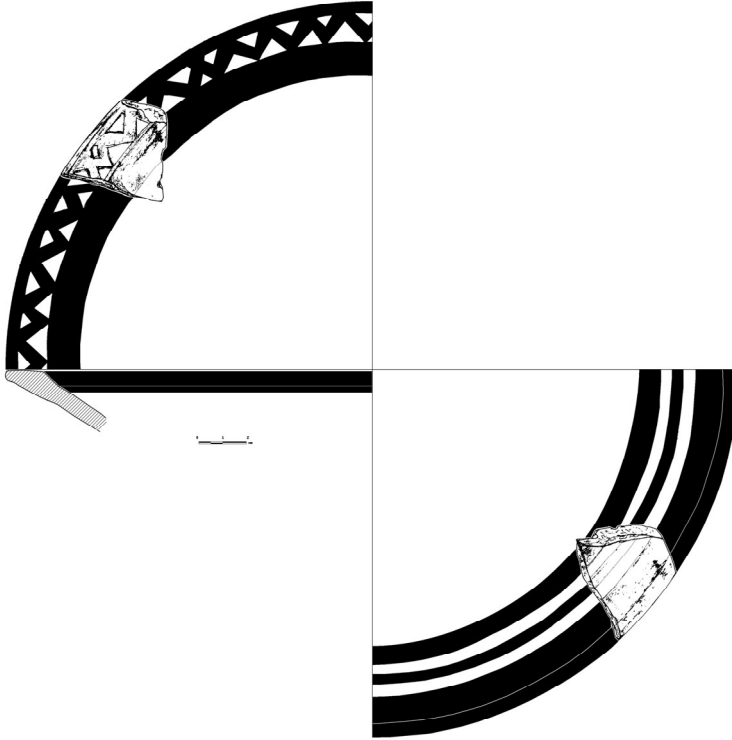
<sup>141</sup> Rocchetti 1974-1975: 273, fig. 148, top left.

<sup>142</sup> Rocchetti 1969-1970: 42-43, figs 3a, 3b and pp. 51-52, figs 14,1-2 and 15,1-2.

<sup>143</sup> Rocchetti 1969: 181-209.

<sup>144</sup> Tsipopoulou and Karetsou 2005: 456-458.

archaeometric analyses can determine scientifically the provenance of sherd BN/P129, the hypothesis that it could be an import from Crete seems to be more than reasonable.



**Figure 4.50.** Kalathos D07/2007 from Patela of Prinias (Tanasi 2009).

A third problematic finding is represented by the body sherd BRG/010/43 (Fig. 4.51; Pl. 2) marked ‘Doorway UT’. It was found under the *torba* layer by the great entrance to the forecourt open in the megalithic wall, during the excavations of 1923. According to Zammit’s stratigraphic sequence, established at Tarxien, whereby the material coming from below *torba* layers ought to be Neolithic<sup>145</sup>, Murray presented this specimen as Neolithic although its features

<sup>145</sup> Murray 1925: 22.



did not fit that repertoire: ‘This tiny piece is clearly of Neolithic ware from its fineness. Rectangular designs are not common at this period’<sup>146</sup>. In 1952, Evans did not include it in his inventory and the piece remained unpublished.



**Figure 4.51.** Body sherd BRG/010/43 (photograph by the author).

**BRG/010/43**

H. 2.7; w. 3; th. 0.4 cm.

Wall sherd of a medium size closed vessel. Painted and incised decoration: Completely painted externally with the exception of a roughly incised motif with a hatched band (meander?). Surface: 10 YR 7/4 very pale brown; slip: 7.5 YR 6/a light brown; paint: 2.5 YR 3/1 dark reddish gray. Wheel made. Very hard fabric without grits.

With its fabric, painted and incised decoration, the sherd does not belong to the Maltese Neolithic pottery repertoire; neither does it fit in with the local Bronze Age pottery production. Indeed, it is difficult to find comparisons for this sherd. The fabric seems compatible with Aegean production, and the decorative motif – hatched band or meander – are very popular in Attic Middle Geometric production<sup>147</sup>. But the contentious bit lies in the fact that the hatched motif is incised while the surrounding surface of the sherd was painted. Impressed hatched meander designs can be found on a fenestrated stamp from Athens dated to the 8<sup>th</sup> century<sup>148</sup>, and incised

<sup>146</sup> Murray 1925: 30, pl. 19,7.

<sup>147</sup> Coldstream 1968: 16-28, pls 3, n, 4, b.

<sup>148</sup> Brann 1962: 101, pl. 40,605.

hatched bands occur in the Attic ‘fine handmade incised ware’ lasting between Protogeometric and Middle Geometric I<sup>149</sup>. Geometric pottery with both incised and painted decoration in the Aegean is hard to find. In this context, our piece could belong to other ‘peripheral’ areas influenced by Greek art and culture such as southern Italy and Sicily, but again the fine fabric and decorative peculiarities do not match the local production in these areas.

Given the lack of precise parallels, therefore, a hypothesis can be put forward – with due caution: potsherd BRG/010/43 could be a local imitation of a Geometric vessel made by an indigenous artisan, a hybrid product which marries local and foreign to produce an original piece. Conscious/unconscious misinterpretation of the archetypes during the process of imitation and ‘translation’ of decorative themes in local artistic language is, for example, well attested in peripheral areas of the Mycenaean world, such as at Lemnos<sup>150</sup> and Sicily<sup>151</sup>.

Other local imitations of Geometric artefacts, discussed at length elsewhere<sup>152</sup>, are the finial knobs from Bahrija (B/P1027a, B/P1027b, B/P182) which I recently suggested belong to the type of Cretan ‘conical lids with finial knobs’, common in Crete between Protogeometric B and Early Geometric and in particular in Knossian cemeteries<sup>153</sup>. Another relevant example of hybridization is represented by the hut model BN/P75 from the Borg in-Nadur temple<sup>154</sup>, which elsewhere I have suggested to be a formal imitation of a Cretan Geometric cylindrical model<sup>155</sup> but with the traditional red slipped Borg in-Nadur fabric<sup>156</sup>.

The Mycenaean and Geometric material discussed here cannot be precise indicators of the period of occupation of the temple or indeed throw light on the chronological sequence of the Borg in-Nadur pottery repertoire and sequence since they are de-contextualised.

---

<sup>149</sup> Lord Smithson 1968: 103-109.

<sup>150</sup> Privitera 2005: pl. 49,f.

<sup>151</sup> Tanasi 2005: pl. 128,b.

<sup>152</sup> Tanasi 2009.

<sup>153</sup> Coldstream 1994: 112-118; Coldstream, Eiring and Forster 2001: 31-33.

<sup>154</sup> See Veca, this volume (chapter 7).

<sup>155</sup> Hägg 1990; Mersereau 1993; Petrakis 2006.

<sup>156</sup> Tanasi 2009.

Nevertheless, the Mycenaean kylix, together with other artefacts such as another Mycenaean sherd from Tas-Silġ<sup>157</sup>, and the bronze items from several other Middle Bronze Age sites<sup>158</sup>, inform us that Malta in some way participated in the Mycenaean commercial network which found in the coastal centres of eastern Sicily a convenient hub, as discussed elsewhere<sup>159</sup>.



**Figure 4.52.** Thapsos potsherds from the Borġ in-Nadur temple (photograph by the author).

Therefore, the two Geometric sherds testify to a ‘relevant position’ of the temple area in II B3 phase, although it was rather abandoned, since no other material of the same chronology and provenance were hitherto known in the Maltese archipelago. In some way the ruins of the temple and the abandoned settlement still had a kind of social or religious meaning for the people living in the village. Those findings also disclose a new scenario, in which

<sup>157</sup> Sagona 2008: 505, fig. 6:1.

<sup>158</sup> Tanasi 2010a.

<sup>159</sup> Tanasi 2008; Tanasi 2010a.

Maltese communities prior to the permanent settlement of the Phoenicians on the islands, entertained relations with Aegean people or with foreign people carrying Aegean goods<sup>160</sup>.

Another significant discovery consists of 42 handmade sherds (BRG/010/129.1-BRG/010/129.42) (Pl. 4) with a grey-brown burnished fabric containing *chamotte* and volcanic grit, with incised or applied decoration consisting of chevrons or rope-bands respectively. These were found amongst the material coming from the temple (Fig. 4.52; Pl. 4). Their features and especially the presence of volcanic grits, absent in Maltese prehistoric pottery, suggests that they are Middle Bronze Age Sicilian imports belonging to the Thapsos culture.

This suggestion finds support in the discovery of well preserved cups from Bahrija (28 sherds)<sup>161</sup>, and of another cup from In-Nuffara<sup>162</sup>, whose carinated profile (with incurving rim) finds a parallel in the production of pottery belonging to Thapsos phases II and III. In addition, Thapsos pottery has been recently identified in the northern enclosure of Tas-Silġ<sup>163</sup>.

Although Thapsos sherds from Borg in-Nadur cannot be pinned down to type, it is reasonable to argue that their introduction was part of the same phenomenon which brought imports to Bahrija and In-Nuffara sometime during the transition between Thapsos II and III. In this case, we have further confirmation of the reciprocal relationship connecting Malta and Sicily in the passage between phases II B1 and II B2.

#### **4.6. Provenance of materials and phases of occupation in the temple area**

To provide the pottery with a spatial context in order to try and identify different phases of use (and re-use) of the temple area is a complicated task. Even though Murray went to great lengths to try and establish a stratigraphic sequence in her excavations, inspired by the results obtained by Zammit at Tarxien, the outcome was

---

<sup>160</sup> See Tanasi 2009.

<sup>161</sup> Tanasi 2010a.

<sup>162</sup> Tanasi and Vella forthcoming.

<sup>163</sup> Recchia and Cazzella forthcoming; pers. comm. Giulia Recchia 2010.

frustrating to say the least. In the circumstances, it is just possible to define macro-areas from where larger concentrations of Neolithic and Bronze Age pottery were reported. Moreover, it must be pointed out that modern re-use of the site, reported by Murray<sup>164</sup>, could have significantly altered the stratification and horizontal distribution of artefacts.

North-West apse	North-East apse	Chapel B	Open Area
<p>‘Much Neolithic pottery was found in this apse, with a very little of the Bronze Age.’</p> <p>Murray 1923: 22.</p>	<p>‘In this apse the greater quantity of the pottery was of the Bronze Age.’</p> <p>Murray 1923: 23.</p>	<p>‘It was in this chapel that the greatest amount of Bronze Age pottery was found.’</p> <p>Murray 1929: 7.</p>	<p>‘Between the curved wall of the apsidal building and the outer wall of megaliths was an open area ... a considerable quantity of pottery was found, chiefly of the Bronze Age type.’</p> <p>Murray 1923: 31.</p>
Field stones	Outer trench	Forecourt	
<p>‘In the field to the north of the dolmen is an irregular line of stones curving to the east ... only Bronze Age pottery occurred both in it and in the upper levels.’</p> <p>Murray 1923: 32.</p>	<p>‘In the trench, which was cut round the outside of the sanctuary and which laid bare the stratification of the earth at that point, a number of Neolithic pottery were found.’</p> <p>Murray 1925: 24.</p>	<p>‘In the area marked 3 ... in the north-west angle between the south and east blocks was a mass of potsherds ... most of the sherds were of soft Neolithic ware.’</p> <p>Murray 1923: 30.</p> <p>‘In the space ... marked SA on the plan ... Neolithic pottery in several varieties occurred under the pavement and one or two pieces of Bronze Age type.’</p> <p>Murray 1923: 31.</p>	

**Table 4.4.** Murray’s description of large concentrations of pottery in the principal areas of the megalithic remains at Borg in-Nadur.

<sup>164</sup> Murray 1925: 26; Murray 1929: 2, 5.

Taking into account Murray's references about the more significant pottery deposits (Table 4.4), it is possible to highlight some new data. Analysing Murray's report and leaving apart references to find spots for single objects, Tarxien phase pottery seems concentrated in the Sanctuary (her Apsidal building) and in particular in the North-West Apse. Furthermore, in the outer trench cut 'round the outside of the sanctuary' in order to establish the date of its construction, only Tarxien phase pottery was found. In addition, two areas with quantities of the same pottery were identified inside the Main Enclosure and specifically in the area labeled S.A.

As regards the Bronze Age pottery, three other areas of concentration can be observed, shown in Fig. 4.53. The first one is represented by the North-East Apse of the Apsidal Building, possibly also the South-East Apse since here the storage jar BN/P5 was found in situ, and the nearby Open Area, north-east of the Apsidal Building. The second concentration is located outside the main compound of the temple, in that area denoted Field Stones by the excavator. The third one, also outside the compound, is Chapel B (part of the Double Chapel) and the structures not built in megalithic technique south-west of it.

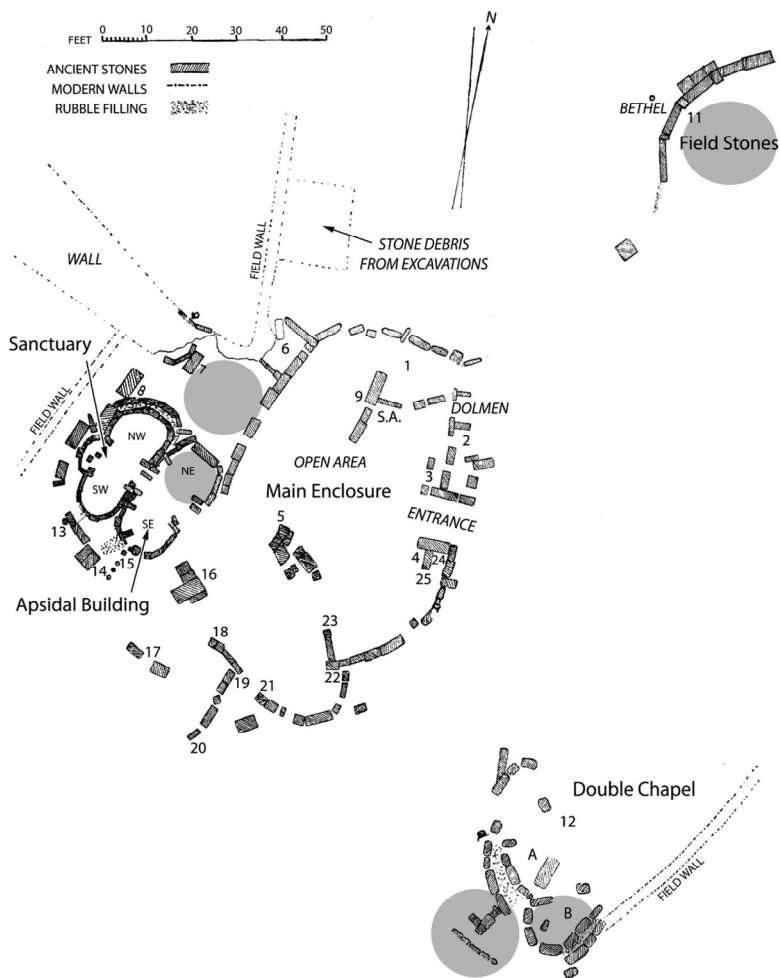
Those structures south-west of Chapel B are particularly significant because they constitute what the excavator considered the only building phase clearly distinguishable from the rest of the temple:

'At stone II a small wall came to light, touching the limiting wall, but without any connection with it. At right angles to this small wall was another wall built in the same manner of small squared blocks set on earth. Such a method of building is not of the Neolithic period, but belongs to the Bronze Age'<sup>165</sup>.

This statement suggests that the re-use of the temple area was not characterised only by the occupation of still standing megalithic spaces but also by the construction of new structures, huts perhaps, close to those areas rearranged as shelters like, for instance, Chapel B. In addition, it must be emphasised that the Mycenaean sherd BN/P7 was found exactly between these structures and the limiting wall of the Double Chapel.

---

<sup>165</sup> Murray 1929: 8.



**Figure 4.53.** Plan of the temple area indicating the areas of major concentration of Bronze Age pottery (digitised by Maxine Anastasi).

It could mean that the Mycenaean vessel, datable to LH IIIB, was part of the assemblage of that Bronze Age structure or hut. To understand why it is only the aforementioned three areas that had the main concentrations of Bronze Age pottery is not an easy task. It is possible that the megalithic structures there were better

preserved than other parts of the temple or maybe that the restricted spaces were more apt for a shelter than the Open Area of the Main Enclosure. In any case, as stated by Evans, it seems clear that people re-occupying the temple 'had no interest in the previous religious function of the buildings, which they seem to have used for purely domestic purposes'<sup>166</sup>.

Finally, it would be relevant to distinguish inside the three main areas of Middle Bronze Age occupation, those which had previously been occupied in the Early Bronze Age. Since Tarxien Cemetery phase pottery is so scarce it is hard to identify its find spot on the basis of Murray's descriptions. Having said this, Murray does state that the carinated bowl, of which only one fragment (BN/P186) was located in the museum, was found 'in the space between chapel A and the limiting stones'<sup>167</sup>. This means that the findspot is close to the place where the structures we believe belong to the Borg in-Nadur phase (where the Mycenaean vessel was found), were built.

The last issue about the use of the temple concerns its abandonment. Although II B3 phase pottery is scarce the Geometric importations suggest strongly that the place still had a relevant position at the time. The abundance of II B3 phase pottery in the village a small distance away could suggest to us a movement of inhabitants from the temple area to the village for reasons which are not clear. But besides the general state of fragmentation of the pottery discovered there, the case of restorable or complete Borg in-Nadur phase vessels suggest not a gradual but a sudden abandonment<sup>168</sup>. The idea of leaving an entire storage jar, like BN/P5, behind would seem wholly unreasonable.

It is possible that the need for defense convinced the dwellers of the temple area to abandon it and move closer to the main bastion of the village. Maybe the arrival of foreign seamen carrying exotic objects, like the Geometric vessels to which sherds BN/P129 and BRG/10/43 belong, in some way caused the abandonment of the temple area after millennia of use. But this is only a suggestion meant to provoke rather than to provide likely solutions. The latter will only be forthcoming if research on Borg in-Nadur continues.

---

<sup>166</sup> Evans 1971: 14.

<sup>167</sup> Murray 1929: 17, pls 15,5, 22,200.

<sup>168</sup> Murray 1925: 35-36, pl. 18,1-5; BN/P1, BN/P3, BN/P4, BN/P8, BN/P11.



### Acknowledgements

I am thankful to Sharon Sultana, Principal Curator of the National Museum of Archaeology, for allowing me to study the Bronze Age pottery from Borg in-Nadur, Bahrija, In-Nuffara, Mtarfa, and Għar Mirdum. This research would have been impossible without the help of Vanessa Ciantar and MariaElena Zammit at the National Museum. Many thanks are owed to Maxine Anastasi and Denise Cali who prepared the fine drawings and to Carlo Veca, Dalma Cultrera, Maxine Anastasi and Chantal-Marie Cassar who contributed significantly to the process of cataloguing the material. I am also grateful to Karl Cachia for his help in sorting out the material when this was brought from the store for study.

### References

- Alberti, G. [2004] "Contributo alla seriazione delle necropoli siracusane, in Le presenze micenee nel territorio siracusano," in V. La Rosa (ed.), *Le presenze micenee nel territorio siracusano*, Atti del Primo simposio siracusano di preistoria siciliana (Siracusa 15-16 dicembre 2003), pp. 99-170. Aldo Ausilio Editore, Padova.
- Alberti, G. [2005] "The earliest contacts between south-eastern Sicily and Cyprus in the Late Bronze Age," in R. Laffineur and E. Greco (eds), *Emporia: Aegeans in the Central and Eastern Mediterranean* (Aegaeum 25), pp. 343-351. University of Liège and University of Texas at Austin, Liège and Austin (TX).
- Alberti, G. [2007] "Minima Thapsiana. Riflessioni sulla cronologia dell'abitato di Thapsos", in *Rivista di Scienze Preistoriche* 57: 363-376.
- Alberti, G. [2008] *La ceramica eoliana della facies del Milazzese. Studio cronotipologico e culturale sulla base dei dati editi da Filicudi, Lipari, Panarea, Salina* (British Archaeological Reports - International Series 1767). Archaeopress, Oxford.
- Ashby, T., Zammit, T. and Despott, G. [1916] "Excavations in Malta in 1914", in *Man* 1916: 1-11.
- Bernabò Brea, L. [1985] *Gli Eoli e l'inizio dell'età del bronzo nelle isole Eolie e nell'Italia meridionale* (Annali dell'Istituto Orientale di Napoli 2). Istituto Orientale di Napoli, Napoli.
- Blakolmer, F. [2005] "Relations between prehistoric Malta and the Aegean: myth and reality", in R. Laffineur and E. Greco (eds), *Emporia: Aegeans in the Central and Eastern Mediterranean* (Aegaeum 25), pp. 653-662. University of Liège and University of Texas at Austin, Liège and Austin (TX).
- Sagona, C. [2000] "Pottery", in A. Bonanno, A. J. Frendo and N.C. Vella (eds), *Excavations at Tas-Silg, Malta. A preliminary report on the 1996-1998*

- campaigns conducted by the Department of Classics and Archaeology of the University of Malta*, in *Mediterranean Archaeology* 12: 67-114.
- Bonnano, A. [1999] “Tarxien, Xaghra Circle and Tas-Silġ. Occupation and re-use of temple sites in the Early Bronze Age”, in A. Mifsud and C. Savona Ventura (eds), *Facets of Maltese Prehistory*, pp. 209-223. Prehistoric Society of Malta, Malta.
- Brann, E. T. H. [1962] *The Athenian Agora. Volume VIII. Late Geometric and Protoattic Pottery*. The American School of Classical Studies at Athens. Princeton.
- Cazzella A. and Moscoloni M. [2004-2005] “Gli sviluppi culturali del III e II millennio a.C. a Tas-Silġ: analisi preliminare dei materiali dagli scavi 1963-70 e della loro distribuzione spaziale”, in *Scienze dell’Antichità* 12: 263-284.
- Coldstream, J. N. [1994] “Urn with lids: The Visible Face of the Knossian ‘Dark Age’”, in D. Evely, H. Hughes-Brock and N. Momigliano (eds), *Knossos. A Labyrinth of History. Papers presented in honour of Sinclair Hood*, pp. 105-121. British School at Athens. Oxford.
- Coldstream, J. N., Eiring, L. J. and Forster, G. (eds) [2001], *Knossos Pottery Handbook. Greek and Roman* (BSA Studies 7). British School at Athens. London.
- Cuomo di Caprio, N. [2007] *La ceramica in archeologia 2: antiche tecniche di lavorazione e moderni metodi di indagine*. L’Erma di Bretschneider, Roma.
- Evans, J. D. [1953] “The prehistoric culture-sequence in the Maltese archipelago”, in *Proceedings of the Prehistoric Society* 19: 41-94.
- Evans, J. D. [1971] *The Prehistoric Antiquities of the Maltese Islands: A Survey*. Athlone Press, London.
- Furumark, A. [1941] *Mycenaean pottery: analysis and classification*. Kungl. Vitterhets Historie Och Antikvitets Akademien. Stockholm.
- Furumark A. [1992] *Mycenaean Pottery: III Plates*, (Acta Instituti Atheniensis Regni Sueciae, series in 4°, XX:3), edited by P. Åström, R. Hägg, G. Walberg. Svenska Institutet i Athen, Stockholm.
- Gentili, G.V. [1951] “Thapsos insula (Sicilia, Siracusa)”, in *Fasti Archeologici* 6: 215-216.
- Hägg, R. [1990] “The Minoan Hut-models: Their Origin and their Function Reconsidered”, in *Opuscula Atheniensia* 18: 95-107.
- La Rosa, V. [1989] “Bernabò Brea e l’anakoron di Pantalica”, in *Archivio Storico per la Sicilia Orientale* 85: 299-307.
- Lord Smithson, E. [1968] “The Tomb of a Rich Athenian Lady, ca. 850 B.C.”, in *Hesperia* 37/1: 77-116.
- Malone, C., Bonanno, A., Trump, D., Dixon, J., Leighton, R., Pedley, M., Stoddart, S. [2009] “Material culture” in C. Malone, S. Stoddart, A. Bonanno and D. Trump (eds), *Mortuary customs in prehistoric Malta: excavations at the*

- Brochtorff Circle at Xaghra (1987-94)*, pp. 193-289. McDonald Institute for Archaeological Research, Cambridge.
- Maniscalco, L. [1999] "The Sicilian Bronze Age pottery service," in R. H. Tykot, J. Morter and J. E. Robb (eds), *Social Dynamics of the Prehistoric Central Mediterranean* (Accordia Specialist Studies on the Mediterranean 3), pp. 185-94. Accordia Research Institute, London.
- Mersereau, R. [1993] "Cretan Cylindrical Models", in *American Journal of Archaeology* 97: 1-47.
- Mountjoy, P.A. [1999] *Regional Mycenaean pottery*. Verlag Marie Leidorf GmbH. Raden/Westf.
- Murray, M. A. [1923] *Excavations in Malta: Part I*. B. Quaritch, London.
- Murray, M. A. [1925] *Excavations in Malta: Part II*. B. Quaritch, London.
- Murray, M. A. [1929] *Excavations in Malta: Part III*. B. Quaritch, London.
- Murray, M. A. [1934] *Corpus of the Bronze-Age Pottery of Malta*. B. Quaritch, London.
- Orsi, P. [1891] "La necropoli sicula del Plemmirio (Siracusa)", in *Bullettino di Paleontologia Italiana* 17: 115-139.
- Orsi, P. [1893] "Necropoli sicula presso Siracusa", in *Monumenti Antichi dei Lincei* 4: coll. 4-86.
- Orsi, P. [1895] "Thapsos", in *Monumenti Antichi dei Lincei* 6: coll. 89-150.
- Orsi, P. [1903] "Necropoli e stazioni sicule di transizione IV. Necropoli di Milocca o Matrensa (Siracusa)", in *Bullettino di Paleontologia Italiana* 29: 136-149.
- Orsi, P. [1919] "Gli scavi intorno all'Athenaion di Siracusa negli anni 1912-1917", in *Monumenti Antichi dei Lincei* 25: coll. 353-754.
- Pace, A. [2004] "Borġ in-Nadur, Birzebbuga," in D. Cilia (ed.), *Malta before History*, pp. 105-107. Miranda, Malta.
- Palermo, D., Pautasso, A. and Gigli Patané R. [2008] "Lo scavo del 2007 sulla Patela di Priniàs. Relazione preliminare", in *Creta Antica* 9: 179-208.
- Peet, T. E. [1910] "Contributions to the study of the Prehistoric Period in Malta", in *Papers of the British School at Rome* 5: 141-163.
- Pelagatti, P. and Voza, G. (eds) [1973] *Archeologia nella Sicilia Sud-Orientale*. Centre Jean Bérard de Naples, Siracusa.
- Petrakis, V. P. [2006] "Late Minoan III and Early Iron Age Cretan Cylindrical Terracotta Models: A Reconsideration", in *Annual of the British School at Athens* 101: 183-216.
- Privitera, S. [2005] "Hephaestia on Lemnos and the Mycenaean Presence in the Islands of the Northeastern Aegean", in R. Laffineur and E. Greco (eds), *Emporia: Aegeans in the Central and Eastern Mediterranean* (Aegaeum 25), pp. 227-236. University of Liège and University of Texas at Austin, Liège and Austin (TX).

- Recchia G. and Cazzella A. [forthcoming] “Maltese late prehistoric ceramic productions sequence and chronology: on-going problems”, in C. Sagona (ed.), *Proceedings of the International Workshop Ceramics of the Phoenician-Punic World*, (Valletta, Malta, 8-12 January 2007). Peeters, Leuven.
- Rocchetti, L. [1969] “Il deposito protogeometrico di Petrokephali presso Festòs”, in *Annuario della Scuola Archeologica Italiana di Atene* 45-46:181-209.
- Rocchetti, L. [1969-1970] “Depositi submicenei e protogeometrici nei dintorni di Festòs”, in *Annuario della Scuola Archeologica Italiana di Atene* 47-48: 41-70.
- Rocchetti, L. [1974-1975] “La ceramica dell’abitato geometrico di Festòs a occidente del palazzo minoico”, in *Annuario della Scuola Archeologica Italiana di Atene* 52-53: 169-300.
- Sagona, C. [1999] “Silò or vat? Observations on the ancient textile industry in Malta and early Phoenician interests in the island”, in *Oxford Journal of Archaeology* 18: 23-60.
- Sagona, C. [2008] “Malta: between a rock and a hard place,” in C. Sagona (ed.), *Beyond the Homeland: Markers in Phoenician Chronology* (Ancient Near Eastern Studies Supplement 28), pp. 487-536. Peeters, Leuven.
- Stamplididis, N. Chr. [2003] *Sea Routes...From Sidon to Huelva. Interconnections in the Mediterranean 16<sup>th</sup> – 6<sup>th</sup> c. BC*. Greek Ministry of Culture. Athens.
- Tanasi, D. [2005] “Mycenaean Pottery Imports and Local Imitations: Sicily vs Southern Italy in R. Laffineur and E. Greco (eds), *Emporia: Aegeans in the Central and Eastern Mediterranean* (Aegaeum 25), pp. 561-569-662. University of Liège and University of Texas at Austin, Liège and Austin (TX).
- Tanasi, D. [2008] *La Sicilia e l’arcipelago maltese nell’età del Bronzo Medio* (KASA 3). Officina di Studi Medievali, Palermo.
- Tanasi, D. [2009] “A Mediterranean Connection. Nuovi dati sulle relazioni tra Malta e Creta agli inizi dell’età del Ferro”, in *Creta Antica* 10/2: 519-538.
- Tanasi, D. [2010a] “Bridging the gap. New data on the relationship between Sicily, the Maltese archipelago and the Aegean in the Middle Bronze Age”, in *Mare Internum* 2: 103-111.
- Tanasi, D. [2010b] “Gli scavi di Monte S. Paolillo e le presenze di tipo egeo nel territorio di Catania”, in V. La Rosa and M. G. Branciforti (eds), *Tra lava e mare. Contributi all’archaiologia di Catania*, Atti del Convegno, (Catania 22-23 novembre 2007), pp. 81-94. Le Nove Muse, Catania.
- Tanasi D. and Vella, N. C. [forthcoming] “Islands and mobility: exploring Bronze Age connectivity in the south-central Mediterranean,” in P. Van Dommelen and B. Knapp (eds), *The Cambridge Prehistory of the Bronze and Iron Age Mediterranean*. Cambridge University Press, Cambridge.
- Tinè, S. [1965] “Gli scavi nella Grotta della Chiusazza”, in *Bullettino di Paleontologia Italiana* 69: 113-286.

- Trump, D. H. [1961] “The Later Prehistory of Malta”, in *Proceedings of the Prehistoric Society* 27: 253-262.
- Trump, D. H. [2002] *Malta: Prehistory and Temples*. Midsea Books, Malta.
- Trump, D. H. [2004] “The prehistoric pottery,” in Cilia, D. (ed.) [2004] *Malta before History*, pp. 243-268. Miranda, Malta.
- Tsipopoulou, M. and Karetsoy, A. [2005] *He anatolike Krete sten proime epoche tou siderou*. Ypourgeio Politismou, Iraklio.
- Zammit, T. [1930], *Prehistoric Malta. The Tarxien Temples*. Oxford University Press, London.
- Zammit, M.E. [2006], *An archaeological survey of Bahrija. 2006*. Unpublished MA dissertation, University of Malta.

**Davide Tanasi** PhD is Adjunct Professor of Archaeology and Ancient History at Arcadia University – The College of Global Studies. He has authored several publications about Mediterranean prehistory including *La necropoli protostorica di Montagna di Caltagirone* (Polimetrica, 2008) and *La Sicilia e l'arcipelago maltese nell'età del Bronzo Medio* (Officina di Studi Medievali, 2008). He is co-director of the Archeomatica Project (IPLab, University of Catania) aimed to develop new digital tools for archaeological research and the preservation of cultural heritage.

## 5. The post-prehistoric pottery

Maxine Anastasi – Department of Classics and Archaeology,  
University of Malta, Malta  
maxanastasi@gmail.com

**Abstract.** Twelve fragments of pottery, clearly not prehistoric in date, have been found in the stores of the National Museum of Archaeology amidst prehistoric pottery recovered from Borġ in-Nadur. This short piece presents a detailed catalogue of these sherds, and considers other material published by Murray and Trump from their excavations at the same site. The significance of this pottery at a prehistoric site is also considered.

**Keywords:** Pottery, Punic, Roman.

### 5.1. Introduction

During an exercise aimed at re-evaluating the prehistoric pottery excavated from the site of Borġ in-Nadur<sup>1</sup>, a small number of post-prehistoric potsherds were found in storage. Little is known of these sherds' precise context of discovery; however, it is clear that they were not associated with any direct and long-term activities relating to the occupation or use of the megalithic structures after the end of the Bronze Age<sup>2</sup>.

This short contribution is intended to present a catalogue of this pottery and to discuss the significance of such pottery for the site of Borġ in-Nadur.

---

<sup>1</sup> See Tanasi, this volume (chapter 4).

<sup>2</sup> Murray 1929: 3.

## 5.2. Catalogue of pottery

### **Inv. no. BN/P/1**

Wall sherds (x4); amphora.

Undecorated.

Hard-fired, yellowish-brown (10YR 5/4-6) fabric with hackled breaks. Contains an abundance of angular volcanic black sand inclusions. The exterior surface is unslipped, however, a light brown patina (7.5YR 6/4) a shade lighter than the fabric is evident; the black glassy inclusions are visible on the surface.

Wheelmade; plain ware.

Wall thickness: 1.2 – 2 cm; interior body Ø: c. 37 cm.

*Comments:* Campanian black-sand amphora; c. 3rd-1st centuries BC<sup>3</sup>.

### **Inv. no. BN/P/2**

Wall sherd; amphora.

Two red lines painted on the exterior surface

Reddish-yellow (5YR 6/6) fabric with irregular yellow lime inclusions and occasional red (iron?) grains. The surface appears unslipped, however, there are faint traces of a pale pink patina (7.5YR 8/3), possibly the remnants of a light wash or scum. Two thin pale red (10R 6/3-4) bands, 2.5 mm in thickness, were painted on the exterior surface.

Wheelmade; plain ware.

Wall thickness: 0.9 cm.

*Comments:* Local Punic amphora similar to Sagona's amphora form IV:1; c. 3rd-1st centuries BC<sup>4</sup>.

### **Inv. no. BN/P/3**

Wall sherd; large closed vessel displaying clear rills on the interior surface of the sherd.

Undecorated.

Hard-fired fabric with a thin greyish-brown core (2.5YR 5/2) and thicker pale red edges (10R 6/6). Frequent small to medium paste voids are visible in the fabric, as well as a mixture of white and yellow lime inclusions and irregular large red grains. The exterior surface is heavily eroded, however, traces of a very pale brown slip are visible (10YR 8/3-4).

Wheelmade; plain ware.

Wall thickness: 1 cm.

*Comments:* Local coarse fabric; Late Punic to Roman period.

### **Inv. no. BN/P/4**

Wall sherd; large closed vessel displaying clear rills on the interior surface.

Undecorated.

---

<sup>3</sup> Bechtold 2008: 107-108.

<sup>4</sup> Sagona 2002: 90-91, fig. 346.



Hard-fired, thin dark grey core (2.5YR 4/1) and reddish-yellow edges (5YR 6/6) with occasional white lime, foraminifera and fine glauconite inclusions. The exterior surface is coated with a thick and evenly applied pale yellow slip (2.5YR 8/3).

Wall thickness: 0.8 cm

*Comments:* Local coarse fabric; Late Punic to Roman period.

**Inv. no. BN/P/5**

Neck; flask or narrow-necked jug/jar.

Undecorated.

Hard-fired, reddish-yellow (5YR 6/6) fabric with fine yellow lime inclusions and fine paste voids. The exterior surface is covered in a very pale brown (10YR 8/3) wash, possibly the patina resulting from excess salts in the clay that collected at the surface during firing.

Wheelmade; plain ware.

Wall thickness: 0.5 – 1 cm

*Comments:* Local coarse fabric; Punic to Roman period.

**Inv. no. BN/P/6**

Rim; wide-mouthed basin, everted and collared triangular rim.

Incised groove on exterior of rim collar.

Thick light brown core (10YR 6/2) with thin reddish-yellow edges (5YR 6/6), containing yellow lime and occasional black angular glass-like specks. The surface appears to have been coated with a very pale brown slip (10YR 7/3).

Wheelmade; plain ware.

Rim Ø 40 cm

*Comments:* Local coarse fabric?; Roman period.

**Inv. no. BN/PX/7**

Handle; circular-sectioned handle belonging to a cooking pot.

Undecorated.

Fine chalky reddish-yellow fabric (5YR 6/8) with abundant fine white lime and foraminifera inclusions. The surface is highly eroded.

Handle cross-section Ø: 1.3 cm

*Comments:* Fine local cooking fabric; handle probably belongs to a pot similar to Quercia's B and C forms; c. 4th-2nd centuries BC<sup>5</sup>.

**Inv. no. BN/P193**

Disc base; possibly belonging to a thin-walled closed vessel, as there are traces of rills on the interior wall of the sherd.

Undecorated.

Reddish-yellow (5YR 6/8) fabric with a mixture of black glass-like specks and white lime inclusions. The surfaces are coated in a brownish-yellow scum (10YR 6/6) which could be the result of an encrustation build-up induced by a lengthy burial period.

---

<sup>5</sup> Quercia 2002: 410-414.

Wheelmade; plain ware.

Base Ø: 5.4 cm

*Comments:* North African fabric?; Roman period.

**Inv. no. BN/PX/8**

Fragment of a decorated plaque/tile or ornamental object.

Relief decoration of a floral motif.

Thick grey (10YR 5/1) fabric with thin pink outer edges (7.5YR 7/4). Irregular grey-coloured quartz inclusions fill the fabric. The surfaces are unslipped and retain the same colour as the pink fabric.

Mouldmade; plain ware.

Max. wall thickness: 2.2 cm

*Comments:* Local?; Late Punic/Roman to Early Modern period?

### 5.3. Ceramic discussion

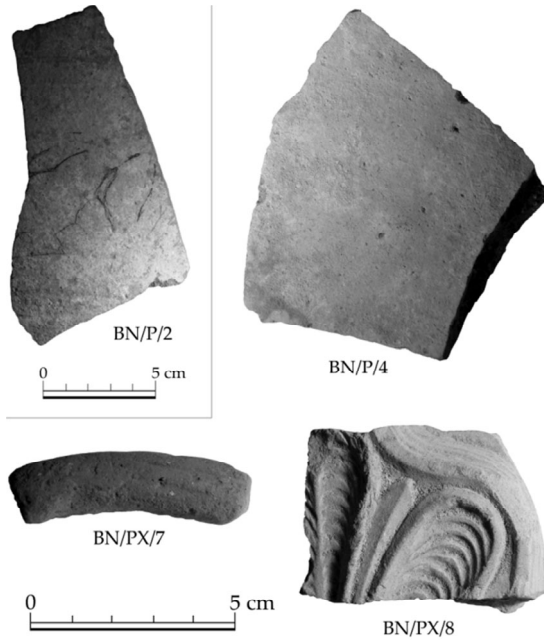
Despite the number of pottery sherds discovered in storage, many of which retain no diagnostic features, some general observations can be made. Of particular interest are the four fragments of an imported Graeco-Italic wine amphora (BN/P/1). The black volcanic inclusions that characterise this fabric are typical of, but not restricted to, the Campanian region of southern Italy<sup>6</sup>. These amphorae were mass-produced at several workshops for the purpose of forming strong and sturdy containers for the storage and transport of wine to the Roman provinces and beyond. Such amphorae are common on all Hellenistic and Roman sites throughout the Maltese Islands from the end of the third century BC<sup>7</sup>. The three wheelmade wall sherds belong to large closed vessels (BN/P/2, BN/P/3, BN/P/4), most probably local amphorae or storage jars. The painted fragment (BN/P/2, Fig. 5.1) can clearly be identified as a part of the lower body of a round-based Punic amphora common to the repertoire of Maltese Punic amphorae<sup>8</sup>.

---

<sup>6</sup> Bechtold 2008: 107-108.

<sup>7</sup> Bruno 2009: 173.

<sup>8</sup> This type of amphora shape is considered local because of the discovery of a deformed complete vessel in a local Punic tomb. The vessel in question displays severe blistering on the body that would render the container useless for storing and transporting contents (Bruno 2009: 100, fig. 15).



**Figure 5.1.** Selected pottery sherds from Borg in-Nadur.

The faint traces of two red painted bands, that would typically amount to several more thin concentric bands painted around the body of the amphora, would date the amphora to the third to first century BC; many examples of this type are common finds in Punic-period tombs and archaeological sites across the islands<sup>9</sup>. A few Maltese examples have been traced outside the islands suggesting that these amphorae had a predominantly domestic circulation<sup>10</sup>; however, the discovery of a shipwreck off the coast of Gozo, containing about 90 local Punic amphorae, has cast some doubt on the degree to which these Maltese products were exported, and also provides evidence that these amphorae formed part of cargoes on sea vessels<sup>11</sup>. As for their contents, wine is believed to be the primary content, although other contents such as oil, fish

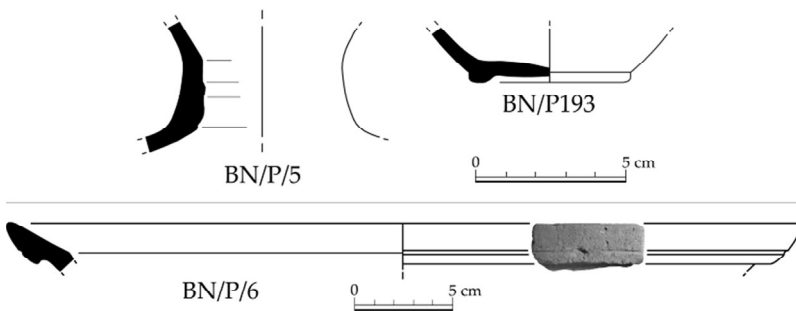
<sup>9</sup> Sagona 2002: 90-91, fig. 346.

<sup>10</sup> Ciasca 1985: 18-19

<sup>11</sup> Bruno 2009: 101.

sauce and fruit might also have been stored and transported in such containers<sup>12</sup>.

Besides storage vessels and amphorae, a selection of utilitarian and kitchen vessels can be identified. These include a possible flask or jug (BN/P/5, Fig. 5.2) most likely used to store and pour some sort of drink or liquid sauce at the table; a large open bowl (BN/P/6, Fig. 5.2) probably used to grind and mix ingredients; and a cooking pot (BN/P/7, Fig. 5.1) used for boiling or stewing meals. A study has shown that these three forms were common in divergent contexts and that each attained a specific and unique function according to context<sup>13</sup>. For instance, cooking pots at Tas-Silġ are imbued with ritual meaning having been inscribed with pre-fired Punic letters to the goddess Astarte. The associations between these standard inscribed cooking vessels and the discovery of heaps of ash and animal bones led scholars to believe that worshippers at the sanctuary of Tas-Silġ prepared and cooked ritual meals in honour of the resident deity<sup>14</sup>. On the other hand, cooking pots of this type recovered from local rock-cut tombs containing burials of the first century AD, were often, though not exclusively, used as cinerary urns for the disposal of burnt infant remains<sup>15</sup>.



**Figure 5.2.** Reconstruction drawings of sherds from Borg in-Nadur.

<sup>12</sup> Azzopardi 2006: 45, 51; Bruno 2009: 101.

<sup>13</sup> Anastasi 2010: 226.

<sup>14</sup> Quercia 2002; Corrado *et al.* 2004.

<sup>15</sup> Zammit 1909-1912, NB III: 99-100; Sagona 2002: 962, fig. 131.6; Anastasi 2010: 210.

The basin rim (BN/P/6, Fig. 5.2) belongs to a form commonly found on Roman-period sites across the Maltese Islands; however, a reliable date for this form has yet to be established. A basin rim sharing a similar form and fabric was recorded at Ħal Millieri and was dated to the fifth/sixth centuries AD on the basis of its similarity to an African Red Slip ware form<sup>16</sup>. Another example was discovered at the Żejtun villa<sup>17</sup> and two more in the area of Bidnija, to the north of Malta<sup>18</sup>.

### 5.4. Prehistoric sites after prehistory

This selection of post-prehistoric ceramic fragments has not only shed some additional light on the discovery of Punic and Roman forms on the island, but begs the question why this pottery ended up at Borġ in-Nadur. However, in reviewing how such pottery found its way onto a predominantly prehistoric site with no known Classical-period occupation (and hence, structures), caution should be maintained because certain modern depositional processes are known to cause soil disturbances, thereby skewing our interpretations of the archaeological record.

Firstly, in view of the geological make-up of the island, shallow soil depths have always been of concern to farmers; restricted tracts of arable land consisting of predominantly wind-swept rock and a rapid rate of unchecked soil erosion has forced farmers to construct artificial terraced fields and import displaced soil from other locations<sup>19</sup>. Therefore, pottery mixed in with imported soil could mislead one into believing that an ancient activity took place.

Secondly, the deep-rooted local tradition of systematically gathering and collecting ancient pottery from the countryside to be

---

<sup>16</sup> Blagg *et al.* 1990: 59-60, fig. 14.42.

<sup>17</sup> Anastasi 2010: fig. 136.4, no. 424.

<sup>18</sup> The pieces (MSP2008/1/A57/P4/1 and MSP2008/1/B122/P2/1) will be published in a preliminary report currently in preparation. On the Malta Survey Project see Vella *et al.* forthcoming.

<sup>19</sup> In 1935 the 'Ordinance for the Preservation of Fertile Soil' was passed to ensure that no soil could be buried beneath any construction. This enforced the removal and relocation of soils in order to safeguard this precious resource (Azzopardi 1995: 51).

crushed and pounded with lime for the waterproofing of roofs can dramatically affect the interpretation of locating new archaeological sites during field-walking surveys<sup>20</sup>.

Regardless, the proximity of the Ta' Kaççatura Roman villa<sup>21</sup>, might explain the appearance of Punic and Roman sherds at this prehistoric site. Besides the sherds presented above, two other sherds were reported by Murray and published in her final excavation report. One is described as a 'fine hard ware, lines painted. This piece suggests Greek influence, and may be dated by its style to about B.C. 600'<sup>22</sup>. The original sherd identified by Murray was not re-located, however, a close look at the illustration she provides (Fig. 5.3a) does indicate that the sherd may have belonged to an early local *kylix*. The short note annotating Murray's figure ('pale buff, red lines'), and the depiction of an odd carination close to the rim as seen from the profile of the drawing, help place the type of *kylix* to one commonly found in Phoenician tombs in the Maltese Islands, which are dated to about the seventh and sixth centuries BC<sup>23</sup>. The second sherd is a ribbed wall fragment most likely Late Roman in date (Figs 5.3b)<sup>24</sup>. Regarding the latter sherd, Murray states that 'ribbed sherds, similar in material and form, were found in the ruins of the Roman villa in the Wied Dalam, not half a mile away,' thus admitting that Roman sherds could have found their way to the prehistoric site<sup>25</sup>. However, the considerable lack of evidence for wide-scale Punic- and Roman-period activity at Borġ in-Nadur led Murray to conclude that:

[...] the use of the [megalithic] buildings came to an end in the Bronze Age, perhaps because of the ruinous condition, perhaps because of a change in religion. The proximity of the Roman villa in the Wied Dalam makes it probable that Roman pottery and coins would have been found on the site had the temple or chapels been in use at that period. Though not conclusive proof as to the date of

<sup>20</sup> Dudley Buxton and Hort 1921: 131; Luttrell 1975: 13; Vella *et al.* forthcoming.

<sup>21</sup> The Roman villa was excavated by Thomas Ashby in 1915 (Ashby 1915: 52-66).

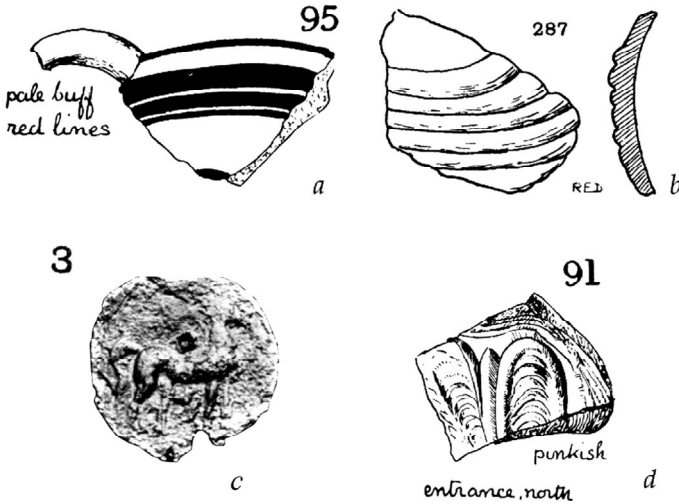
<sup>22</sup> Murray 1923: 37, pl. 12, no. 95.

<sup>23</sup> The form closely resembles Sagona *kylix* form II: 1 which has concentric red lines painted throughout the interior of the vessel (Sagona 2002: 197, fig. 343).

<sup>24</sup> Murray 1929: 18, pl. 27, no. 287.

<sup>25</sup> Murray 1929: 18.

the abandonment of these megalithic buildings, the absence of either Punic or Roman remains points to the fact that the buildings were disused before those dates<sup>26</sup>.



**Figure 5.3.** The illustrations recorded by Murray of the few post-prehistoric objects excavated at Borg in-Nadur (a, d Murray 1923: pl. 12; b Murray 1929: pl. 27; c Murray 1929: pl. 17).

Apart from potsherds, a Carthaginian coin assigned a 3rd-century BC date (Fig. 5.3c)<sup>27</sup> and a ceramic fragment of a mould-made relief-decorated tile or plaque (Fig. 5.3d) of unknown date are also specifically mentioned by Murray; however, the moulded fragment escapes any written mention in her report, but is only illustrated<sup>28</sup>. Fortunately, this same fragment has been relocated in the stores of the National Museum of Archaeology, Valletta, and is described above (BN/PX/8; Fig. 5.1).

David Trump's 1959 excavations at Borg in-Nadur also yielded several post-prehistoric potsherds. Trump assigns their presence to

<sup>26</sup> Murray 1929: 3.

<sup>27</sup> Murray 1929: 3, 15, pl. 17.3. Going by the evidence available, Dr Suzanne Frey-Kupper (pers. comm.) is willing to accept this date and provenance for the coin.

<sup>28</sup> Murray 1923: pl. 12, no. 91.

the building and continual cultivation of a field directly above the Bronze Age hut remains<sup>29</sup>.

The remains of the Ta' Kaċċatura villa, however, are not the only Punic/Roman period remains within the vicinity of the Borġ in-Nadur site. At least two Punic rock-cut shaft tombs and a Late Roman catacomb have been recorded in the past; however, the position of only one tomb, located north-west of the villa, is currently known<sup>30</sup>. No archaeological material was recovered from any of the tombs, making them difficult to date<sup>31</sup>. In the latter part of the nineteenth and early twentieth century both the prehistoric remains of Borġ in-Nadur and the Ta' Kaċċatura villa were mistaken for the location of the Temple of Melkart/Hercules mentioned by the ancient geographer Ptolemy<sup>32</sup>. Numerous rock-cut tombs of Phoenician/Punic association are noted to have surrounded this presumed temple<sup>33</sup>. Therefore, a reference to rifled tombs made by Caruana, and the fact that the only tomb re-located to date is devoid of any contents, might point towards the discard of broken tomb furniture close to the prehistoric site. Consequentially, the *kylix* fragment recovered by Murray (no. 95) and the amphora sherd (BN/P/2) belong to vessels that are very often found in Phoenician and Punic tomb contexts; the *kylix* more so than the amphora<sup>34</sup>.

It is not uncommon for Punic and Roman pottery to be found in the latest stratified deposits of prehistoric sites. Late-dated pottery very often signals the re-occupation of prominent megalithic structures visible in the open landscape, or else activities related to the removal of easily accessible stone for use elsewhere<sup>35</sup>. The Punic and Roman sanctuary of Tas-Silġ is by far the most significant and well-documented case of this conscious reutilisation of prehistoric

---

<sup>29</sup> Trump 1961: 256.

<sup>30</sup> Caruana 1898: 45, pl. 1, figs 2-3; Ashby 1915: 66; Buhagiar 1986: 237-239, fig. 72.

<sup>31</sup> Caruana 1898: 45; Buhagiar 1986: 237.

<sup>32</sup> Ptolemy *Geography* IV, 3, 13.

<sup>33</sup> Caruana 1898: 45; Wignacourt 1914: 107.

<sup>34</sup> *Kylikes* of this sort have to date only been recovered from tomb and sanctuary (Tas-Silġ) contexts within the Maltese islands (Sagona 2000: 89, fig. 10.7; 2002: 195-200).

<sup>35</sup> Bonanno 2007: 109.



monuments. A series of Phoenician, Punic and Roman temple structures, each following the earlier defined axis set by the prehistoric occupiers, were all superimposed one above the other, over the original Tarxien-phase megalithic temple<sup>36</sup>. On a lesser scale, evidence of Punic and Roman activity at the megalithic temples of Tarxien<sup>37</sup>, Kordin<sup>38</sup>, Hal Far<sup>39</sup> and others have also been reported. The presence of a few potsherds at Borġ in-Nadur and the evidence of Roman-period field-ploughing from Trump's excavation, suggest that re-occupation or re-use was low key here. Instead, other sites, such as Tas-Silġ and Tarxien, appear to have been favoured by later settlers for setting up their enduring structures.

In view of the restricted number of strategic places surrounded by fertile valleys and serviced with water springs on the islands of Malta and Gozo, it is no wonder that the reutilisation of certain sites may have been favoured. It is also possible to imagine that the visible megaliths may have drawn later settlers to these monuments; however, other considerations could have dictated the range and intensity of Punic and Roman re-occupation<sup>40</sup>.

To conclude, although devoid of a specific findspot and limited in quantity, the post-prehistoric pottery fragments presented here are useful bits of material culture that can tell us something about the history of Borġ in-Nadur. As stated elsewhere<sup>41</sup>, more consideration into post-prehistoric material culture on predominantly prehistoric sites can reveal considerably more information about past attitudes towards abandoned monuments in a revisited landscape.

---

<sup>36</sup> Ciasca 1993: 226; Ciasca and Rossignani 2000: 52; Recchia 2004-2005: 239-240; Rossignani 2004-2005: 356.

<sup>37</sup> Evans 1971: 117, 135.

<sup>38</sup> Ashby *et al.* 1913: 37; Evans 1971: 72.

<sup>39</sup> MAR 1922: 4; Evans 1971: 22.

<sup>40</sup> For further discussion of this point see Grima and Mallia, this volume (chapter 8).

<sup>41</sup> Bonanno 2007: 111.

## References

- Anastasi, M. [2010] *Fine and Coarse Wares: A Contextual Meaning of Pottery in Late Punic and Roman Malta*, Unpublished M.A. dissertation, Department of Classics and Archaeology, University of Malta.
- Ashby, T., Bradley, R. N., Peet, T. E. and Tagliaferro, N. [1913] "Excavations in 1908-11 in various megalithic buildings in Malta and Gozo", in *Papers of the British School at Rome* 6/1: 1-126.
- Ashby, T. [1915] "Roman Malta", in *Journal of Roman Studies* 5: 23-80.
- Azzopardi, A. [1995] *A New Geography of the Maltese Islands*, St. Aloysius' College, Malta.
- Azzopardi, E. [2006] *The Xlendi Bay Shipwrecks: An Archaeological Study*, Unpublished M.A. dissertation, Department of Classics and Archaeology, University of Malta.
- Bechtold, B. [2008] *Observations on the Amphora Repertoire of Middle Punic Carthage* (Carthage Studies 2). Ghent University Press, Ghent.
- Blagg, T. F. C., Bonanno, A. and Luttrell, A. T. [1990] *Excavations at Hal Millieri, Malta*. University of Malta Press, Malta.
- Bonanno, A. [2007] "The Phoenicians and the Maltese prehistoric landscape," in D. A. Barrowclough and C. Malone (eds) *Cult in Context: Reconsidering Ritual in Archaeology*, pp. 107-111. Oxbow, Oxford.
- Bruno, B. [2009] *Roman and Byzantine Malta: Trade and Economy*. Midsea Books, Malta.
- Buhagiar, M. [1986] *Late Roman and Byzantine Catacombs and Related Burial Places in the Maltese Islands*. BAR I.S. 302, Oxford.
- Caruana, A. A. [1898] *Ancient Pagan Tombs and Christian Cemeteries in the Islands of Malta, explored and surveyed from the year 1881 to the year 1897*. Government Printing Office, Malta.
- Ciasca, A. [1993] "Some considerations regarding the sacrificial precincts at Tas-Silġ", in *Journal of Mediterranean Studies* 3/2: 225-244.
- Ciasca, A. and Rossignani, M. P. [2000] "Scavi e ricerche della Missione Archeologica Italiana a Malta", in *Malta Archaeological Review* 4: 51-67.
- Corrado, A., Bonanno, A. and Vella, N. C. [2004] "Bones and bowls: a preliminary interpretation of the faunal remains from the Punic levels in Area B, at the temple of Tas-Silġ, Malta," in S. Jones O'Day, W. Van Neer and A. Ervynck (eds) *Behaviour Behind Bones: the zooarchaeology of ritual, religion, status and identity*, pp. 47-53. Oxbow, Oxford.
- Dudley Buxton, M. A., Hort, A. V. D. [1921] "The modern pottery industry in Malta", in *Man* 21: 130-131.

- Evans, J. D. [1971] *The Prehistoric Antiquities of the Maltese Islands: A Survey*, Athlone Press, London.
- Luttrell, A. T. [1975] "Approaches to Medieval Malta," in A. T. Luttrell (ed.) *Medieval Malta, Studies on Malta before the Knights*, pp. 1-70. The British School at Rome, London.
- MAR [1922] *Annual Report on the Working of the Museum Department during 1921-1922*. Government Printing Office, Malta.
- Murray, M. A. [1923] *Excavations in Malta, part I*. B. Quaritch, London.
- Murray, M. A., [1929] *Excavations in Malta, part III*. B. Quaritch, London.
- Quercia, A. [2002] "La ceramica da fuoco del santuario di Tas-Silg (Malta): tipi attestati e proposte interpretative," in M. G. Amadasi Guzzo, M. Liverani and P. Matthaeie (eds), *Da Pyrgi a Mozia. Scritti sull'archeologia del Mediterraneo: studi in memoria di Antonia Ciasca*, pp. 403-424. Università di Roma 'La Sapienza', Roma.
- Recchia, G. [2004-2005] "Il tempio e l'area sacra megalitica di Tas-Silg: le nuove scoperte dagli scavi nei livelli del III e II millennio A.C.," in *Scienze dell'Antichità* 12: 233-262.
- Rossignani, M. P. [2004-2005] "Il santuario in età Tardo-Ellenistica", in *Scienze dell'Antichità* 12: 255-369.
- Sagona, C. [2000] "Pottery," in A. Bonanno, A. J. Frendo with N. C. Vella (eds) "Excavations at Tas-Silg, Malta: A preliminary report on the 1996-1998 campaigns conducted by the Department of Classics and Archaeology of the University of Malta", in *Mediterranean Archaeology* 13: 84-97.
- Sagona, C. [2002] *The Archaeology of Punic Malta* (Ancient Near Eastern Supplement Series 9). Peeters, Leuven.
- Trump, D. H. [1961] "The later prehistory of Malta", in *Proceedings of the Prehistoric Society* 27: 253-262.
- Vella, N. C., Docter, R., Cutajar, N., Bonanno, A., Pace, A., Anastasi, M., Bechtold, B., de Dapper, M., de Wulf, A., Goosens, R., Spiteri, M., van de Put, W. and Verdonk, L. [forthcoming] "Life and death in rural Malta: first results of the joint Belgo-Maltese Survey Project (2008-2009)", in A. Ferjaoui and M. H. Fantar (eds), *VII<sup>ème</sup> congrès international des études phéniciennes et puniques – Hammamet 2008*. Institut Nationale du Patrimoine, Tunis.
- Wignacourt, J. [1914] *The Odd Man in Malta*. G. Bells and Sons, London.
- Zammit, T. [1909-1912] *Notebook III*. Unpublished excavation notebook, National Museum of Archaeology, Valletta, Malta.

**Maxine Anastasi** graduated with a BA (Hons) degree in Archaeology in 2007 and completed a research MA in Roman Archaeology under the supervision of Prof. Anthony Bonanno at the University of Malta. Her research involves the contextual study of Late Punic and Roman period pottery in the Maltese islands. She participates in several research projects, all involving the Department of Classics and Archaeology, University of Malta. Her work includes post-excavation analysis related to the publication of the final report of the Department's excavations at Tas-Silġ, and assisting the ceramic specialists on the Għar ix-Xiħ (Gozo) excavation project, the Żejtun Villa excavation project, and the Malta Survey Project.

## 6. The lithics

Clive Vella – Brown University, USA  
clive\_vella@brown.edu

**Abstract.** The excavations at Borġ in-Nadur by Murray included the first published analysis of lithics in the Maltese Islands. Despite the excavator's attempt at contextualising these lithics, a technological and typological analysis was not carried out. This chapter provides an analysis of the lithic assemblage recovered by Murray.

**Keywords:** lithics, morphology, typology, transportation, landscape.

### 6.1. Introduction

Although several archaeologists working in Malta in the early twentieth century had referred to lithics briefly in their work, it is really Murray's research at Borġ in-Nadur that produced the first preliminary publication about lithics<sup>1</sup> as well as producing an extensive drawn record in three site monographs<sup>2</sup>. For archaeologists with an active interest in material culture studies, Murray's work is of special interest because of her occasional description of the original findspot of several lithic pieces. While our comprehension of the contextual settings at Borġ in-Nadur is less than perfect, Murray's interest in lithics marks a first in Maltese prehistoric studies that was unmatched for a few years<sup>3</sup>.

---

<sup>1</sup> Murray 1923a: 65-66.

<sup>2</sup> See Murray 1923b, 1925, 1929.

<sup>3</sup> The importance of this lithic analysis, and the wider re-analysis presented in this monograph, is testament to the focal role played by Borġ in-Nadur in Maltese prehistory. This analysis of its lithic assemblage is also part of an ongoing study being carried out by the present author.

However, the wider locational characteristics of Borg in-Nadur itself, discussed elsewhere in this monograph, increase the need for an exhaustive lithic analysis to be conducted in view of its wider landscape context. Early interpretations of the distribution of the Late Neolithic Maltese temples interpreted them as ‘clusters’ observed across the archipelago<sup>4</sup>. The theoretical focus has recently shifted from an exercise that looked at Maltese prehistoric sites as mere dots in a landscape, to one that considers islands as physically variable<sup>5</sup>. In recent literature, this landscape perspective has also focused on identifying processional ways that could have been in use between funerary hypogea and megalithic monuments<sup>6</sup>. Recently, I have also explored the possibility that Maltese prehistoric communities could have not only placed their monuments in areas of prominence<sup>7</sup>, but also acted as a means to connect preferential routes<sup>8</sup>. These routes could have been dictated by particular landscape morphologies (high hills, deep valleys, etc) and access to embayments or anchorages.

My interest in these ‘bays’ lies in identifying elements that could suggest that they provided preferential access to imported raw materials and, therefore, a lithic assemblage variability. Such variability could in turn distinguish ‘bay’ sites from other ‘hinterland’ sites<sup>9</sup>. Therefore, in light of the above discussion, the following analysis of the lithic assemblage at Borg in-Nadur discusses the typological characteristics of this site and then attempts to place the present assemblage within a wider landscape debate.

---

<sup>4</sup> Renfrew 1973: 153; Trump 2002: 90.

<sup>5</sup> Grima 2008: 37.

<sup>6</sup> Grima *et al.* 2009: 60.

<sup>7</sup> Grima 2008: 38.

<sup>8</sup> Vella 2010: 3.

<sup>9</sup> Admittedly the use of the terms ‘bay’ and ‘hinterland’ is debatable. Within an island context, such terms conjecture images that are perhaps more applicable to a continental scenario. However, since at present such a debate has not taken into consideration the possibility of variance within Malta, I find it of further importance to first investigate this matter and see if such an hypothesis can hold across the Maltese Islands. On the matter see Grima and Mallia, this volume (chapter 8).

## 6.2. Methodology

The analysis of the Borg in-Nadur lithic assemblage was conducted in response to two prevailing questions:

1. is there a distinctive use between imported flint and local chert?;
2. and can we observe any specialised use of lithic tools at Borg in-Nadur?

In light of these questions, and ongoing analysis of lithic assemblages from other sites in the Maltese archipelago, it was decided that the methodology used at Borg in-Nadur should adhere to the methodology I have adopted elsewhere<sup>10</sup>. The criteria used to catalogue and classify the lithics are based on typological and technical attributes.

For reasons explored elsewhere<sup>11</sup>, it was felt that the typological classification should not be limited to inferred function. Even if such typologies are by far the most popular in the archeological literature, they can be problematic. The study of the lithic assemblage from the site of Skorba, indicated that function was dependent on tool types defined largely by analogy. In such assumptions a scraper is considered a scraper because the analyst's interpretation is based on analogical reasoning and expectation<sup>12</sup>. But in the case of the lithics from Skorba, it was clear that formal tool types are not found there and at other prehistoric sites in the Maltese Islands. Indeed, the Maltese lithic assemblage appears to have been largely expedient and informal, especially those implements made from local chert<sup>13</sup>.

Therefore, when informal lithic toolkits are known to exist, a different approach is considered necessary. First, a simplified functional classification was proposed (Table 6.1)<sup>14</sup>. While the terminology applied to the functional classification is commonly used by archaeologists, the Borg in-Nadur lithics were primarily

---

<sup>10</sup> Vella 2009a, 2009b, 2010 and forthcoming.

<sup>11</sup> Vella 2009a, especially Chapter 3.

<sup>12</sup> Andrefsky 1998: 73.

<sup>13</sup> Vella 2009b: 100.

<sup>14</sup> Vella 2009b: 94.

classified according to the perceived action/motion (i.e., scraping, cutting, serration, perforation and variable). This classification, already used elsewhere<sup>15</sup>, should allow for better comparisons with other sites.

<b>scraping</b>	<b>cutting</b>	<b>serration</b>	<b>perforation</b>	<b>variable</b>
scraper	blade	backed blade	awl	unretouched flake
all round scraper		knife	burin	cleaver
end scraper		dagger	drill	unidirectional core
transverse scraper			projective point	multidirectional core
side scraper				

**Table 6.1.** Functional tool types (source: Vella 2009: 94).

Secondly, my lithic classification is based on the morphological description and sub-division into tools and non-tools. By lithic morphology, I refer to the general shape and series of distinguishable technical attributes observed during analysis. As indicated in greater detail elsewhere<sup>16</sup>, the morphological classification followed and applied to lithics from Maltese prehistoric sites follows a method devised for North America, in particular by Andrefsky who places due emphasis on lithic discard and waste<sup>17</sup>.

The application of a morphological typology has required a few adaptations to cater for the limited variability in Maltese lithics. The primary distinction between the original proposed classification and the present version lies in the near absence of bifacial technology. This means that the tool of this classification consists of unifacial technology, sub-divided into unimarginal and bimarginal tools.

<sup>15</sup> Vella 2009b: 94.

<sup>16</sup> See Vella 2009a.

<sup>17</sup> Andrefsky 1998: 75.



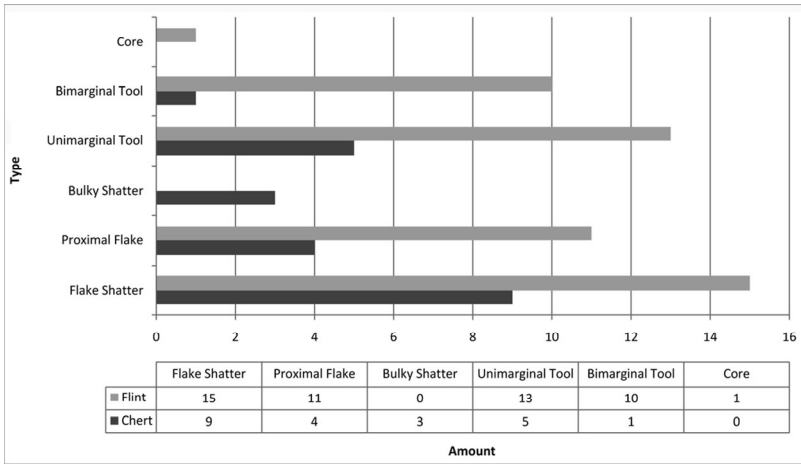
These two tool types are distinguished on the basis of the retouch location, whether found on a single edge (unimarginal) or on dual edges (bimarginal). Under the non-tool section, to increase the noted technological variability, the so-called debitage is distinguished according to the presence/absence of certain attributes. Flake shatter, prevalently found in Maltese lithic assemblages, consists of a discarded lithic with no sign of use. In the case of Maltese assemblages, there is a further distinction that needs to be made. If a lithic assemblage contains a consistent group of informally made pieces with one or more possible 'usable' edges, then it is crucial to distinguish between them and flake shatter. Yet, the latter category often appears to be manufactured expediently and typically used for immediate requirements with the prevalent raw material of choice – local chert. Unlike flake shatter, proximal flakes are lithic pieces with intact proximal ends, which provide us with a recognisable striking platform<sup>18</sup>. Furthermore, bulky shatter is defined as a lithic that lacks any recognisable attributes and/or unidentified ventral or dorsal surfaces.

### **6.3. Typological considerations**

Despite Murray's interest in prehistoric lithics from Borġ in-Nadur, it remains unclear whether all lithics were recovered or whether only a selection was kept during the excavations. Also, it occurs to me that our present lithic assemblage could have easily been found in both Late Neolithic and Bronze Age deposits. Furthermore, although the findspot of some pieces was recorded we cannot say that the context of these artefacts is definitely a stratigraphic one. Therefore, the approach to this assemblage, while mainly focusing on general typological characteristics, will focus on trends observed and attributes worthy of attention.

---

<sup>18</sup> Andrefsky 1998: 81.

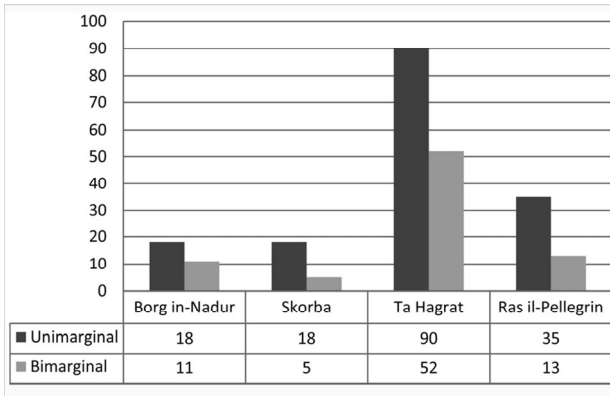


**Figure 6.1.** Chart illustrating the different type of morphological types observed on the lithics from Borg in-Nadur.

The lithic collection, at present housed at the National Museum of Archaeology in Valletta, amounts to a total of 72 lithics in flint and chert; no obsidian lithics were present in the assemblage even though Murray mentions the recovery of a ‘small fragment of obsidian’ from the site<sup>19</sup> (Fig. 6.1). Primarily made up of debitage (58%), the non-tools are sub-divided into flake shatter (33%), proximal flakes (22%), and bulky shatter (3%). In the case of both flake shatter and proximal flakes, imported flint makes up the larger number of lithic debitage. Interestingly, the flint debitage has a high prevalence of cortex present on the dorsal surface which could indicate that flint was entering the site of Borg in-Nadur in relatively unworked conditions. The bulky shatter observed in the lithic assemblage is primarily made from local chert ( $n=3$ ) which ranged in size as well as attributes. Typical of other bulky shatter analysed in the Maltese Islands<sup>20</sup>, the seemingly irregular form of these lithics appears to indicate that they were often a product of initial reduction and immediate discard due to their lack of usable edge.

<sup>19</sup> Murray 1923a: 66.

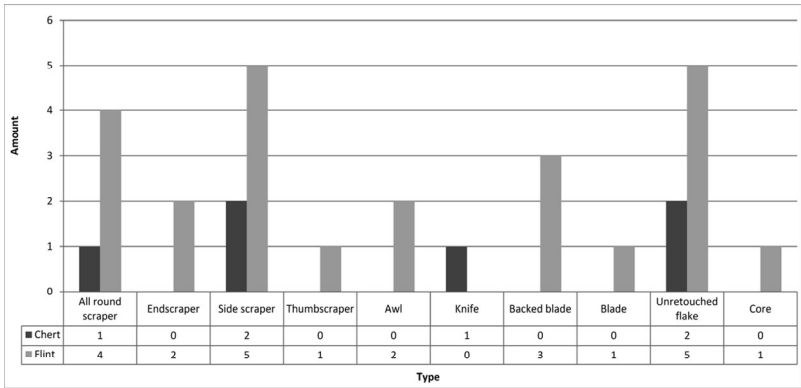
<sup>20</sup> Vella 2009b: 94-95.



**Figure 6.2.** Chart depicting unimarginal and bimarginal tools observed on the lithics from a number of Maltese Late Neolithic sites.

Turning to the tools analysed, an interesting pattern emerged from the Borg in-Nadur assemblage. Before this study was carried out, the majority of Maltese Late Neolithic sites had provided a prevalent tendency in favour of unimarginal tools with a rather minimal presence of bimarginal lithics. In contrast, as seen in Fig. 6.2, Borg in-Nadur represents the closest numerical association between the two tool types observed to date in the Maltese Islands. This trend is difficult to interpret without being certain that *all* lithics were collected by the excavators, rather than a selection. However, if we had to tentatively assume that this trend is actually representative of the archaeological situation, then the close gap between these two tool types could represent a higher variety of tool types.

In this scenario, therefore, attention should be placed on a better examination of the variability and spectrum of tools recovered from Borg in-Nadur (Fig. 6.3). The majority of tools analysed appear to



**Figure 6.3.** Chart showing the various functional types observed on the lithics of Borg in-Nadur.

have a limited amount of retouch, usually limited to the dorsal surface. In all cases but one (no. 4; Fig. 6.7b), these lithics were mainly retouched in an irregular fashion. Despite this patterning, the retouch was often applied with forceful pressure as indicated by the deep and intensive cluster of retouching noted in several lithics. Interestingly, despite the apparent lack of uniform lithic production, lithics were selected as tools on the basis of usable edge/s and retouching applied only to better the functionality of the implement itself. This intent on utilising the raw material to its fullest extent can be interpreted as a conscious use of imported flint, which despite its possible better workability, was manufactured informally. However, it should be noted that 60% of all flint tools have extensive cortical skin on their dorsal surface, possibly an indication that these tools were not reduced from unworked nodules but used as tools. The comparison to chert implements is less than compelling, particularly in light of the limited chert tools observed at Borg in-Nadur (n=6). Interestingly, at another site (Ras il-Pellegrin) chert lithics did not have a cortex unlike the flint implements which were variable<sup>21</sup>.

It is becoming increasingly evident that the Late Neolithic megalithic structures made a wider use of imported flint (at various

<sup>21</sup> Vella 2010: 24.

stages of the reduction sequence) than the locally available chert. The Borġ in-Nadur toolkit is mainly comprised of flint (n=23) and some chert (n=6), a pattern confirmed also at other sites in the Maltese Islands<sup>22</sup>. Despite the absence of some tool types found at other Maltese sites, the present assemblage covers the main types of tools indicated above. At Borġ in-Nadur, the lithic toolkit focuses around three inferred activities: scraping (all-round scraper, end scraper, side scraper, and thumb scraper), perforation (awl), and cutting (knife, backed blade, blade, and unretouched flake). Finally, the single core (no. 14; Fig. 6.5b) observed during analysis could indicate a marginal and limited lithic manufacture that might have occurred at Borġ in-Nadur.

As with other represented tool types, the scrapers analysed are prevalently made from imported flint with cortical skin present on the dorsal surface. Aside from being the most common scraper types identified, the all-round and side scrapers were by far the bulkiest implements. Lithic no. 2 (Fig. 6.4b), identified as an all-round scraper, was the largest implement observed at Borġ in-Nadur. This tool was made from an opaque, smooth-grained grey chert that measures 9.7 by 7.1 cm<sup>23</sup>. In the case of one all-round scraper (no. 1) (Fig. 6.5c), measuring 8.4 by 6.5 cm, its substantial dimensions and overall semi-circular shape is comparable to other such implements observed at Ta'Ħaġrat<sup>24</sup>, and also at the Xaġhra Circle hypogeum (Gozo)<sup>25</sup>. Lithic no.1 was recovered by Murray below the pavement level and appears to have undergone edge rejuvenation.

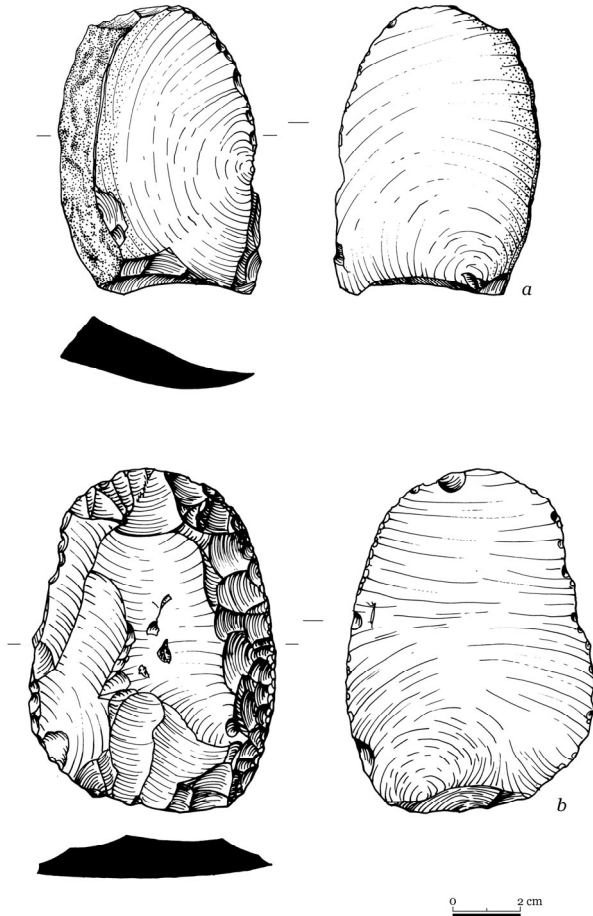
---

<sup>22</sup> See Vella 2009:96, 2010: 11.

<sup>23</sup> Despite the fact that this tool was identified as an all-round scraper, a reasonable amount of doubt has to be admitted. The general morphology and size of the lithic suggests that this piece was meant to be used on a hard material. While no signs of hafting could be recognised it seems reasonable to propose that this tool could have been some type of hoe, perhaps meant to clear/dig soil.

<sup>24</sup> Vella 2009: 98, fig. 8.4.

<sup>25</sup> Malone *et al.* 2009: 244, fig.10.21.



**Figure 6.4.** (a) no. 3, knife; (b) no. 2, all-round scraper (scale 1:2, drawn by Maxine Anastasi).

The latter activity was carried out in the form of knapping of the dorsal surface which decreased the steep angle of the edge, followed by ventral notchings to apply deep retouching. Two smaller all-round scrapers (nos 12 and 13; Figs 6.6e and c respectively) show intensive retouching applied on the wider edge of the implement, but in both instances the proximal ends appear to have been hafted onto a composite tool. Their retouching, while

intensive, must have been applied with a fine indenter that induced pressure from the ventral surface, as with lithic no. 14. The side scrapers show signs of edge rejuvenation that failed (no. 9) or succeeded (no. 7; Fig. 6.7e) according to the initial steepness of the edge angle. Their overall dimensions appear visibly smaller than the all-round scrapers, and they are less than the scraper average of 3 by 2.5 cm. There seems to be a different approach to the production of these side scrapers that revolves around the raw material used. The imported flint implements are often retouched, whereas the chert examples are used with their original edge (no. 26). The end scrapers (n=2) from Borg in-Nadur are clearly smaller than their other counterparts, and mostly differentiated due to their typical larger width than length, which seems to make them hand-held implements with little to no retouching. Finally, a single thumb scraper (no. 17; Fig. 6.6f) was observed in the assemblage. This scraping implement appears in limited quantities across other sites and seems to have been used on a soft material<sup>26</sup>.

At Ras il-Pellegrin, perforating implements were distinguished on the basis of a prominent beak-like protrusion, usually located on the distal end<sup>27</sup>. Similarly, the two flint awls (nos 5 and 46) recognized in the Borg in-Nadur assemblage have distinguishable beaks that are not only visibly rounded, but also have micro-detachments that are typical of unretouched used lithic tools. Both of these tools measure around 3.7 by 2.7 cm with a feathered termination and simple striking platforms. Lithic no. 5 (Fig. 6.7c) appears to have been recovered from the south-eastern apse, as indicated by Murray<sup>28</sup>.

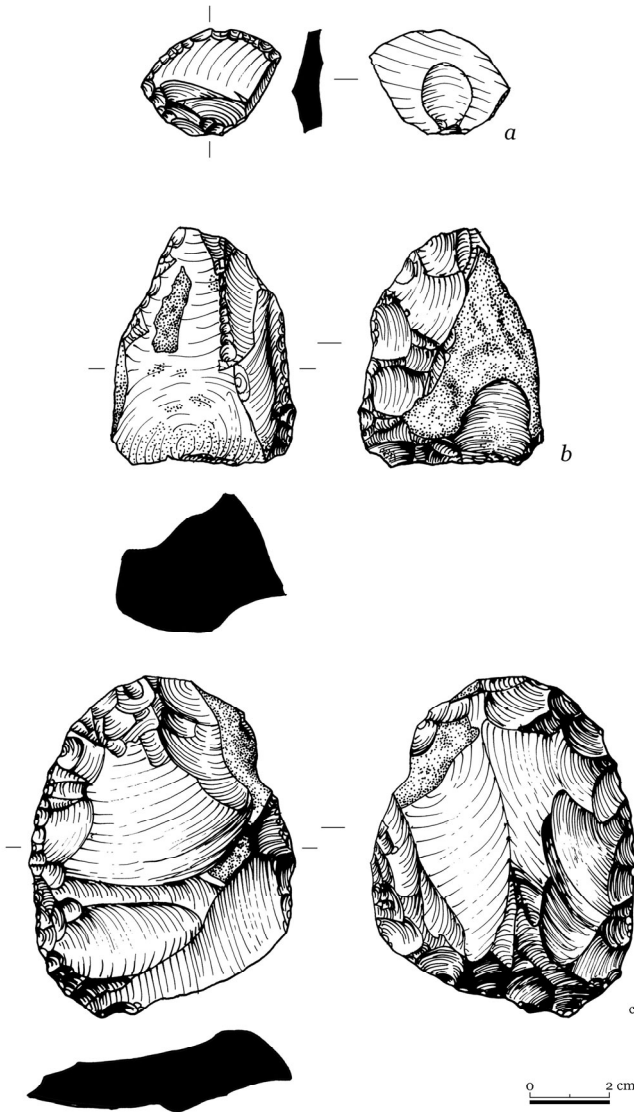
The implements meant for cutting and based on a blade technology seem to be the only tool types that were manufactured within a planned, semi-formal activity. The reason behind the use of the term 'semi-formal' to describe blade manufacture rests on the fact that, as evidenced by the multi-directional scars on most dorsal surfaces, these implements were not being knapped from unidirectional and formal cores. However, their shape and general

---

<sup>26</sup> Vella 2010: 9.

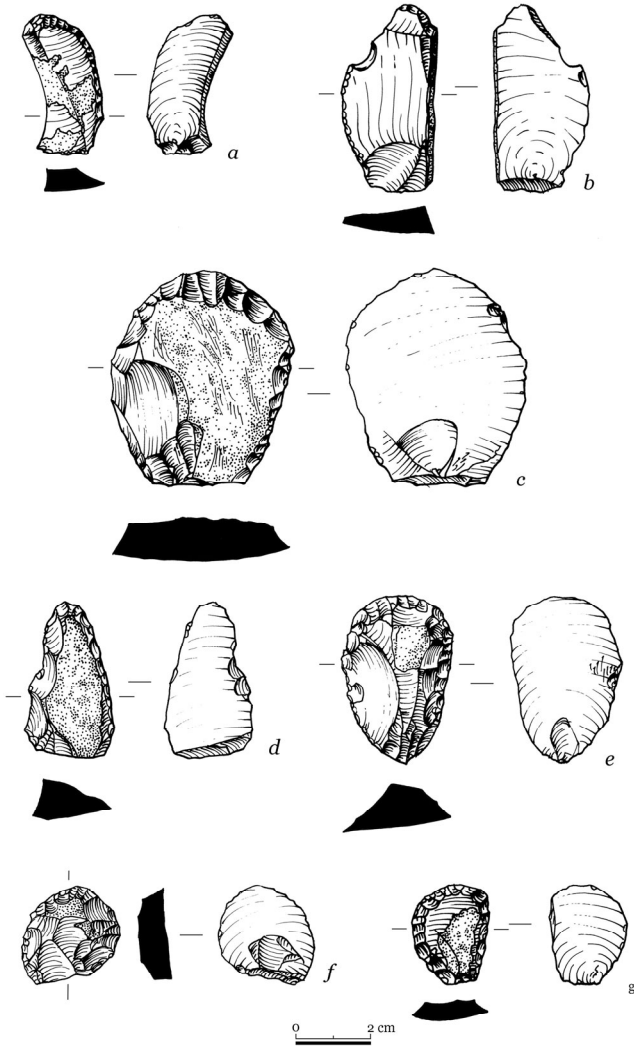
<sup>27</sup> Vella 2010: 7.

<sup>28</sup> Murray 1923a: 65, in particular plate F, no. 13.



**Figure 6.5.** (a) no. 16, side scraper; (b) no. 14, core; (c) no. 1, all-round scraper (scale 1:2, drawn by Maxine Anastasi).





**Figure 6.6.** (a) no. 25, side Scraper; (b) no. 22, backed blade; (c) no. 13, all-round scraper; (d) no. 23, side scraper; (e) no. 12, all-round scraper, (f) no. 17, thumb scraper; (g) no. 15, all-round scraper (scale 1:2, drawn by Maxine Anastasi).

morphology indicates common attributes that are in compliance with other Maltese assemblages. The distinction between knives and backed blades is based on their size difference and retouching. The chert knife (no. 3; Fig. 6.4a) measures 8.9 by 5.5 cm while the backed blades measure less than 5.0 by 3 cm. Furthermore, these tool types were distinguished on the basis of their inferred motion. Lithic no. 3 seems to have been used in a serrating motion, which would account for the rounding on its edge and limited micro-flake detachments<sup>29</sup>. On the other hand, backed blades and blades were considered cutting implements possibly used in longitudinal motions, which should explain their limited rounding. Lithic no. 4, a flint blade, is of particular technological interest. This tool's overpass profile indicates that the lithic was knapped through the use of a bending force, probably by pressure flaking. Furthermore, the dorsal scars and intact distal end suggest that this implement was knapped from a pyramidal core not exceeding 4.5 cm in length.

The unretouched flakes (nos 6, 38, 39, 40, 43, 51, 68) observed in this assemblage have little in common. These lithics, have no formal attributes and mostly lack striking platforms. During analysis, it was difficult to infer the motion produced by these lithic tools. As proposed elsewhere<sup>30</sup>, these morphologically diverse lithics seem to have had one usable edge and were probably the product of opportunistic knapping that was perhaps mainly concerned with reduction.

The final tool type observed at Borg in-Nadur consists of a single core (no.14; Fig. 6.5b), identified by Murray as a surface find<sup>31</sup>. Made from imported flint, this core has some cortical skin still covering its dorsal surface. However, its clearly abraded proximal end is interpreted as sign of an attempted rejuvenation that was eventually abandoned. Smaller than another core found at Ta' Hagra<sup>32</sup>, lithic no. 14 measures 4.0 by 5.7 cm. There are no

---

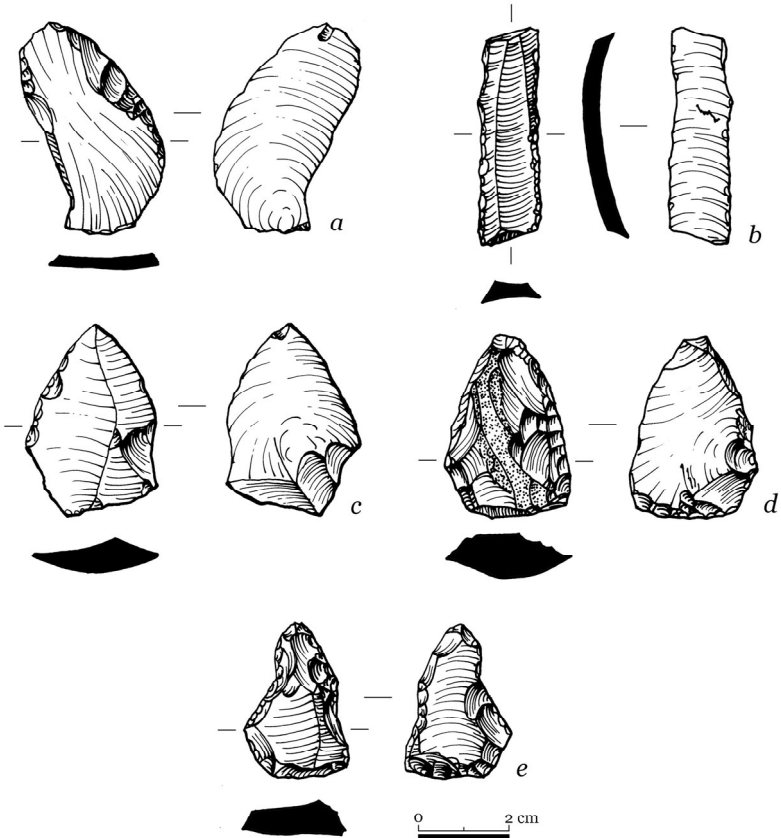
<sup>29</sup> Rounding refers to the smoothed appearance of a lithic edge which would indicate thorough use of the edge. The lack of micro-flake detachment, which occurs inevitably on any used lithic, suggests that in conjunction with rounding this knife was used in a multi-directional manner.

<sup>30</sup> Vella 2009: 98.

<sup>31</sup> Murray 1929: pl. 2.

<sup>32</sup> Vella 2009b: 99.

signs of uniform knapping and, in fact, this piece appears to have been knapped through a heavy percussor. This could indicate that the user was trying to reduce the larger core to a single lithic.



**Figure 6.7.** (a) no. 11, backed blade; (b) no. 4, blade; (c) no. 5, awl; (d) no. 20, side scraper; (e) no. 7, side scraper (drawn by Maxine Anastasi).

## 6.4. Discussion

Borġ in-Nadur is an archaeological site of significant interest for Maltese prehistory. The physical location of the site begs the question how raw materials were arriving there in prehistory. Of relevance is to ask whether Borġ in-Nadur was able to attract a variety of raw materials. However, it seems to me that obsidian was not arriving in any significant quantities into Malta from the ‘outside’ world as indicated by the ongoing research;<sup>33</sup> this is in contrast to Trump who believes that obsidian procurement continues during the Late Neolithic<sup>34</sup>. It is known that Late Neolithic sites in the Maltese Islands appear to experience a very limited influx of obsidian. In some instances the quantity and type of obsidian reaching the archipelago has been interpreted as a decline in the contact with the ‘outside’ world. Yet, as indicated by the persistent recovery of imported flint, Maltese prehistoric communities were still in contact with the ‘outside’. An acquisition process existed whereby socially-significant individuals attached to the Late Neolithic Maltese megalithic monuments were able to procure flint and other ‘exotica’<sup>35</sup>.

At Borġ in-Nadur, it appears that despite the site’s proximity to a significant embayment (Marsaxlokk Bay) the flint recovered is limited. Unlike Ras il-Pellegrin on the west coast, the range of imported flint observed at Borġ in-Nadur is limited by colour and quality, a trend comparable to the situation at the multi-period site of Tas-Silġ on the southern side of Marsaxlokk Bay<sup>36</sup>. Aside from this limited variability, imported flint appears to be superior in quality to Maltese chert, which is mostly of medium quality. Although chert outcrops have not been identified in south-eastern Malta, I suggest – with due caution – that sites in this corner of the island, including Borġ in-Nadur and Tas-Silġ, were procuring their

---

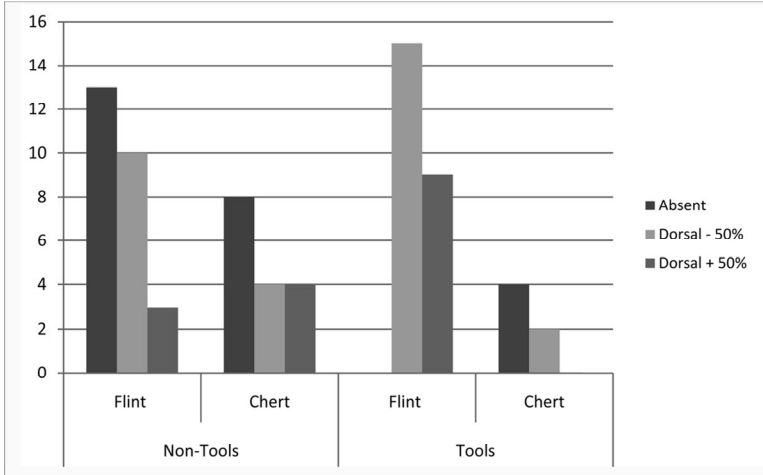
<sup>33</sup> Vella 2009b: 93, Vella 2010: 5.

<sup>34</sup> Trump 2002: 210-211.

<sup>35</sup> It is beyond the scope of this paper to deal with the possible mechanisms that could have allowed certain sites a preferential role in raw material acquisition. The ongoing study of lithics from Maltese prehistoric sites should allow me to model regional acquisition of raw materials.

<sup>36</sup> Cazzella *et al.* 2009a.

chert from other areas, and therefore, selected ‘better’ quality chert.<sup>37</sup> To understand the stage in which raw materials entered Borg in-Nadur, Fig. 6.8 highlights the presence/lack of cortical skin observed on non-tools and tools according to raw material.



**Figure 6.8.** Chart illustrating primary, secondary, and tertiary lithics subdivided into non-tools and tools.

In an ideal scenario, the drop-off between tertiary (i.e., no cortical skin), secondary (i.e., less than 50% covered in cortical skin), and primary (i.e., covered in cortical skin) lithics illustrates the stage of manufacture of a lithic. In a schematised representation, the sub-division of these lithics should be seen as a gradual drop-off starting from tertiary lithics and proceeding to primary ones. Any fluctuations that go below or above such a gradual drop-off, can be interpreted as a distinctive pattern related to some manufacturing aspect. For example, if cores are introduced into a site unworked,

<sup>37</sup> No exhaustive surveying of chert outcrops has been conducted yet in the Maltese Islands. From personal observation, extensive Middle Globigerina Limestone deposits in north-western Malta include chert outcrops that range from the area of Qlejgha-Bahrija to Ġnejna Bay. To date, no chert has been observed in south-eastern Malta but we cannot discount the possibility that sources were available there.

then a chart would illustrate a high incidence of primary and secondary lithics with less examples of tertiary type. Returning to Borġ in-Nadur, the flint non-tools appear spread across all three types. Chert, on the other hand, seems to be at equal levels when it comes to secondary and primary lithics. This pattern contrasts sharply with the tools. In the case of flint lithic tools, no tertiary flakes were observed during analysis and the majority had at least 50% or less cortical skin present. Chert lithic tools, on the other hand, lack primary flakes. These patterns, while at odds, can be interpreted as follows:

- Non-tools, both flint and chert, include the entire spectrum of cortical skin types. In reality, little can be inferred from such a pattern.
- Flint tools were fashioned from knapped lithics with little discrimination. Therefore, the user did not object to the presence of cortical skin, but rather selected possible lithic tools even at the earlier stages of reduction.
- It seems that chert lithic tools were recovered at a later stage of reduction. The absence of primary chert tools could indicate that either the user undertook reduction and then selected tools or chert was introduced into Borġ in-Nadur at a worked state (with little to no cortex).

This differential approach to raw materials can also be extended to their use and manufacture. Flint tools at Borġ in-Nadur seem to have been favoured as scraping implements. Their variability, understood in a morphological sense, seems to have been dictated by their usable edge/s which was/were then retouched accordingly. In the case of these scrapers, the fullest examples of intentional edge retouching were observed, as well as examples of rejuvenation. Such rejuvenation was extended as many times as the edge allowed, and the tools were only discarded once further retouching became impossible due to edge steepness. The use of the chert seems less focused. I believe that chert lithic tools played an even more informal role in Maltese Late Neolithic assemblages. As seen in the case of Borġ in-Nadur, chert was utilised for a variety of tasks. It was not utilised, however, for some tasks that include fine knives and unretouched blades. Nonetheless, some exceptions to the rule

surely exist but the key element suggested here is that chert only supplied an opportunistic and limited use in Maltese Late Neolithic megalithic monuments<sup>38</sup>.

Finally, I want to end on Murray's own contribution at Borg in-Nadur. Although the information she provided on the lithics from this site was brief she did attempt to contextualise them. Sadly, I am not aware of any selection biases during the excavations, but we should keep in mind that some lithics might have been missed, lost, and perhaps discarded. However, if we look at Murray's short contribution in the journal *Man*<sup>39</sup>, two interesting points ought to be highlighted:

- Some lithics were recovered in 'cut holes' in a semicircular niche of the apsidal building<sup>40</sup>.
- The majority of the lithics seem to have been found '... chiefly in the apsidal building and under the pavement west of the "dolmen" ...'<sup>41</sup>

Sadly, despite some observations of artefact findspot by Murray, during this study it appeared hardly possible to cross-compare between Murray's limited contextual description and the lithic assemblage. However, the above remarks illustrate two contextual situations that merit some attention. Firstly, the former remark by Murray is an interesting insight into the artefact deposition, and possibly caching of lithics at the Late Neolithic temple of Borg in-Nadur. In particular, this brings forward the possibility that lithics were hidden or ritually deposited within the temples below the used floors. Murray's second remark also presents a limited view into the wider issue of chronology that we (as contemporary archaeologists) are inevitably faced with considering. As I have stated earlier on, the presence of Early Bronze Age deposits at Borg in-Nadur stress the need for us to not only consider this lithic assemblage as part of the Late Neolithic temple, but possibly also as including later

---

<sup>38</sup> This trend contrasts sharply in earlier periods, as represented by significant amounts of chert debris observed at the Red Skorba huts in Malta. See Vella 2009a.

<sup>39</sup> Murray 1923a: 65-66.

<sup>40</sup> Murray 1923a: 65-66.

<sup>41</sup> Murray 1923a: 65.

intrusions. However, the lithics analysed all fall within basic tool and non-tool types observed in other Maltese Late Neolithic sites. The question, however, remains somewhat open, and beckons more research in the future.

## 6.5. Conclusions

The analysis of an assemblage of lithics discovered almost a hundred years ago is an important exercise. While archaeologists, including Murray, often attempted to contextualise and analyse artefacts, it is only through quantifiable study that we can better characterise and understand the toolkits used in Maltese prehistory. This study also shows that some meaningful interpretations can be proposed on the basis of technological observations. As suggested in this chapter, lithic analysis can also play a role in better characterising the variable role that megalithic temple sites may have had in prehistory. Clearly located in significant areas, the properties of their lithic assemblages reflect choices and adaptation.

## References

- Andrefsky, W. Jr. [1998] *Lithics: macroscopic approaches to analysis*. Cambridge University Press, Cambridge.
- Cazzella, A. and Moscoloni, M. [2005] “Gli sviluppi culturali del III e II millennio A.C. a Tas-Silg”, in *Scienze dell'Antichità* 12: 15-32.
- Grima, R. [2008] “Landscape, territories and the life-histories of monuments in temple period Malta”, in *Journal of Mediterranean Archaeology* 21/1: 35-56.
- Grima, R., Malone, C. and Stoddart, S. [2009] “The ritual environment: the context of the Circle”, in C. Malone, S. Stoddart, A. Bonanno and D. Trump (eds) *Mortuary customs in prehistoric Malta: excavations at the Brochtorff Circle at Xaghra (1987-94)*, pp. 57-62. McDonald Institute for Archaeological Research, Cambridge.
- Malone, C., Trump, D., Leighton, R. Dixon, J. and Bonanno, A. [2009] “The lithic assemblage”, in C. Malone, S. Stoddart, A. Bonanno and D. Trump (eds) *Mortuary customs in prehistoric Malta: excavations at the Brochtorff Circle at Xaghra (1987-94)*, pp. 242-253. McDonald Institute for Archaeological Research, Cambridge.
- Murray, M. A. [1923a] “Stone implements from Borg en Nadur”, in *Man* 23: 65-66



- Murray, M. A. [1923b] *Excavations in Malta: Part I*. Bernard Quaritch, London.
- Murray, M. A. [1925] *Excavations in Malta: Part II*. Bernard Quaritch, London.
- Murray, M. A. [1929] *Excavations in Malta: Part III*. Bernard Quaritch, London.
- Renfrew, C. [1973] *Before Civilization: The Radiocarbon Revolution and Prehistoric Europe*. Jonathan Cape, London.
- Trump, D. H. [1966] *Skorba*. Oxford University Press, London.
- Trump, D. H. [2002] *Malta: Prehistory and Temples*. Midsea Books, Malta.
- Vella, C. [2009a] *An Analysis of the Prehistoric Lithics from the Archaeological Sites of Skorba and Tas-Silġ (South), Malta*. Unpublished M.A. dissertation, Department of Classics and Archaeology, University of Malta.
- Vella, C. [2009b] “The lithic toolkit of Late Neolithic Ta’ Hagra, Malta”, in *Origini* 31: 85-103.
- Vella, C. [2010] “The lithic assemblage of the promontory site at Ras il-Pellegrin”, in *Traces in Time* 1: 1-24.
- Vella, C. [forthcoming] “The lithic assemblage”, in A. Bonnano and N. C. Vella (eds) *Excavations at Tas-Silġ, Malta, conducted by the Department of Classics and Archaeology, University of Malta (1996-2005)* (Ancient Near Eastern Studies Supplement Series). Peeters, Leuven.

**Clive Vella** is a current PhD student at the Joukowsky Institute for Archaeology and the Ancient World, Brown University. He received his BA (with Honours) in Archaeology from the University of Malta in 2004. In 2009, he completed his MA with distinction in Archaeology from the same university. His dissertation was the first research-driven study in the Maltese Islands to deal with lithic tools and their subsequent effects on prehistoric interpretation. Between 2008 and 2009, he held a government research grant at the Università degli Studi di Roma “La Sapienza” where he worked on the application of use-wear analysis to lithic assemblages. Clive has numerous years of rescue archaeology and post-excavation experience in Malta. He has participated in research excavations in southern Italy and Gibraltar. During 2010 he participated in commercial excavations conducted by the University of Illinois in the St Louis Metro Area, USA. He is currently a researcher for the Tas-Silġ excavations directed by the Missione Archeologica Italiana in Malta. His research interests are focused on the Late Neolithic to Late Bronze Age western Mediterranean, especially offshore islands. He studies the effects of islands on their settlers, subsequent trade, and the act of voyaging.

## 7. The small finds

Carlo Veca – University of Catania, Italy  
c.veca@virgilio.it

**Abstract.** This paper presents an exhaustive catalogue of finds recovered from the site of Borġ in-Nadur and now stored in the National Museum of Archaeology, Valletta. Seventeen objects are dated to the Bronze Age whereas two date to the Late Neolithic (Temple period). Artefacts which have not been traced are also considered. Part of the discussion looks for comparative material from contemporary contexts, both local and foreign. The functional aspect of the objects is dealt with briefly.

**Keywords:** stone objects, sculpture, terracotta, Bronze Age.

### 7.1. Introduction

This chapter examines some classes of artefacts recovered from the excavations of the prehistoric temple at Borġ in-Nadur; in particular, we will consider the stone objects (axes, grinding stones, spindle whorls), figurative sculpture, some clay objects (spindle whorls, a clay anchor), metals, and the worked bone. The whereabouts of several pieces that were published could not be determined and these are considered misplaced or lost (Table 7.1). In some cases, images of these objects are shown for information and comparative purposes.

### 7.2. Small finds catalogue

The description of the objects was made following a thorough visual examination at the National Museum of Archaeology in Valletta. A review of the inventory cards drawn up by J. D. Evans in the early 1950s has revealed that all the objects he recorded were

found during this study with the exception of the following pieces: BN/Sa ('idol'), BN/Sb ('phallus'), BN/Sc (cylindrical stone), BN/Sd (bone awl); two of these objects, namely BN/Sa and BN/Sb, had already been published by Murray in 1929. Where it was deemed necessary, drawings were made, including in a few instances pieces already published. The inventory number was recorded when this had been written in ink on the object (abbreviations: BN/P[ottery] and BN/S[tone]). In those cases when one inventory number was found to correspond to several objects, a number or a letter was added following instructions received from the Principal Curator in charge of the collection. For a description of the fabric of the clay objects, we made use of the distinct categories adopted for the pottery by Tanasi in this volume. The catalogue includes objects kept at the National Museum of Archaeology and stored with the label 'Borġ in-Nadur 1948 Stone - 8B'. Based on the class and the material of the artefacts, the catalogue is divided in five sections: stone objects, figurative sculpture, terracotta objects, metals, worked bones.

### **Stone objects**

#### **Inv. no. BN/S15**

Stone axe.

Grey basalt.

Ground polished stone axe of triangular shape with a plump body and slightly oblique cutting edge.

L[ength]. 10.6 cm; w[idth]. 7.3 cm.

Bronze Age.

#### **Inv. no. BN/S16**

Hammer.

Globigerina Limestone.

Flattish oval pebble nicked on either side for hafting.

L. 8.9 cm; w. 6 cm.

Bronze Age.

#### **Inv. no. BN/S17**

Perforated pebble (spindle whorl).

Globigerina Limestone.

Spindle whorl, cylindrical shape.

H. 2.9 cm; Ø [diameter] 5.5 cm; Ø hole 0.6 cm.

Bronze Age.

**Inv. no. BN/S18**

Sling stone.

Globigerina Limestone.

Biconical object, bluntly pointed at either end, so-called lemon-shaped sling stone.

L. 8.6 cm; Ø 4.5 cm.

Bronze Age.

**Inv. no. BN/S19**

Whetstone.

Square section prism with slightly tapering sides of close grained hard stone.

L. 5.2 cm; w. 2 cm.

Bronze Age.

**Inv. no. BN/S21**

Grinding stone.

Coralline Limestone.

Slab of Coralline Limestone with one face ground smooth by use.

10.6 x 9.4 cm.

Bronze Age.

**Inv. no. BN/Sc**

Cylindrical stone.

Globigerina Limestone.

Cylindrical stone with onset of perforation at the summit (spindle whorl?).

H. 4.3 cm; Ø 3.8 cm.

Bronze Age.

**Figurative sculpture****Inv. no. BN/Sa**

'Betyl/idol'.

Globigerina Limestone.

Standing male anthropomorphic idol, with a trapezoidal shape, on oval base: globular head, smooth face and featureless, except for a vertical groove that continues, which is developed in two deep cuts on the head (an inverted "T"). Two side tabs to simulate the hands, simple chest characterisation and of the male pelvis, flat base. Deep horizontal groove to characterise the neck, incision on the abdomen (belt?) that continues in the back. Series of oblique incisions on the back.

H. 14.4 cm; w. 11.6 cm; th[ickness]. 5.8 cm.

Late Temple period.

**Inv. no. BN/Sb**

'Phallus'.

Globigerina Limestone.

Cylindrical stone with a flat base. The whole object is slightly curved. It is probably a representation of a 'phallus'.

L. 8.6 cm; w. 4.2 cm.

Temple period.

**Terracotta objects****Inv. no. BN/P75**

Hut-model.

Clay model of a circular building, globular shape slightly extended, wire inside, flat base; irregularly shaped hole margined with a frame in relief on the front.

Fabric 2.5 Y 8/6 *yellow*, core 2.5 Y 8/6 *light gray*; slip R 6/8 *light red* – 10 R 4/6 *red*. Hard mixture, semi-fine clay, with calcareous inclusions and little grog; reddish slip. Undecorated.

Handmade. Signs of remodeling inside the top; fingerprints left by a bed of crushed stone on the shelf.

H. 12.2 cm; w. 9 cm; Ø base 9.8 cm; th. 0.8-1.3 cm; Ø hole 9.5 x 8.8 cm.

Borg in-Nadur phase (II B3).

**Inv. no. BN/Se**

Spindle whorl.

Depressed globular body. Preserved for one quarter of the body.

Fabric 7.

H. 4.5; w. 4; Ø hole 1.2 cm.

Bronze Age.

**Inv. no. BN/P1001**

Clay anchor.

Anchor-shaped object. Curved lines have been sawn after firing (by string?) into either side of the shank and across the base of each fluke. Abraded surface, unslipped.

Fabric 1.

H. 7.1; w. 6.8; th. 2.2 cm.

Bronze Age.

**Inv. no. BN/P1002a**

Spindle whorls.

Spindle whorl, broken vertically in half; truncated biconical shape.

Fabric 7.

H. 3.7; Ø 5.4; Ø hole 0.5 cm.

Bronze Age.

**Inv. no. BN/P1002b**

Spindle whorls.

Spindle whorl, vertically broken in half; truncated globular shape.

Fabric 7.

H. 3.8; diam. 4.8; Ø hole 0.6 cm.

Bronze Age.

**Inv. no. BN/P1003a**

Spindle whorls.

Spindle whorl, chipped at one end; rounded biconical shape.

Fabric 7.

H. 4.3; Ø 5.2; Ø hole 0.9 cm.  
Bronze Age.

**Inv. no. BN/P1003b**

Spindle whorls.  
Spindle whorl, chipped at end; rounded biconical shape.  
Fabric 7.  
H. 3.8; Ø 5.2; Ø hole 0.7 cm.  
Bronze Age.

**Inv. no. BN/P1004a**

Spindle whorls.  
Spindle whorl, vertically broken in half; truncated globular shape. Abraded surface.  
Fabric 7.  
H. 6; Ø 7; Ø hole 0.9 cm.  
Bronze Age.

**Inv. no. BN/P1004b**

Spindle whorls.  
Spindle whorl, broken in half horizontally; truncated globular shape.  
Fabric 7.  
H. 2.9; Ø 4.9; Ø hole 0.7 cm.  
Bronze Age.

**Metals**

**Inv. no. BN/S1**

Bronze vessel.  
Ragged flat sheet of bronze, with concave profile, and grinding marks. Regular round hole.  
W. 7.5 x 6.1 cm; Ø hole 0,01 cm; 43.70 g.  
Bronze Age.

**Inv. no. BN/S2**

Lead sheet.  
Thin oval plate (?) of lead with a rib round the edge. One side broken. Probably modern (?).  
W. 8.2 x 3.7 cm; 12.90 g.  
Bronze Age.

**Worked bone**

**Inv. no. BN/Sd**

Bone awl.  
Bone awl. 2 row of parallel/not parallel incised dots.  
L. 8; th. 0.9 cm.  
Bronze Age.

	<i>Object</i>	<i>Provenance</i>	<i>References</i>
<i>Stone Objects</i>	1 weight	NW Apse	Murray 1923: pl. 8.21.
	1 loom – weight	Chapel A	Murray 1929: pl. 8.7.
	1 stone (veiled female shape)	NW Apse	Murray 1923: pl. 21.3.
	1 stone (animal shape)	Open Area	Murray 1923: pl. 8.22.
	1 trap door	Open Area	Murray 1923: pl. 8.26.
	1 trap door	–	Murray 1923: pl. 8.7.
	1 weight	Pavement under torba	Murray 1923: pl. 8.16.
	1 weight	Pavement under torba	Murray 1923: pl. 8.17.
	1 lamp	Open Area, E	Murray 1923: pl. 8.23.
	1 ring stone	Near Apsidal Building	Murray 1929: pls 8.2, 19.6.
	1 limestone polisher	Main Enclosure	Murray 1923: pl. 8.8; 1929: pls 8.8, 19.4.
	1 limestone mould	Double Chapel	Murray 1929: pls 8.3, 19.1.
<i>Figurative Sculpture</i>	1 betyl	Chamber 6	Murray 1923: pl. 8.19.
	1 betyl	NE Apse	Murray 1923: pl. 8.20.
	1 betyl ('phallus')	–	Murray 1929: pls 8.4, 19.10.
	1 carved stone	N end of the trench W of the sanctuary	Murray 1925: pls 16.6, 19.11a-d.
<i>Clay Objects</i>	1 anchor	Dolmen wall	Murray 1923: pl. 8.4; 1929, pl. 16.9.
	1 anchor	Extreme W of the limiting stones	Murray 1925: pl. 17.11.
	1 anchor	Extreme W of the limiting stones	Murray 1929: pl. 28.1.
	1 anchor	Extreme W of the limiting stones	Murray 1929: pl. 28.3.
	1 anchor	Extreme W of the limiting stones	Murray 1929: pl. 28.4.
	1 anchor	Extreme W of the limiting stones	Murray 1929: pl. 28.5.
	1 anchor	Extreme W of the limiting stones	Murray 1929: pl. 28.6.
	1 anchor	Extreme W of the limiting stones	Murray 1929: pl. 28.8.
	1 anchor	Extreme W of the limiting stones	Murray 1929: pl. 28.9.
	1 loom weight	Entrance South	Murray 1923, pl. 8.2.
<i>Metals</i>	1 bronze disk	–	Murray 1929: pl. 17.1.
	1 bronze bar	–	Murray 1929: pl. 17.2.
	1 bronze ring	–	Murray 1929: pls 17, 19.7.
	1 bronze ring	–	Murray 1929: pls 17.5, 19.8.

**Table 7.1.** List of misplaced or lost objects (after Murray 1923, 1925, 1929).



### 7.3. Stone objects

This discussion includes the objects made from local limestone, which consist of two categories: axes and grinding and polishing stones. With regard to the axes, of the two pieces catalogued here, the first one is a polished stone of triangular shape, with thickened body and slightly oblique cutting edge (BN/S15, Fig. 7.1); the second one is a hammer (BN/S16, Fig. 7.1), derived from a pebble, oval-shaped and flat, nicked on either side for hafting.

The grinding and polishing stones include a piece (BN/S21) made from a Coralline Limestone slab with a polished worn surface and a stone prism-shaped object with a square section. The extremities of the latter object are slightly attenuated and the object may be considered a hone (BN/S19, Fig. 7.1).

Other lithic material recovered from the site includes two spindle whorls and a sling stone. The only complete spindle whorl in stone looks like a perforated stone object, which takes the form of a cylindrical spindle whorl (BN/S17, Fig. 7.1); the other stone object is also cylindrical, pierced on the upper part, perhaps also an unfinished spindle whorl (BN/Sc, Fig. 7.1). Finally, there is a stone object in Globigerina Limestone, of biconical shape, which thins abruptly at both ends. It has been interpreted as a lemon-shaped sling stone<sup>1</sup> (BN/S18, Fig. 7.1). There are also six objects that in Evans' inventory cards have the number BN/S20 given by him to hammer stones. In actual fact these are smooth pebbles of different sizes, largely spherical in shape without any signs of wear.

Among the stone objects that have been misplaced or are lost are some unworked and worked stone pieces, like the weight from the NW Apse<sup>2</sup> (Fig. 7.3, 1); similar to this is a loom-weight from Chapel A<sup>3</sup> (Fig. 7.3, 2); another stone<sup>4</sup> (Fig. 7.4, 14), from the fill of the NW Apse, with a flat base 'has the effect of a statuette of a veiled woman, either enceinte or holding a child in her lap'<sup>5</sup>; a

---

<sup>1</sup> Magro Conti 1999: 196.

<sup>2</sup> Murray 1923: pl. 8.21.

<sup>3</sup> Murray 1929: pl. 8.7.

<sup>4</sup> Murray 1923: pl. 21.3.

<sup>5</sup> Murray 1923: 42.

stone from the Open Area<sup>6</sup> (Fig. 7.3, 3) with two holes, which could be a sort of animal's head<sup>7</sup>. A singular kind of carved stone is the object identified by Murray as a cover for a trapdoor found in the Open Area<sup>8</sup> (Fig. 7.3, 4); another one, similar to the latter but smaller in size<sup>9</sup> (Fig. 7.3, 5); two other objects from the floor, beneath the *torba*, which could be interpreted as weights<sup>10</sup> (Fig. 7.3, 6-7), the second of which 'has been burnt, and may perhaps have been a stone used for heating water'<sup>11</sup>; an object from the Open Area, E, with a circular recess at the top<sup>12</sup> but of an unknown function (perhaps a lamp?)<sup>13</sup> (Fig. 7.3, 8); a ring of stone recovered near the apsidal Building<sup>14</sup> (Fig. 7.3, 9); a limestone polisher from the Main Enclosure<sup>15</sup> (Fig. 7.3, 10) 'has been cut so as to give a good grip for the hand'<sup>16</sup>, which was interpreted by Murray as a 'miniature bethel stone'<sup>17</sup>. Finally, there is a stone mould for a metal ornament recovered from the Double Chapel<sup>18</sup> (Fig. 7.3, 11).

Practically all the sites of the Temple period and of the Bronze Age have produced grinding stones<sup>19</sup>. As for the axes, the triangular shape finds parallels with an object from Skorba<sup>20</sup> (Fig. 7.7, 1), and with other pieces from the Brochtorff Circle at Xaghra<sup>21</sup>. A similar hammer to ours comes from the Tarxien temples<sup>22</sup> (Fig. 7.7, 2). The use of these axes could be to fell or fashion timber but they could

---

<sup>6</sup> Murray 1923: pl. 8.22.

<sup>7</sup> Murray 1923: 42.

<sup>8</sup> Murray 1923: 42, pl. 8.26.

<sup>9</sup> Murray 1923: pl. 8.7.

<sup>10</sup> Murray 1923: pl. 8.16-17.

<sup>11</sup> Murray 1929: 43.

<sup>12</sup> Murray 1923: pl. 8.23.

<sup>13</sup> Murray 1923: 43.

<sup>14</sup> Murray 1929: pls 8.2; 19.6.

<sup>15</sup> Murray 1923: pl. 8.8; Murray 1929: pls 8.8, 19.4.

<sup>16</sup> Murray 1929: 11.

<sup>17</sup> Murray 1923: 32.

<sup>18</sup> Murray 1929: pls 8.3, 19. 1.

<sup>19</sup> Malone *et al.* 2009b: 237-239.

<sup>20</sup> Evans 1971: fig. 45.

<sup>21</sup> Malone *et al.* 2009b: 232, fig. 10.30, 91, 142, 153.

<sup>22</sup> Evans 1971: 146, pl. 66, 5.

also have been used as a bludgeoning weapon, typical of the Bronze Age<sup>23</sup>.

With regard to the sling stone, specimens are known from several temple sites, but the clearest evidence comes from the Ħal Saflieni Hypogeum<sup>24</sup> (Fig. 7.7, 3), where there are as many as 56 objects of the same kind<sup>25</sup>, of various sizes. They were found in a row and covered with a thin layer of *torba*<sup>26</sup>. Sling stones are objects typical of the shepherd or hunter<sup>27</sup>: the sling was often made of perishable materials, such as sinew, animal skin or indeed vegetable fibers. The sling was used to launch these missiles, using centrifugal force<sup>28</sup>.

Spindle whorls in stone are known from the Cemetery context at Tarxien<sup>29</sup> (Fig. 7.7, 4). Possible parallels can be found amidst the finds from the Brochtorff Circle at Xaghra<sup>30</sup>. The unfinished nature of our piece, however, would suggest that the clay variety was more common.

#### 7.4. Figurative sculpture

Prehistoric Malta is famous for the richness of the figurative material in stone produced during the Late Neolithic. The Maltese production is part of a wider Mediterranean and European phenomenon about which much has been written<sup>31</sup>.

This discussion covers two classes of materials, the so-called ‘phallic’ stones and that of the figurative representations themselves.

The first category include a cylindrical stone object (BN/Sb, Fig. 7.1), slightly tilted to one side and standing on a flat base. It may be

---

<sup>23</sup> Magro Conti 1999: 197.

<sup>24</sup> Zammit *et al.* 1912: 9.

<sup>25</sup> Five examples have a biconical perforation, perhaps meant for a chord to pass through (Magro Conti 1999: 197).

<sup>26</sup> Evans 1971: 66, pl. 66, 9.

<sup>27</sup> Magro Conti 1999: 196-197.

<sup>28</sup> O’Connell 1989: 22.

<sup>29</sup> Evans 1971: 164, pls 64, 10-11.

<sup>30</sup> Malone *et al.* 2009b : 238, fig. 10.34. 32, 370, 667.

<sup>31</sup> Bonanno 1986; Malone 1998; Vella Gregory 2005; Vella 2007.

a schematic representation of a ‘phallus’, a class of objects known from prehistoric contexts in Malta<sup>32</sup>.

Other similar objects, now lost or misplaced, are three betyls. The first one, having an elongated oval shape, was found in chamber 6 of the Apsidal Building<sup>33</sup> (Fig. 7.3, 12). The second one<sup>34</sup> (Fig. 7.3, 13), cylindrical in shape with a convex top was found in the east corner of the NE Apse of the Apsidal Building<sup>35</sup>. The third one, for which a provenance was not given in Murray’s reports, is cylindrical in shape and may fall under the category of phallic objects as well. It is decorated with crossed horizontal and vertical incisions<sup>36</sup> (Fig. 7.3, 14). Another fragmented object has a cylindrical shape and a flat base; it too could represent a miniature ‘phallus’<sup>37</sup> (Fig. 7.3, 16).

Several objects of the same type were found in temple contexts including Ta’ Ħaġrat, where three conical stone objects are reported<sup>38</sup>; others come from Ħaġar Qim<sup>39</sup> (Fig. 7.7, 7). An earlier example of this kind of freestanding object would seem to lie in the so-called ‘phallic’ niches or shrines which represent a megalithic set-up, at the centre of which are a pair of ‘phalli’<sup>40</sup>. Most of them were found at the Tarxien temples (Fig. 7.7, 5-6), one from the back of the so-called oracle room<sup>41</sup>, another two were found in area 6 of the complex<sup>42</sup>, another four were recovered from the proximity of area 6<sup>43</sup>.

The ‘idol’ (BN/Sa, Fig. 7.1) was found in the space between the limiting stones and Chapel B, lying on the ground<sup>44</sup>. It shows what we believe are male anthropomorphic features. The figure is shown

---

<sup>32</sup> Bonanno 1993: 86-89; Vella Gregory 2005: 165-171.

<sup>33</sup> Murray 1923: pl. 8.19.

<sup>34</sup> Murray 1923: pl. 8.20.

<sup>35</sup> Murray 1923: 22.

<sup>36</sup> Murray 1929: pls 8.4, 29.10.

<sup>37</sup> Murray 1923: pl. 8.8.

<sup>38</sup> Evans 1971: 35, pl. 33,14.

<sup>39</sup> Evans 1971: 93, pl. 41, 4.

<sup>40</sup> Evans 1971: 145, pls 50, 9-10, 51, 1-3.

<sup>41</sup> Evans 1959: pl. 87.

<sup>42</sup> Zammit 1916: fig. 2; Zammit 1930: pl. 24,1.

<sup>43</sup> Zammit 1916: pl. 24,2; Zammit 1930: pl. 24,1-2.

<sup>44</sup> Murray 1929: 11.

standing and has a spherical head marked with two deep cuts forming a T on the top and another deep incision that separates the head from the rest of the body. The trunk is trapezoidal in shape and leans slightly to one side. The chest is marked with thin incised lines while a circular protuberance marks the pubis. An incision on the abdomen (belt?) continues on the back side of the figure. The same line passes over two ledges on the sides which represent what may be taken to be the hands. The back is also marked by a series of parallel oblique lines which descend from the neck to the 'belt'. The lower surface is flat, with slight incisions.

One of the most interesting of the misplaced or lost objects is a carved stone, recovered from the N end of trench W located in the sanctuary. It looks like a relief decoration<sup>45</sup> (Fig. 7.3, 15). Murray had pointed out that many Neolithic pottery sherds were recovered from the same trench<sup>46</sup>. This relief seems to carry a zoomorphic representation and may have once been a frieze comparable to those recovered from the Tarxien temples<sup>47</sup> (Fig. 7.8, 10-12).

As for the sculpture, we can see important parallels with another stone 'idol' from the Mnajdra temples<sup>48</sup> (Fig. 7.7,8): the figurine consists of a trunk of conic form, standing on a circular base, having a smooth surface with the exception of a slight groove separating the chin and face from the rest of the body<sup>49</sup>. The forerunner of the class is to be found perhaps, in the so-called 'statue menhirs' of the Żebbuġ phase found in rock-cut tombs at Xagħra in Gozo<sup>50</sup> and Ta' Trapna in Malta<sup>51</sup> (Fig. 7.7, 9-10). Another possible development for this type of object could be that they represent an alternative form of a 'phallus', since some of these objects have the same features of phallic stones, that is a flat base with pseudo cylindrical body. In this perspective, the schematic anthropomorphism of object BN/Sa could suggest its belonging to a transitional phase of the production of stone objects

---

<sup>45</sup> Murray 1925: pls 17.6, 19.11 a-d.

<sup>46</sup> Murray 1925: 24.

<sup>47</sup> Zammit 1930: pl. 3, fig. 3; Evans 1971: pl. 18,4.

<sup>48</sup> Zammit and Singer 1924: pl. 27.34.

<sup>49</sup> Evans 1971: 103, pl. 41,18.

<sup>50</sup> Malone *et al.* 2009b: 258, fig. 10.46.

<sup>51</sup> Evans 1971: fig. 57.

of this type: from ‘phallus/betyl’ to ‘betyl/idol’. But such a development is hypothetical and requires more evidence. As for the date of this piece from Borġ in-Nadur, the comparisons with similar objects found in various sites in Malta do not point to a late, Bronze Age chronology (Borġ in-Nadur phase) but rather to the Temple period, perhaps in its last phase, supporting Murray’s view that the roughness of the execution would point ‘to an early stage of sculpture, and it is possible that it may belong to a period before the Bronze Age’<sup>52</sup>.

### 7.5. Terracotta objects

The objects in terracotta include a clay model of a building, seven spindle whorls and a clay anchor. In actual fact, ten clay anchors were found during Murray’s excavations at Borġ in-Nadur but only one is included in this discussion together with four loom weights<sup>53</sup>.

The model of a building was recovered from the Open Area (BN/P75, Fig. 7.2). It is an elongated, cone-shaped object, open on the front, resting on a flat circular surface. The object does not appear in Murray’s reports and was mistakenly identified as a lamp stand fragment by Evans<sup>54</sup>. Tanasi has argued that the terracotta object represents a model of a circular building or hut reproducing architectural features<sup>55</sup>, dating to the last phase (II B 3) of the periodisation scheme put forth by Trump for the Bronze Age<sup>56</sup>.

Amongst the terracotta objects, the more important are probably the spindle whorls which can be divided into two types: rounded biconical (BN/P1002a, BN/P1003a, BN/P1003b, Fig. 7.2) and globular (BN/P1002b, BN/P1004a, BN/P1004b, BN/Se, Fig. 7.2). One of the biconical specimens (BN/P1003a) has a vertical linear decoration, impressed before firing.

Among the terracotta objects, very relevant is a small anchor-shaped object (BN/P1001, Fig. 7.2), fragmented, which has traces

---

<sup>52</sup> Murray 1929: 11.

<sup>53</sup> Murray 1929; Tanasi 2008; Trump 1999.

<sup>54</sup> Evans 1971: 16-17.

<sup>55</sup> Tanasi 2009: 3-4.

<sup>56</sup> Tanasi 2009a: 4; Trump 1961: 262.

of curved grooves in the inner part of the 'shank', perhaps caused by the constant friction of a thong that was tied to it.

The clay anchors published by Murray and now lost or misplaced are the following: a fragment of the upper part, from the dolmen wall<sup>57</sup> (Fig. 7.4, 1); an anchor missing only one arm<sup>58</sup> (Fig. 7.4, 2); six other anchors, fragmentary, some with a horizontal perforation through the upper end, recovered from the extreme west end of the limiting stones<sup>59</sup> (Fig. 7.4, 3-8). Another misplaced or lost object is a loom-weight found near some megaliths near the Entrance<sup>60</sup> (Fig. 7.4, 9).

The well-known terracotta models of the megalithic temples, thought to be veritable representations of architects' cut-out models of the fourth and third millennia BC<sup>61</sup>, are not similar to the terracotta object discussed here. Tanasi has argued that the closest parallels are found in the Aegean<sup>62</sup>, in particular Crete where a long tradition for this type of object is known to exist (Fig. 7.8, 1-6), with the oldest examples going back to the early third millennium BC (Early Minoan I)<sup>63</sup>, and developed uninterruptedly over the centuries until the Late Geometric period. These products are variously interpreted as lamps, miniature reproductions of a real architectural set-up, as symbolic representations of a circular house, or architectural evocations of an abstract space connected with the cult of the house or a symbolic representation of the Cretan tholoi, used for domestic cults in honour of dead ancestors<sup>64</sup>. Putting aside the well-known examples from Sicily which belong to a production particular to the Sikania of the seventh and sixth centuries BC (for which a Cretan ancestry has also been suggested<sup>65</sup>), a Cretan source for the Borġ in-Nadur hut model seems to be most likely<sup>66</sup>.

---

<sup>57</sup> Murray 1923: pl. 8.4; Murray 1929: pl. 16.9.

<sup>58</sup> Murray 1925: pl. 17.11.

<sup>59</sup> Murray 1929: 14, pls 16.6, 7, 10, 28.1, 3-6, 8-9.

<sup>60</sup> Murray 1923: 29, pl. 8.2.

<sup>61</sup> Trump 2002: 81-82; Torpiano 2004: 347-365.

<sup>62</sup> Tanasi 2009a: 5.

<sup>63</sup> Alexiou-Warren 2004: 114, pl. 109 a-b.

<sup>64</sup> Hägg 1990; Mavriyannaki 1972; Mersereau 1993; Palermo 1997; Petrakis 2006; Todaro 2003.

<sup>65</sup> La Rosa 1985: 167-179; La Rosa 1993-1994: 38; Palermo 1997.

<sup>66</sup> Tanasi 2009a: 6.

The clay anchors also offer interpretative challenges despite the fact that contemporary examples are known from Mediterranean contexts<sup>67</sup> (Fig. 7.8, 8). According to Murray, these were models of anchors placed by seamen as votive offerings marking safe trips or productive fishing<sup>68</sup>. Trump's position is quite different and considers these objects as instruments linked to a textile industry<sup>69</sup>. The presence together at the site of Borġ in-Nadur of several spindle whorls, loom weights, and clay anchors, which held light grooves, interpreted by Trump as 'signs left by thin threads looped over the hooks and sawn back and forth'<sup>70</sup>, may indeed suggest the presence of a flourishing textile industry during the Bronze Age, linked perhaps to a local market<sup>71</sup>.

## 7.6. Metals

Several factors testify to the metallurgical activities that must have taken place at Borġ in-Nadur. These include finished ornaments, semi-finished products, and waste<sup>72</sup>. Unfortunately, few objects have come down to us and these are in fact limited to two fragments: a ragged flat sheet in bronze<sup>73</sup> (BN/S1, Fig. 7.6), and a thin oval piece of lead<sup>74</sup> (BN/S2, Fig. 7.6), probably to be considered waste from the manufacturing process. The bronze object was found during Murray's excavations of the Main Enclosure: 'a small flat piece was in the upper levels of the open area; it had evidently been crushed under a heavy weight, as it was not only broken but the edges were split and crackled'. She later interpreted the same object as 'a piece of bronze of indeterminate shape. This appears to be the overflow from round the pouring hole of a casting'<sup>75</sup>. A more accurate reading of the piece by Tanasi has suggested that this is in fact a

---

<sup>67</sup> Blakolmer 2003: 4.

<sup>68</sup> Murray 1925: 29; Murray 1961: 59-60.

<sup>69</sup> Trump 1960: 295; Trump 1962: 224-255.

<sup>70</sup> Trump 1960: 295.

<sup>71</sup> Tanasi 2010.

<sup>72</sup> Farrugia 2001; Tanasi 2009b: 19-20.

<sup>73</sup> Murray 1929: pl. 17.7.

<sup>74</sup> Murray 1929: pl. 17.6.

<sup>75</sup> Murray 1923: 43; Murray 1929: 17.



fragment of a curved profile of a metal pot, not slag, with a hole for housing a rivet<sup>76</sup>. This discovery is an example of a metal pot found in what appears to be a domestic context, rather than a funerary context more common elsewhere<sup>77</sup>.

Other lost or misplaced objects include a bronze disk<sup>78</sup> (Fig. 7.4, 10), a small bronze rod<sup>79</sup> (Fig. 7.4, 11), and two bronze rings with traces of gold plating<sup>80</sup> (Fig. 7.4, 12-13).

The absence of other evidence for metal vessels in the Maltese archipelago, excepting the pair of bronze rivets recovered from room N at the cave site of Ghar Mirdum<sup>81</sup> (Fig. 7.8, 7), leads one to search for comparanda elsewhere. The relevant specimens from Sicily are those of Caldare, Monte Campanella and Capreria, thought to date to a period between the fifteenth and eleventh centuries BC. The prototypes find a home in the Aegean but the examples from Sicily were produced locally if we go by the find of bronze hammers used for metal working and especially by the presence of imported raw materials, such as the ox-hide ingots discovered at the sites of Thapsos, Ognina and Cannatello<sup>82</sup>, but also by the discovery of casting moulds<sup>83</sup>. This local development of a craft specialisation should be interpreted as an expression of a Mycenaean presence in Sicily, which takes various forms (such as imports, imitations, hybrids). If this reading of a local Sicilian production of metal basins is valid, the Maltese evidence can be best understood in the context of the contacts entertained between the two islands for a good part of the Bronze Age<sup>84</sup>. Evidence related to autonomous metallurgical activities in the Maltese archipelago in the Bronze Age is, to date, scant; the few objects from the site of Borġ in-Nadur would seem to be imports of finished products rather than an example of craft production in loco. Since the strong relationship between Malta and Sicily was always

---

<sup>76</sup> Tanasi 2009b:16.

<sup>77</sup> Tanasi 2010:116.

<sup>78</sup> Murray 1929: 15, pl. 17.1.

<sup>79</sup> Murray 1929: 15, pl. 17.2.

<sup>80</sup> Murray 1929: 15, pls 17.4-5, 19.7-8.

<sup>81</sup> MAR 1965: 1; Tanasi 2009b: 49, fig. 11, b.

<sup>82</sup> Alberti 2008: 136.

<sup>83</sup> Albanese Procelli 2000.

<sup>84</sup> Tanasi 2009b: 18-21.

characterised by the necessity of acquiring raw materials for the Maltese islanders, it is reasonable that also, during Bronze Age, metals and metallic object found in Malta were imported from the larger island<sup>85</sup>.

### 7.7. Worked bone

The worked bone was found in limited quantities and only one object has been traced in the collection. The fragility of the material and the particular way in which early twentieth-century excavations were conducted, may not have favoured its preservation. These prehistoric artefacts, typical of other sites, were derived from the long bones of domesticated animals, and were used for different purposes, such as decoration of ceramics and craftsmanship in general.

The object in the museum collection is a fragment of a bone awl (BN/Sd, Fig. 7.6) approximately 8 cm in length and has an incised decoration consisting of two rows of points (10 on the right and 15 on the left) which meet at the tip of the object. Comparisons for the object in question are difficult to find; typologically similar tools made from bone are known from the Tarxien temples<sup>86</sup>, including chisels, needles and blades<sup>87</sup> (Fig. 7.8, 9), and from the funerary contexts of the Brochtorff Circle at Xaghra<sup>88</sup>. These tools are not decorated, however<sup>89</sup>.

### 7.8 Conclusion

In conclusion, the small finds provide evidence of different activities taking place at Borg in-Nadur during the Middle Bronze Age, particularly of handicraft, such as the working of bone and stone. The latter activity appears to have been important for

---

<sup>85</sup> Bonanno 2008: 32-35; Tanasi 2009b: 16.

<sup>86</sup> Zammit 1916: pl. 25, fig. 1; Zammit 1930: pl. 25, 2.

<sup>87</sup> Evans 1971: 146, pl. 67, 2-7.

<sup>88</sup> Malone *et al.* 2009b : 257, fig. 10.45.

<sup>89</sup> The only known bone object with a decorative row of incised circles is a bone hilt found at Ghar Mir dum (MAR 1965).

religious and cultic activities if the standing stones are taken to represent ‘betyls’. The terracotta objects, in particular the spindle whorls and the loom weights, allow us to infer the existence of textile production at the site. To such an activity appear to be related the clay anchors found at Borġ in-Nadur and other contemporary sites, such as Baħrija.

Terracotta and metal objects – absent in the previous Temple period – are particularly relevant for defining the external relations the community dwelling in the temple area had. These were relations that in some way were connected with the Mycenaean commercial network in the south-central Mediterranean, as is suggested by the Mycenaean potsherds from Borġ in-Nadur and Tas-Silġ and Borġ in-Nadur-type pottery recovered in Sicily<sup>90</sup>.

### Acknowledgements

I would like to thank the staff of the National Museum of Archaeology, Malta, especially Sharon Sultana, Principal Curator, for having put at my disposal the objects in her care for the purpose of this study, and Vanessa Ciantar, Executive, for all the logistical support in the course of the work carried out at the museum. Last but not least, Dr Nicholas C. Vella (University of Malta) and Davide Tanasi (Arcadia University – MCAS), my mentor, for entrusting me with this study and for providing feedback and advice along the way.

### References

- Albanese Procelli, R. M. [2000] “Bronze metallurgy in protohistoric Sicily: the stone moulds”, in D. Ridgway, F. Serra Ridgway, M. Pearce, E. Herring, R. D. Whitehouse and J. B. Wilkins (eds), *Ancient Italy in its Mediterranean Setting: Studies in honour of Ellen Macnamara*, pp. 75-91. Accordia Research Institute, London.
- Alberti, G. M. [2008] “There is ‘something Cypriot in the air’. Some thoughts on the problem of the Base Ring pottery and other Cypriot items from (local) Middle Bronze Age contexts in Sicily”, in A. McCarthy (ed.), *Island Dialogues* (University of Edinburgh Archaeology Occasional Papers 21), pp. 130-153. University of Edinburgh, Edinburgh.
- Alexiou, S. and Warren, P. [2004] *The Early Minoan Tombs of Lebena, Southern Crete* (Studies in Mediterranean Archaeology 30). Paul Åström, Sävedalen.

---

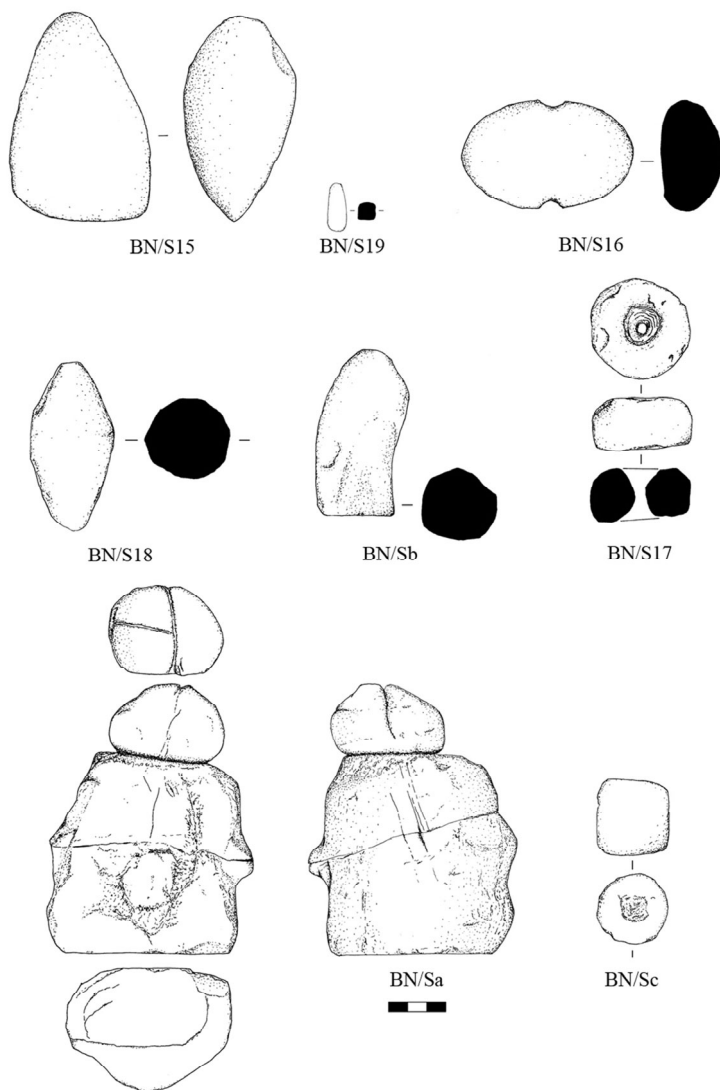
<sup>90</sup> Tanasi, this volume (chapter 10); Tanasi and Vella forthcoming.

- Blakolmer, F. [2003] "Interrelations between Prehistoric Malta and the Eastern Mediterranean: a View from the Aegean", in *Exploring the Maltese Prehistoric Temple Culture* (EMPTC), Malta 25-27 September 2003. Electronic version.
- Bonanno, A. (ed.) [1986] *Archaeology and Fertility Cult in the Ancient Mediterranean*. B. R. Grüner Publishing, Amsterdam.
- Bonanno, A. [1993] "Maltese megalithic art: fertility cult or sexual representation?", in R. Ellul-Micallef and S. Fiorini (eds), *Collected Papers published on the occasion of the Collegium Melitense Quatercentenary Celebrations (1592-1992)*, pp. 75-91. University of Malta, Malta.
- Bonanno, A. [2008] "Insularity and Isolation: Malta and Sicily in Prehistory", in A. Bonanno and P. Militello (eds), *Malta negli Iblei, Gli Iblei a Malta* (KASA 2), pp. 27-37. Officina di Studi Medievali, Palermo.
- Evans, J.D. [1959] *Malta*. Thames and Hudson, London.
- Evans, J.D. [1971] *The Prehistoric Antiquities of the Maltese Islands: a survey*. Athlone Press, London.
- Farrugia, R. [2001] *The Archaeological Evidence for the Development of Early Metallurgy in the pre-Classical Mediterranean with special reference to the Maltese Islands*. Unpublished MA dissertation, University of Malta.
- Hägg, R. [1990] "The Minoan hut-models: their Origin and their Function Reconsidered", in *Opuscula Atheniensi* 18: 95-107.
- La Rosa, V. [1985] "Sopravvivenze egee nella Sikania, Scavi e ricerche archeologiche degli anni 1976-1979", in *Quaderni de la ricerca scientifica CNR* 112, II, pp. 167-179. Consiglio Nazionale delle Ricerche, Roma.
- La Rosa, V. [1993-1994] "Influenze di tipo egeo e paleogreco in Sicilia", in *Kokalos* 39-40: 9-47.
- Magro Conti, J. [1999] "Aggression and defence in prehistoric Malta", in A. Mifsud and C. Savona Ventura (eds), *Facets of Maltese Prehistory*, pp. 191-205. Prehistoric Society of Malta, Malta
- Malone, C. [1998] "God or goddess: the temple art of ancient Malta", in L. Goodison and C. Morris (eds), *Ancient Goddesses: The Myths and the Evidence*, pp. 148-163. British Museum Press, London.
- Malone, C., Stoddart, S., Bonanno, A., Trump, D. (eds) [2009a] *Mortuary Customs in prehistoric Malta. Excavations at the Brochtorff Circle at Xagħra (1987-94)*. McDonald Institute for Archaeological Research, Cambridge.
- Malone C., Bonanno A., Trump D., Dixon J., Leighton R., Pedley M., Stoddart S. [2009b] "Material Culture", in Malone C., Stoddart S., Bonanno A., Trump D. (eds) [2009] *Mortuary Customs in prehistoric Malta. Excavations at the Brochtorff Circle at Xagħra (1987-94)*, pp. 219-313. McDonald Institute for Archaeological Research, Cambridge.
- MAR [1965] *Report on the working of the Museum Department for the year 1964*. Department of Information, Malta.

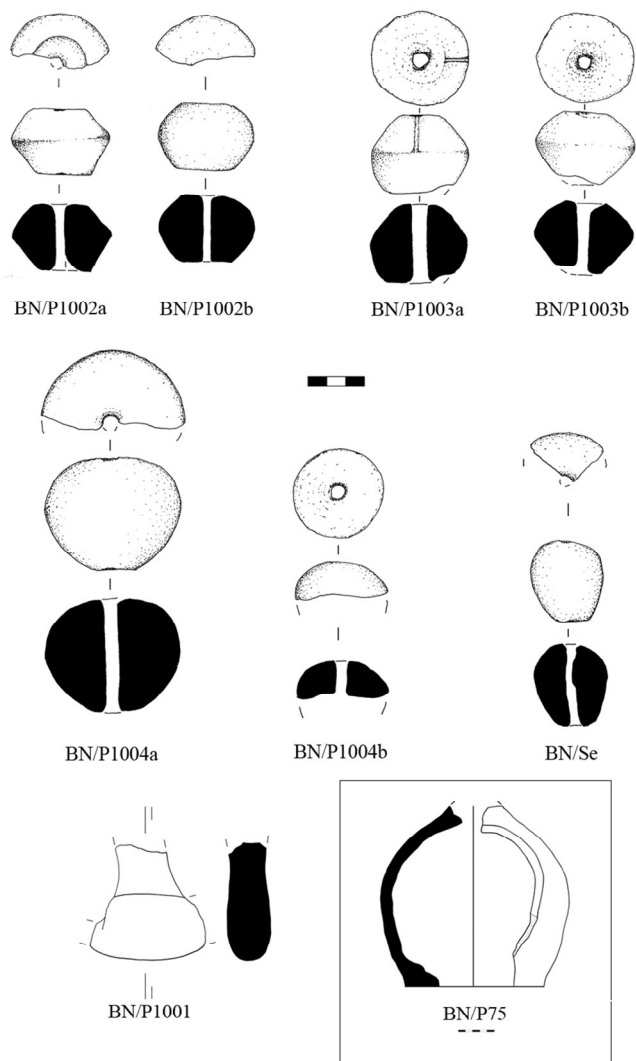
- Mavriyannaki, C. [1972] "Modellini fittili di costruzioni circolari nella Creta minoica", in *Studi micenei ed egeo-anatolici* 15: 160-170.
- Mersereau, R. [1993] "Cretan cylindrical models", in *American Journal of Archaeology* 97: 1-47.
- Murray, M. A. [1923] *Excavations in Malta: Part I*. Bernard Quaritch, London.
- Murray, M. A. [1925] *Excavations in Malta: Part II*. Bernard Quaritch, London.
- Murray, M. A. [1929] *Excavations in Malta: Part III*. Bernard Quaritch, London.
- Murray M. A. [1961] "Pottery Anchors", in *Antiquity* 35: 59-60.
- O'Connell, R.L. [1989] *Of Arms and Men: a History of War, Weapons and Aggression*. Oxford University Press, Oxford.
- Palermo, D. [1997] "I modellini di edifici a pianta circolare da Polizzello e la tradizione cretese nei santuari dell'area sicana", in *Cronache di Archeologia* 36: 35-45.
- Petrakis, V. P. [2006] "Late Minoan III and Early Iron Age Cretan Cylindrical Terracotta Models: a Reconsideration", in *Annual of the British School at Athens* 101: 186-216.
- Tanasi, D. [2008] *Sicilia e Malta nell'età del Bronzo Medio* (KASA 3). Officina di Studi Medievali, Palermo.
- Tanasi, D. [2009a] "A mediterranean connection. Nuovi dati sulle relazioni tra Malta e Creta agli inizi dell'età del Ferro", in *Creta Antica* 10/2: 1-21.
- Tanasi, D. [2009b] "Vasellame metallico in Sicilia e nell'Arcipelago maltese nella seconda metà del II millennio a.C. Forme Egee per pratiche religiose indigene", in *Orizzonti* 10: 11-27.
- Tanasi, D. [2010] "Bridging the gap. New data on the relationship between Sicily, the Maltese Archipelago and the Aegean in the Middle Bronze Age", in *Mare Internum* 2: 111-119.
- Tanasi, D. and N. C. Vella [forthcoming] "Islands and mobility: exploring Bronze Age connectivity in the south-central Mediterranean", in B. Knapp and P. van Dommelen (eds), *The Cambridge Encyclopedia of the Bronze and Iron Age Mediterranean*. Cambridge University Press, Cambridge.
- Todaro, S. [2003] "Il deposito AM I del Piazzale dei Sacelli di Haghia Triada: i modellini architettonici", in *Annuario della Scuola Archeologica Italiana di Atene* 81: 547-572.
- Torpiano, A. [2004] "The construction of the Prehistoric Megalithic Temples of Malta", in D. Cilia (ed.), *Malta Before History*, pp. 347-365. Miranda, Malta.
- Trump, D. H. [1960] "Pottery 'Anchors'", in *Antiquity* 34: 295.
- Trump, D. H. [1961] "The Later Prehistory of Malta", in *Proceedings of the Prehistoric Society* 27: 253-262.
- Trump, D. H. [1962] "'Anchors' and 'Frying Pans'", in *Antiquity* 36: 224-225.

- Trump D. H. [2002] *Malta. Prehistory and Temples*. Midsea Books, Malta.
- Trump, D. H. and Trump, B. [2002] “The Insularity of Malta”, in W. H. Waldren and J. A. Ensenyat (eds), *World Islands in Prehistory: International Insular Investigations* (V Deja International Conference of Prehistory, BAR 1095), pp. 135-138. Archaeopress, Oxford.
- Vella Gregory, I. [2005] *The Human Form in Neolithic Malta*. Midsea Books, Malta.
- Vella, N. C. [2007] “From *cabiri* to goddesses: cult, ritual and context in the formative years of Maltese archaeology”, in D. Barrowclough and C. Malone (eds), *Cult in Context: Reconsidering Ritual in Archaeology*, pp. 61-71. Oxbow Books, Oxford.
- Zammit, T. [1916] “The Hal Tarxien Neolithic Temple”, in *Archaeologia* 67: 127-144.
- Zammit, T. [1930] *Prehistoric Malta: The Tarxien Temples*. Clarendon Press, Oxford.
- Zammit, T., Peet, T. E., Bradley, R. N. [1912] *The Small Objects and the Human Skulls found in the Hal Saflieni prehistoric Hypogeum: Second Report*. Malta.
- Zammit, T. and Singer, C. [1924] “Neolithic Representations of the Human Form from the Island of Malta and Gozo”, in *Journal of the Royal Anthropological Institute of Great Britain and Ireland* 54: 67-100.

**Carlo Veca**, graduated with a BA in Sciences of Cultural Heritage in 2009 and is now attending the MA in Archaeology at the University of Catania. His research involves the study of pottery of the Bronze Age in Sicily and relationships with the Aegean and the Mediterranean more broadly. He participates in several research projects with the Superintendence of Catania and the Archaeological Museum of Siracusa and he is scientific consultant for the ‘Project Archeomatica’ promoted by the Image Processing Laboratory at the University of Catania for the application of computer graphics to archaeological research.

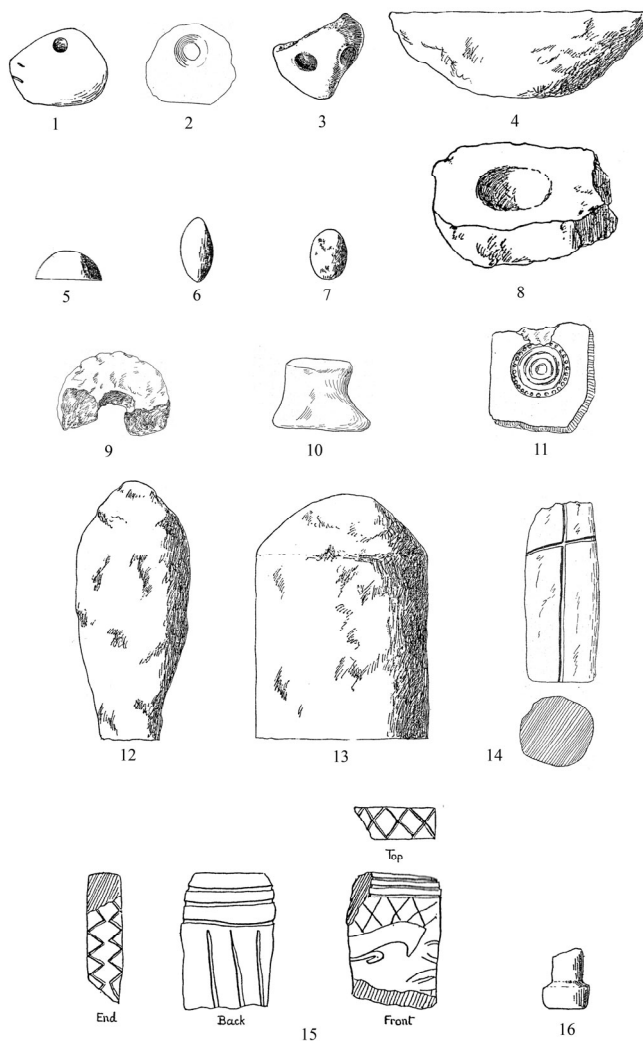


**Figure 7.1.** Small finds: (BN/S15) stone axe; (BN/S16) stone hammer; (BN/S19) hone; (BN/S18) sling limestone; (BN/Sb) 'phallus'; (BN/S17) stone spindle whorl; (BN/Sa) 'betyl/idol'; (BN/Sc) cylindrical stone (1:3, drawings by Carlo Veca).

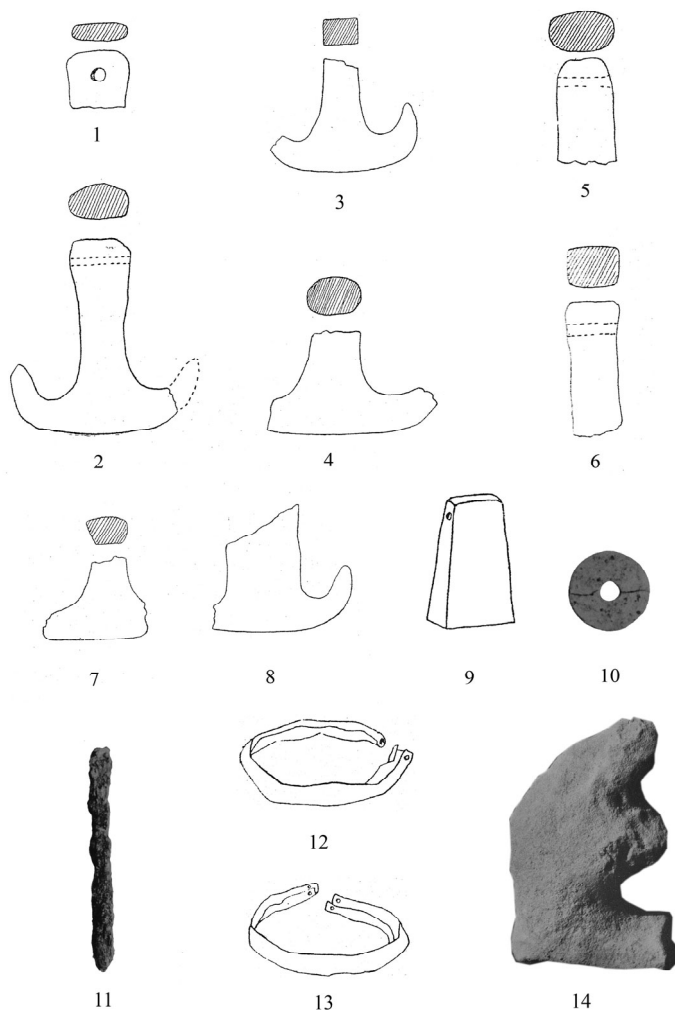


**Figure 7.2.** Small finds: (BN/P1002a) spindle whorl; (BN/P1002b) spindle whorl; (BN/P1003a) spindle whorl; (BN/P1003b) spindle whorl; (BN/P1004a) spindle whorl; (BN/P1004b) spindle whorl; (BN/Se) spindle whorl (1:3, drawings by Carlo Veca); clay anchor (BN/P1001); (BN/P75) clay hut model (1:4 drawings by Denise Cali).

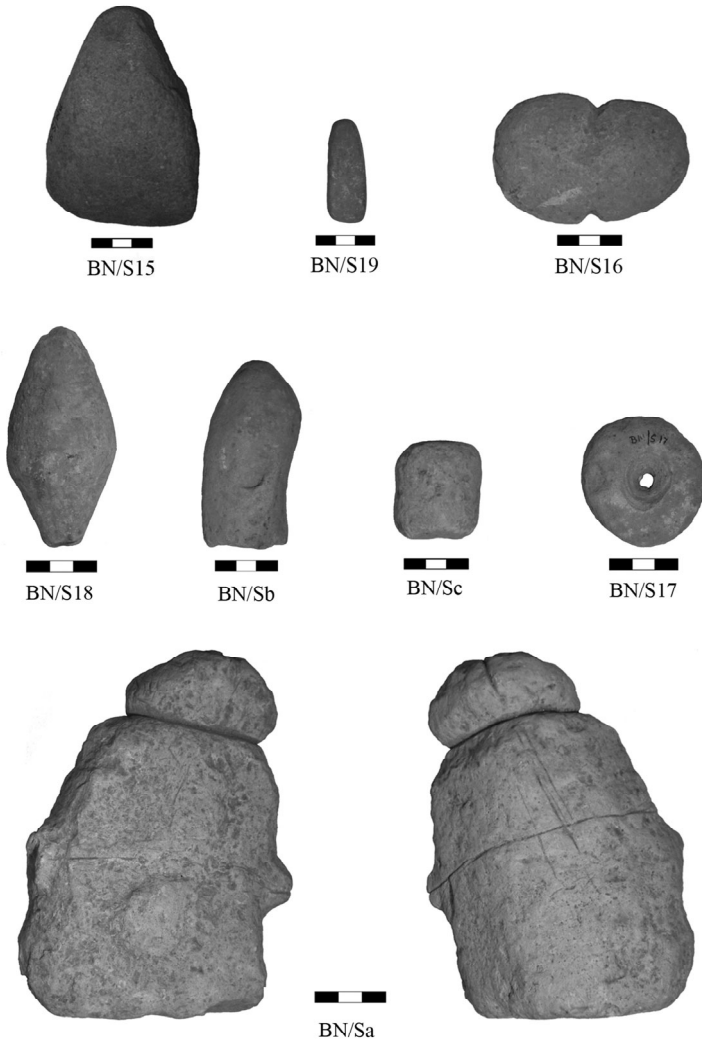




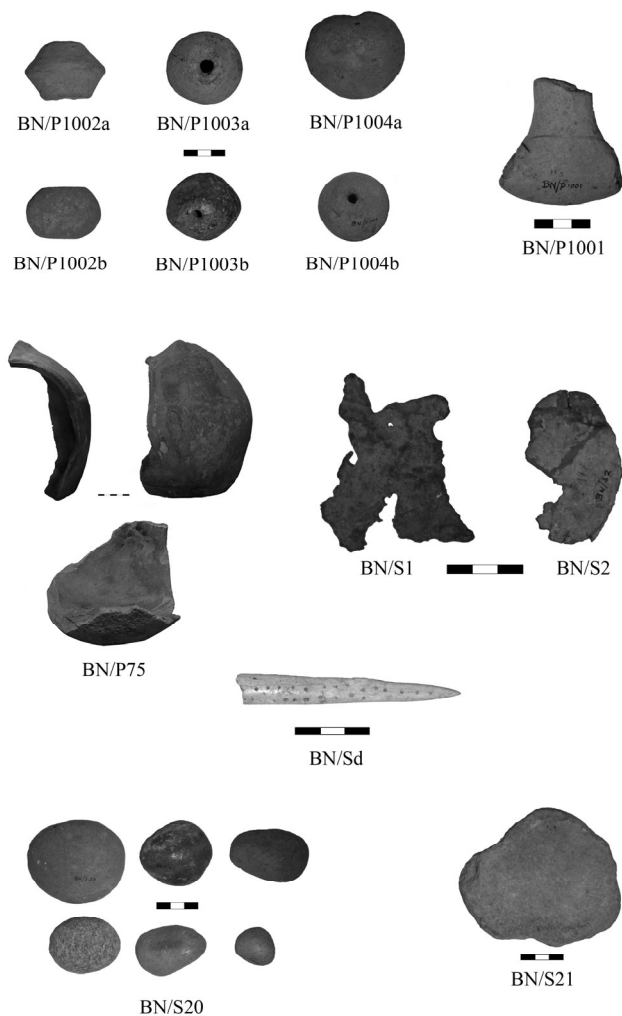
**Figure 7.3.** Lost or misplaced objects: (1), weight; (2), loom weight; (3), stone; (4), Cover of trapdoor; (5), cover of trapdoor; (6-7), weights; (8), lamp; (9), ring stone; (10), limestone polisher; (11), stone mould; (12), betyl stone; (13), betyl stone; (14), phallus; (15), carved stone; (16), miniature betyl (Murray 1923: pls 8,8, 16-17, 19-23, 26; Murray 1929: pls 8,2-4, 7, 17,6, 19,11a-d, 19, 1, 4, 6, 10).



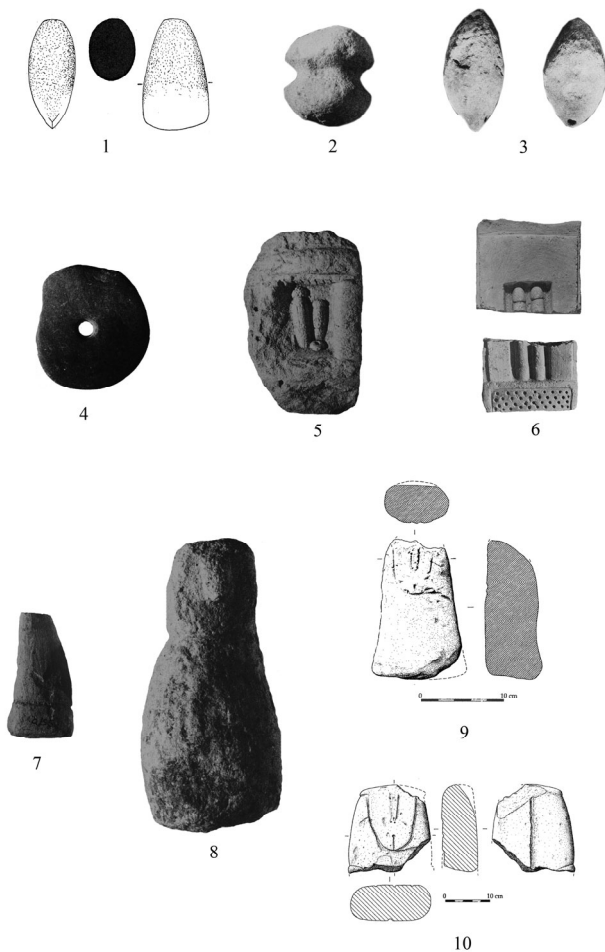
**Figure 7.4.** Lost objects: (1), clay anchor; (2), clay anchor; (3-8), clay anchors; (9), loom weight; (10), bronze disk; (11), bronze bar; (12-13), bronze rings; (14), stone figure (Murray 1923: pl. 8,2, 4; Murray 1925: pl. 17,11; Murray 1929: pl. 17,1-2, 4-5, 28,1, 3-6, 8, 9, 19,7-8, 21,3).



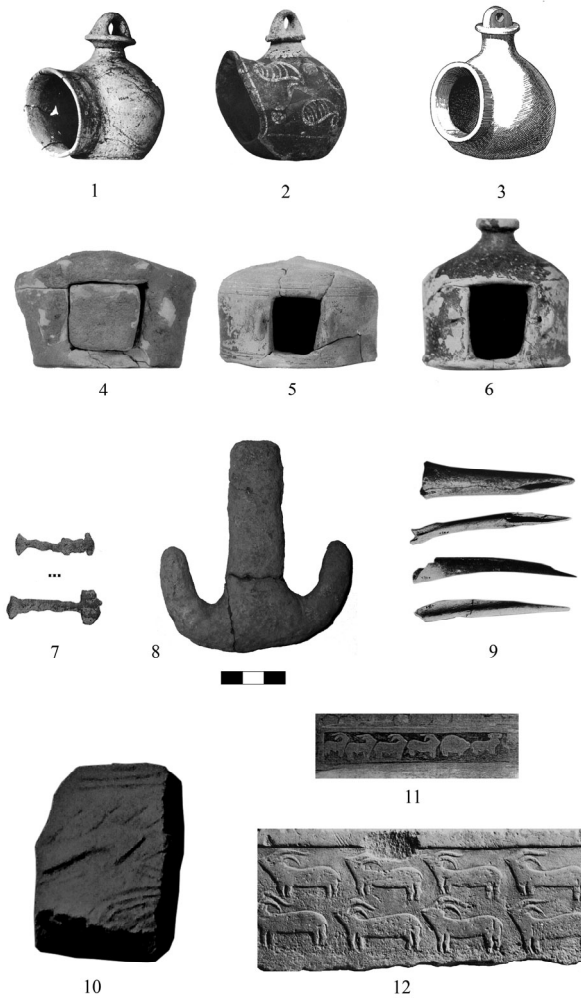
**Figure 7.5.** Small finds: (BN/S15) stone axe; (BN/S16) stone hammer; (BN/S19) hone; (BN/S18) sling limestone; (BN/Sb) 'phallus'; (BN/S17) stone spindle whorl; (BN/Sa) 'betyl/idol'; (BN/Sc) cylindrical stone.



**Figure 7.6.** Small finds photos: (BN/P1002a) spindle whorl; (BN/P1002b) spindle whorl; (BN/P1003a) spindle whorl; (BN/P1003b) spindle whorl; (BN/P1004a) spindle whorl; (BN/P1004b) spindle whorl; (BN/P75) clay hut model (Tanasi 2010); (BN/P1001) clay anchor; (BN/S1) bronze vessel; (BN/S2) lead sheet; (BN/Sd) bone awl; (BN/S20) pebbles; (BN/S21) grinding stone.



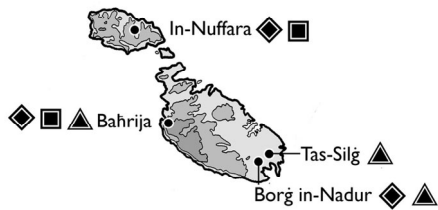
**Figure 7.7.** Parallels: (1), axe from Skorba (Evans 1971: fig. 45); (2), hammer from Tarxien (Evans 1971: pl. 66, 5); (3), sling stones from Hal Saflieni (Evans 1971: pl. 66, 9); (4), spindle whorl from Tarxien (Evans 1971: pl. 64, 10); (5-6), ‘phallic niches’ from Tarxien (Evans 1971: pl. 50, 9-11); (7), ‘phallus’ from Haġar Qim (Evans 1971: pl. 41, 4); (8), ‘idol’ from Mnajdra (Evans 1971: pls 41, 18); (9-10), ‘statue menhir’ from the Brochtorff Circle and Ta’ Trapna (Malone *et al.* 2009a: fig. 10.46; Evans 1971: fig. 57).



**Figure 7.8.** Parallels: (1-6), hut-models from the Aegean (Tanasi 2009a); (7), bronze rivets from Ghar Mirdum (MAR 1965); (8), clay anchor from Bahrija (photo by D. Tanasi); (9), worked bone object from Tarxien (Evans 1971: pl. 67, 2-5); (10), carved stone from Borġ in-Nadur (Murray 1929: pls 17,6, 19,11 a-d); (11), relief from Tarxien (Zammit 1930: pl. III, 3); (12), relief from Tarxien (Evans 1971: pl. 18, 4).

## Part III

### The site in its local and regional setting







## **8. A tale of two ridges: topography, connectivity and use at Borġ in-Nadur and Tas-Silġ**

Reuben Grima – Department of Built Heritage,  
University of Malta, Malta  
reuben.grima@um.edu.mt

Joanne Mallia – Prehistoric Sites Department,  
Heritage Malta, Malta  
joanne.mallia@gov.mt

**Abstract.** Marsaxlokk is one of the most sheltered harbours in the Maltese archipelago, and has been exploited since the earliest known settlement of the islands. The variability of the coastal and inland topography around the harbour presents constraints as well as opportunities, which have influenced human decisions and strategies in different periods. The two key sites of Borġ in-Nadur and Tas-Silġ are compared. GIS-based Cost Surface Analysis and Least Cost Path Analysis are used to explore the different types of connectivity enjoyed by these sites. It is argued that this difference is a hitherto undiscussed factor behind the different trajectories that these sites follow in different periods.

**Keywords:** Connectivity, landscape, GIS, Borġ in-Nadur, Tas-Silġ.

### **8.1. Introduction**

Marsaxlokk is one of the most sheltered and inviting harbours in the Maltese archipelago. It has been exploited from the first known occupation of the islands in the Ghar Dalam phase, named after the eponymous cave a short distance inland, down to the present day, when it hosts one of the largest container transshipment terminals in the Mediterranean. The variability of the coastal and inland topography around the bay presents constraints as well as opportunities,

which have influenced human decisions and strategies in different ways across the past seven millennia. This chapter focuses on two ridges near the bay that have both yielded a rich archaeological record of intensive use across different periods. The key archaeological sites on the two ridges are respectively Borġ in-Nadur and Tas-Silġ, both of which are positioned at locations that command interaction between land and sea. On closer scrutiny, significant differences may be observed between the connectivity enjoyed by the two locations at the local scale. The aims of this chapter are firstly to explore the role of connectivity in the selection of both these sites, secondly to characterise the different types of connectivity they enjoy, and third, to propose that this difference is an important factor in explaining the different life-histories of these sites across different periods.

The landscape context will be described in brief, and the different life-histories of Borġ in-Nadur and Tas-Silġ, as presently understood, will be outlined. The different types of connectivity enjoyed by the two locations are then explored using GIS-based Cost Surface Analysis and Least Cost Path Analysis. The different patterns of connectivity enjoyed by the two sites are then used to inform a better understanding of the different ways these two sites are exploited across time.

## **8.2. The landscape setting**

Marsaxlokk Harbour lies at the south-eastern extremity of Malta, between the south-west coast that is formed by precipitous cliffs, and the low-lying, indented north-east coast that is characterised by bays and harbours. In the region under consideration, two of these deserve mention because they offer some degree of shelter to small vessels. St Thomas Bay lies less than two kilometres away from Marsaxlokk Bay as the crow flies, while the creek of Marsascala lies another kilometre further north. A saddle-backed ridge (one of the two ridges in this story) runs between Marsaxlokk to its south, and St Thomas Bay and Marsascala to its north. The two ends of the ‘saddle’ are San Girgor in Żejtun, and the Delimara peninsula. Tas-Silġ lies on a knoll that rises from the middle of the ridge’s ‘saddle’ (Figs 1.1, 2.1).

Within Marsaxlokk Harbour, two headlands known respectively as San Ġorg (a.k.a. il-Gżira) and San Luċjan divide the shoreline into three embayments, namely Birzebbuġa Bay, St George's Bay, and Marsaxlokk Bay. A separate valley system meets the sea in each of the three bays. The most deeply incised of these valley systems is the central one, composed of the two deep wadis of Wied Żembaq and Wied Dalam. The two wadis follow a generally parallel course down to St George's Bay, and are separated by the long and narrow ridge of Borġ in-Nadur, the other ridge in our story.

### **8.3. Convergences and divergences: two life-histories**

Human exploitation of the Marsaxlokk Harbour region begins with the earliest known phase of human occupation of the Maltese archipelago. The cave-site of Ghar Dalam, (incidentally the type-site for the first phase of the Maltese Neolithic) lies along Wied Dalam, about 700 m inland from the present shoreline.

The available evidence for Neolithic settlement in this region appears to follow a pattern that has been observed across the Maltese islands more generally. Around the middle of the fourth millennium BC, monumental buildings appear across the archipelago in locations enjoying access to three key resources; land suitable for agriculture, fresh water, and the sea<sup>1</sup>. The available evidence strongly suggests that these monumental buildings were raised in areas that had already been exploited for centuries prior to the emergence of monumental architecture, very probably as settlements. The Marsaxlokk Harbour region is marked by a concentration of Neolithic monumental sites that is evidently connected to the sheltered embarkation points afforded by the region's creeks and bays. The known megalithic buildings include Borġ in-Nadur, Tas-Silġ, Hal Ġinwi and Xrobb l-Għaġin. This density of monumental activity may be read as a proxy indicator of intensive exploitation of the opportunities afforded by access to the sea and to the gently rolling terrain that characterise south-east Malta. This combination not only facilitated maritime connectivity and portage within and beyond the archipelago, but

---

<sup>1</sup> Grima 2004.

also made it possible to complement the agricultural subsistence base with marine resources in times of crop failure.

The meager evidence available suggests that, from around the mid-fourth to the mid-third millennium BC, the sites of Borġ in-Nadur and of Tas-Silġ ran on a parallel course, both witnessing the construction of a megalithic building in a position that commanded routes of movement between the island's interior and sheltered embarkation points on the coast.

Following the drastic, and as yet poorly understood, changes that took place around the middle of the third millennium, conventionally taken to mark the end of the Maltese Neolithic and the beginning of the Bronze Age, both Borġ in-Nadur and Tas-Silġ appear to have remained in use. Both sites have yielded evidence of continued use through the Tarxien Cemetery phase and the Borġ in-Nadur phase<sup>2</sup>. The evidence suggests that, by the Borġ in-Nadur phase, the life-histories of the two sites, which had hitherto run on very similar lines, had finally begun to diverge. While ceramic counts from Tas-Silġ<sup>3</sup> indicate that the site was intensively used in this phase, the evidence from Borġ in-Nadur itself suggests activity on an altogether grander scale. The extremity of the ridge that is flanked by Wied Dalam to the north-east, Wied Żembaq to the south-west, and St George's Bay to the south-east, appears to have undergone a new phase of monumental elaboration. The extremity of the ridge, already sharply defined by the deeply-incised wadis, appears to have been marked off from the rest of the ridge further inland by massive walls built across the width of the ridge from Wied Żembaq to Wied Dalam. Recent re-evaluation of the material from successive excavations on this site<sup>4</sup> is suggesting a bustling entrepot that maintained contacts with a much wider world, in ways that were barely conceivable in the Neolithic.

The transformation of the Mediterranean world during the classical period resulted in a renewed reconfiguration of the cultural landscape around Marsaxlokk Harbour, which also represented a reversal of fortunes in the life-histories of Borġ in-Nadur and Tas-Silġ. The importance of Borġ in-Nadur itself appears to decline

---

<sup>2</sup> Cazzella, Pace and Recchia 2007.

<sup>3</sup> Cazzella and Moscoloni 2008.

<sup>4</sup> Tanasi 2008: 7-22; Tanasi, this volume (chapter 4).

dramatically, although a new type of activity emerges about 400 m further inland on the same ridge, at the site known as Ta' Kaċċatura. An agricultural establishment is created here possibly already during the Punic period<sup>5</sup>, and persists in use through the Republican and early Imperial period<sup>6</sup>. Oil-pressing appears to have been a key activity here. The immediate environs of the site on a rocky ridge isolated on either side by a deep wadi appear at first to be an unlikely position for a *villa rustica*. The foremost purpose of such a complex is to transform agricultural produce, in this case the olive crop, into an easily transportable bulk commodity, in this case olive oil packaged in amphorae. Connectivity is therefore a key consideration in the location of such sites. Studies of Roman villas in central Italy, for instance, have identified access to a good transportation infrastructure as one of the key elements determining their location<sup>7</sup>, while a pioneering study of the distribution of villa sites in Malta has shown that most of the recorded villas lie within two or three kilometres of the sea<sup>8</sup>. On closer examination of the location of Ta' Kaċċatura, it appears clear that the positioning of the villa is closely tied to the route formed by the ridge itself between the fertile interior and Marsaxlokk Harbour. It is effectively located along the most efficient route between the gently rolling and fertile terrain around Ghaxaq and Gudja, and the sheltered anchorage formed by St George's Bay. The villa is in fact precisely positioned at the point where the narrow ridge between Wied Żembaq and Wied Dalam broadens out from a narrow, windswept and rocky spur to a broader and flatter fan that stretches on towards Ghaxaq and Gudja, much more suitable for the retention of a good soil cover. The dictates of transport of bulk commodities are precise and unforgiving, all the more so where transport by land is concerned. The villa is positioned at the optimal point of convergence for the harvest from the territory further inland to be gathered in, to be transformed into a preserved commodity which was more easily transportable and ready for shipping. The onward journey of amphora-borne oil to St George's Bay would not have

---

<sup>5</sup> The evidence for a Punic origin of this villa is very tenuous (Vella 2010: 74-75).

<sup>6</sup> Ashby and Rushforth 1915.

<sup>7</sup> Marzano 2007: 154.

<sup>8</sup> Bonanno 1977: 75.

required any ‘doubling-back’ on the transportation of the crop to the villa, making the whole a seamless optimisation in terms of expenditure of effort by slaves, workers and beasts of burden alike.

At Tas-Silġ, meanwhile, a new and vibrant chapter was unfolding. The ruins of the Neolithic monumental complex are reorganised into the heart of a new sanctuary complex, perhaps the most sophisticated on Punic Malta, and certainly the best documented. In the Republican period, the complex continues to be enlarged and embellished, and its fame even found its way into Cicero’s Verrine Orations, where he sings its praises as an ancient and venerable sanctuary revered by mariners from far and wide, regardless of race or politics<sup>9</sup>.

Further inland on the same ridge, another *villa rustica* broadly contemporary<sup>10</sup> with that at Ta’ Kaċċatura was established at San Girgor, very near the eponymous late medieval parish church of Żejtun, on the south-east edge of the present-day town<sup>11</sup>. The same logistic considerations observed at Ta’ Kaċċatura may be noted here, responding to a different set of constraints and opportunities. The possibility of access to different embarkation points presented an opportunity not available on the Borġ in-Nadur ridge. The Żejtun villa is positioned very near the point of divergence in the present-day road network between the road to St Thomas Bay and Marsascala, and that leading down to Marsaxlokk. The present-day road network in this district appears to have been largely formed by the early modern period, and parts of it may be much older. The positioning of the parish church of San Girgor here in the late Middle Ages appears to have been equally tied to the connectivity this point afforded with the districts serviced by the parish. Returning to the location of the villa, it may be observed that 350 m across fields due south of the villa, an extant road network descends through the tellingly-named Ras il-Wied (literally Head of the Valley) to Marsaxlokk Bay. This route may represent the least-cost path from the district of Żejtun down to the bay. On the other hand, the present-day road that runs from San Girgor along the spine of

---

<sup>9</sup> Bruno 2004: 103-104.

<sup>10</sup> Firm evidence of a Punic origin has been found at the Żejtun villa (Vella 2010: 462).

<sup>11</sup> Other villa sites may exist in the vicinity of Marsaxlokk and St Thomas Bay (Bonanno 1977: 73-76). The present study has been confined to the more clearly attested villa sites at Ta’ Kaċċatura and Żejtun.

the saddlebacked ridge, climbing again to surmount the knoll of Tas-Silġ before descending to Marsaxlokk, does not represent the most efficient route for the transportation of bulk commodities from the interior around Żejtun to the bay, and may have been shaped by other considerations.

In order to examine the above observations and hypotheses more rigorously, GIS-based tools were applied, using the methods that will be described next.

#### **8.4. Characterising connectivity: methodology**

Geographic Information Systems, or GIS, is a computerised system capable of storing, managing and analysing large amounts of spatial data. Not surprisingly, it has been most often used in archaeology for regional-scale applications focusing on the study of landscape (such as site prediction models, cost-surface and line-of-sight estimation, the identification of anomalies or distinctive patterns in data and virtual world applications) and therefore studies which would (or could) not commonly be carried out manually and this is no exception<sup>12</sup>. In order to better examine the influence of connectivity on the diverging life-histories of the two sites, bringing into the equation the terrain and the, primarily physical, impact it would have had on these connections, two complementary GIS studies were carried out. The first is Cost Surface Analysis (CSA), which is used to estimate the friction or cost of moving across each cell in the digital representation of a surface. In archaeology, this analysis is used to represent the concept of moving within a landscape, taking into consideration the effect that variables such as topography have on the effort (cost) required to do so<sup>13</sup>. As its name implies, the Least Cost Path Analysis (LCP) is a complementary study which uses the 'Cost Surface' to identify the most cost-effective path to go from one point (the source) to another (the destination), thereby verifying and characterising the different types of connectivity afforded by the configuration of the landscape in the Marsaxlokk region.

---

<sup>12</sup> Bevan and Conolly 2004; Harris 2002; Llobera 2001.

<sup>13</sup> Van Leusen 2002: 6-1; Wheatley and Gillings 2002: 151-157.

At the base of any such analysis are the data representing the landscape, which very often consist of a Digital Elevation Model (DEM) or a Digital Terrain Model (DTM)<sup>14</sup> as well as the algorithms and parameters utilised in its processing. These elements determine both the resolution at which analysis can be carried out, as it is limited by the size of the cells which make up the digital surface, as well as the quality of the results achieved<sup>15</sup>. In this case, the digital surface used was a DEM generated using stereoscopic aerial imagery acquired in May 2001, with a resolution of 10 m. Whilst the resolution is relatively high for such a study<sup>16</sup>, the effect of built areas on the representation of the terrain is a serious drawback and introduces error into the data and subsequent results. This is however mitigated by the fact that built areas are clearly visible and that their effect on the results can be quantified and factored into the interpretation. The same cannot be said for the uncertainty or doubt introduced, for instance, by inconsistencies or errors generated during the creation of the DEM<sup>17</sup>, by the fact that a single elevation value represents an area of 100 sq. m or by the fact that data acquired in 2001 are being used to create inferences on the landscape for a period of 3000 years or more starting in 3600 BC. Unlike error, uncertainty is an intrinsic and unavoidable property of knowledge and its influence on the final result cannot be clearly quantified<sup>18</sup>. Without the ability to identify and map accurately environmental changes in the landscape such as the rise in sea-level, tectonic movement, aridisation, sedimentation or human-made changes such as the impact of agricultural activity or field terracing which may have taken place since the beginning of the Neolithic period in Malta, it is not possible to quantify the level of

---

<sup>14</sup> Digital Elevation Models and Digital Terrain Models consist of a regularly spaced grid of elevation values tied to geographic coordinates. A DEM contains unmodified elevation values which reflect whatever is on the ground and therefore includes the height of buildings, roads and bridges along with the terrain. A DTM, on the other hand, has been modified to contain nothing but the elevation of the terrain itself. The DEM utilised in this study was created by Datatrak in 2007.

<sup>15</sup> Wheatley and Gillings 2002: 158-9.

<sup>16</sup> The resolution of a DEM indicates the area represented by a single elevation value. In a 10-m DEM, one value represents a square area measuring 10 m by 10 m.

<sup>17</sup> Parmegiani and Poscolieri 2003.

<sup>18</sup> Couclelis 2003.



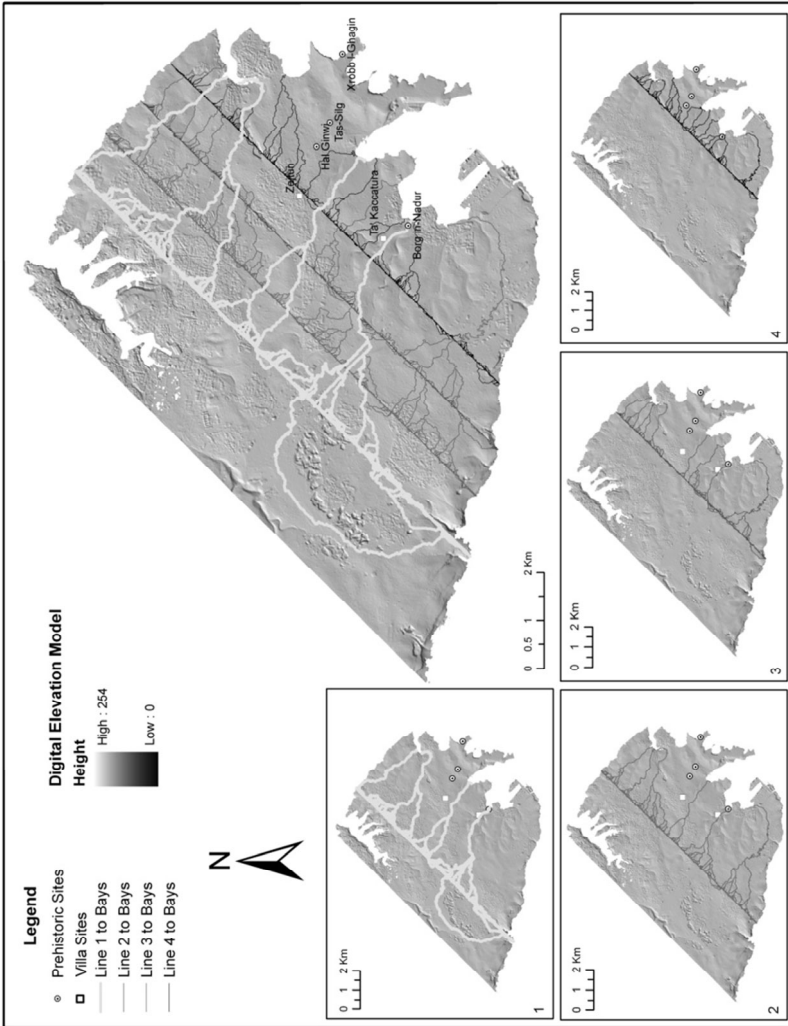
error being introduced into the study simply from the DEM<sup>19</sup>. However, since these problems are mainly perceivable at small scales, they do not detract substantially from the value and utility of the cost surfaces produced.

The analysis for this study was carried out using Global Mapper 12 for the initial processing of the DEM into a raster (grid) surface, followed by ArcGIS 9.2 with Spatial Analyst extension for the CSA and LCP analysis. The latter were carried out using Spatial Analyst's set of tailored tools for the processing of cell-based raster data, primarily the Cost-based Distance, Direction and Allocation as well as the Shortest Path tools. Although it is common practice to use an interpolation algorithm on a DEM to soften the abrupt change in elevation between adjacent raster cells (an effect of the resolution of the surface) by averaging the values and creating a more natural-looking surface, it was decided that for the scope of this study interpolation would not be used for two reasons. The first is that it would avoid the introduction of additional uncertainty into the results caused by the inability to quantify the degree of 'smoothing' of each cell in the surface. The second is that, without additional data necessary to exclude built areas, interpolation would have created dense, strangely-shaped hilly areas where modern towns are located. The cost of the decision is that the surface retains the abrupt changes in elevation between cells creating an artificial 'staircase' effect but this was deemed to have a lower impact on the analysis than the interpolation.

The extent of the study area was set to include only the southern half of Malta and the DEM was therefore clipped using an arbitrary line bisecting the island in a NE/SW direction, from Valletta to Siggiewi. A number of cells, mainly concentrated in the Grand Harbour area and in the definition of Marsascala bay, with anomalous values in the DEM, very probably acquired during the automated acquisition process from aerial imagery, were identified and converted to No Data values. Their small number and location means that it does not significantly affect the result.

---

<sup>19</sup> Campana 2009: 4; Shakleton, van Andel and Runnels 1984; Grima 2008.

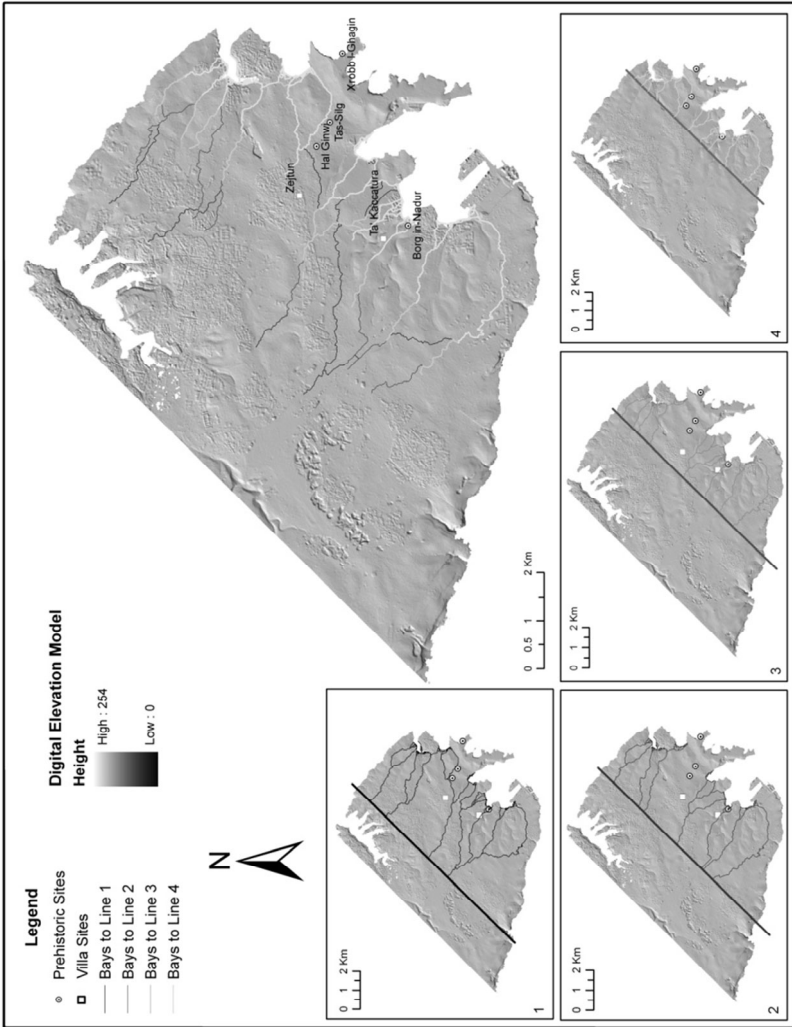


**Figure 8.1.** Least Cost Path: Line features show the most cost-effective routes leaving from each of the inland lines to reach only one of the five bays.

Apart from the DEM, the application of CSA requires two more elements: the choice of the source – the point/line/area for which

the cost surface is being calculated; and the choice of which properties of the terrain to factor into the cost of moving across it. The choice of point/s of origin for this area was based on the need to assess the connectivity in terms of access to the sea from the hinterland around Marsaxlokk Harbour, and vice versa. Therefore two sets of data were created. The points of access to the sea are represented by line features outlining the stretch of beach or easy access at the innermost end of each of the five main bays of south-east Malta, that is, Pretty Bay, St George's Bay, Marsaxlokk Bay, St Thomas's Bay and Marsascula Bay. Representing land was a more complex issue since practically any spot could be considered a source or a destination. As a representative sample, four parallel lines (placed one kilometre apart and cutting across Malta from one coastline to the other in a NE-SW direction) were created. In CSA each line is automatically rasterised into a series of cells, each of which is then considered a possible source during the analysis. Although the location of the lines was arbitrary, the length of the lines and the spacing between them provided enough coverage to be sufficiently representative of the area for the scope of this study.

The second element, the choice and number of properties of the terrain which affect cost, obviously depended on the nature of the area and of the study as GIS enables the computation of a cumulative cost surface which takes into account more than one factor. In assessing the connectivity between land and sea in this area, the three elements identified as the main contributing factors were distance from the source, slope gradient (since higher slopes are more difficult to traverse than a flat surface) and slope direction (since the cost of moving up a slope is higher than that of moving across the same slope). Using ArcGIS Spatial Analyst's custom tools, a surface representing the degree of slope over the land was created along with a second raster surface indicating the direction of the slope. These were then combined, along with distance from source, to create a cost-weighted surface. The end result is the Cost Surface, that is, the degree of cost or effort required to move across each cell. The application of CSA to the region was first carried out taking the bays as the starting point or source. The first step was therefore to compute a surface estimating the cost required to reach a point of



**Figure 8.2.** Least Cost Path: Line features show the most cost-effective routes leaving from each of the bays to reach a single point on each of the inland lines.

access to the sea from an inland location. The second was to consider the opposite route, creating a cost surface describing the journey which moved inland from any one of the bays.

The cost surfaces produced then became data to be used in the calculation of the LCP using ArcGIS's Shortest Path Tool. The name 'Shortest Path' is in fact misleading as the algorithm identifies the best route to take in terms of the data which have been input, that is, distance, slope and direction and the best route is not always the shortest. With further research on the level of effort required to move in a landscape using different modes of transportation available in different time periods – feet, sledge or carts are some of the possibilities – it would be possible to modify the parameters of the analysis accordingly and thus take a step further in assessing the validity of the Least Cost Paths obtained<sup>20</sup>.

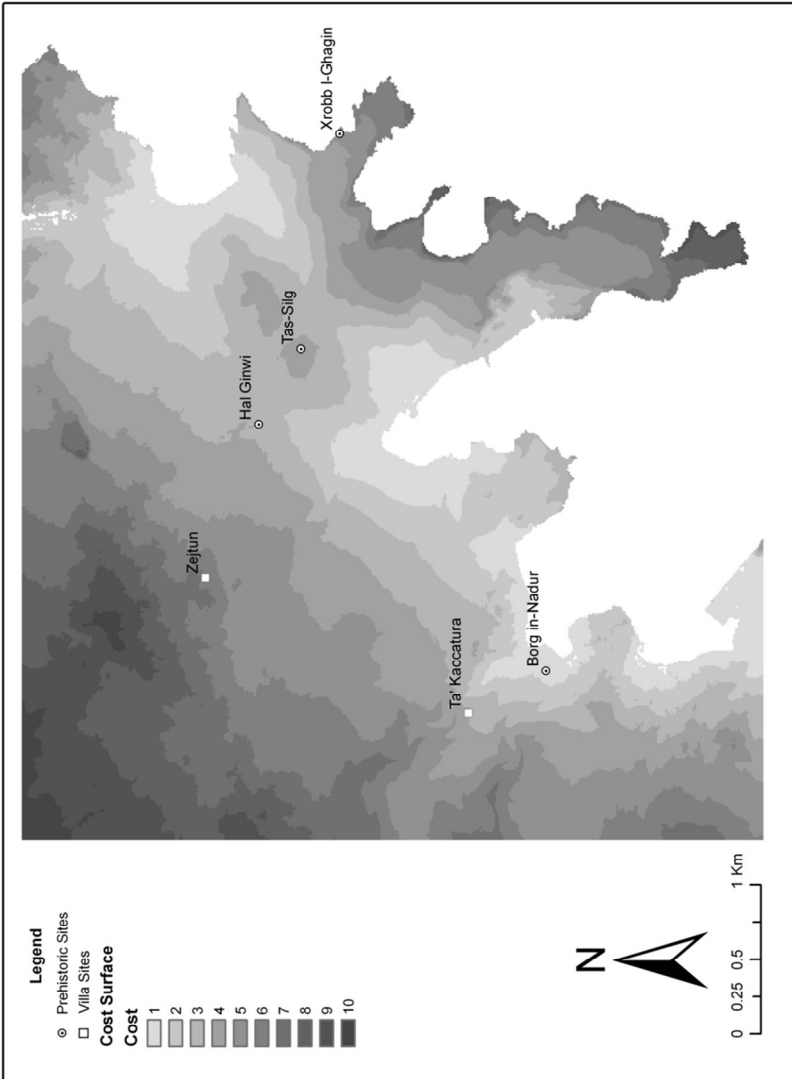
The end result is the definition of paths, in the shape of line features, travelling across the landscape. An important limitation of the present analysis is that the DEM used included artificial modifications to the landscape such as buildings, quarries and roads, which may alter the course taken by one of the computed paths towards or away from these features. Likewise, the discontinuous surface caused by the lack of interpolation creates an unnaturally jagged path. Examples of these effects can be clearly seen in Figs 8.1 and 8.2 where one path swerves sharply away from crossing the numerous quarries in the Mqabba area in order to reach a point of access to the sea while others circle around built areas to the north of Żejtun, possibly causing such paths to change course altogether. Another limitation, this time in the parameters set for analysis, is that for this study, only the five bays in or near Marsaxlokk were included as possible embarkation points. Other favourable embarkation points elsewhere along the coast, which have been taken into account elsewhere<sup>21</sup>, were deliberately excluded from the present analysis, to focus on comparing the relative accessibility of these five bays.

Notwithstanding the limitations that have been outlined, the results of CSA and LCP analysis highlighted a number of interesting trends. Examining the location of the sites of Borġ in-Nadur, Tas-Silġ

---

<sup>20</sup> Van Leusen 2002.

<sup>21</sup> Grima 2004.

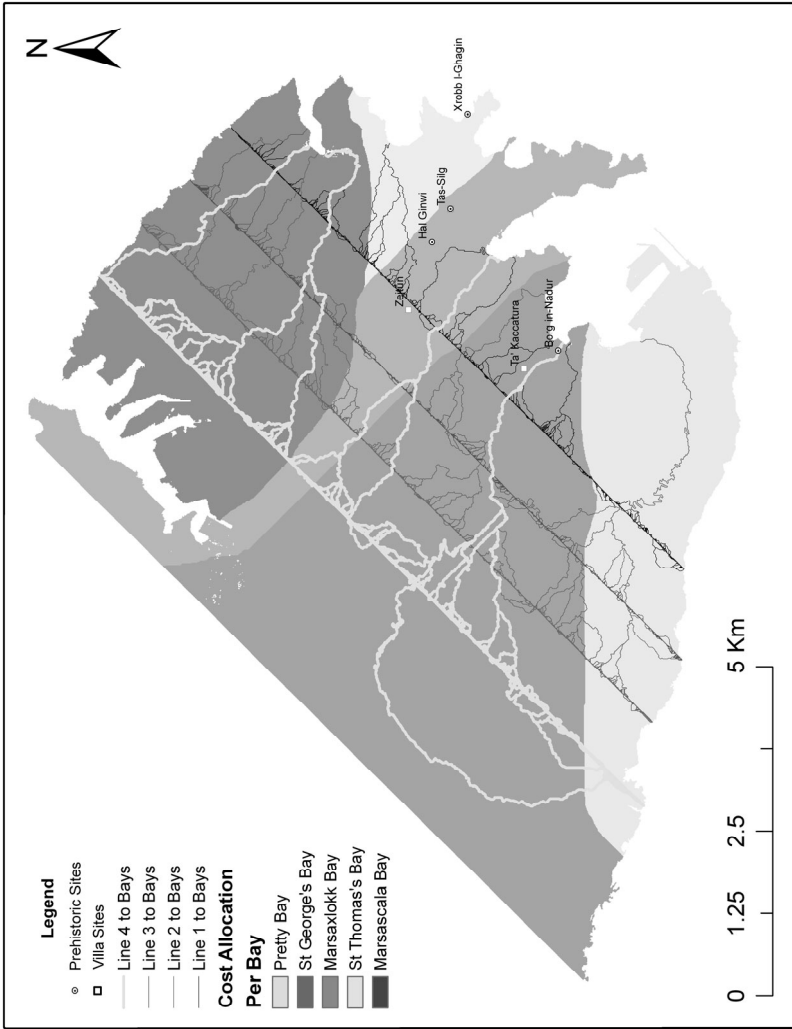


**Figure 8.3.** The Cost Surface of the area, reclassified into smaller cost bands, shows the difference in the cost required to reach any of the sites included in the study.

and other sites nearby, against the cost surface quantifying the cost of moving inland from the bays, it may be noted that the sites under consideration are placed at various cost-distances from the sea.

Among the prehistoric sites in the area, Borġ in-Nadur is the only one placed squarely in the lowest band of cost. Hal Ġinwi is located on the border between the two lowest bands whilst Tas-Silġ and Xrobb l-Għaġin are in a higher band. Among the later sites, Ta' Kaċċatura is located close to the border between the two lowest bands while Tas-Silġ and Żejtun are in a higher cost band. Re-classifying the results into a higher number of cost bands, thereby reducing the range of values in each band, further accentuates this difference, particularly for Tas-Silġ, which is located in a cost band which is significantly higher than the surrounding area (Fig. 8.3).

Inspecting the different results of the Least Cost paths starting from each of the four inland source lines and moving towards the bay, it may be observed that the numerous routes starting from the lines progressively converge into a much smaller number of very specific routes, each of which ends at one of the five beaches (Fig. 8.1). The closer the source line is to the bays, the less convergence there is and therefore the greater variety of routes from different points of origin along the source line. It is interesting to note the differences which the distance from the bays makes to paths such as the concentration in three of the beaches (St. George's Bay, Marsaxlokk Bay and Marsascala Bay) of the paths originating from the furthest line. Additionally, the individual beaches seem to be attracting pathways originating from areas which differ greatly in size. A simple test using ArcGIS's Cost Allocation tool (which divided the cost surface into zones according to each cell's preferred bay), was carried out to verify and illustrate this, creating a division of the area which closely resembles that indicated by the paths (Fig. 8.4). Repeating the analysis to identify least-cost paths leading inland from the bays produced a new set of paths which did not always follow the same route as the previous ones, reflecting the different challenges which the topography presents when moving in the opposite direction (Fig. 8.2). The results of the analysis will now be considered in terms of what it may reveal about connectivity and its influence on the evolution of the sites under study.



**Figure 8.4.** Cost Allocation Analysis: The division of the cost surface into zones according to the each cell's preferred bay.



## 8.7. Discussion

The question why the specific site of Tas-Silǵ is chosen for such an important ritual centre in the Punic and Roman world has often been posed, but satisfactory explanations have proved elusive. The commanding position overlooking Marsaxlokk Harbour, as well as the coast further north, is cited as one important factor<sup>22</sup>, while the presence of the remains of prehistoric monumental structures, which become the core of the Punic and Roman sanctuary, may also have influenced the choice<sup>23</sup>. These two factors prompt a rephrasing of the question of ‘why at Tas-Silǵ?’ to ask ‘why not at Borǵ in-Nadur?’<sup>24</sup>, because the latter also commands, and is rather closer to, a safe anchorage, and is likewise the site of prehistoric monumental remains. The interpretation of the sixteenth-century scholar Jean Quintin’s text to suggest that Borǵ in-Nadur was the site of a temple of Melkart or Herakles does not appear tenable<sup>25</sup>. Why then, Tas-Silǵ and not Borǵ in-Nadur? In addition to the possible explanations that have already been put forward by others, here it is suggested that the specific configuration of the landscape at Borǵ in-Nadur and at Tas-Silǵ was different in important respects, which resulted in a connectivity topology that was intrinsically different. These differences acquired crucial significance in the classical period, when they result in a decisive divergence between the life-histories of the two sites.

The CSA and LCP analysis reported above sheds new light on the question. The pronounced convergence of least cost paths from a large swathe of the harbour’s hinterland through the Borǵ in-Nadur ridge (Fig. 8.1) dramatically demonstrates that the ridge represented an important artery of movement between the harbour and the interior. This is confirmed by the cost allocation diagram which also shows that, of the embayments in and around Marsaxlokk Harbour, St George’s Bay was the least costly to reach from a large sector of the interior (Fig. 8. 4).

---

<sup>22</sup> Churchill Semple 1927: 380; Cazzella and Recchia 2007: 68; Recchia 2008: 238.

<sup>23</sup> Vella 1999; Cazzella and Recchia 2007: 69.

<sup>24</sup> Cazzella and Recchia 2007: 68-69.

<sup>25</sup> Bugeja, this volume, comprehensively reviews this antiquarian tradition.

Furthermore, Borġ in-Nadur commands the point where Wied Żembaq and Wied Dalam meet the shore. Effectively, the shoreline below Borġ in-Nadur is the natural point of convergence between the three territories demarcated by the two wadis, that is the land south of Wied Żembaq, that between the two wadis, and that north of Wied Dalam. Effectively then, Borġ in-Nadur commands the point of convergence between three terrestrial routes (five if one includes the wadi bottoms themselves, though interestingly, none of the multiple least cost paths generated run along these valley bottoms) linking three territories to the sea (Fig. 8.1). Direct movement between the three territories was hampered by the wadis that ran between them, making portage of bulk commodities practically impossible across them. Borġ in-Nadur, then, is a significant node of connectivity in that it commands the point where three distinct and separate sectors of hinterland meet along the shore. In other words, multiple terrestrial routes converge here on a single outlet to the sea.

Turning now to consider Tas-Silġ, we find the opposite to be true. Strung out on a narrow peninsula, Tas-Silġ is connected to the interior of the island in essentially one direction only. On the other hand, it is connected to the sea in multiple directions, Marsascalea and St Thomas Bay to the north, and Marsaxlokk Bay to the south. Tas-Silġ is effectively a point of convergence between three maritime routes and a single terrestrial route, in this respect, the inverse of Borġ in-Nadur.

At specific moments in the life-histories of these sites, this difference assumed crucial significance. During the Neolithic, the presently available evidence suggests the two sites follow parallel trajectories. The relatively limited scale of seafaring activity probably rendered the access to multiple embarkation points enjoyed at Tas-Silġ less significant in this period. Both sites appear to follow the prevailing model of monumental buildings positioned in areas most favourable for settlement, because of their access to terrestrial and marine resources. Having said that, it should also be noted that the megalithic buildings that we presently group together as ‘temples’ may in fact belong to distinct types that have not yet been recognised through the archaeological record, such as different

dedications<sup>26</sup>. In the case of Tas-Silġ, it has been noted by the excavators that the atypical feature of a central axis joining a doorway at either end of the building is also found at Ħaġar Qim<sup>27</sup>. In the context of the present discussion, this may be tied to the topographic position of the two sites. Both Ħaġar Qim and Tas-Silġ are located on the spine of a saddle-backed ridge near the coast, which commands views of the surrounding territory in almost every direction. The creation of monumental doorways facing different directions is closely tied to this fact, as the more typical location of such buildings on a hillside makes it difficult to have a monumental entrance facing uphill. It is tempting to contrast the layout and location of Ħaġar Qim and Tas-Silġ to that of Mnajdra and Borġ in-Nadur, which follow the more conventional plan and topographic positioning. However the discussion on the differentiation of different possible types of megalithic monuments is difficult to pursue further until more fresh evidence is forthcoming.

During the Bronze Age, the available evidence for the Tarxien Cemetery phase does not yet permit an articulated discussion of the differences between the trajectories of Borġ in-Nadur and Tas-Silġ. During the Borġ in-Nadur phase, however, a divergence in the scale of activity becomes apparent. The attraction of Borġ in-Nadur may be explained not only in terms of the oft-cited defensibility of the ridge, but also the superior connectivity that it commanded with different parts of the interior. This made Borġ in-Nadur the optimal position for an entrepot servicing and controlling seaborne trade in exotic goods with the communities across south-east Malta. The topological advantages enjoyed by Borġ in-Nadur, and the archaeological evidence available to date, lead us to think that Tas-Silġ could only have had a role subsidiary to that of Borġ in-Nadur.

The divergent life-histories witnessed on the two ridges are best attested for the Punic and Roman periods. The foremost development in this period is the progressive elaboration of the sanctuary at Tas-Silġ into a major cult centre. Its command of, and visibility from, different embarkation points may be the most

---

<sup>26</sup> Cazzella and Recchia 2007: 64.

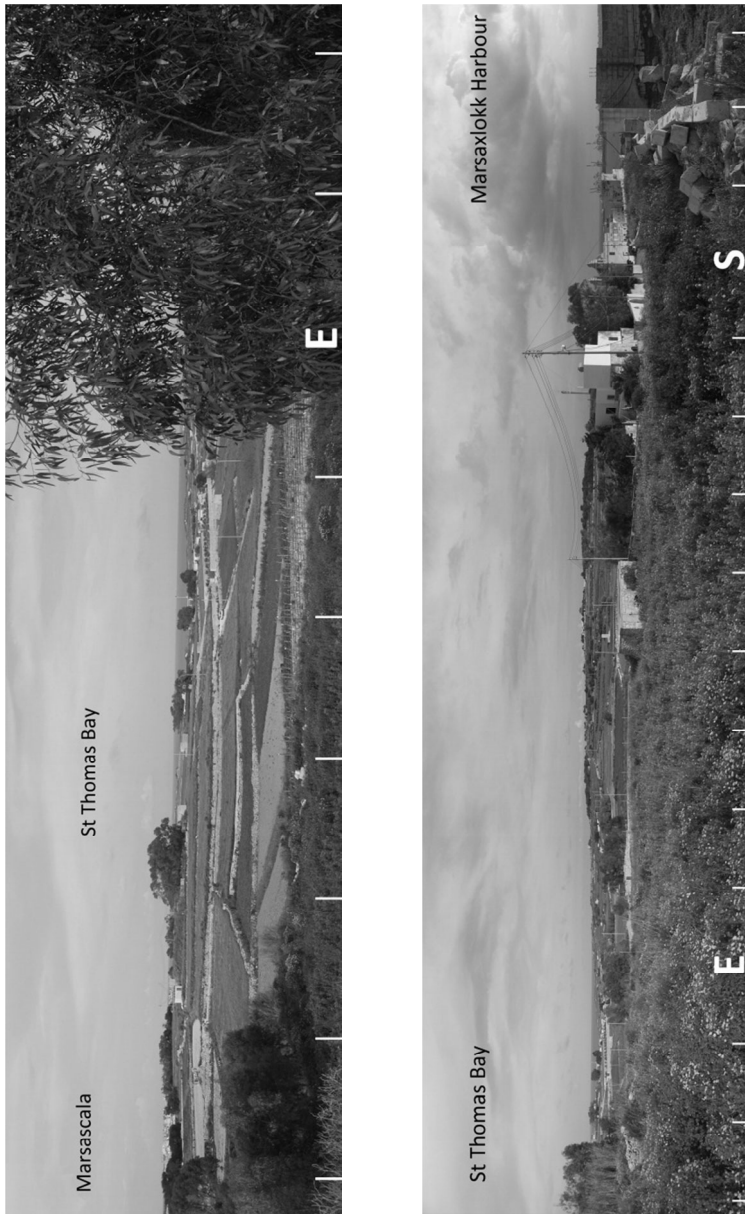
<sup>27</sup> Cazzella and Recchia 2007: 64.

important single explanatory factor in the choice of this location. The backdrop that must be kept in mind is the new world order which, during the course of this period, came to depend increasingly on the bulk transportation of subsistence commodities criss-crossing the Mediterranean with a scale, volume and intensity of shipping that was totally unprecedented. From a seafarer's perspective, having a choice of havens facing different directions within a small area represented a rare blessing, all the more so because of two developments that characterised this period. Firstly, seaborne journeys were becoming longer and longer, making it very difficult to predict wind and weather conditions at the time of making a landfall. Secondly, the constraints of vessels with a deeper draft than those of earlier periods, and which could not be dragged ashore, made the availability of a choice of safe anchorages all the more vital. With the alternatives afforded by Marsascala, St Thomas Bay, and Marsaxlokk Harbour, an experienced sailor familiar with the coastline could make a safe landfall in any wind direction. The visibility of the sanctuary complex when it stood gleaming to its original height<sup>28</sup> (Fig. 8.5), from the open sea as well as from these different embarkation points, must have made it a waypoint of great significance to seafarers, as has been persuasively argued for Greek and Phoenician sanctuaries throughout the Mediterranean more generally<sup>29</sup>. The CSA and LCP analyses however reveal another aspect of the location of Tas-Silġ. The cost surface (Fig. 8.3) demonstrates that the site is located at a higher cost-distance from the shore than much of the surrounding territory. It does not, therefore, stand on the most economic route from the interior to the sea. This is confirmed by the least cost paths (Figs 8.1 and 8.2), practically none of which pass through the site at Tas-Silġ. This characteristic becomes all the more important with the introduction of movement of bulk commodities on beasts of burden and wheeled transport, as will be considered shortly.

---

<sup>28</sup> The visibility of such sanctuaries would have been further enhanced by the column of smoke rising from sacrificial activity in their precincts (Nicholas Vella, personal communication).

<sup>29</sup> Churchill Semple 1927; Vella 2005.



**Figure 8.5.** Views from the eastern side of Tas-Silġ, taken from slightly different viewpoints to avoid obstruction caused by modern vegetation.

Turning back to Borg in-Nadur, some of the possible reasons why this site is not reused as a cult centre in the classical period are now more clear. Tucked away at the innermost end of Marsaxlokk Harbour, the site is rather less visible from outside the harbour, and even to a viewer entering the harbour, does not rise above the apparent horizon as Tas-Silġ does. In terms of maritime connectivity, unlike Tas-Silġ it only commands a single embayment, which though sheltered from the prevailing winds, does not afford the same degree of all-weather shelter afforded by the combination of creeks and bays around Tas-Silġ.

The other key development noted in the Marsaxlokk region during the classical period is the emergence of agricultural establishments at distinct locations. Their careful positioning to optimise the transportation of bulk commodities with the least effort was confirmed by the LCP analysis. Ta' Kaċċatura, though it may look remote to us today, has in fact been demonstrated by the LCP analysis to straddle a narrow but vital corridor that provided the easiest access from much of the heart of the island down to the sea. The LCP analysis has also confirmed that the villa at Żejtun lies near the point of convergence between least cost paths connecting St Thomas Bay and Marsaxlokk Bay to the interior (Figs 8.1, 8.2). It should be recalled, as noted above, that the presence of the modern built-up area of Żejtun in the DEM used may be causing some local distortion of the LCP results by pushing paths around it. Were it not for this factor, it appears that several least costs paths would run even closer to the villa site.

The fact that the sanctuary of Tas-Silġ does not seem so closely bound by the same constraints, and is relatively remote from the least cost paths, is in itself telling. Porterage of commodities in bulk was not a key consideration in a sanctuary complex, while accessibility from different landfalls for mariners completing or starting a journey evidently was.

## **8.8. Future research**

The observations presented here raise at least as many questions as they help to answer. The preliminary results obtained are intended

to reiterate the usefulness of GIS-based engagement with the anatomy of the landscape context of archaeological activity, and to help inform and focus a research agenda for refining our understanding of interdependencies and interactions between different sites and the outside world, and of the role played by local topography in shaping the life-histories of the use of different places. The addition of three types of fresh data can in future enrich and refine the model that has been outlined here: more refined chronologies tracing the rise and fall of different sites and activities; more detail regarding a wider range and number of sites such as domestic units or funerary sites, and more information regarding the changing environment against which this human drama unfolded.

### **Acknowledgements**

We are grateful to a number of organisations and individuals for their assistance in the writing of this paper, particularly Heritage Malta for making available the ArcGIS 9.2 software and DEM utilised in this study; Bruno Bellazzi and B&B Digital Mapping for their donation of Global Mapper 12 to Heritage Malta and the Prehistoric Sites Department; and editors Nicholas Vella and Davide Tanasi for their patience, support and invaluable advice.

### **References**

- Ashby, T. and Rushforth, G. McN. [1915] “Roman Malta”, in *Journal of Roman Studies* 5: 23-80
- Bevan, A. and Conolly, J. [2004] “GIS, Archaeological Survey and Landscape Archaeology on the Island of Kythera, Greece”, in *Journal of Field Archaeology* 29: 123-138.
- Bonanno, A. [1977] “Distribution of villas and some of the Maltese economy in the Roman period”, in *Journal of the Faculty of Arts*, 6/4: 73-81.
- Bruno, B. [2004] *L'arcipelago maltese in età romana e bizantina: attività economiche e scambi al centro del Mediterraneo*. Edipuglia, Bari.
- Campana, S. [2009] “Archaeological Site Detection and Mapping: some thoughts on differing scales of detail and archaeological ‘non-visibility’”, in S. Campana and S. Piro (eds), *Seeing the Unseen. Geophysics and Landscape Archeology*, pp. 5-26, Taylor and Francis, London.
- Cazzella, A. and Moscoloni, M. [2008] “Gli sviluppi culturali del III e II millennio a.C. a Tas-Silġ: analisi preliminare dei materiali dagli scavi 1963-70 e della loro distribuzione spaziale”, in *Scienze dell’Antichità* 12 (2004-2005): 263-284.

- Cazzella, A., Pace, A. and Recchia, G. [2007] "Cultural contacts and mobility between the south central Mediterranean and the Aegean during the second half of the 3rd millennium BC", in S. Antoniadou and A. Pace (eds) *Mediterranean Crossroads*, pp. 243-260. Pierides Foundation, Athens.
- Cazzella, A. and Recchia, G. [2007] "Revisiting Anomalies: New excavations at Tas-Silġ and a comparison with the other megalithic temples in Malta", in *Accordia Research Papers* 10 (2004-2006): 61-70.
- Childs, C. [2004] "Interpolating surfaces in ArcGIS Spatial Analyst", in *ArcUser* July-September 2004: 32-35.
- Churchill Semple, E. [1927] "The templed promontories of the ancient Mediterranean", in *Geographical Review*, 17/3: 353-386.
- Couclelis, H. [2003] "The certainty of uncertainty", in *Transactions in GIS* 7/2: 165-175.
- Grima, R. [2004] "The landscape context of megalithic architecture", in D. Cilia (ed.) *Malta before History*, pp. 326-345. Malta, Miranda.
- Grima, R. [2008] "Landscape, territories and the life-histories of monuments in Temple period Malta", *Journal of Mediterranean Archaeology* 21/1: 35-56.
- Harris, T. [2002] "GIS in Archaeology", in Knowles, A.K. (ed.), *Past Time, Past Place: GIS for History*, pp. 131-143. ESRI press, Redlands, California.
- Llobera, M. [2001] "Building past perceptions with GIS: understanding topographic prominence", in *Journal of Archaeological Science* 28: 1005-1014.
- Marzano, A. [2007] *Roman Villas in Central Italy: A Social and Economic History*. Columbia University, New York.
- Parmegiani, N. and Poscolieri, M. [2003] "DEM data processing for a landscape archaeology analysis (Lake Sevan – Armenia)", in *Proceedings of the ISPRS workshop 'Vision Techniques for Digital Architectural and Archaeological Archives'*, 1-3 July 2003, Ancona, Italy. ([http://www.commission5.isprs.org/wg4/workshop\\_ancona/proceedings.html](http://www.commission5.isprs.org/wg4/workshop_ancona/proceedings.html))
- Recchia, G. [2008] "Il tempio e l'area sacra megalitica di Tas-Silġ: le nuove scoperte dagli scavi nei livelli del III e II millennio a.C.", in *Scienze dell'Antichità* 12 (2004-2005): 233-262.
- Shackleton, J., van Andel T. and Runnels, C. [1984] "Coastal paleogeography for the central and western Mediterranean during the last 125,000 years and its archaeological implications", in *Journal of Field Archaeology* 11/3: 307-314.
- Tanasi, D. [2008] *La Sicilia e l'arcipelago maltese nell'età del Bronzo Medio* (KASA 3). Officina di Studi Medievali, Palermo.
- Van Leusen, M. [2002], *Pattern to Process: Methodological investigations into the formation and interpretation of spatial patterns in archaeological landscapes*, Unpublished Ph.D Thesis, University of Groningen, <http://dissertations.uib.rug.nl/faculties/arts/2002/p.m.van.leusen/?pLanguage=en&pFullItemRecord=ON>
- Vella, N. [1999] "Trunkless legs of stone: debating ritual continuity at Tas-Silġ, Malta", in A. Mifsud and C. Savona-Ventura (eds), *Facets of Maltese Prehistory*, pp. 225-239. Prehistoric Society of Malta, Malta.



- Vella, N. [2005] “A maritime perspective: looking for Hermes in an ancient seascape”, in J. Chrysostomides, Ch. Dendrinos and Harris, J. (eds), *The Greek Islands and the Sea. Proceedings of the First International Colloquium held at The Hellenic Institute, Royal Holloway, University of London 21-22 September 2001*, pp. 33-57. Prophyrogenitus, Camberley.
- Vella, N. [2007] “Unravelling past agricultural landscapes in the Maltese Islands: making a case for the Phoenician and Punic periods”, in A.M. Arruda, C. Gómez Bellard and P. van Dommelen (eds), *Sítios e paisagens rurais do Mediterrâneo púnico. Actas do VI Congresso Internacional de Estudos Fenícios e Púnicos*. Vol.1: pp. 69-85. Colibri/Centro de Arqueologia da Universidade de Lisboa, Lisbon.
- Vella, N. [2010] “Views from the Punic countryside. Review of P. Van Dommelen and C. Gómez Bellard (eds) *Rural landscapes of the Punic World (Monographs in Mediterranean Archaeology 11)*”, in *Journal of Roman Archaeology* 23: 459-463.
- Wheatley, D. and Gillings, M. [2002] *Spatial Technology and Archaeology: the archaeological applications of GIS*. Taylor and Francis, London.

**Reuben Grima**, lecturer in the Department of the Built Heritage (Faculty for the Built Environment, University of Malta) served for many years as curator of prehistoric sites, with the Museums Department then with Heritage Malta. He studied archaeology at the universities of Malta and Reading, then read for his PhD at the Institute of Archaeology, University College London, where he held a Commonwealth Scholarship. His research interests include landscape archaeology, archaeological site management, and public engagement with the past.

**Joanne Mallia**, archaeologist and curator in the Prehistoric Sites Department, Heritage Malta. She studied archaeology at the University of Malta and Geographic Information Science at Birkbeck College, University of London. Her research interests include the role and application of Information Science in Archaeology, particularly the representation of the spatial and temporal dimensions of archaeological data.

## 9. Mobility and transitions: the south-central Mediterranean on the eve of history

Nicholas C. Vella – Department of Classics and Archaeology,  
University of Malta, Malta  
nicholas.vella@um.edu.mt

Davide Tanasi – Arcadia University,  
The College of Global Studies, MCAS, Italy  
TanasiD@arcadia.edu

Maxine Anastasi – Department of Classics and Archaeology,  
University of Malta, Malta  
maxanastasi@gmail.com

**Abstract.** This paper reviews the evidence for maritime connections between Malta and Sicily in the second millennium BC and considers their social implications. Since much of what has been written by antiquarians and archaeologists about the islands was often the result of more modern maritime connections and knowledge transfer between local and foreign scholars, we begin by arguing for the relevance of a spatially oriented history of archaeological thought and practice.

### 9.1. Introduction

Mobility is the hallmark of the Bronze and early Iron ages, not only movement of humans across the Mediterranean but with them ideas, beliefs, and ways of doing. The invention of the sail somewhere along the eastern shores of the Middle Sea resulted in what Broodbank has called ‘the shrinkage of the Mediterranean’, a process which brought easterners ever closer to the islands and coastal regions of the centre of that sea from about the mid-second

millennium BC<sup>1</sup>. This is not to say that mobility did not occur in earlier periods in prehistory: the obsidian exchange system tells us much about movement in the Neolithic<sup>2</sup> whereas the phenomenon related to the distribution of Beaker pottery during the Chalcolithic/Early Bronze Age is now being explained in part by reference to a structured interaction involving small-scale population movements between regions<sup>3</sup>. Although knowledge about seacraft is sparse for the second millennium BC, in particular for the central Mediterranean, the theme of cultural mobility is back in full force and archaeologists seem to be more inclined to investigate how long-range interactions determined the outcome of regional cultural processes<sup>4</sup>. Of course, since writing had not yet come in use among communities of the central Mediterranean at this time it is archaeological finds that play a key role in research.

This paper is written in the wake of the collaboration between two of us (DT, NCV) which developed out of discussions held in the aftermath of a successful EU-funded INTERREG IIIA project – KASA – that ran between 2004 and 2006, aimed to foster cross-border cooperation between neighbouring regions<sup>5</sup>. On that occasion, travelling between the coastal provinces of south-east Sicily and Malta brought scholars and students in touch not only with the archaeological sites, museums and regional landscapes but was a valuable opportunity to explore and deepen the connections between research agendas. More importantly, first-hand study of archaeological material resulted in new discoveries being made in Malta and in Sicily<sup>6</sup>. In the course of our research we became aware how our knowledge about ancient objects and sites was begotten by actual travel and that in this sense we were heirs to a long tradition

---

<sup>1</sup> Broodbank 2010: 259.

<sup>2</sup> Robb and Farr 2005.

<sup>3</sup> Vander Linden 2007.

<sup>4</sup> Cummings and Johnston 2007. In the social sciences, ‘mobility’ is emerging as a new paradigm; see Sheller and Urry 2006.

<sup>5</sup> The project was co-ordinated by Alessandro Musco (Officina di Studi Medievali, Palermo), Pietro Militello (Università degli Studi, Catania) and Anthony Bonanno (University of Malta). An impressive series of scholarly volumes was published as part of the project. These can be downloaded from the following website: <http://kasa.officinastudimedievali.it/content/view/33/53/>

<sup>6</sup> Tanasi 2008; 2009.

in which antiquarians and prehistorians wrote about ancient connections between places (often islands) after conducting studies during a journey or at the end of one (often overseas). For this reason, we feel that we ought to preface our discussion of ancient mobility and circulation patterns in the south-central Mediterranean by arguing for the relevance of a spatially-oriented history of archaeological thought and practice<sup>7</sup>.

## **9.2. Insular knowledgescapes: modern mobility, antiquarianism, archaeology**

The interest in the prehistoric remains of most Mediterranean islands, in particular Sicily and Malta, but also Cyprus, Sardinia, Corsica and the Balearics, stimulated ideas about the remote past and was important in the development of an idea of prehistory<sup>8</sup>. It can be argued that several Mediterranean islands became an integral part of a knowledgescape of European antiquarianism, facilitated by the unprecedented explosion in mobility of travellers that took the Early Modern period by storm. Mediterranean Italy, with its Classical remains and historic Renaissance cities, became the compulsory destination for generations of grand tourists. Besides, there were those northerners who followed their doctors' orders and made the Mediterranean their temporary home base on account of its favourable, warm climate<sup>9</sup>. By the end of the eighteenth century, even Sicily, with its Classical ruins was deemed important enough to lure travellers beyond Campania. Then, off Sicily's south-eastern tip, there was the Maltese archipelago, seat since 1530 of the hospitaller Order of the Knights of St John, and attractive in its own right not only for the cult and devotion towards the apostle St Paul, shipwrecked there in AD 60, but also for its very visible ruins of gigantic proportions<sup>10</sup>.

---

<sup>7</sup> We take our cue from recent work on the geography of scientific knowledge (Livingstone 2005), where importance is given to the roles played by space and place in the production, consumption and circulation of knowledge; for the relevance of this line of research for archaeology, see Díaz-Andreu 2007-2008: 4.

<sup>8</sup> Leighton 1989.

<sup>9</sup> Towner 1996: 102.

<sup>10</sup> Freller 1999; 2009.

As can be inferred from Leighton's study<sup>11</sup>, intellectual discoveries and the knowledge transfer process about the Mediterranean's ancient history were facilitated not only by the mobility of travellers who came to see first hand objects displayed in cabinets of curiosities and sites in their landscape setting but also by the exchange of information that ensued between a network of persons often patronised by learned societies and, eventually, institutions. Scientists, scholars and explorers were encouraged to embark on long-distance travel, make contacts, observe and record, and to lecture about the discoveries and publish an account on their return (Fig. 9.1). Freller has shown how Maltese and Sicilian scholars formed an integral part of a network of information gathering and exchange that took local knowledge to the libraries and salons of all major European cities<sup>12</sup>. It was through such exchange that the same local knowledge found its way into a master narrative. Chippendale has argued that much of the understanding and the growth of knowledge amongst European antiquarians rested on a comparative approach, on forms of analogy that were sought between monuments and between objects<sup>13</sup>. Indeed, although intellectual contexts have changed since the end of the seventeenth century, it is not incorrect to say that antiquarians and archaeologists have worked along similar lines using similar strategies: raising questions of origins, considering chronological priorities, and proposing directions of cultural diffusion.

In the course of the eighteenth and nineteenth centuries, two master narratives developed which impinged directly on the relationship between the roles of connectivity and isolation in island history. The first concerned the colonisation of islands by migrating fauna along land bridges, apparent in the bathymetry reported by hydrographers sounding central Mediterranean waters in the course of the nineteenth century, and which once must have connected Malta to Sicily. The second master narrative related to the Phoenicians as discoverers and colonisers of several islands – from Cyprus to England – and as carriers of the megalithic phenomenon to

---

<sup>11</sup> Leighton 1989.

<sup>12</sup> Freller 2008.

<sup>13</sup> Chippendale 1989.



**Figure 9.1.** Dominique Vivant Denon’s travel itinerary through Sicily and Malta (after Denon 1993: pl. 1).

the western Mediterranean. Written at a time of new horizons and re-evaluation of the world by empire builders, historical narratives were naturally characterised by notions of a broad scope, even turning archaeology as an instrument of ideology. It might not come as a surprise, in fact, that disproportionate attention was devoted to the second narrative<sup>14</sup>. For the Maltese Islands in particular, which by 1815 had become to all intents and purposes a strategic naval outpost of the British Empire and essentially a compulsory staging post in any travels to and from the Orient, this meant that the megalithic temples were not more than the earliest manifestations of architecture of the most famous merchant venturers in ancient history<sup>15</sup>. The point is not that supporters of this narrative were wrong, which they clearly were. Rather, it is that at the time this was a fairly reasonable way to proceed. Of course, dissenters

<sup>14</sup> Champion 2001.

<sup>15</sup> Pessina and Vella 2009.

existed, amongst them a sharp thinker, the Scottish antiquarian A. H. Rhind. He had stopped in Malta for a few weeks on the way home from Egypt, studied for himself the megalithic remains, and expressed to his peers gathered in Edinburgh a few years later why an argument from analogy could not be used to sustain the Phoenician origin of the Maltese remains<sup>16</sup>.

It is also interesting to note how points that emerged from the first narrative failed in large part to cause archaeologists to rethink the premises implicit in their second narrative. The effects of submerged land bridges led at least one scientist to think of islands like Malta as distinctive places where speciation and geographical isolation could be seen at work<sup>17</sup> while an ethnologist considered the changes which an insular population on Malta could undergo under a succession of cultural influences and migrations but unchanging geographical conditions<sup>18</sup>. In a fine lecture about islands delivered at the University of Malta, the army medical doctor Archibald Garrod, not only considered the effects of Darwinian thinking on island history but put emphasis on the outcomes of voluntary insular seclusion and geographic isolation on island communities<sup>19</sup>. But for the archaeologists of the early twentieth century, a narrative about the prehistoric remains of Malta had first and foremost to establish their antiquity and that meant, once again, seeking analogies for elements of its material culture beyond its shores, across the length and breadth of the Mediterranean.

There are few designs that have probably conditioned the way prehistorians and archaeologists have modelled cultural connections than the spiral, not least in Malta<sup>20</sup>. It was on the basis of the spiral designs sculpted in relief on the ‘altar slab’ which had been uncovered at the Ħaġar Qim temples in 1839 that Arthur Evans drew a connection for the Maltese temples (which he visited in 1897 in the company of the Oxford ancient historian J. L. Myres)

---

<sup>16</sup> Rhind 1856: 399.

<sup>17</sup> De Stefani 1913: 60-63.

<sup>18</sup> Buxton 1922; 1924.

<sup>19</sup> Garrod 1919. Sir Archibald Garrod (1857-1936) was the father of Dorothy (1892-1968), the archaeologist who was to become the first woman professor at Cambridge University; both were personal friends of Sir Themistocles Zammit, the Maltese medic and archaeologist (see F. Vella 1965).

<sup>20</sup> See Bonanno 2007.



with the Bronze Age Aegean, and in particular the spiral-decorated stelae from the shaft graves he had unearthed at Mycenae<sup>21</sup>. The spiral designs on several megaliths uncovered at the Tarxien temples by the Maltese medic-turned archaeologist Themistocles Zammit between 1915 and 1918 seemed to lend further weight to this idea. Indeed the theory of the Aegean derivation for western Mediterranean megalithism in general, and the Maltese megaliths in particular, remained popular and was a strong model that conditioned diffusionist thinking for several decades<sup>22</sup>. Despite the dissenters, foremost amongst them the Fascist archaeologist Luigi Maria Ugolini who argued methodically for Malta as the source rather than recipient of Mediterranean civilisation<sup>23</sup>, the temples had had to be built by migrants whose architecture and decoration might conceivably be related to that in Malta. Sicily, lying midway between the Aegean and the western Mediterranean, could have been the intermediary in the path of gradual movement of peoples originally hailing from North Africa. For Evans Mycenaean influence could have reached Malta via Sicily for there, at Castelluccio in the south-east, had just been found two closure-slabs belonging to rock-cut graves carrying a spiral ornament in relief<sup>24</sup>.

All this, and more ideas which fitted into a diffusionist paradigm, crumbled under the impact of calibrated radiocarbon dating. Many will recall the chronological fault line on the map that accompanied the monograph which announced the demolition of the diffusionist framework<sup>25</sup>. The impact was felt even on one of the major exponents in Mediterranean prehistory from mid century, John D. Evans. A young Cambridge graduate, Evans had been sent to Malta in 1952 to act as a researcher on a project that was to produce (in 1971) a comprehensive survey of the prehistoric antiquities of the Maltese Islands. A study visit to Sicily to meet Luigi Bernabò Brea allowed Evans to put the long wished-for order to the pottery sherds in the museum of archaeology in Malta, producing a sequence of pottery styles and five Neolithic and three

---

<sup>21</sup> Evans 1901; 1902.

<sup>22</sup> For example: Mayr 1908; Patroni 1932; Hawkes 1940: 153-154.

<sup>23</sup> Ugolini 1934.

<sup>24</sup> Evans 1901: 198-199; Orsi 1892.

<sup>25</sup> Renfrew 1973.

Bronze Age cultural phases pegged to typological sequences established for Sicily, the Aeolian Islands (Lipari and Filicudi) and south Italy<sup>26</sup>. In a series of replies and counter replies which appeared in the journal *Antiquity*, Evans came to accept that his explanatory framework for which the Maltese temples had to be contemporary with Late Bronze Age developments in the Aegean – defended in his doctoral thesis<sup>27</sup> and in line with the thinking of the earlier Evans – could not be supported by the evidence<sup>28</sup>. The reaction, expected for its time, was Evans’s adoption of an autonomous explanation for the temple culture of Malta, one that considered the archipelago as an ideal laboratory to examine the trajectories culture processes take in conditions of relative isolation<sup>29</sup>. Evans’s work<sup>30</sup> is rightly hailed as an attempt to apply biogeographical principles to archaeological purposes in the Mediterranean<sup>31</sup>, and it was instrumental in framing a major fieldwork project on Malta’s smaller island, Gozo, and to explore the effects relative isolation would have had on the temple-building community of the archipelago<sup>32</sup>. Such a stand, which conceives of insularity as voluntary seclusion wanted by islanders for their own purposes, would seem to have an embryonic voice in the writings of Malta’s first professor of Archaeology, John Ward-Perkins, appointed on the eve of WWII in a political move to counter mounting Italian cultural propaganda in Malta. Reacting to similarities thought to exist between aspects of material culture of Neolithic Malta and elsewhere, he wrote in *Antiquity*:

‘These fundamental resemblances must not however blind us to the strongly individual character of the finished product, the result, it seems, of generations of specialized development. *The insularity of the Maltese Neolithic civilization does not of course imply a*

---

<sup>26</sup> Evans 1953 based on Bernabò Brea 1950.

<sup>27</sup> Evans 1956.

<sup>28</sup> Bernabò Brea 1960; Evans 1960; Trump 1961a.

<sup>29</sup> Evans 1977.

<sup>30</sup> In particular the thought-provoking article, Evans 1973.

<sup>31</sup> Rainbird 2007: 32.

<sup>32</sup> Stoddart *et al.* 1993; Robb 2001; Malone and Stoddart 2004.

*complete isolation*. There were undoubtedly contacts with the outer world [...]'<sup>33</sup>

It is not the intention here to magnify the importance of a little known attempt to contemplate the effects of isolation on insularity just because we now know that this point is an essential component of writing about islands in prehistory<sup>34</sup>. After all, Ward-Perkins wrote in a different intellectual climate with a clear research agenda in mind. We refer to his work more to highlight the fact that the potential of such an idea, and all the other theoretical debates that have characterised the fifty-year interim, have not been fully extended to the post-Temple period of Malta, even if similar issues are at stake<sup>35</sup>. What can be made out of trans-insular distribution of pottery in the south-central Mediterranean in the Bronze Age is a matter to which we shall now turn.

### 9.3. Ancient mobility, modern transitions

Assessing the extent and nature of ancient mobility is not without problems; *exactly* what the social effect of connections was may also be beyond recovery in archaeological terms. The givens are straightforward: leaving or getting to an island involves maritime travel on seacraft that would withstand a combination of currents and winds using a whole gamut of skills from fashioning timber to wayfinding at sea; virtually any seafaring to the western Mediterranean from the east is bound to touch upon the Sicilian landmass by which we mean its three long coastlines facing three seas: the Tyrrhenian, the Ionian, the African. In addition, the distribution of pottery styles, if not pots themselves, point to interaction spheres in which those living on the small islands to the north and south of Sicily, or along its long shores, were engaged.

For the south-central Mediterranean Bronze Age, three broad cycles of mobility have been proposed<sup>36</sup>: (1) mobility restraint followed by divergence in the Early Bronze Age, c. 2200-1450 BC;

---

<sup>33</sup> Ward-Perkins 1942: 28; emphasis added.

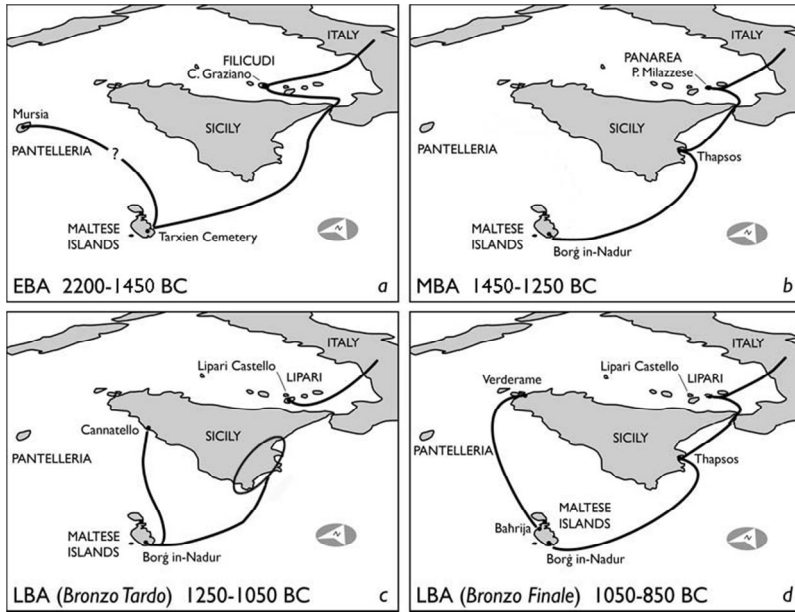
<sup>34</sup> Broodbank 2000: 17-18.

<sup>35</sup> Cazzella *et al.* 2007.

<sup>36</sup> Tanasi and Vella forthcoming.

(2) mobility escalation in the Middle Bronze Age, c. 1450-1250 BC; (3) mobility restraint followed by regional interaction in the extended Late Bronze Age, c. 1250-850 BC. In this working model, 'restraint' and 'escalation' are directly related to archaeological signatures, that is, elements of material culture that can be identified and where known contexts of deposition have allowed us a glimpse into the value systems between communities separated by stretches of open sea. We have attempted to portray these connections as thumbnail sketches in figure 9.2 realising, however, that what we show are a series of snap-shots of a network with, in most cases, an uneasily wide temporal scope for which we are assuming that sites were occupied at exactly the same time – and, hence, that members of communities were talking to each other or at least interacting socially. Moreover, our view may be influenced by our wish to make sense of pottery fragments and assemblages most of which were identified for the first time by one of us (DT) amidst collections held in museums in south-east Sicily and Malta over the last few years; these data are being presented in tabular form at the end of this paper (Tables 9.1-9.4).

Notwithstanding what we have just said, the maritime bias of our south-central Mediterranean network is clear. There is a marked preference for sites on defendable coastal bluffs or spurs (Capo Graziano, Punta Milazzese, Castello di Lipari, Magnisi Peninsula, Borġ in-Nadur, Bahrija, Mursia) and on river banks or other locations with favourable coastal configurations (Cannatello, Cozzo del Pantano, Plemmirio, Vendicari, Ortigia). A desire for access from and to the sea is beyond doubt. But it is clear that not every site is intensely connected with others at all times. Take Thapsos, for example (Fig. 9.4). Located on the low-lying Magnisi Peninsula, between Augusta and Siracusa, with settlement clustered across the isthmus and the graves separating it from the seashore in the Middle Bronze Age, it had coves on either side ideal for canoes to be drawn on the foreshore or to accommodate deep-hulled seacraft equipped with the latest eastern novelty, the sail. Thapsos would appear to have been well-placed to be the focus of much activity during this period, in which maritime trade with different interaction spheres –



**Figure 9.2.** Maritime cultural mobility in the south-central Mediterranean between the Early and Late Bronze Age (drawn by Maxine Anastasi).

the Aegean one, including the Cypriot, from across the great expanse of sea to the east (more than 500 km away), the Maltese one beyond a tricky channel of sea to the south (about 160 km), the Tyrrhenian one located beyond the turbulent bottle-neck to the north (about 130 km away). No other site on Sicily's 200 km-long eastwards-looking *façade maritime* became a centre of seaborne activity in quite the same manner. The other sites of the Siracusano, which we highlight in figures 9.2b and 9.4, because of the presence of pottery with characteristics of shape and decoration that are at home in Malta's Borg in-Nadur cultural complex, were probably drawn into Thapsos' interaction sphere for social, and not just geographical, reasons.

The maritime innovation of the sail may have brought changes to the social fabric of the coastal communities in Sicily *directly* (rather than down the line) and fairly *rapidly*. Entrepreneurial individuals in a society which was essentially transegealitarian came

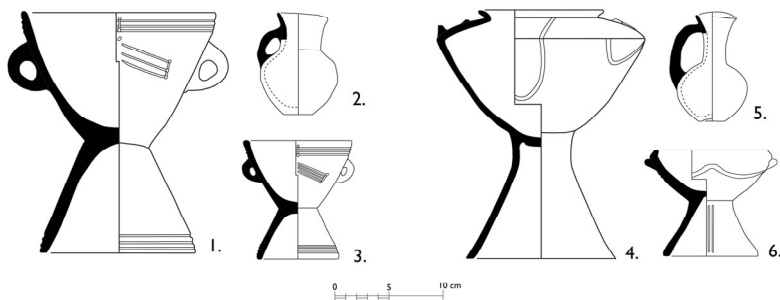
in direct contact with metal-bearing groups from the Aegean, resulting in what can be interpreted as competitive manipulation of values in an island with only minor sources of metal and probably little knowledge of mining and crafting. In the first phase of Thapsos' history, Mycenaean imports in clay and metal dominate; after two generations pots displayed and used in the Aegean for special symposia-type gatherings were copied in local clay, a sign of the wish to emulate and partake in a tournament of value which bears the hallmark of 'foreignness'. Pottery of the Borg in-Nadur type with its characteristic highly polished red fabric found its way here too (Table 9.1) and a set composed of a two-handled bowl, an open-mouthed jug and a pedestalled basin has been recognised, just like an identical set made locally (Fig. 9.3)<sup>37</sup>. Here we probably have a sign of the skeuomorphic imitation of metal vessels, high-status symbols brought into the islands by easterners or by Sicilian individuals who may have seen them in use outside Sicily and were all too keen to adopt them and control their use and their scarcity by their deposition – and hence withdrawal from circulation – in funerary contexts.

The Maltese islands were caught in this net (and one of us has made a compelling case for the presence of Maltese immigrants at Cozzo del Pantano elsewhere in this volume<sup>38</sup>). *Why* is the question that is hard to answer because direct evidence for the social structure of the islanders' at the time is elusive and also because we will have to decide whether it was Maltese seafarers who made it to Sicily on their own boats, on their own terms and for their own purposes or whether Maltese individuals joined Sicilian long-range travelling expeditions on their return journey from Malta. The social implications of each possibility are different because the construction, upkeep and use of seacraft that could be used to cover a distance beyond a day's journey – a multi-paddled longboat rather than a canoe will have to be assumed – makes particular demands on a group: resources (both human and material), skill and power to build them, skill and power to use them. It is difficult to assess whether the Maltese communities scattered on their hilltop settlements in both islands could achieve the minimum thresholds to

---

<sup>37</sup> Tanasi 2008: 75-80.

<sup>38</sup> Tanasi, this volume (chapter 10).

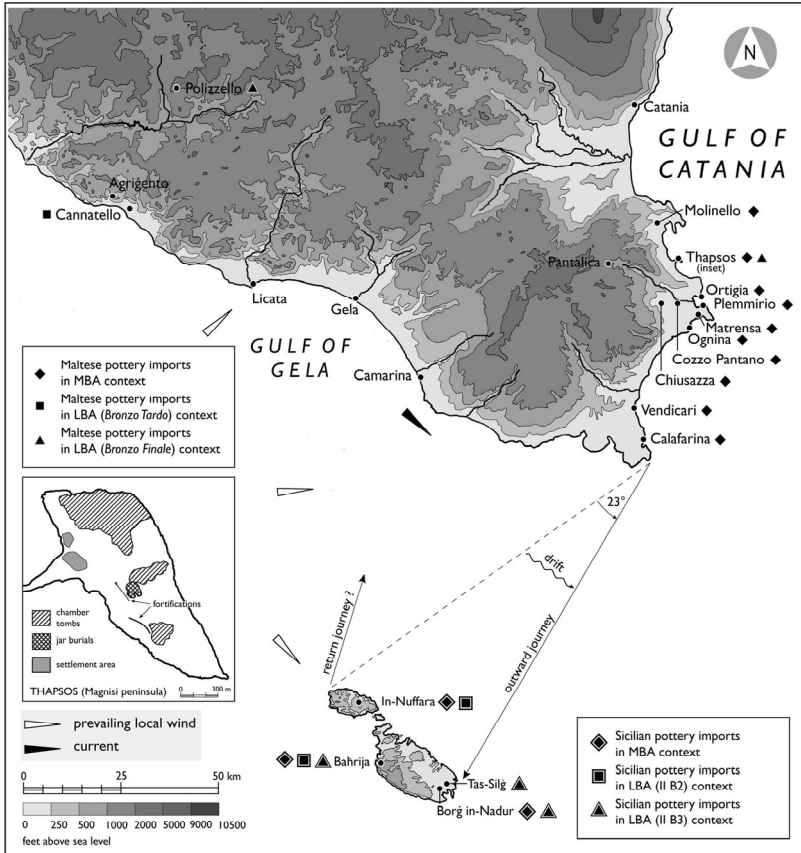


**Figure 9.3.** Maltese and Sicilian Middle Bronze Age pottery set from tomb 23 at Cozzo del Pantano, Sicily. ‘Maltese’ pieces: (1) inv. 11242, (2) inv. 11264, (3) inv. 11246; ‘Sicilian’ pieces: (4) inv. 11283, (5) inv. 11248, (6) inv. 11266 (drawn by Carlo Veca and Maxine Anastasi).

deploy longboats, even communally, and the likelihood is that they probably could not. If they did, it is probably to Sicily that they would have had to turn to obtain the key resource required – timber – to produce the craft in the first place. If we assume for the sake of argument then that Maltese individuals were on return trips to Sicily why would the communities around the Siracusano have allowed them to live in their midst and partake in activities of a status-accurring nature, if not die and be buried there as well? One suggestion that can be put forward revolves around the effect that Aegean long-range seafaring into the western basin of the Mediterranean could have had on coastal communities that need no longer be compulsory staging posts. Knowledge associated with sea travel as a skilled craft, certainly required for any sailing boat wishing to proceed beyond the south-eastern cape of Sicily to the west, where currents and prevailing winds would have made progress tricky at best<sup>39</sup>, may have lent the islanders on Malta a unique, possibly powerful, position which the Thapsians were keen to restrict if not control.

The importance enjoyed by the coastal centre of Thapsos did not always exist, certainly not in the Early Bronze Age and neither does the site show up for a while in the Late Bronze Age (*Bronzo Tardo*).

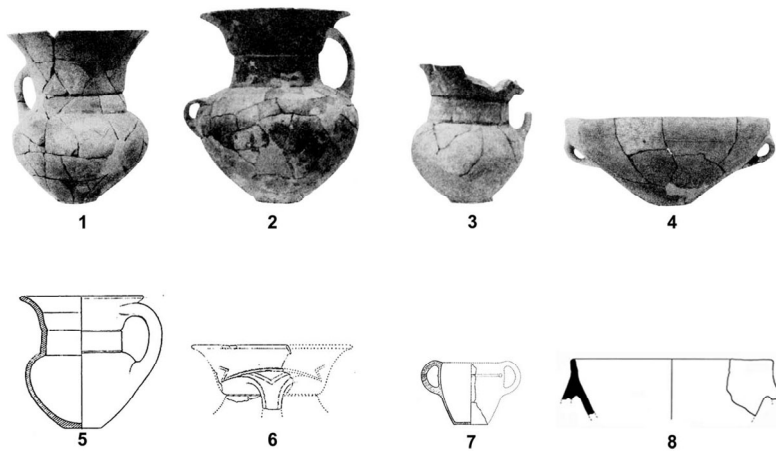
<sup>39</sup> Elsewhere (Tanasi and Vella forthcoming) we have considered the difficulties involved in maritime travel in the Sicily-Malta channel.



**Figure 9.4.** Distribution of Sicilian and Maltese or Maltese-type Bronze Age pottery in the two islands. A hypothetical return journey beyond Sicily’s south-east coast towards Malta is shown (drawn by Maxine Anastasi).

That another island link in fact existed, involving Filicudi’s Capo Graziano culture in the south Tyrrhenian and Malta’s Tarxien Cemetery culture at the other end of the central Mediterranean world towards the end of the third millennium, is striking (Fig. 9.2a). As far as the pottery (helmet-shaped bowls with incised decoration around the base of the handle) and other elements of material culture (especially bossed-bone plaques) are concerned, the links would appear to have been long-ranging with origins well beyond





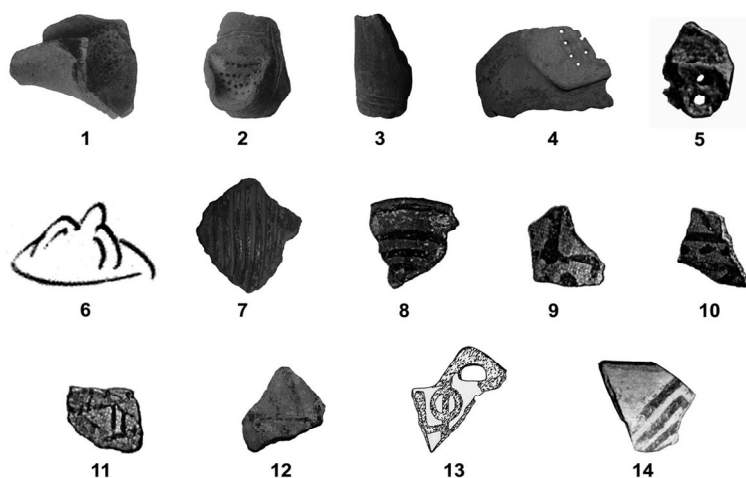
**Figure 9.5.** Maltese-type pottery from Final Bronze Age Sicily: 1-7) Thapsos settlement (Voza 1973; Voza 1980-1981); 8) Polizzello, Hut 1 (scale 1:4, drawn by Denise Cali).

the coast of Dalmatia<sup>40</sup>. It is for this reason that this phenomenon of seafaring activities has been dubbed the ‘Argonauts of the West Balkans’<sup>41</sup>. But the ultimate origins of artefact styles do not say much about the social milieu in which objects functioned and undoubtedly processes of transfer and adaptation by down-the-line passage were at play; the resulting distribution pattern in the south-central Mediterranean has yet to be explained.

In the closing centuries of the second millennium BC the situation seems to have altered again, and the Maltese archipelago is drawn into a wider maritime world for which it is hard to determine the key locations which may have provided some stimulus if not resources to enhance social power (Fig. 9.2c, d). Intense interaction patterns can be surmised but so does regional divergence and differentiation, especially in Sicily. Evidence for south-central maritime connections is again provided by pottery recently recognised for what it is by one of us (DT) (Fig. 9.4): Maltese or Maltese-type pottery in Sicily (at the sites of Cannatello, Polizzello and Thapsos, Fig. 9.5, Tables 9.2, 9.3)

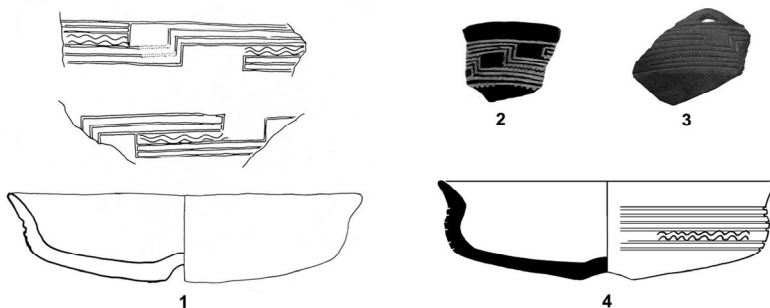
<sup>40</sup> Bonanno 2001; Cazzella *et al.* 2007.

<sup>41</sup> Maran 2007: 14.



**Figure 9.6.** Sicilian pottery imports in Malta: (1-5) Fragments of strainer spouted jugs from Bahrija (Peet 1910; Trump 1961b); (6) Triple handled lid from In-Nuffara (Trump's notebook, archives of the National Museum of Archaeology); (7) Fragment of pedestal basin UNP/P/53 held at the National Museum of Archaeology; (8) Plumed ware sherd from Bahrija (Evans 1953); (9-12) Ausonian II pottery sherds from Bahrija (Trump 1961b); (13) Ausonian II pottery sherd from Bahrija? (Evans 1971); (14) Ausonian II pottery sherd from Tas-Silġ (Blakolmer 2005). Not to scale.

and Sicilian pottery from a number of sites in Malta and Gozo (Fig. 9.6, Table 9.4). Again, who was behind the trips being made is a moot question and whether the Maltese – or at least some who were directly engaged in voyaging – were practising seafaring to a serious degree to manipulate flows to their advantage is really impossible to tell on the basis of the limited contextual evidence (from similarly limited excavations) we have available. Towards the end of the second millennium BC, the importance that had been enjoyed by the site of Borg in-Nadur for several centuries seems to shift to Bahrija (Fig. 1.1), where a settlement on a precipitous cliff on the north-west coast overlooking an anchorage at Fomm ir-Riġ, has produced the pottery with links to different cultural traditions in Sicily, particularly Pantalica North/Montagna di Caltagirone (strainer jugs, geometrically-incised and highly-polished red fabrics)



**Figure 9.7.** Final Bronze Age pottery from Sicily and Malta: (1) Proto-Elymian bowl from Verderame (Tusa 1992); (2) Bowl fragment from Bahrija (Peet 1910); (3) Bowl fragment B/P103 from Bahrija; (4) Bowl B/P30 from Bahrija. Not to scale.

and Cassibile/Ausonian II. Then there is the so-called ‘Proto-Elymian’ pottery with a black polished fabric from Bahrija, decorated with cut-out and impressed geometrical meanders, for which striking parallels have been found in western Sicily, particularly at Verderame near Trapani and Segesta-Monte Barbaro, dated to the first half of the ninth century BC (Fig. 9.7)<sup>42</sup>.

Which brings us to the point when easterners from the other *façade maritime* at the other end of the Mediterranean, would appear to have become impatient to set sail, hemmed as they were between mountains and sea and a daunting realpolitik. Exploration of the Great Sea that beckoned beyond the Phoenicians’ tiny offshore islands and headlands would appear, in fact, to have started already in the early ninth century BC if we go by the recent archaeological discoveries and radiocarbon dates from far-away Huelva along the Atlantic coasts of Iberia<sup>43</sup>. Caught in this long-distance mobility that was to become the backbone of Mediterranean interconnectivity in the first millennium BC<sup>44</sup> were pluri-ethnic communities located along the preferred routes. In the wake of this movement must have come the few pottery pieces from the Aegean, probably Crete, dated to the Early Geometric (820-800

<sup>42</sup> Tusa 1992.

<sup>43</sup> de Canales *et al.* 2006; Nijboer and van der Plicht 2006.

<sup>44</sup> Hodos 2009.

BC) and Middle Geometric (800-770 BC) periods recognised amidst the material from the megalithic temple at Borg in-Nadur<sup>45</sup>.

Beyond the interactions at the global scale that characterise the Phoenician (and Greek) Mediterranean of the first half of the first millennium BC are the local realities which tend to be obscured by the effort to generalise colonising traits and cultural outcomes. The nature of this Bronze Age/Iron Age transition involving foreign and local agency has only recently come to the fore in the wake of post-colonial studies<sup>46</sup>. We believe that a glimpse of the response to local conditions can be had by a brief consideration of the significance of handmade pottery in early Phoenician settlements.

### ***9.3.1. A word about the significance of handmade pottery***

The novelties brought by Greek and Phoenician settlers to the central and western Mediterranean are well known and their effects – in terms of material culture and practices – for Sicily and Malta have been recently discussed by Hodos<sup>47</sup>. Pottery remains the most ubiquitous archaeological indicator of the presence of Phoenicians away from the homeland, even if we all subscribe to the caveat that pots do not necessarily imply the physical presence of the human groups that made them. Ceramic wheel-making technology coupled with the use of red slip has, in fact, often been taken to mark the arrival of Phoenician know-how in a number of areas where the prospectors settled permanently. But for a while now several scholars have pointed out that together with the more obvious pot types which bear the hallmarks of the repertoire known in the Phoenician homeland in so far as shape and decoration go, there are also ceramic vessels which were modelled by hand – from Tunisia to Morocco<sup>48</sup>, from Malta to Sicily to southern Spain<sup>49</sup>. These

---

<sup>45</sup> See Tanasi, this volume (chapter 4); also Tanasi 2009.

<sup>46</sup> See van Dommelen 2005.

<sup>47</sup> Hodos forthcoming; also Sagona 2008 for Malta which is, in part, a response to Vella 2005.

<sup>48</sup> For Carthage, see Mansel 1999, Aznar 2005; for Lixus, see Gómez Bellard and Habibi 2001.

<sup>49</sup> For Malta, see Quercia 2002 and Sagona 2008; for Motya in Sicily, see Delgado and Ferrer 2007: 31-34; for southern Spain, see Martín Ruiz 2000, Delgado and Ferrer 2007.

include urns, bowls, trays, cooking pots including one-handled globular vessels sometimes with a knob opposite the handle or tronco-conic flat-based vessels often with four lug handles below the rim or on the body. These widely separated examples are related by their relatively coarse if variable fabrics, thick walls, and irregular manufacturing and are more common than previously had been recognised. In all cases, the intervention of native potters in the production of such vessels has been suggested or surmised, and most scholars claim that the decorative, technical and formal characteristics of the pottery are at home in the native pot-making traditions of the different areas settled by the Phoenicians<sup>50</sup>.

Delgado and Ferrer have gone a step further to investigate what such pottery actually means in social terms, a theme that has been pursued with interesting results in different contexts for some time<sup>51</sup>. They argue that handmade pottery allows archaeologists to identify the presence of people of diverse geographical origins among the residents of Phoenician Cerro del Villar in southern Spain and at Phoenician Motya in Sicily. Since the pottery studied by them consists mostly of vessels used for the preparation and consumption of food (in other words, daily routine activities), Delgado and Ferrer argue that different culinary traditions reflect the pluri-ethnic nature of the settlements they studied: the cooking methods involving liquid foods like soups at Cerro del Villar are native to southern Iberia whereas the domestic ovens and the trays used for baking bread and other solid food reflect an eastern Mediterranean custom<sup>52</sup>.

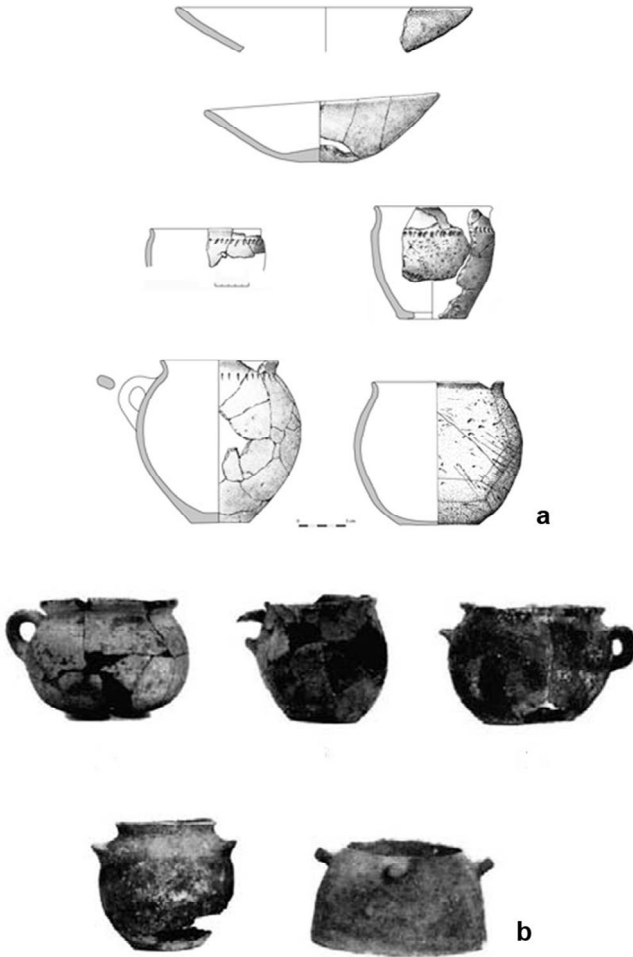
We are happy to endorse this reconstruction since it relates vessel function to behavioural significance in a novel way. Moreover, the scenario does allow for a situation where foreign and local potters co-exist. We can also support this line of reasoning by considering briefly what the technological innovation of handmade ceramics

---

<sup>50</sup> In the case of Malta, Sagona's (2008) attempt to reverse the stratigraphic sequence at the Borġ in-Nadur huts – so that phase II B3 follows on from the Tarxien Cemetery phase – allows her to argue for ceramic 'affiliations' between the two phases (pp. 494-496). The problems with the reading of what she terms 'ambiguous elements in the stratigraphic record' (p. 494) have been discussed elsewhere in this volume (chapter 3).

<sup>51</sup> See, for example, Rautman 1988.

<sup>52</sup> Delgado and Ferrer 2007: 26.



**Figure 9.8.** Selection of handmade pottery from Phoenician Cerro del Villar (a) and Motya (b) (after Delgado and Ferrer 2007).

implies for those accustomed to specialised production on a fast wheel. For although several excavations have by now been conducted in the Phoenician homeland none have turned up handmade pottery in layers which are of interest to us here, those

dated to the 9th, 8th and 7th centuries BC. The pottery published from Tyre and Sarepta, for example, is all made on a fast wheel and the pottery production process implied by the discovery at these two sites is one related to a workshop industry not household production. One could suggest that early Phoenician prospectors did not have specialist full-time potters in their ventures westwards for such individuals would have had to form part of a larger team each responsible for a task: from raw material (clay, temper) procurement to pot formation using wheel technology and firing in sophisticated kilns<sup>53</sup>. Potters trained in traditional pot-making and firing methods – at the household level, for instance – would have adapted quicker to new ecological niches because they would have possessed more skills than the specialist responsible for one task only<sup>54</sup>. And at the household level, it is likely that the pot-making tradition was one based on fashioning vessels by hand even because ethnographically it is known that it allowed potters to work with lower quality and less thoroughly processed raw materials<sup>55</sup>.

The individuals we seek to identify in that process of mobility which took the early Phoenicians to the west must have been those familiar with clay and sources of clay, had experience of its properties, and were knowledgeable about water and fuel sources. Given the size of the ecological niches which the Phoenicians occupied in their earliest ventures – we think here about the limitations of life on small offshore islands with an average size of a few hectares – it is more than likely that individuals of native origin may have had a role in facilitating access to mineral resources on the mainland. And in the course of such information exchange came knowledge related to the production of the right vessel shapes – even ones unknown back home – and the right fabric for the right task. The popularity of some pieces at regional level – for example, the one-handled ‘cooking pot’ known in Malta, Sicily, Carthage, and Sardinia – is testimony to the fact that once introduced the model was taken up fast, produced on a wheel, and became an integral part of the new lifestyle that sustained it.

---

<sup>53</sup> Arnold 1985: 224.

<sup>54</sup> Arnold 1999: 77.

<sup>55</sup> Sinopoli 1991: 122.

SITE	POT. NOS	SHAPES	CONTEXT DATE	REFERENCES
<b><i>Thapsos</i></b>				
Tomb 1	1	Lamp	Thapsos I-III	Orsi 1895: coll. 96-97, fig. 3
Tomb 6	1	Handled cup	Thapsos III	Orsi 1895: col. 101, fig. 7
Tomb 22	3	Bowl, pedestal basin	Thapsos II	Orsi 1895: coll. 109-101, fig. 15
Tomb 26	2	Handled cup	Thapsos I	Orsi 1895: col. 112, fig. 19
Tomb 27	1	Handled cup	Thapsos I	Orsi 1895: col. 112.
Tomb 34	1	Juglet	Thapsos II-III	Unpublished (exhibited at Syracuse Museum, inv. No. 14735)
Tomb 38	1	Juglet	Thapsos II-III	Orsi 1895: col. 123
Tomb 64	1	Juglet	Thapsos I-III	Orsi 1895: col. 135, fig. 52
Tomb E	4	Bowl, juglet, jug	Thapsos (generic)	Gentili 1951: 215-216
Tomb D	2	Juglet	Thapsos I-III	Pelagatti, Voza 1973: 37-38 (nos 88, 92), pls 9.88, 8.92
Complex A, rectangular room	4	Handled cup	Thapsos I-III	Pelagatti, Voza 1973: 44 (nos 139-140), pls 9.139, 140; Voza 1973, p. 148, fig. 8.
Area to the south of Complex B	4	Handled cup	Thapsos (generic)	Pelagatti, Voza 1973: 44-45 (nos 138-141), pl. 9.138-140.
North area, circular hut	2	Bowl, jug	Thapsos III	Pelagatti, Voza 1973: 45 (nos 142, 143).
<b>Total</b>	<b>26</b>			
<b><i>Cozzo del Pantano</i></b>				
Tomb 13	4	Juglet	Thapsos II	Tanasi, this volume
Tomb 23	21	Juglet, bowl, pedestal basin	Thapsos I-III	Tanasi, this volume
<b>Total</b>	<b>23</b>			
<b><i>Plemmirio</i></b>				
Tomb 23	1	Juglet	Thapsos (generic)	Orsi 1891: 132, pl. 11.21
<b><i>Matrensa</i></b>				
Tomb 6	7	Juglet, bowl, pedestal basin	Thapsos II	Orsi 1903: 147, pl. 11.6

**Table 9.1.** Maltese-type pottery in Middle Bronze Age Sicily.



SITE	POT. NOS	SHAPES	CONTEXT DATE	REFERENCES
<b><i>Molinello</i></b>				
Tomb 1	2	Juglet	Thapsos II	Orsi 1902: 415, fig. 4
<b><i>Ognina</i></b>				
Sondage B, spit 1	1	Pedestal basin	Thapsos (generic)	Bernabò Brea 1966: 44, 65, pl. 46.2-3
Sondage D, spit 1	1	Bowl	Thapsos (generic)	Bernabò Brea 1966: 45, 65, pl. 46.6.
Sondage E, spit 1	1	Bowl	Thapsos (generic)	Bernabò Brea 1966: 47, 65, pl. 46.1
Sondage F, spit 1	1	Bowl	Thapsos (generic)	Bernabò Brea 1966: 47, 65, pl. 46.4-5
<b>Total</b>	<b>4</b>			
<b><i>Grotta di Calafarina</i></b>				
Cave	1	?	Thapsos (generic)	Guzzardi 1997-1998: 92, no 37.
<b><i>Vendicari</i></b>				
Pantano Sichilli area	1	Bowl	Thapsos (generic)	Guzzardi 1991-1992: 772
<b><i>Grotta Chiusazza</i></b>				
Trench R, stratum II	1	Bowl	Thapsos (generic)	Tinè 1965: 237 (no. 431), 239, fig. 18.1, pl. 36.1-5
<b><i>Ortigia</i></b>				
Archbishopric courtyard	1	Handled cup	Thapsos (generic)	Orsi 1919: 486, fig. 77
Unknown provenance	1	Bowl	Thapsos (generic)	De Gregorio 1917: 146- 147, pl. 41.8
<b>Total pieces</b>	<b>68</b>			

**Table 9.1.** (cont.) Maltese-type pottery in Middle Bronze Age Sicily.

SITE	POT. NOS	SHAPES	CONTEXT DATE	REFERENCES
<b><i>Cannatello</i></b>				
Area of re-use of MBA settlement	?	Closed shapes	Phase III (Recent BA II, Final BA I)	Levi 2004: 237; Jones <i>et al.</i> forthcoming.

**Table 9.2.** Maltese-type pottery in Late Bronze Age Sicily.

SITE	POT. NOS	SHAPES	CONTEXT DATE	REFERENCES
<b><i>Thapsos</i></b>				
Complex C, rectangular space (quadrant L/31)	4	Jugs, basin	Cassibile	Voza 1980-1981: 678, pl. 119,4-5, 9, 12.
Quadrangular space SE of Complex B (quadrant XLVIII/33)	1	Jug	Cassibile	Pelagatti, Voza 1973: 49, no. 158, pl. 9:158; Voza 1973: 149, fig. 9a
Rectangular space of Complex A (between quadrants L/30, L/29 and L/30)	3	Jug, jars	Cassibile	Unpublished (on display at Syracuse Museum)
Space in the southern area of habitation quarters	4	Jugs, jar	Cassibile	Voza 1973: 154-156, fig. 13; unpublished.
North-central area, quadrant XLIV/22	1	Juglet	Cassibile	Unpublished (on display at Syracuse Museum).
<b>Total</b>	<b>13</b>			
<b><i>Polizzello</i></b>				
East side, area of Hut 2	1	Bowl	S. Angelo Muxaro – Polizzello	Tanasi and Vella forthcoming.
<b>Total pieces</b>	<b>14</b>			

**Table 9.3.** Maltese-type pottery in Final Bronze Age Sicily.

SITE	POTTERY	CONTEXT DATE	REFERENCES
Bahrija <i>Peet's excavations</i>	4 frags of strainer jug of Pantalica North type 1 frag. of plumed Cassibile-type pottery 1 frag. of strainer pot of Ausonian II type	Pantalica North – Cassibile/ Ausonian II	Peet 1910: pl. 14, 28, 32; Evans 1953: 75, pl. 14,7; Unpublished.
<i>Trump's excavations</i>	1 frag. of strainer jug of Pantalica North type 34 painted frags. of Ausonian II type	Pantalica North – Cassibile/ Ausonian II	Unpublished; Trump 1961b: pl. 16.
Total	41 sherds		
In-Nuffara <i>Trump's notebook</i>	1 bell-shaped lid with triple handle of Pantalica North type	Pantalica North	Unpublished
Tas-Silg	1 frag. Ausonian II type	Ausonian II	Mallia 1966: 50, pl. 35.20.
Unkown provenance	1 frag. of Pantalica North-type basin	Pantalica North	Unpublished
<b>Total pieces</b>	<b>44 sherds</b>		

**Table 9.4.** Late and Final Bronze Age Sicilian pottery found in sites in the Maltese islands.

## References

- Arnold, D. E. [1985] *Ceramic Theory and Culture Process*. Cambridge University Press, Cambridge.
- Arnold, D. E. [1999] “Advantages and disadvantages of vertical-half molding technology: implications for production organization,” in J. M. Skibo and G. M. Feinman (eds), *Pottery and People: a dynamic interaction*, pp. 50-80. The University of Utah Press, Salt Lake City.
- Aznar, C. [2005] “Cerámica fenicia en el área alrededor de Cartago. Un análisis petrográfico y sus implicaciones,” in A. Spanò Giammellaro (ed.), *Atti del V Congresso Internazionale di Studi Fenici e Punici, Marsala-Palermo 2-8 ottobre 2000*, vol. 1, pp. 285-292. Università degli Studi di Palermo, Palermo.

- Bernabò Brea, L. [1950] "The prehistoric culture sequence in Sicily", in *Annual Report of the Institute of Archaeology London* 6: 13-29.
- Bernabò Brea, L. [1960] "Malta and the Mediterranean", in *Antiquity* 34: 132-137.
- Bernabò Brea, L. [1966] "Abitato neolitico ed insediamento maltese nell'età del Bronzo all'isola di Ognina (Siracusa) e i rapporti fra Sicilia e Malta dal XVI al XIII sec. a.C.", in *Kokalos* 12: 41-69.
- Blakolmer, F. [2005] "Relations between prehistoric Malta and the Aegean: myth and reality", in R. Laffineur and E. Greco (eds), *Emporia: Aegeans in the Central and Eastern Mediterranean* (Aegaeum 25), pp. 653-62. University of Liège and University of Texas at Austin, Liège and Austin (TX).
- Bonanno, A. [2001] "Malta tra Africa e Sicilia: indizi dei contatti marittimi nel II millennio", in C. Giardino (ed.), *Culture marinare nel Mediterraneo centrale e occidentale tra il XVII e il XV secolo a.C.*, pp. 97-107. Bagatto Libri, Roma.
- Bonanno, A. [2007] "Relazioni fra Malta e la Sicilia nella preistoria: i rilievi spiralfornati", in R. Bondin and F. Gringeri Pantano (eds), *Sicilia e Malta: Le Isole del Grand Tour/Sicily and Malta: The Islands of the Grand Tour*, pp. 1-9. Midsea Books, Malta.
- Broodbank, C. [2000] *An Island Archaeology of the Early Cyclades*. Cambridge University Press, Cambridge.
- Broodbank, C. [2010] "'Ships a-sail over the rim of the sea': voyages, sailing and the making of Mediterranean societies", in A. Anderson, J. Barret and K. Boyle (eds), *The Global Origins and Development of Seafaring* (McDonald Institute Monographs), pp. 249-264. McDonald Institute for Archaeological Research, Cambridge.
- Buxton, L. H. D. [1922] "The ethnology of Malta and Gozo", in *Journal of the Royal Anthropological Institute* 52: 164-211.
- Buxton, L. H. D. [1924] "Malta: an anthropogeographical study", in *Geographical Review* 14: 75-87.
- Cazzella, A., Pace, A. and Recchia, G. [2007] "Cultural contacts and mobility between the south central Mediterranean and the Aegean during the second half of the 3rd millennium BC", in S. Antoniadou and A. Pace (eds), *Mediterranean Crossroads*, pp. 243-260. Pierides Foundation, Athens.
- Champion, T. [2001] "The appropriation of the Phoenicians in British Imperial ideology", in *Nations and Nationalism* 7: 451-467.
- Chippendale, C. [1989] "'Social Archaeology' in the nineteenth century: is it right to look for modern ideas in the old places?", in A. L. Christenson (ed.), *Tracing Archaeology's Past: The Historiography of Archaeology*, pp. 21-33. Southern Illinois University Press, Carbondale and Edwardsville.
- Cummings, V. and Johnston, R. [2007] "Leaving place: an introduction to prehistoric journeys", in V. Cummings and R. Johnston (eds), *Prehistoric Journeys*, pp. 1-7. Oxbow Books, Oxford.

- de Canales, F. G., L. Serrano and Llompart, J. [2006] “The pre-colonial Phoenician emporium of Huelva ca 900-770 BC”, in *Bulletin antieke beschaving* 81: 13-29.
- De Gregorio, A. [1917] *Iconografia delle collezioni preistoriche della Sicilia*. Edizioni Librarie Siciliane, Palermo.
- De Stefani, C. [1913] “L’arcipelago di Malta”, in *Racconti della Reale Accademia dei Lincei* 22 (serie 5, 1 sem., 2 fasc.): 55-64.
- Delgado, A. and Ferrer, M. [2007] “Cultural contacts in colonial settings: the construction of new identities in Phoenician settlements of the western Mediterranean”, in *Stanford Journal of Archaeology* 5: 18-42.
- Denon, D. V. [1993] *Voyage en Sicile*. Originally published in Paris in 1788. Editions Gallimard, Paris.
- Díaz-Andreu, M. [2007-2008] “Geographies of archaeological knowledge: the role of place in the making of science in twentieth-century archaeology”, in *The European Archaeologist* 28: 4.
- Evans, A. J. [1901] “Myceanean tree and pillar cult”, in *Journal of Hellenic Studies* 21: 99-204.
- Evans, A. J. [1902] “The prehistoric monuments of Malta”, in *Man* 31-32: 41-44.
- Evans, J. D. [1953] “The prehistoric culture-sequence in the Maltese archipelago”, in *Proceedings of the Prehistoric Society* 29: 41-94.
- Evans, J. D. [1956] *Aegeo-Anatolian and Indigenous Elements in the Cultures of the Western Mediterranean in the 2<sup>nd</sup> Millennium BC with Special Reference to Malta*. PhD thesis, University of Cambridge.
- Evans, J. D. [1960] “Malta and the Mediterranean”, in *Antiquity* 34: 218-
- Evans, J. D. [1971] *The Prehistoric Antiquities of the Maltese Islands: A Survey*. Athlone Press, London.
- Evans, J. D. [1973] “Islands as laboratories for the study of culture process”, in C. Renfrew (ed.), *The Explanation of Culture Change: Models in Prehistory*, pp. 517-520. Duckworth, London.
- Evans, J. D. [1977] “Island archaeology in the Mediterranean: problems and opportunities”, in *World Archaeology* 9/1: 12-26.
- Freller, T. [1999] “The Pauline cult in Malta and the movement of the Counter-Reformation: the development of its international reputation”, in *Catholic Historical Review* 85/1: 15-34.
- Freller, T. [2008] “Persons of reference: Maltese and Sicilian scholars and their importance for the Grand Tour”, in A. Bonanno and P. Militello (eds), *Interconnections in the Central Mediterranean: The Maltese Islands and Sicily in History* (KASA 7), pp. 81-98. Officina di Studi Medievali, Palermo.
- Freller, T. [2009] *Malta and the Grand Tour*. Midsea Books, Malta.

- Garrod, A. [1919] *Islands. A lecture delivered in the Aula Magna, Malta University on the 21<sup>st</sup> January, 1919*. University of Malta, Malta.
- Gentili, G. V. [1951] “Thapsos insula (Sicilia, Siracusa)”, in *Fasti Archeologici* 6: 215-216.
- Gómez Bellard, C. and Habibi, M. [2001] “Ceramicas a mano”, in C. Aranegui (ed.), *Lixus: Colonia fenicia y ciudad púnico-mauritana. Anotaciones sobre su ocupación medieval* (Saguntum extra 4), pp. 77-82. Universitat de València, Valencia.
- Guzzardi, L. [1991-1992] “L’insediamento dell’età del bronzo a Vendicari (Noto) con ceramiche del dipo di Thapsos, Tarxien Cemetery e Borg-in-Nadur”, in *Rassegna di Archeologia* 10 (L’età del bronzo in Italia nei secoli dal XVI al XIV a.C., Atti del Convegno di Viareggio 1989): 772-773.
- Guzzardi, L. [1997-1998] “Il Capo Pachino nella preistoria”, in *Atti e Memorie dell’Istituto per la salvaguardia e valorizzazione di Noto Antica* (serie II) 1-2: 79-97.
- Hawkes, C. F. C. [1940] *The Prehistoric Foundations of Europe to the Mycenaean Age*. Meuthen, London.
- Hodos, T. [2009] “Colonial engagements in the Global Mediterranean Iron Age”, *Cambridge Archaeological Journal* 19/2: 221-241.
- Hodos, T. [forthcoming] “Colonisations and cultural developments in the Central Mediterranean”, in P. Van Dommelen and B. Knapp (eds), *The Cambridge Prehistory of the Bronze and Iron Age Mediterranean*. Cambridge University Press, Cambridge.
- Jones, R. E., Levi, S. T. and Vanzetti, A. [forthcoming] “Canatello (AG): seriazione cronologica e caratterizzazione delle materie prime”, in *Dai Ciclopi agli Ecisti. Società e territorio nella Sicilia preistorica e protostorica*, San Cipriello, 16-19 novembre 2006, Atti della XLI Riunione Scientifica dell’IIPP. IIPP, Firenze.
- Leighton, R. [1989] “Antiquarianism and prehistory in West Mediterranean islands” in *Antiquaries Journal* 69: 183-204.
- Levi, S. T. [2004] “La Ceramica. Circolazione dei prodotti e organizzazione della manifattura”, in D. Cocchi Genick (ed.), *L’età del bronzo recente in Italia*, Atti del Congresso Nazionale di Lido di Camaiore, 26-29 ottobre 2000, pp. 233-242. M. Baroni, Viareggio (Lucca).
- Livingstone, D. N. [2005] “Text, talk and testimony: geographical reflections on scientific habits: an afterword”, in *British Journal for the History of Science* 38: 93-100.
- Mallia, F. S. [1966] “Tas-Silg. The prehistoric material”, in *Missione archeologica italiana a Malta. Rapporto preliminare della Campagna 1965*, pp. 49-51. Istituto di Studi del Vicino Oriente, Roma.

- Malone, C. and Stoddart, S. [2004] "Towards an island of mind?", in J. Cherry, C. Scarre and S. Shennan (eds), *Explaining Social Change: Studies in honour of Colin Renfrew*, pp. 93-102. McDonald Institute of Archaeology, Cambridge.
- Mansel, K. [1999] "Handgemachte keramik der siedlungsschichten des 8. und 7. jahrhunderts v.Chr. aus Karthago: ein vorbericht," in F. Rakob (ed.) *Die deutschen Ausgrabungen in Karthago* (Karthago III), pp. 220-238. Philipp von Zabern, Mainz am Rhein.
- Maran, J. [2007] "Seaborne contacts between the Aegean, the Balkans and the Central Mediterranean in the 3rd millennium BC: the unfolding of the Mediterranean world", in I. Galanki, H. Tomas, Y. Galanakis and R. Laffineur (eds), *Between the Aegean and the Baltic Seas: Prehistory without Borders* (Aegaeum 27), pp. 3-21. University of Liege and Univeristy of Texas at Austin, Liege and Austin (TX).
- Martin Ruiz, J. M. [2000] "Cerámicas a mano en los yacimientos fenicios de Andalucía," in M.<sup>a</sup> E. Aubet and M. Barthélemy (eds), *Actas del IV Congreso Internacional de Estudios Fenicios y Púnicos – Cádiz, 2 al 6 de Octubre de 1995*, vol. 4, pp. 1625-1630. Universidad de Cádiz, Cádiz.
- Mayr, A. [1908] *The Prehistoric Remains of Malta*. Printed for Private Circulation, Malta.
- Nijuboer, A. J. and van der Plicht, J. [2006] An interpretation of the radiocarbon determinations of the oldest indigenous-Phoenician stratum thus far excavated at Huelva, Tartessos (southwest Spain)", in *Bulletin antieke beschaving* 81: 31-36.
- Orsi, P. [1891] "La necropoli sicula del Plemmirio (Siracusa)", in *Bolletino di Paleologia Italiana* 17: 115-139.
- Orsi, P. [1892] "La necropoli sicula di Castelluccio (Siracusa)", in *Bolletino di Paleologia Italiana* 18: 1-34, 67-84.
- Orsi, P. [1895] "Thapsos", in *Monumenti Antichi* 6: 89-150.
- Orsi, P. [1902] "Molinello presso Augusta", in *Notizie degli Scavi di Antichità*: 411-420.
- Orsi, P. [1903] "Necropoli e stazioni sicule di transizione IV. Necropoli di Milocca e Matrensa (Siracusa)", in *Bolletino di Paleologia Italiana* 29: 136-149.
- Orsi, P. [1919] "Gli scavi intorno all'Athenaion di Siracusa negli anni 1912-1917", in *Monumenti Antichi* 25: 353-374.
- Patroni, G. [1932] "Origine e tipologia delle costruzioni megalitiche di Malta", in *Rendiconti dell'Istituto Lombardo* 65: 971-985.
- Peet, T. E. [1910] "Contributions to the study of the Prehistoric Period in Malta", in *Papers of the British School at Rome* 5: 141-163.
- Pelagatti, P. and Voza, G. [1973] *Archeologia nella Sicilia sud-orientale*. Centre Jean Bérard, Napoli.

- Pessina, A. and Vella, N. C. [2009] “Alla ricerca delle radici mediterranee: i templi megalitici di Malta”, in M. Barbanera (ed.), *Relitti riletti: metamorfosi delle rovine e identità culturale*, pp. 400-415. Bollati Boringhieri, Torino.
- Quercia, A. [2002] “La ceramica da fuoco del santuario di Tas Silg (Malta): tipi attestati e proposte interpretative,” in M. G. Amadasi Guzzo, M. Liverani and P. Matthiae (eds), *Da Pyrgi a Mozia: studi sull’archeologia del mediterraneo in memoria di Antonia Ciasca*, vol. 2, pp. 403-424. Università di Roma “La Sapienza”, Roma.
- Rainbird, P. [2007] *The Archaeology of Islands*. Cambridge University Press, Cambridge.
- Rautman, M. [1998] “Handmade pottery and social change: the view from Late Roman Cyprus”, in *Journal of Mediterranean Archaeology* 11/1: 81-104.
- Renfrew, C. [1973] *Before Civilisation*. Jonathan Cape, London.
- Rhind, A. H. [1856] “Megalithic remains of Malta”, in *Archaeological Journal* 13: 397-400.
- Robb, J. [2001] “Island identities: ritual, travel, and the creation of difference in Neolithic Malta”, in *European Journal of Archaeology* 4: 175-202.
- Robb, J. [2007] *The Early Mediterranean Village: Agency, Material Culture, and Social Change in Neolithic Italy*. Cambridge University Press, Cambridge.
- Robb, J. E. and Farr, R. H. [2005] “Substances in motion: Neolithic Mediterranean ‘trade’”, in E. Blake and A. B. Knapp (eds), *The Archaeology of Mediterranean Prehistory*, pp. 24-45. Blackwell, Oxford.
- Sagona, C. [2008] “Malta: between a rock and a hard place”, in C. Sagona (ed.), *Beyond the Homeland: Markers in Phoenician Chronology* (Ancient Near Eastern Studies Supplement 28), pp. 487-536. Peeters, Leuven.
- Sheller, M. and Urry, J. [2006] “The new mobilities paradigm”, in *Environment and Planning A* 38: 207-226.
- Sinipoli, C. M. [1991] *Approaches to Archaeological Ceramics*. Plenum Press, New York.
- Stoddart, S., Bonanno, A., Gouder, C., Malone, C. and Trump, D. [1993] “Cult in an island society: prehistoric Malta in the Tarxien period”, in *Cambridge Archaeological Journal* 3: 3-19.
- Tanasi, D. [2008] *La Sicilia e l’arcipelago maltese nell’età del Bronzo Medio* (KASA 3). Officina di Studi Medievali, Palermo.
- Tanasi, D. [2009] “A Mediterranean connection: nuovi dati sulle relazioni tra Malta e Creta agli inizi dell’età del Ferro”, in *Creta Antica* 10/2: 519-538.
- Tanasi D. and Vella, N. C. [forthcoming] “Islands and mobility: exploring Bronze Age connectivity in the south-central Mediterranean,” in P. Van Dommelen and B. Knapp (eds), *The Cambridge Prehistory of the Bronze and Iron Age Mediterranean*. Cambridge University Press, Cambridge.



- Tinè, S. [1965] “Gli scavi nella Grotta della Chiusazza”, in *Bollettino di Paleontologia Italiana* 69: 13-286.
- Towner, J. [1996] *An Historical Geography of Recreation and Tourism in the Western World 1540-1940*. Wiley, Chichester.
- Trump, D. H. [1961a] “Skorba, Malta and the Mediterranean”, in *Antiquity* 35: 300-303.
- Trump, D. H. [1961b] “The later prehistory of Malta”, in *Proceedings of the Prehistoric Society* 27: 253-262.
- Tusa, S. [1992] “La ‘problematica elima’ e testimonianze archeologiche da Marsala, Paceco, Trapani e Buseto Palizzolo”, in *Sicilia Archeologica* 78-79: 71-102.
- Ugolini, L. M. [1934] *Malta: Origini della civiltà mediterranea*. Libreria dello Stato, Roma.
- van Dommelen, P. [2005] “Colonial interactions and hybrid practices”, in G. J. Stein (ed.), *The Archaeology of Colonial Encounters*, pp. 109-141. School of American Research Press, Santa Fe (NM).
- Vander Linden, M. [2007] “What linked the Bell Beakers in third millennium BC Europe?” in *Antiquity* 81: 343-352.
- Vella, F. [1965] “Notes on Sir Archibald Garrod’s stay in Malta, 1915-1919” in *St Bartholomew’s Hospital Journal* 69: 138-145.
- Vella, N. C. [2005] “Phoenician and Punic Malta: review article”, in *Journal of Roman Archaeology* 18: 436-450.
- Voza, G. [1973] “Thapsos: resoconto sulle campagne di scavo del 1970-71”, in *Atti della XV riunione scientifica dell’Istituto Italiano di Preistoria e Protostoria*: 133-157. IIPP, Firenze.
- Voza, G. [1980-1981] “L’attività della Soprintendenza alle Antichità della Sicilia Orientale. Thapsos” in *Kokalos* 30-31: 666-668.
- Ward-Perkins, J. [1942] “Problems of Maltese prehistory”, in *Antiquity* 31: 60-67.

**Nicholas C. Vella** is Senior Lecturer in the Department of Classics and Archaeology at the University of Malta. He co-directs several research projects in Malta and has co-edited *Debating Orientalization: Multidisciplinary Approaches to Change in the Ancient Mediterranean* (Equinox, 2006).

**Davide Tanasi** PhD is Adjunct Professor of Archaeology and Ancient History at Arcadia University – The College of Global Studies. He has authored several publications about Mediterranean prehistory including *La necropoli protostorica di Montagna di Caltagirone* (Polimetrica, 2008) and *La Sicilia e l'arcipelago maltese nell'età del Bronzo Medio* (Officina di Studi Medievali, 2008). He is co-director of the Archeomatica Project (IPLab, University of Catania) aimed to develop new digital tools for archaeological research and the preservation of cultural heritage.

**Maxine Anastasi** graduated with a BA (Hons) degree in Archaeology in 2007 and completed a research MA in Roman Archaeology under the supervision of Prof. Anthony Bonanno at the University of Malta. Her research involves the contextual study of Late Punic and Roman period pottery in the Maltese islands. She participates in several research projects, all involving the Department of Classics and Archaeology, University of Malta. Her work includes post-excavation analysis related to the publication of the final report of the Department's excavations at Tas-Silġ, and assisting the ceramic specialists on the Għar ix-Xiħ (Gozo) excavation project, the Żejtun Villa excavation project, and the Malta Survey Project.

## 10. Living and dying in a foreign country: Maltese immigrants in Middle Bronze Age Sicily?

Davide Tanasi – Arcadia University  
The College of Global Studies, MCAS, Italy  
TanasiD@arcadia.edu

**Abstract.** In the Middle Bronze Age, Sicily is drawn into the Mycenaean commercial network which brings cultural elements from the central and eastern Mediterranean to its shores. Among the foreign artefacts introduced in several coastal settlements in the territory of Siracusa are not only Mycenaean and Cypriot wares but also a substantial amount of Maltese Borġ in-Nadur-type pottery. This has been found in both domestic and funerary contexts. The most important evidence of this ceramic class comes from the necropolis of Cozzo del Pantano, located on the banks of the river Ciane, explored by Paolo Orsi in 1893. This paper considers the large assemblage of vessels coming from tomb 23 in order to explore the significance of such pottery in Sicilian sites. The suggestion is made that Maltese immigrants may have been living within local coastal enclaves.

**Keywords:** Sicily, Malta, Middle Bronze Age, immigrants, funerary rituals, interconnections.

### 10.1. Sicily and Malta: a Mediterranean connection

Over the last few decades, the earliest contacts between Sicily and the Maltese archipelago have been the subject of studies that have sought to explain several facets of this complex relationship<sup>1</sup>. This relationship developed over the centuries on account of geographical contiguity and a lack of specific resources in each of these two island worlds<sup>2</sup>.

---

<sup>1</sup> Trump 2003; Cultraro 2008: 5-19; Guzzardi 2008: 39-48; Tanasi 2008; Tanasi and Vella forthcoming.

<sup>2</sup> Bonanno 2008: 27-37.

For the Neolithic, the Maltese presence in Sicily is represented by the Ghar Dalam phase pottery imports found in the territory of Siracusa at Vulpiglia<sup>3</sup>. Imports have not been identified in the Copper and Early Bronze Ages, but an influence of Maltese temple architecture has been claimed for Sicilian funerary architecture in the Hyblaeon area<sup>4</sup>.

Rarer but significant is the presence of Sicilian artefacts in Malta. Lithic materials, such as flint and obsidian, and Sicilian Neolithic and Copper Age pottery sherds have been found at the sites of Skorba and Xagħra Circle<sup>5</sup>. Later on, at the beginning of the Bronze Age, a class of incised and impressed pottery called Thermi ware<sup>6</sup> together with a bossed bone plaque<sup>7</sup> typical of the Sicilian Early Bronze Age, suggest that the relationship was reciprocal.

The most important moment in the development of this inter-island connection occurs in the Middle Bronze Age<sup>8</sup>. The intense trans-Mediterranean commercial activities of Cypriot and Mycenaean entrepreneurs, travelling from East to West, are the most important novel event of this period<sup>9</sup>. These long-distance voyages, which were aimed at acquiring raw materials and luxury items, had south-eastern and south-central Sicily among their destinations, but seem to have excluded the Maltese archipelago<sup>10</sup>.

Within these interactions occurring on a 'global level', significant contacts must have also happened on a 'local level'. In a recent contribution by Vander Linden<sup>11</sup>, human mobility is considered as a seminal factor for the creation of archaeological cultures or traditions. Since the introduction of particular artefacts, know-how and ideas are obviously the consequence of human agency, in his view, small-scale contacts, concerning primarily restricted exchange,

---

<sup>3</sup> Guzzardi 2008: 39-48.

<sup>4</sup> Terranova 2003.

<sup>5</sup> Vella 2008: 81-102; Trump 1966: 44-46; Malone *et al.* 2009: 212-213, fig. 10,7(i-l).

<sup>6</sup> This pottery has recently been interpreted as being strictly related to the Sicilian pottery of Ognina type by Palio (2008: 71-80).

<sup>7</sup> Trump 2003.

<sup>8</sup> Tanasi 2008a.

<sup>9</sup> Burns 2010.

<sup>10</sup> Blakolmer 2005: 653-661.

<sup>11</sup> Vander Linden 2007.

guarantee that immediate and bilateral reciprocity which cannot be fulfilled within global networks. In this perspective, whereas one-to-one contacts cannot be held to be responsible for a substantial change within a culture, they are necessary vectors of that change.

Interactions cannot be studied without a chronological framework. Here I make use of the traditional Sicilian chronology for the Middle Bronze Age (mid-15<sup>th</sup> to mid-13<sup>th</sup> century BC) which can be divided into the three phases of the Thapsos culture (I, II, III)<sup>12</sup>, which in turn correspond to LH IIIA1-LH IIIB1 (of the Aegean chronology). These phases correspond also to the transitional moment between the two phases of the Maltese Borġ in-Nadur cultural *facies*, II B2 and II B3 respectively<sup>13</sup> (Table 1.1).

A recent exhaustive analysis of the Borġ in-Nadur-type pottery imports in Middle Bronze Age Sicily has pointed out the existence of relevant new data<sup>14</sup>. As a result of that analysis, imported vessels of the type associated with the Borġ in-Nadur cultural *facies* were identified in eleven sites of south-eastern Sicily in both funerary and domestic contexts, together with one example of unknown provenance held at the Palermo Museum and now lost<sup>15</sup>. A few Borġ in-Nadur-type pottery sherds seem to have been found also in the excavation of the settlement of Cannatello<sup>16</sup>, near Agrigento, but it has not been possible to include those pieces in the present discussion. Based upon the available data, no other traces of Borġ in-Nadur-type pottery or cultural influences have been identified in any other part of Sicily. Ten sites are set along the coastline of the province of Siracusa: Thapsos<sup>17</sup>, Cozzo del Pantano<sup>18</sup>, Plemmirio<sup>19</sup>,

---

<sup>12</sup> Alberti 2007: 363-376. See Tanasi, this volume (chapter 4).

<sup>13</sup> Trump 1961: 253-262; Tanasi 2009.

<sup>14</sup> Tanasi 2008a; Tanasi 2010; Tanasi and Vella forthcoming. In this paper preference is made for the use of the compound adjective 'Borġ in-Nadur-type pottery' rather than a straightforward 'Borġ in-Nadur pottery' in the belief that only scientific provenance studies will allow us to differentiate with certainty foreign from local production. This seminal matter is taken up in the concluding chapter to this volume.

<sup>15</sup> Tanasi 2008a: 33-53.

<sup>16</sup> Levi 2004: 237, n. 23.

<sup>17</sup> Orsi 1895; Voza 1973a; 1973b.

<sup>18</sup> Orsi 1893.

<sup>19</sup> Orsi 1891.

Matrensa<sup>20</sup>, Molinello<sup>21</sup>, Ognina<sup>22</sup>, Calafarina<sup>23</sup>, Vendicari<sup>24</sup>, Chiusazza<sup>25</sup>, Ortigia<sup>26</sup>. Only one site, Monte San Paolillo<sup>27</sup>, is located in the northern suburban area of Catania.

Leaving apart the evidence found at Thapsos, which in this period was the most important hub for foreign travellers including Mycenaean and seemingly Maltese merchants, a significant documentation is that coming from the sites located around the Great Harbour of Siracusa (Fig. 10.1a,b), namely Ortigia, Cozzo del Pantano, Matrensa and Plemmirio. In particular a reappraisal of the extent and significance of the Maltese presence in Sicily can come from the study of the grave goods of the necropolis of Cozzo del Pantano, where the largest group of Borg in-Nadur-type pottery has been discovered.

## 10.2. The necropolis of Cozzo del Pantano, Siracusa

Cozzo del Pantano is a small narrow plateau, measuring 1 km by 20 m and reaching a height of just 20 m. It is located 4 km south of Siracusa by the spring of the river Ciane, inside the nature reserve of Pantanelli-Ciane.

The exploration of the site by Paolo Orsi in January 1892 revealed a necropolis composed of chamber tombs excavated in the gentle slopes of the hill and organised in six groups. No clear traces of the related village were found even if the discovery of scattered lithic implements made Orsi suppose that one existed on the top of the plateau. A preliminary report of that exploration was published in 1982 by Edoardo Caruso<sup>28</sup>, Orsi's co-worker and the real field director of the excavation, while the scientific results were published one year later by Orsi alone<sup>29</sup>. In order to obtain a

---

<sup>20</sup> Orsi 1903.

<sup>21</sup> Orsi 1902.

<sup>22</sup> Bernabò Brea 1966.

<sup>23</sup> Guzzardi 1997-1998.

<sup>24</sup> Guzzardi 1991-1992.

<sup>25</sup> Tinè 1965.

<sup>26</sup> Orsi 1919.

<sup>27</sup> Tanasi 2010.

<sup>28</sup> Caruso 1892.

<sup>29</sup> Orsi 1893.

complete outline of the evidence coming from Cozzo del Pantano it is necessary to take into consideration both publications as Orsi curiously left out significant data pointed out by Caruso<sup>30</sup>.

<b>Tomb 4</b>	1 bronze dagger	<b>Tomb 22</b>	1 pedestal jar 1 lid
<b>Tomb 7</b>	2 simple jars 2 pedestal jars 1 Mycenaean kylix	<b>Tomb 27</b>	1 simple basin
<b>Tomb 9</b>	1 pithos 1 pedestal basin 1 simple jar 1 simple cup 2 pedestal cup	<b>Tomb 29</b>	1 bronze dagger 1 bronze blade
<b>Tomb 10</b>	2 pedestal cups 1 simple jar	<b>Tomb 30</b>	1 jug 3 lids 1 jar 1 bone bead
<b>Tomb 11</b>	4 dipper cups 1 pedestal basin 1 simple jar 2 pedestal cups	<b>Tomb 31</b>	3 dipper cups 1 lid 1 bronze dagger
<b>Tomb 15</b>	2 flint blades 1 bronze bead	<b>Tomb 32</b>	1 jar 1 lid
<b>Tomb 16</b>	3 simple jars 14 basalt axes 9 flint blades 1 obsidian blade 2 stone beads	<b>Tomb 33</b>	1 pedestal basin 1 pedestal dish 1 cup 1 bronze chisel 1 bronze dagger
<b>Tomb 17</b>	4 dipper cups 1 pedestal cup 1 lid 1 bronze drill 1 bronze chisel	<b>Tomb 35</b>	1 juglet 1 dipper cup 1 lid 1 flint blade
<b>Tomb 18</b>	3 bowls 1 simple cup	<b>Tomb 37</b>	1 jar 1 lid
<b>Tomb 19</b>	1 pedestal jar		

**Table 10.1.** Summary of the finds dated to the Middle Bronze Age from tombs at Cozzo del Pantano found in a good state of preservation.

<sup>30</sup> Tanasi 2005.

The necropolis included 62 tombs, 28 in the northern side (groups A and C in Fig. 10.2) and 34 in the southern one (groups B, D and E in Fig. 10.2). A sixth group consisting of a few tombs was explored in the slopes of Cava del Feudetto, a few hundred meters west of Cozzo del Pantano, an area now deeply altered by the construction of the highway Siracusa-Gela.

According to Orsi, of the 62 graves only 10 were untouched (tombs 9, 10, 10bis, 11, 13, 16, 22, 23, 31, 33), while the others had been plundered or altered by successive re-use in different periods (Iron Age, Archaic Period, Late Roman and Byzantine) or were found empty. In the publications of Caruso and Orsi, 38 tombs and their goods are presented (tombs 1-37, 10bis). They are basically related to the three typologies largely attested in this period: vaulted circular chamber tombs, tholoid chamber tombs, and shaft graves. Tombs are often furnished with side niches, additional chambers, annular benches, funerary beds and deep drainage channels excavated along short entrance corridors (Fig. 10.3). Multiples burials consisting of up to 68 individuals were arranged inside the tombs and in some cases also in vestibules or in the corridors.

The grave goods, listed in Table 10.1, consist essentially of local vessels, with the exception of a Mycenaean kylix dated to the beginning of LH IIIA<sup>31</sup>, a few bronze and bone objects and a large amount of stone axes and flint blades. The lithics are, in fact, an uncommon feature in tombs of this period. Significantly, all the Maltese Borġ in-Nadur-type pottery was concentrated just inside two tombs, 13 and 23, considered the richest of the entire necropolis.

### 10.3. The evidence of tombs 13 and 23

Before discussing the catalogue of finds from these two tombs it will be useful to consider their context by presenting a translation of excerpts from the original report concerning both two tombs published by Orsi (Fig. 10.4)<sup>32</sup>.

---

<sup>31</sup> Tanasi 2005.

<sup>32</sup> Orsi 1893: coll. 16-17, 20-26.



**Tomb 13.** It is untouched. It includes a vestibule, shaped as a rectangular pit (1.70 x 0.80 m) with a long draining channel, containing remnants of a skeleton and a small handled juglet 13 cm high. The block represented by a large slab was perfectly in situ; at the bottom of the circular chamber were two skeletons; by the skull of one of them there was a conical cup (rim diameter 16.5 cm), similar to other examples coming from tomb 23, and remnants of others. Among the remains, [there were] a dipper cup and a miniature jug; an arc-elbowed fibula, similar to others found before, was without a pin.

**Tomb 23.** A few paces away from the preceding tomb, a large chamber with a vaulted roof, oriented to the North, of which I present a plan and a section, was excavated. Even if the sealing slab were missing, of which not even the remnants were found, the tomb turned out as the richest of all the necropolis, with all its untouched grave goods, protected by a thick layer of earth that slowly had infiltrated the chamber up to 70 cm from the vault. In the vestibule was just one skeleton with a few sherds. In the chamber twenty-two skeletons were located irregularly at the bottom, but none was positioned in the two large niches; two of them were clearly in a foetal position. The vessels seemed to be located on top of them instead of being in their middle. I present here just those that were restored, because a large part of them, approximately  $\frac{1}{3}$ , was so destroyed by the pressure of the ground and humidity that it was not possible to recover them or to interpret their shapes<sup>33</sup>. [...] Of bronze objects, the chamber restituted the remnants of two swords [...] Maybe related to the swords' handle were some pieces of ivory [...] Mixed with the earth there were two bronze fibulas broken of arc-elbowed type and three pierced ivory beads of ornamental use.

After reading Orsi's description it is important to focus on a crucial point. First the real condition of the tombs at the moment of their discovery and second the strange presence of bronze fibulas, whose typology and chronology are different from that of all the other objects<sup>34</sup>. In fact the two arc-elbowed fibulas from tombs 13 and 23 can clearly be dated to the Final Bronze Age (mid-11<sup>th</sup> – mid-9<sup>th</sup> century BC) and the third one from tomb 23 is actually a curved bow fibula that can be dated both to the Late Bronze Age (mid-13<sup>th</sup> – mid-11<sup>th</sup> century BC) and Final Bronze Age<sup>35</sup>. This matter can be explained suggesting two hypotheses. Both are considered in turn.

---

<sup>33</sup> A detailed description of all the pottery discovered by Orsi is here omitted as it will be commented later on in this chapter.

<sup>34</sup> Tanasi 2004.

<sup>35</sup> Albanese Procelli *et al.* 2004.

In the first scenario, the absence of any system of closure in tomb 23 can be interpreted as evidence of the reuse of the grave which determined the introduction of the fibulas inside the graves. In the same way, the presence of the blocking slab by the door of tomb 13 could mean that the grave was not touched by looters but that it was discovered by Orsi after its secondary use.

Tombs 9, 11, 16, 30 and 32 were reoccupied in the Final Bronze Age, without the destruction of the previous burials and accompanying goods. In particular, in tomb 9, besides the set of Middle Bronze Age vessels, only two fibulas were introduced, one with violin bow, dated to the Late Bronze Age, and one arc-elbowed dated to Final Bronze Age.

On consideration of this evidence we can assume that at the transition between the Late Bronze Age and the Final Bronze Age, some tombs at Cozzo del Pantano were opened, reused and then closed again. In some cases this reoccupation is marked by a set of vessels and in some others simply by the presence of bronze fibulas.

In this scenario, tombs 13 and 23 cannot be considered really untouched and the fibulas must be considered external to previous groups of objects which are otherwise culturally homogenous. Finally, the absence of a blocking slab in tomb 23 can be connected with an additional attempt of plundering – ancient or modern – or with a different method of closing the tomb, simply filling the corridor with earth.

In the second scenario, the two tombs were really untouched and the presence of the fibulas can be interpreted suggesting a different chronological definition for both local and Maltese vessels. In fact according to G. Voza, the extent of the Thapsos culture to which the local vessels belong, is not restricted to the Middle Bronze Age but it covers a lapse of time which includes the Middle, Late and Final Bronze Ages<sup>36</sup>. In his opinion, the assemblage of pottery and fibulas found is coherent with the cultural production of the very beginning of the Final Bronze Age, as the discovery at Thapsos of

---

<sup>36</sup> La Rosa 1989.

Borg in-Nadur-type pottery together with typical plumed ware of the Final Bronze Age would suggest<sup>37</sup>.

But the weak points of this reconstruction are several. The stratigraphic evidence from the site of Pantalica<sup>38</sup> together with the typological study of Middle and Late Bronze Age pottery production<sup>39</sup> have demonstrated that the Thapsos culture is to be related only to the Middle Bronze Age. In the same manner, it has become clear that the North Pantalica and Cassibile cultures were the main expression of the Late and Final Bronze Age.

The presence of Borg in-Nadur-type pottery together with plumed pottery in Final Bronze Age layers at Thapsos is simply the demonstration that also in that period the Maltese were importing pottery into Sicily, or having it made there, as they were doing also in the Late Bronze Age<sup>40</sup>.

In my opinion, the first scenario is more reasonable. Furthermore, since Final Bronze Age burials with grave goods consisting solely of fibulas of different types are not known in other Sicilian sites, another suggestion can also be made. It is possible that fibulas were not related to new burials but that they were placed inside the tombs in a ritual of honouring dead individuals, ancestors perhaps, though a cyclical opening of the tombs, offering single symbolic objects and reclosing of the graves. This would be the same kind of ritual act, discussed by Vives Ferrándiz for Iron Age east Iberia, aimed to maintain social memory, confirming cyclically a relationship with the past through these practices<sup>41</sup>. In tomb 23, this performance could also be connected with the single burial located in the vestibule that was obviously the last one to be placed there. In this way, the fibula, the cultural homogeneity of the other grave goods, and the fact that the tombs seemed untouched to Orsi, can be explained. In the way I am looking at matters here, it would appear worthless to investigate the meaning of two of Orsi's statements in his description of tomb 23: 'the vessels seemed to be located on top of them [skeletons] instead of being in their middle'

---

<sup>37</sup> Voza 1973a.

<sup>38</sup> Bernabò Brea 1990. See Tanasi, this volume (chapter 4).

<sup>39</sup> Alberti 2007; Tanasi 2008b.

<sup>40</sup> Levi 2004; Jones *et al.* forthcoming.

<sup>41</sup> Vives-Ferrándiz 2010: 202.

<b>TOMB 13 (Figs 10.5-10.13)</b>			
	<b>Type</b>	<b>Inventory</b>	<b>No.</b>
<b>Borg in-Nadur-type pottery (4)</b>	Simple cup	11222 (Figs 10.5, 10.13)	1
	Pedestal basin	11223 and CP13/1 (Figs 10.5, 10.13)	1
	Juglet	11224, CP13/6 (Figs 10.5, 10.13)	2
<b>Thapsos pottery (2)</b>	Pedestal cup	CP13/4 (Figs 10.5, 10.13)	1
	Juglet	CP13/3 (Figs 10.5, 10.13)	1
<b>Phase of later reuse</b>	Arc elbowed fibula	11221 (Figs 10.5, 10.13)	1
<b>TOMB 23 (Figs 10.6-10.12, 10.14-10.20)</b>			
<b>Borg in-Nadur-type pottery (21)</b>	Simple cup	11250, 11251, 11252, 11253, 11254, 11255 CP23/9 (Figs 10.6, 10.14)	7
	Pedestal cup	11239, 11242, 11246 11247, 11256, 11259 (Figs 10.7, 10.15)	6
	Simple basin	11243, 11244, 11249 (Figs 10.8, 10.16)	3
	Pedestal basin	11240, 11241, 11258 (Figs 10.9, 10.17)	3
	Juglet	11264, 11265 (Figs 10.9, 10.17)	2
<b>Thapsos pottery (17)</b>	Pedestal cup	11245, 11248, 11260 (Figs 10.10, 10.18)	3
	Pedestal basin	11238, 11257 (Figs 10.10, 10.18)	2
	Juglet	11263 (Figs 10.11, 10.19)	1
	Dipper cup	11261, 11262 (Figs 10.11, 10.19)	2
	Jar	11266, 11267, 11268, 11269, 11270a, CP23/6, CP23/7, CP23/8 (Figs 10.11, 10.19)	5
Lid	11270b, 11271, 11272, CP23/3 (Figs 10.11, 10.19)	4	
<b>Thapsos phase weapons (3)</b>	Bronze sword	11275, 11276, 11277 (Figs 10.12, 10.20)	3
	Ivory hilt	11273 and 1174 (Figs 10.12, 10.20)	1
<b>Phase of later reuse</b>	Curved bow fibula	CP23/1 (Figs 10.12, 10.20)	1
	Arc-elbowed fibula	CP23/2 (Figs 10.12, 10.20)	1

**Table 10.2.** Summary of Maltese-type and Sicilian vessels in tombs 13 and 23, Cozzo del Pantano.

and ‘mixed with the earth there were two bronze fibulas broken of the arc-elbowed type ...’; we know that Orsi did not use a stratigraphic method of excavation and that in many cases his observations had been demonstrated to be incorrect<sup>42</sup>. So, except for the introduction of the fibulas, the contexts of tombs 13 and 23 are here taken to be unviolated and date to the Middle Bronze Age. Furthermore, tomb 23 in particular must be considered the richest burial of the entire necropolis when considered against the rest.

Once this issue has been cleared, it is important to add that the number of grave goods given in Orsi’s report and the number of objects studied at the museum of Siracusa do not tally.

The detailed catalogue of finds is appended to the contents of the DVD. A summary is provided here (Table 10.2).

#### **10.4. Borg-in Nadur-type pottery of Cozzo del Pantano: typology, chronology, interpretation**

A classification of the Borg in-Nadur-type pottery in Sicilian Middle Bronze Age contexts was carried out in 2008 using morphological and stylistic criteria for the construction of a pottery typology, divided into types and sub-types<sup>43</sup>. At the time it was only possible to study the pottery from Cozzo del Pantano exhibited at the museum of Siracusa, that is one vessel from tomb 13 and 22 from tomb 23. More recently it was possible to study all the material kept in storage at the museum, warranting a revision of the outline published in 2008. Borg-in Nadur-type pottery from tomb 13 includes six vessels and those from tomb 23 number 21<sup>44</sup>.

During the exercise it was possible to point out that cups and basins, which have all the same basic shape but come in different sizes, three main types can be distinguished: with a hemispherical body<sup>45</sup>, with a conical body<sup>46</sup>, with an elongated conical body<sup>47</sup>.

---

<sup>42</sup> Tanasi 2008b, p. 144.

<sup>43</sup> Tanasi 2008a.

<sup>44</sup> After an accurate examination, nos 48 and 49 in Tanasi’s (2008a) catalogue were revealed to be local vessels, while another Borg in-Nadur-type vessel was recognised among the fragmented material.

<sup>45</sup> Type I in Tanasi’s (2008a) classification of cups.

<sup>46</sup> Type IIA in Tanasi’s (2008a) classification of cups.

While the types with hemispherical and elongated conical bodies are quite rare (namely, CP23/9 and 11243), the conical shape of the body is attested in 18 examples<sup>48</sup>.

The second level of classification is represented by the type of rim: rounded, quadrangular, and thinned with a straight or an inverted profile.

The third level of classification is based on the decoration. Even if the outline of cut-out decoration, characterised by rows of horizontal lines, vertical segments, dots and chevrons, appears the same throughout, it is significant to highlight that not one of the motifs present on cups and basins is in fact repeated. In fact, six main motifs can be distinguished for the simple cups and basins (Fig. 10.21): a) simple row of horizontal lines; b) row of horizontal lines bordered by two dots; c) row of horizontal lines crossed by three dots in a vertical line; d) row of horizontal lines crossed by a vertical segment; e) row of horizontal lines crossed by a vertical segment bordered by two dots. Three main decorative patterns can be observed for the pedestal cups and basins: f) row of horizontal lines crossed by a vertical segment bordered by two dots combined with a chevron; g) row of horizontal lines crossed by a vertical segment bordered by two dots combined with a chevron crossed and sided by vertical segments bordered by two dots; h) row of horizontal lines crossed by a vertical segment bordered by two dots combined with a chevron with vertical segments bordered by two dots in the middle and by the sides. All these motifs that usually are in the front and the back of every vessel, can also be repeated in pairs by the sides of the handles.

With regards to juglets, three examples (11224, 11264, 11265) are of the same typology<sup>49</sup> while the fourth one (CP13/6), of which only the handle is preserved and was identified only through its fabric, cannot be clearly interpreted.

A significant feature of the Borg in-Nadur-type pottery from Cozzo del Pantano is a peculiar integral red burnished slip that can be clearly observed on vessels 11222, 11243, 11244, 11246, 11247,

---

<sup>47</sup> Type III in Tanasi's classification of cups.

<sup>48</sup> Nos 11222, 11223, 11239, 11240, 11241, 11242, 11244, 11246, 11247, 11249, 11250, 11251, 11252, 11253, 11254, 11255, 11258, 11259.

<sup>49</sup> Type V in Tanasi's (2008a) classification of juglets.

11256, 11258, 11264, 11265. While it occurs together with the cut-out decoration, grooves are filled with a white paste derived from gypsum<sup>50</sup> (11222, 11244, 11246, 11258) in order to produce a chromatic effect of white on red. But even if red slip is present on nine of the 27 Borg-in Nadur-type pieces, its presence on the other vessels cannot be excluded. In fact, the vases were cleaned – presumably after discovery – in a way that abraded deeply the surfaces, making the slip disappear in the process. Furthermore, during the restoration intervention, a gypsum slip was used for covering the internal surface of fragmented open vessels and of hollow conical feet whereas a layer of transparent adhesive was applied on external surfaces causing a further alteration of their aspect. Archaeometric analyses on Middle Bronze Age pottery having the same decoration from Ariano Irpino (Avellino, Campania) showed that gypsum paste was fixed after firing with milk<sup>51</sup>. Since the kind of adhesive used on the vessels from Cozzo del Pantano was probably of an organic nature and a weak one, it could have been removed from cut-out decorated vessels during cleaning.

The Borg in-Nadur-type vessels of Cozzo del Pantano find a wide range of comparative material both in Sicily and in the Maltese archipelago. But, even if the morphological similarities are very close, there is not an identical match between the decorative features.

In contemporary Sicilian contexts, the cup with hemispherical body (CP23/9) can be compared with a cup with cut-out decoration from the cave settlement of Chiusazza<sup>52</sup> (Fig. 10.22a). The basin with elongated conical body (11243) is also attested in tomb 6 of the Matrensa necropolis<sup>53</sup> (Fig. 10.22c); and the cup or the basin with conical body, undecorated or with cut-out decoration, can be found in tomb 22 of the Thapsos necropolis with the same rim features<sup>54</sup> (Fig. 10.22b), and in the Thapsos settlement<sup>55</sup>, in tomb 6

---

<sup>50</sup> Analysis recently carried out with Fourier Transform Infrared Spectroscopy (FTIR) on white paste filling incised decoration of Thapsos pottery from Licodia Eubea (Catania) had demonstrated that it is composed of calcite and gypsum applied without any kind of adhesive: Barone *et al.* forthcoming.

<sup>51</sup> Paternoster *et al.* 2008.

<sup>52</sup> Tinè 1965: 237 (no. 431) and 239, fig. 18.1, pl. 36.1-5.

<sup>53</sup> Orsi 1903: 147, pl. 10.3.

<sup>54</sup> Orsi 1905: col. 110.

of the Matrensa necropolis<sup>56</sup>, and in the settlement area of Ognina<sup>57</sup>. In the Maltese archipelago, the simple cup/basin and the pedestal cup/basin were classified by Evans as shapes 92 and 93<sup>58</sup> of his sequence of prehistoric pottery<sup>59</sup>. This shape, basically the same in its two versions but with different dimensions, is documented in Sicily by 34 examples<sup>60</sup>. Considered one of the most representative shapes of the Borġ in-Nadur pottery repertoire, it is not so frequently attested in the few published contexts known to date. Some examples were found during the excavation of the Borġ in-Nadur temple<sup>61</sup>, two later examples of the same type are known from Mtarfa<sup>62</sup> (Fig. 10.22e) and another one from the Brochtorff Circle at Xaghra has just been published<sup>63</sup> (Fig. 10.22f). Few sherds were also found during the Italian excavations at Tas-Silġ in 1964 and 1965<sup>64</sup>. In all, these cases, the vessel was fragmented and the only example with a complete profile was reconstructed into a pedestal conical cup on Evans' instructions using as a model the Sicilian ceramic material<sup>65</sup>.

The recent overall analysis of all the ceramic evidence coming from Murray's excavations at Borġ in-Nadur has added much significant data to our knowledge of the Maltese Bronze Age pottery repertoire<sup>66</sup>. In particular, several cups and basins find exact parallels in the vessels coming from Cozzo del Pantano. On the basis of morphology and typology, in fact, all the Sicilian types can be compared to pottery found in the area of the Borġ in-Nadur temple. In some cases, in addition to similarities in shape there are also similarities in the same patterns of cut-out decoration, as with

---

<sup>55</sup> Voza 1973b: pl. 9.143.

<sup>56</sup> Orsi 1903: 147, pl. 10.5.

<sup>57</sup> Bernabò Brea 1966: 46, 65, pl. 46.6.

<sup>58</sup> Evans 1953: 70, fig. 11.

<sup>59</sup> Evans 1971.

<sup>60</sup> Tanasi 2008a.

<sup>61</sup> Murray 1923: pl. 9.25; 1925: pl. 21.218; 1929, pl. 25.260, 257, 261.

<sup>62</sup> Sagona 1999: 54 (P.6), fig. 3.1, 55 (P.13), fig. 4.4.

<sup>63</sup> Malone *et al.* 2009, p. 215, fig. 10.19:V.

<sup>64</sup> Mallia 1965; Mallia 1966.

<sup>65</sup> Evans 1971, p. 17, fig. 2:2, pl. 32:4.

<sup>66</sup> See Tanasi, this volume (chapter 4).



cups 11239 and 11247 from Cozzo del Pantano and cups BN/P40 (Fig. 10.22g) and BN/P13 (Fig. 10.22d) from the Borġ in-Nadur temple<sup>67</sup>.

This exact correspondence between Borġ in-Nadur-type pottery found in Sicily and that coming from Borġ in-Nadur is not specific to Cozzo del Pantano alone. For example, the Maltese cup coming from tomb 6 of Matrensa, with a peculiar decoration consisting of a horizontal row of dots above a horizontal line not present in any Maltese-type vessels found in Sicily, can be compared with cup BRG/010/127 from the Borġ in-Nadur temple<sup>68</sup> and is also widely attested at the site of Ghar Mirdum<sup>69</sup>.

Quite different is the scenario which arises from the documentation related to the juglets. The four examples from Cozzo del Pantano, with the exception of CP13/6 of which only the handle is preserved, belong to the same typological category: slightly carinated body, high neck with concave profile, vertical loop handle between neck and shoulder<sup>70</sup>. Among the group of Borġ in-Nadur-type pottery found in Middle Bronze Age Sicily, several juglets of the same type but with some peculiar features have been found in Thapsos (Fig. 10.22h), Matrensa (Fig. 10.22i), Plemmirio, and Molinello<sup>71</sup>. In the Maltese archipelago, this shape, classified by Evans as 106 of his sequence<sup>72</sup>, is not so widely attested also because of the availability of fragmentary pieces. Good comparisons for the Cozzo del Pantano vessels come from Ghar Dalam<sup>73</sup> (Fig. 10.22l) and Tarxien<sup>74</sup> (Fig. 10.22m). An uncommon two handled example was found also at Ghar Mirdum<sup>75</sup> (Fig. 10.22n). From the Borġ in-Nadur temple, only two juglets, one published by Murray and then

---

<sup>67</sup> See Tanasi, this volume (chapter 4).

<sup>68</sup> See Tanasi, this volume (chapter 4).

<sup>69</sup> An exhaustive analysis of the material evidence coming from the explorations carried out at Ghar Mirdum (Evans 1971, p. 22) between 1964-1965 has been carried out by the author and a preliminary report is about to be published. Eight examples of conical cups share the same typology and decorative patterns of the cup coming from tomb 6 of Matrensa: MRD64/P/271, MRD64/P/288, MRD64/P/293, MRD64/P/478, MRD64/P/486, MRD64/P/750, MRD64/P/831, MRD64/P/872

<sup>70</sup> Type V in Tanasi's (2008a) classification of juglets.

<sup>71</sup> Tanasi 2008a.

<sup>72</sup> Evans 1953: 70, fig. 11.

<sup>73</sup> Trump 2002: 253.

<sup>74</sup> Evans 1971: 160, pl. 55.9.

<sup>75</sup> Ashby, Zammit and Despott 1916: 7-8, fig. 1.8.

lost<sup>76</sup> and another one recently identified (BN/P56)<sup>77</sup> (Fig. 10.22o), can be related to Sicilian examples.

For the chronological definition of the contexts of tombs 13 and 23 at Cozzo del Pantano, including the Maltese-type vessels, the studies carried out by Alberti on a comparative chronology which ties in Sicily, the Aegean and Cyprus, can, in my opinion, be taken as a reliable system of reference<sup>78</sup>.

Going by the typology of the local pottery and the association with Mycenaean imports in other undisturbed contexts, Alberti ascribes the use of tomb 13 to Thapsos phase II (1400/1350-1310/1300 BC, contemporary with LH IIIA2 in the Aegean)<sup>79</sup>. Tomb 23 is also dated to Thapsos phase II on the basis of the juglet (11263) which is considered to be a local imitation of a Cypriot prototype, belonging to Åström type IIA of the Black Slip III, VIB of the Red on Black and IVA1 of the Black Lustrous Wheel-made Ware; for its chronology LH IIIA2 is indicated as *terminus ante quem*<sup>80</sup>.

The last issue to be stressed is the nature of the Borg in-Nadur-type pottery from Cozzo del Pantano. Are the vessels Maltese imports or were they locally made? If they were locally made, who produced them? These two questions are pertinent to our debate and can, in fact, be extended to all the Borg in-Nadur-type pottery found in Sicily.

With the exception of the unpublished Borg in-Nadur pottery coming from Late Bronze Age layers of Cannatello, for which archaeometrical analysis presented in a preliminary manner have demonstrated their Maltese origin<sup>81</sup>, petrographic and chemical characterisation of all the other Borg in-Nadur-type vessels found in Sicily is unfortunately lacking. However, the careful macroscopic

---

<sup>76</sup> Murray 1929: pl. 25.246.

<sup>77</sup> See Tanasi, this volume (chapter 4).

<sup>78</sup> Alberti 2004; Alberti 2007; Alberti 2008. Until the results of recent Italian and Maltese excavations at Tas-Silġ are published, dating the Borg in-Nadur pottery repertoire will have to depend on cross-dating with Sicily.

<sup>79</sup> Alberti 2004.

<sup>80</sup> Alberti 2005: 346-348.

<sup>81</sup> Levi 2004; Jones *et al.* forthcoming.

study of the vessels from tombs 13 and 23 of Cozzo del Pantano, allows us to formulate some considerations<sup>82</sup>.

Of the 27 vessels found, 19 of them have a very soft and fragile fabric, while only eight have a hard fabric. Calcareous grits are very common and they can be observed on 18 examples, while *chamotte* is rarer and attested only on nine of them. Superficial voids occur on 15 vessels, while external cracks are visible on three examples. With regards to firing conditions, six vessels appear totally blackened as a result of over burning and two of them collapsed because of a sudden change in temperature. From the traces of fire visible on the surface, the pedestal cup 11246 was probably located in an overturned position in a furnace with a lower firing chamber. The colour of the fabric is generally orange or reddish yellow (5 YR 6/8 or 7.5 YR 8/6) and sometimes pink (7.5 YR 7/3). All the vessels are handmade with the exception of nos 11240 and 11241 which show clear signs of refining on a potter's wheel on the conical feet. Cup 11252 with an unusual concave base was probably constructed by working the clay on a small wooden or stone support, following a system quite common in Maltese Borg in-Nadur pottery which resulted in vessels with embossed bases<sup>83</sup>.

The picture resulting from an analysis of the Sicilian pottery from the same tombs is not so diverse but some differences can be pointed out. Fabrics are in general harder, calcareous grits are common and superficial voids are present but *chamotte* is quite rare (present only in CP23/9). Problems caused by firing conditions, like black blotches and asymmetrical bodies are frequent. Also in this case the colour of the fabric is usually orange or reddish yellow (5 YR 6/8 or 7.5 YR 8/6) but verging on light gray (10 YR 7/2). Some examples have a very pale brown slip (10 YR 7.3) common in the production of several other contemporary sites. All vessels are handmade and their incised or cut-out decoration goes from rough to fine execution.

If the pottery from Cozzo del Pantano is considered in the context of the information now gathered from a study of a large complex of Borg in-Nadur pottery from several Maltese sites (In-

---

<sup>82</sup> The study is complicated by the fact that aggressive systems of restoration were used on the pottery in the past making hard the distinction of features peculiar to the two groups and their fabric.

<sup>83</sup> See Tanasi, this volume (chapter 4).

Nuffara, Mtarfa, Ghar Mirdum, Borġ in-Nadur, Bahrija), discussed elsewhere in this volume, more data can be marshalled to provide an interpretation of the evidence from Cozzo del Pantano<sup>84</sup>.

Fabrics 1 and 2 identified for the pottery coming from the Borġ in-Nadur temple are very similar to the fabrics observed on the ‘Maltese’ vessels from Cozzo del Pantano, with the exception that they are very hard and without added *chamotte*<sup>85</sup>. Softer, sandy and rich in *chamotte* are instead those fabrics identified for the pottery coming from the In-Nuffara silo pit in Gozo.

In absence of archaeometric analyses for the 25 ‘foreign’ vessels from tombs 13 and 23, the label ‘Borġ in-Nadur-type pottery’ shall have to continue to be used. However, two hypotheses can be posed in order to explain these vessels. In the first case, we can envisage the pottery being produced in Gozitan workshops and then imported into Sicily. The second hypothesis would have the pottery being produced in Sicily by Maltese immigrants who used their crafting and pyrotechnological knowledge and used local sources.

Our investigation can be taken a step further if we consider some aspects of the pottery production which display clear elements of hybridisation. In one case, a small jar (11267) with a typical Middle Bronze Age Sicilian shape (largely attested at Thapsos) has a surface treatment (red slip, 2.5 YR 4/6) that is instead common on Borġ in-Nadur-type pottery associated with it in the same context but *not* on contemporary local pottery. Then there is the case of the occurrence of white paste. This fills the incised decoration of the local jar 11270a and of the related lid 11270b. As discussed at length elsewhere<sup>86</sup>, even if this type of decoration survives on pottery with difficulty, the white paste is a distinctive feature of the Thapsos pottery. Indeed, it is better represented in those Sicilian sites where Borġ in-Nadur-type pottery has been recorded. As cut-out decoration filled with white paste is one of the main characteristics of Maltese Borġ in-Nadur pottery from the first time of its development in Malta, it is reasonable to suggest that this technique was introduced in Middle Bronze Age Sicily by Maltese artisans.

---

<sup>84</sup> See Tanasi, this volume (chapter 4).

<sup>85</sup> See Tanasi, this volume (chapter 4).

<sup>86</sup> Tanasi 2008a; Barone *et al.* forthcoming.

In order to understand the possible dynamics ruling cultural interactions and related material outcomes, it is relevant to recall the definition of ‘appropriation’ and ‘daily interaction’ recently put forward by Vives-Ferrándiz<sup>87</sup>: ‘appropriation is the incorporation of new material culture into a context in which the new items change function and/or meaning in relation to other contexts’<sup>88</sup>. This process of appropriation can be influenced, the scholar argues, by several factors, but in particular by social perception of objects, taste and daily interaction<sup>89</sup>. Scarce availability and exotic appearance of the Borġ in-Nadur pottery could have made it very attractive for those local (Sicilian) individual ambitious claiming a superior rank. In some way it could be used for social strategies of displaying status with a value comparable to other classes of foreign pottery, such as Mycenaean and Cypriot. Red slip (so familiar in the material culture of prehistoric Sicily), burnishing (to replicate the brilliant surface of metallic vessels), and filling in white paste (to create a strong chromatic contrast on the red background) could have appealed to local tastes. This way of thinking is particularly reasonable when one takes into account the fact that Borġ in-Nadur-type shapes which occur in Sicily have the *same* function as their corresponding local ones.

In this perspective, these examples of material hybridisation can be explained by suggesting that the complex of 25 Borġ in-Nadur-type vessels from Cozzo del Pantano were made by Maltese artisans working on site who exchanged technical data with local potters. For even if the fabrics of the Borġ in-Nadur-type vessels from Cozzo del Pantano are similar to the local ones because the natural sources used were essentially the same, the know-how of the production, the technological tradition and the morphological archetypes are totally Maltese. In this way it is possible to justify the variety in pottery typologies, particularly in the decoration, and the absence of exact comparisons in the Maltese archipelago.

---

<sup>87</sup> Vives-Ferrándiz 2010: 191, 205.

<sup>88</sup> Vives-Ferrándiz 2010: 191.

<sup>89</sup> Vives-Ferrándiz 2010.

## 10.5. Towards an interpretation of the evidence from Cozzo del Pantano

In order to attempt an interpretation of the evidence of tombs 13 and 23, it is necessary to deal with the problem of the identity of individuals buried in those tombs. Three questions are posed. We consider each in turn.

1. What was the role of the group inhumed in tomb 23 and why is this tomb, which held the wealthiest complex of Borg in-Nadur-type pottery ever known, also the richest in terms of quantity and quality of material culture items of all the Cozzo del Pantano necropolis? Since studies on the social complexity of indigenous communities of Middle Bronze Age Sicily are generally lacking, it is only possible to present some preliminary reflections here.

Signs that in Middle Bronze Age Sicily a transegalitarian society developed can be found in the following, using criteria developed for elsewhere<sup>90</sup>: the use of different funerary rituals and tomb typologies; the acquisition of foreign and exotic goods and their use as status indicators in a funerary sphere; the discovery of objects and tools as grave goods for indentifying their owner as traders, middlemen or artisans; the use of bronze long swords and daggers for announcing the affiliation to warrior guilds. The model is based on the affirmation of inequality claimed by households or factions centered on small hamlets connected in small networks<sup>91</sup>. The leaders of these two kinds of groups are believed to be aggrandizers, individuals whose role is to consolidate their power and to establish it outside their own group. The most common strategy for achieving this goal is to acquire and use high-value prestige goods from foreign people and the use of such paraphernalia in funerary rituals – in short the classic recipe of Helms' *Ulysses' Sail*<sup>92</sup>. In the case of Sicily, the privilege of being connected with Mycenaean or Maltese people and of possessing their wares,

---

<sup>90</sup> Hayden 1995: 15- 86.

<sup>91</sup> Bogucki 1999: 208-259.

<sup>92</sup> Helms 1988.

weapons and ornaments was a symbol of success and power for members of a household or of a faction.

Going back to the evidence from Cozzo del Pantano, besides the high number of objects found in tomb 23, what is also remarkable is the presence of the only three examples of bronze long swords ever discovered in this necropolis, one with an ivory handle. In fact, besides the short bronze daggers coming from tombs 4, 29, 31 and 33, all the other weapons recovered are made out of stone and flint.

In my opinion, tomb 23 was the group burial of the ruling faction of the community living at Cozzo del Pantano, a faction that based its power on the relationship entertained with Maltese people visiting the hamlets in the area of Siracusa's Great Harbour. It is reasonable to suggest that Maltese immigrants lived in the settlement of Cozzo del Pantano, integrated with indigenous people, sometimes sharing local culture and sometimes recreating their tradition. It is also likely that members of the ruling faction had intermarriages with Maltese immigrants both for consolidating their status and for controlling the future arrival of goods and for managing the redistribution of those goods in the Great Harbour district.

Going by the few examples of Borg in-Nadur-type pottery in the other settlements of that district – Ortigia, Matrensa, Plemmirio – in contrast with its relative abundance at Cozzo del Pantano, it would seem that the latter site was probably the commercial hub and the outpost which had a resident Maltese community. The use of the bronze long swords, the manufacture and typology of which are strictly related to Mycenaean metalworking, confirm the authority of the ruling faction and its ability to acquire also goods of Mycenaean type.

The grave goods of tomb 23, I would argue, represent a rare instance of a phenomenon of cultural interchange where different kinds of foreign objects are used for giving socio-political messages amplified by their deployment in funerary symbolism. Beneath the socio-political layer there are also the religious and cultural layers, where diverse ritual traditions are mixed together and where similar beliefs converge into the same performance.

2. At this point a second question arises: what were the assemblages of pottery located in tombs 13 and 23 for? Starting from the

assumption that both tombs were undisturbed, as discussed above, some significant points can be made on the assemblage of Middle Bronze Age grave goods. In tomb 13, a single burial accompanied by the juglet (11224) was found in the vestibule, while inside the chamber there were two isolated individuals. Their grave goods included at least two local vessels<sup>93</sup> and a set of three Borg-in Nadur-type pots, namely a pedestal basin (11223-CP13/1), a conical cup (11222) and a juglet (CP13/6). The same set of Maltese vessels is found in a contemporary context represented by tomb 6 at Matrensa<sup>94</sup>. The same kind of assemblages was probably also located in the disturbed tombs 6 and E of the necropolis at Thapsos<sup>95</sup>.

In tomb 23 at Cozzo del Pantano, even if it is impossible to reconstruct the associations between all the vessels, the presence of two juglets, three pedestal basins and several cups, both pedestalled and not (simple base), suggest that at least two sets of the same type of pots could have been used. It is also quite significant that the same association of objects was found in the reoccupation layers inside the so-called Double Chapel at Borg in-Nadur demonstrating an exact association of these three vessel types in Malta and in Sicily<sup>96</sup>. For tomb 23, on the other hand, interpretation is more difficult because Orsi stated clearly that about a third of the ceramic goods found were too fragmentary to be identified or restored. However, leaving aside the individual accompanied by 'some sherds' buried in the vestibule, inside the chamber there were 22 individuals with an assemblage of 16 local vessels (plus four lids), 21 Borg in-Nadur-type pots and three bronze long swords, one of which with an ivory handle. Orsi also stated that neither skeletons nor vessels were located in the two side chambers or on the bench running along the perimeter of the chamber. To find side chambers, usually meant to receive additional burials, empty is odd especially when one considers that a burial was found in the vestibule. An empty bench, on the other hand, is not uncommon in several graves of the period since its presence in tombs is related to a specific

---

<sup>93</sup> Spouted juglet CP13/3 and pedestal cup CP13/4.

<sup>94</sup> Orsi 1903.

<sup>95</sup> Tomb 6: conical cup and pedestal basin; Tomb E: juglet and conical cup.

<sup>96</sup> Murray 1929: pl. 25; Tanasi 2008a: 77, fig. 59c.



ritual involving a funerary feast. This is thought to have been performed inside the tomb by the relatives of the dead, who symbolically partook in it<sup>97</sup>. The participants sat on the bench and meat-based meals were prepared. A pottery set, composed of a pedestalled cup or one with a simple base, a pedestalled basin, and a jug, was used for the communal consumption of the food, and the set was then placed in the centre of the tomb together with the remains of the food. So going by the remains discovered in tomb 23, the ritual feast would seem to have been carried out using two sets of identical pottery containers.

In this perspective, it is very important to highlight how the above mentioned set of Maltese vessels is morphologically and functionally similar to the local one usually used for the funerary feast (Fig. 10.23).

This would suggest that the same kind of ritual was carried out using both local and Maltese vessels or by local people using exotic objects or by Maltese people using both their own pottery and also local vessels. A hint for supporting this hypothesis comes from the traces of burning observed on the conical cup (11253) that may have been used for the actual preparation of the food to be consumed. But there is also another possibility. It is interesting to note that the Borġ in-Nadur-type pottery consists of exclusively open vessels whereas local pottery includes open vessels but also a variety of small jars equipped with lids; these can be interpreted as personal belongings pertaining to an individual/s. The exclusive presence of this type of object among the group of local vessels can be taken to be related to a practice traditionally considered 'local' and that cannot be carried out with 'foreign' vessels.

In my opinion, this reading of the evidence can be taken a step further to suggest that among the 22 individuals, buried in tomb 23, there were Maltese persons accompanied by Borġ in-Nadur-type vessels, Sicilian persons accompanied by Thapsos vessels, both participating with their own pottery shapes in the ritual of the funerary feast. In addition to this, at least a second practice of offering small jars equipped with lids was also carried out, probably involving only local people.

---

<sup>97</sup> Maniscalco 1999: 188-189.

The suggestion that Maltese people may have accepted local practice, like the funerary feast carried out through the use of a ritual set of vessels, must not be considered unlikely for several reasons. First, the use of those types of tableware together is documented also in Malta<sup>98</sup>. Second, practices of commensality performed in honour of the dead are quite common in Mediterranean prehistory<sup>99</sup>. Third, the acquisition of diverse beliefs, or tastes as pointed out by Vives Ferrándiz, as well as the development of different cultural facets is the main feature of intermarriages<sup>100</sup>.

3. This leads us to the third and final question: were the people using ‘foreign’ vessels local or were they Maltese immigrants living and dying in a foreign country following Maltese funerary prescriptions? This issue may be taken to embrace all the other Sicilian contexts, funerary or domestic, where Borġ in-Nadur-type pottery was found. To justify the large amount of Borġ in-Nadur-type pottery found in Sicily, and also to attend to this question directed to the evidence from Cozzo del Pantano, two hypotheses can be proposed in a preliminary manner, to provoke rather than provide definitive answers.

It could be suggested that Borġ in-Nadur-type pottery was offered to Sicilian local elites in a commercial strategy aimed to put in contact Maltese people with Mycenaean merchants frequenting Sicilian emporia. Pottery was given to acquire the right to trade directly with Mycenaeans or to obtain indirectly Mycenaean merchandise from local rulers. It is likely that the Maltese-type pottery with its strange metal-like surface, so different and yet so technologically well developed, could be considered exotic and worthy of note by the Sicilian elites controlling the commercial trade. Furthermore, the discovery of Borġ in-Nadur-type pottery, in some cases huge versions of open vessels without any practical use, inside warehouses A and B at Thapsos, could testify to the donation of a symbolic gift of pottery vessels<sup>101</sup>, as is known to have

---

<sup>98</sup> Murray 1929: pl. XXV; Tanasi 2008a: 77.

<sup>99</sup> Hayden 2001.

<sup>100</sup> Vives Ferrándiz 2010: 203.

<sup>101</sup> Tanasi 2008a: 78.

happened elsewhere<sup>102</sup>. From this point of view, the presence of Borġ in-Nadur-type pottery in domestic and funerary contexts could be interpreted as exotic objects acquired by local middlemen used together with other rare Aegean goods to enrich their tombs, or stored in the warehouses with other foreign merchandise or used in their houses as everyday pots as an alternative to similar local vessels. The use in a funerary sphere can be interpreted by suggesting that Maltese vessels were used by indigenous elites as an exotic and alternative version of the local pottery, which was basically similar in shape and function to the Borġ in-Nadur-type counterpart. Furthermore, the hypothesis of a conscious use of the Borġ-in Nadur-type pottery could also be confirmed by the practice attested in the Thapsos ritual funerary feast of substituting the local vessels by a Mycenaean version of them presumably in an effort to mark through display a privileged status for the deceased and his/her group<sup>103</sup>.

Another hypothesis would have the Borġ in-Nadur-type pottery as the personal possession of Maltese people who travel to Sicily to live within local communities. In this case, Borġ in-Nadur-type vessels were consciously used for ritual reasons by the same Maltese people, living and dying in Sicily.

Available data and studies already carried out<sup>104</sup> have clearly rebuilt a scenario in which Maltese merchants were regularly coming to Sicily to participate in commercial business with Mycenaean partners and stopping at least at the two main coastal hubs of south-eastern Sicily, the Great Harbour of Siracusa, controlled probably not by a single site but by a network of hamlets, and the bays of the Magnisi Peninsula controlled by Thapsos. It is possible that some 'visitors' could have been chosen to settle permanently in local villages and could have even mixed with local people through intermarriages determining forms of cultural hybridisation. This can easily explain the presence of Borġ in-Nadur-type pottery in domestic contexts. At the end of their life,

---

<sup>102</sup> Dietler 1999.

<sup>103</sup> Tanasi 1999: 46.

<sup>104</sup> Tanasi 2008a; Tanasi 2010.

they could have been buried in Sicily in the most popular graves, that is, the chamber tomb accompanied by sets of vessels as grave goods.

Even if the funerary practices of the Borġ in-Nadur culture in the Maltese islands are largely unknown, the evidence of Ghar Mirdum can add significant data. Explored by a group of speleologists between 1964 and 1965<sup>105</sup>, it is a complex of 19 natural caves interconnected by galleries with traces of occupation from the Neolithic to Roman times<sup>106</sup>. The more relevant phase of its frequentation is that of the Borġ in-Nadur phase. Among several significant discoveries, the most important is represented by two inhumations accompanied by several grave goods, found in chamber P, which are the only known and documented examples of burials for the Middle Bronze Age. The analysis carried out on the two individuals demonstrated that they were an adult and a two-year-old child<sup>107</sup>. This evidence informs us that it could not be so hazardous to suggest that Maltese people adopted the practice of inhumation in subterranean contexts and carried out the same type of funerary ritual as their Sicilian neighbours. As the evidence of Maltese-Sicilian cultural interchange may involve the production of Borġ in-Nadur pottery, as may have been the case at Cozzo del Pantano, and a Maltese influence on local pottery technology, it is reasonable to think that among those Maltese immigrants there were also artisans. The commissioners of these specialists of pottery making could have been both local elites attracted by the exoticism of Borġ in-Nadur ware and Maltese people who needed their traditional pottery for use in their daily life and for funerary rituals.

In conclusion, the evidence from the necropolis at Cozzo del Pantano turns out to be fundamental for defining the role the Maltese archipelago played in the south-central Mediterranean in the second half of the second millennium BC. Furthermore, sufficient arguments can be made to suggest that Maltese immigrants may have lived in eastern Sicily during the Middle Bronze Age.

---

<sup>105</sup> Evans 1971: 22.

<sup>106</sup> [www.shurdington.org/gharmirdum/](http://www.shurdington.org/gharmirdum/)

<sup>107</sup> MAR 1965: 1; Trump 2004, p. 238.

### Acknowledgements

I am thankful to Concetta Ciurcina and Beatrice Basile, former and current director of the Archaeological Museum of Siracusa respectively, for allowing me to study the finds from Orsi's excavation at Cozzo del Pantano. This research would have been unsuccessful without the help of Anita Crispino and Angela Maria Manenti at the Museum of Siracusa. Many thanks to Carlo Veca for the fine drawings and to Dalma Cultrera who contributed a lot to the cataloguing of the pieces. I am grateful also to Michele Uccello and Giuseppe Pirrotta for helping me to put order in the material.

### References

- Albanese Procelli R. M., Lo Schiavo F., Martinelli M. C. and Vanzetti A. [2004] "Articolazioni cronologiche e differenze locali," in D. Cocchi Genick (ed.), *L'età del Bronzo recente in Italia*, Atti del Congresso Nazionale di Lido di Camaiore (Lido di Camaiore, 26–29 Ottobre 2000), pp. 313-326. Mauro Baroni, Viareggio.
- Alberti, G. [2004] "Contributo alla seriazione delle necropoli siracusane, in Le presenze micenee nel territorio siracusano," in V. La Rosa (ed.), *Le presenze micenee nel territorio siracusano*, Atti del Primo simposio siracusano di preistoria siciliana (Siracusa 15-16 dicembre 2003), pp. 99-170. Aldo Ausilio Editore, Padova.
- Alberti, G. [2005] "The earliest contacts between south-eastern Sicily and Cyprus in the Late Bronze Age," in R. Laffineur and E. Greco (eds), *Emporia: Aegeans in Central and Eastern Mediterranean*, Acts of the 10<sup>th</sup> International Aegean Conference at the Italian School of Archaeology in Athens (Athens 14-18 April 2004) (Aegaeum 25), pp. 343-351. Université de Liège, Liège.
- Alberti, G. [2007] "Minima Thapsiana. Riflessioni sulla cronologia dell'abitato di Thapsos", in *Rivista di Scienze Preistoriche* 57: 363-376.
- Alberti, G. [2008] *La ceramica eoliana della facies del Milazzese. Studio cronotipologico e culturale sulla base dei dati editi da Filicudi, Lipari, Panarea, Salina* (British Archaeological Reports - International Series 1767). Archaeopress, Oxford.
- Ashby, T., Zammit, T., Despott, G. [1916] "Excavations in Malta in 1914", in *MAN* 1916: 1-11.
- Barone G., Mazzoleni, P. and Tanasi, D. [forthcoming] "Nuovi dati sulla ceramica tipo Thapsos di area etnea: studio tipologico e caratterizzazione petro-archeometrica", in M. Cultraro and A. Zanini (eds), *Protostorie Siciliane. La Sicilia nell'età del Bronzo e la sua prospettiva mediterranea. Elementi per un nuovo dibattito*, Atti della Giornata di studio, (Agrigento 24 maggio 2010).

- Bernabò Brea L. [1966] “Abitato neolitico ed insediamento maltese dell’età del Bronzo all’isola di Ognina (Siracusa) e i rapporti fra Sicilia e Malta dal XVI al XIII sec. a.C.”, in *Kokalos* 12: 41-69.
- Bernabò Brea, L. [1990] *Pantalica. Ricerche intorno all’anaktoron* (Cahiers du centre Jean Bérard 14). Centre Jean Bérard de Naples, Napoli.
- Blakolmer, F. [2005] “Relations between Prehistoric Malta and the Aegean: Myth and Reality,” in R. Laffineur and E. Greco (eds), *Emporia: Aegeans in Central and Eastern Mediterranean*, Acts of the 10<sup>th</sup> International Aegean Conference at the Italian School of Archaeology in Athens (Athens 14-18 April 2004), (*Aegaeum* 25), pp. 653-661. Université de Liège, Liège.
- Bogucki, P. [1999] *The Origins of Human Society*. Blackwell Publishers, Oxford.
- Bonanno, A. [2008] “Insularity and isolation: Malta and Sicily in Prehistory”, in A. Bonanno, P. Militello (eds), *Malta negli Iblei. Gli Iblei a Malta*, Atti del Convegno, (Catania 30 settembre - 1 ottobre 2007) (*KASA* 2), pp. 27-37. Officina di Studi Medievali, Palermo.
- Burns, B.E. [2010] *Mycenaean Greece, Mediterranean Commerce, and the Formation of Identity*. Cambridge University Press, Cambridge.
- Caruso, E. [1892] “Siracusa”, in *Notizie degli Scavi di Antichità* 1892: 101-104.
- Cilia, D. (ed.) [2004] *Malta before History*. Miranda Publishers, Malta.
- Cultraro, M. [2008] “Domesticating islandscapes: Sicily and the Maltese Islands in the Later Neolithic and Eneolithic Ages (IV-III millennium BC),” in A. Bonanno and P. Militello (eds), *Interconnections in the Central Mediterranean: The Maltese Islands and Sicily in History*, Proceedings of the Conference (St. Julians, Malta 2-3 November 2007) (*KASA* 7), pp. 5-19. Officina di Studi Medievali, Palermo.
- Dietler, M. [1999] “Rituals of commensality and the politics of state formation in the princely societies of early Iron age Europe,” in P. Ruby (ed.), *Les Princes de la Protohistoire et l’Émergence de l’État*, Actes de la table ronde internationale (Naples 27 - 29 Octobre 1994), pp. 135-152. Ecole française de Rome, Roma.
- Dietler, M. [2007] “Culinary encounters: food, identity, and colonialism”, in T.K. Twiss (ed.), *The Archaeology of Food and Identity*, pp. 218-242. Southern Illinois University, Carbondale.
- Evans J. D. [1971] *The Prehistoric Antiquities of the Maltese Islands: A Survey*. Athlone Press, London.
- Evans, J. D. [1953] “The Prehistoric Culture-Sequence in the Maltese Archipelago”, in *Proceeding of Prehistoric Society* 19: 41-94.
- Guzzardi, L. [1991-1992] “Insediamento dell’età del bronzo a Vendicari (Noto) con ceramiche del tipo di Thapsos, Tarxien Cemetery e Borġ in-Nadur”, in *Rassegna di Archeologia* 10: 772-773.

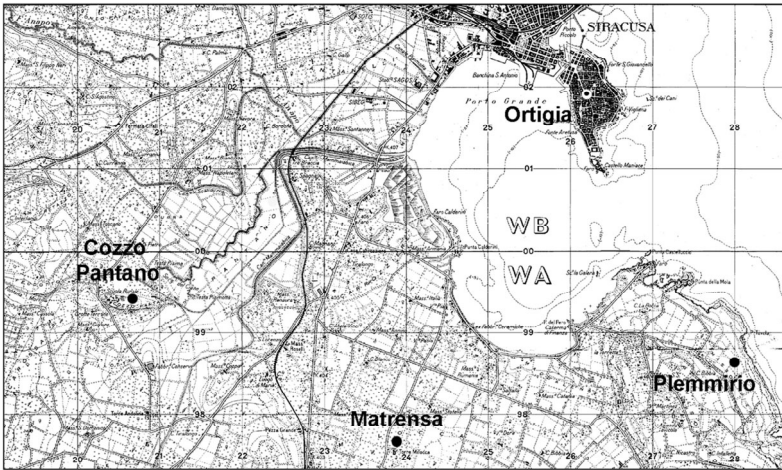
- Guzzardi, L. [1997-1998] "Il Capo Pachino nella preistoria", in *Atti e Memorie dell'Istituto per la salvaguardia e valorizzazione di Noto Antica* 2/1-2: 79-97.
- Guzzardi, L. [2008] "L'area del Siracusano e l'arcipelago maltese nella Preistoria," in A. Bonanno and P. Militello (eds), *Malta negli Iblei. Gli Iblei a Malta*, Atti del Convegno, (Catania 30 settembre - 1 ottobre 2007), (KASA 2), pp. 39-48. Officina di Studi Medievali, Palermo
- Hayden B. [1995] "Pathways to Power: Principles for Creating Socioeconomic Inequalities", in T. D. Price and G. M. Feinman (eds), *Foundations of Social Inequality*, pp. 15-86. Springer, New York.
- Helms, M. W. [1988] *Ulysses' Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance*. Princeton University Press, Princeton.
- Jones, R., Levi, S.T., Vagnetti, L. [forthcoming] "Cannatello (AG): Seriazione cronologica e caratterizzazione delle materie prime", in *Dai Ciclopi agli Ecisti. Società e territorio nella Sicilia preistorica e protostorica*, Atti della XLI Riunione Scientifica dell'I.I.P.P., (San Cipirello, 16-19 novembre 2006).
- La Rosa, V. [1989] "Bernabò Brea e l'anakton di Pantalica", in *Archivio Storico per la Sicilia Orientale* 85: 299-307.
- Levi, S.T. [2004] "La Ceramica. Circolazione dei prodotti e organizzazione della manifattura, in D. Cocchi Genick (ed.), *L'età del Bronzo recente in Italia*, Atti del Congresso Nazionale di Lido di Camaiore, (Lido di Camaiore, 26-29 Ottobre 2000), pp. 233-242. Mauro Baroni, Viareggio.
- Mallia F. S. [1965], "Prehistoric Finds", in M. Cagiano de Azevedo, C. Caprino, A. Ciasca, E. Coleiro, A. Davico, G. Garbini, F. S. Mallia, G. P. Marchi, P. Minganti, S. Moscati, E. Paribeni, B. Pugliese, M. P. Rossignani, V. S. M. Scrinari and A. Stenico, *Missione archeologica italiana a Malta. Rapporto preliminare della Campagna 1964*, pp. 73-74. Università di Roma "La Sapienza", Roma.
- Mallia F. S. [1966], "The prehistoric material," in M. Cagiano de Azevedo, C. Caprino, A. Ciasca, E. Coleiro, A. Davico, G. Garbini, F. S. Mallia, S. Moscati, B. Pugliese, M.P. Rossignani, and A. M. Tamassia, *Missione archeologica italiana a Malta. Rapporto preliminare della Campagna 1965*, pp. 49-51. Università di Roma "La Sapienza", Roma.
- Malone, C., Bonanno, A., Trump, D., Dixon, J., Leighton, R., Pedley, M., Stoddart, S. [2009] "Material culture" in C. Malone, S. Stoddart, A. Bonanno and D. Trump (eds), *Mortuary customs in prehistoric Malta: excavations at the Brochtorff Circle at Xaghra (1987-94)*, pp. 193-289. McDonald Institute for Archaeological Research, Cambridge.
- Maniscalco, L. [1999] "The Sicilian Bronze Age pottery service," in R. H. Tychot, J. Morter and J. E. Robb (eds), *Social Dynamics of the Prehistoric Central Mediterranean* (Accordia Specialist Studies on the Mediterranean 3), pp. 185-94. Accordia Research Institute, London.

- Murray, M. A. [1923] *Excavations in Malta: Part I*. Bernard Quaritch, London.
- Murray, M. A. [1925] *Excavations in Malta: Part II*. Bernard Quaritch, London.
- Murray, M. A. [1929] *Excavations in Malta: Part III*. Bernard Quaritch, London.
- Orsi, P. [1891] “La necropoli sicula del Plemmirio (Siracusa)”, in *Bullettino di Paleontologia Italiana* 17: 115-139.
- Orsi, P. [1893] “Necropoli sicula presso Siracusa”, in *Monumenti Antichi dei Lincei* 4: coll. 4-86.
- Orsi, P. [1895] “Thapsos”, in *Monumenti Antichi dei Lincei* 6: coll. 89-150.
- Orsi, P. [1902] “Molinello presso Augusta”, in *Notizie degli Scavi di Antichità* 1902: 411-420.
- Orsi, P. [1903] “Necropoli e stazioni sicule di transizione IV. Necropoli di Milocca o Matrensa (Siracusa)”, in *Bullettino di Paleontologia Italiana* 29: 136-149.
- Orsi, P. [1919] “Gli scavi intorno all’Athenaion di Siracusa negli anni 1912-1917”, in *Monumenti Antichi dei Lincei* 25: coll. 353-754.
- Palio, O. [2008] “Ognina, Malta e l’Egeo”, in A. Bonanno and P. Militello (eds), *Malta negli Iblei. Gli Iblei a Malta*, Atti del Convegno, (Catania 30 settembre - 1 ottobre 2007) (KASA 2), pp. 71-80. Officina di Studi Medievali, Palermo.
- Paternoster, G., C. Albore Livadie, A. Calamiello, Scarpato, L. [2008] “Analisi delle decorazioni delle ceramiche del Bronzo Medio dal sito di La Starza, Ariano Irpino”, in A. Gueli (ed), *Scienza e Beni Culturali*, Atti del V Congresso Nazionale di Archeometria, (Siracusa 26-29 Febbraio 2008), pp. 51-62. Morrone, Siracusa.
- Sagona, C. [1999] “Silo or vat? Observations on the ancient textile industry in Malta and early Phoenician interests in the island”, in *Oxford Journal of Archaeology* 18: 23-60.
- Tanasi, D. [1999] “L’architettura funeraria pluricellulare in Sicilia tra la media e la tarda età del bronzo: le tombe a camera multipla delle necropoli di Pantalica”, in *Archivio Storico per la Sicilia Orientale* 95: 9-75.
- Tanasi, D. [2004] “Per un riesame degli elementi di tipo miceneo nella cultura di Pantalica Nord”, in V. La Rosa (ed), *Le presenze micenee nel territorio siracusano*, Atti del Primo simposio siracusano di preistoria siciliana, “Siracusa 15-16 dicembre 2003), pp. 337-383. Aldo Ausilio Editore, Padova.
- Tanasi, D. [2005] “Contributo ad una rilettura della necropoli di Cozzo del Pantano (SR)”, in *Studi Micenei ed Egeo Anatolici* 47: 323-331.
- Tanasi, D. [2008a] *La Sicilia e l’arcipelago maltese nell’età del Bronzo Medio* (KASA 3). Officina di Studi Medievali, Palermo.
- Tanasi, D. [2008b] *La necropoli protostorica di Montagna di Caltagirone (CT)* (Praehistorica Mediterranea 1). Polimetrica, Monza.
- Tanasi, D. [2009] “A Mediterranean Connection. Nuovi dati sulle relazioni tra Malta e Creta agli inizi dell’età del Ferro”, in *Creta Antica* 10/2: 519-538.



- Tanasi, D. [2010] “Bridging the gap. New data on the relationship between Sicily, the Maltese Archipelago and the Aegean in the Middle Bronze Age”, in *Mare Internum 2*: 111-119.
- Tanasi D. and Vella, N. C. [forthcoming] “Islands and mobility: exploring Bronze Age connectivity in the south-central Mediterranean,” in P. Van Dommelen and B. Knapp (eds), *The Cambridge Prehistory of the Bronze and Iron Age Mediterranean*. Cambridge University Press, Cambridge.
- Terranova, G. [2003] “Maltese temples and hypogeism: new data about the relationship between Malta and Sicily during the III and II millennium B.C.,” in *Exploring the Maltese Prehistoric Temple Culture (EMPTC)*, Malta 25-27 September 2003. Electronic version.
- Tinë, S. [1965] “Gli scavi nella Grotta della Chiusazza”, in *Bullettino di Paleontologia Italiana* 69: 113-286.
- Trump, D. [1961] “The Later Prehistory of Malta”, in *Proceedings of Prehistoric Society* 26: 253-262.
- Trump, D. [1966] *Skorba*. Oxford University press, London.
- Trump, D. [2002] *Malta. Prehistory and Temples*. Midsea Books, Malta.
- Trump, D. [2003] “Overseas connections of the Maltese Temples,” in *Exploring the Maltese Prehistoric Temple Culture (EMPTC)*, Malta 25-27 September 2003. Electronic version.
- Trump, A. [2004] “Dating Malta’s prehistory”, in D. Cilia (ed.) *Malta before History*, pp. 231-242. Miranda, Malta.
- Vander Linden, M. [2007] “What linked the Bell Beakers in third millennium BC Europe?”, in *Antiquity* 81: 343-352.
- Vella, C. [2008] “Emerging aspects of interaction between prehistoric Sicily and Malta from the perspective of lithic tools,” in A. Bonanno and P. Militello (eds), *Malta negli Iblei. Gli Iblei a Malta*, Atti del Convegno, (Catania 30 settembre - 1 ottobre 2007) (KASA 2), pp. 81-93. Officina di Studi Medievali, Palermo.
- Vives-Ferrándiz, J. [2010] “Mobility, materiality and identities in Iron Age East Iberia”, in P. Van Dommelen and B. Knapp (eds), *Material connections in the ancient Mediterranean. Mobility, Materiality and Mediterranean Identities*, pp. 190-209. Routledge, London.
- Voza, G. [1973a] “Thapsos: resoconto sulle campagne di scavo del 1970-71”, in *Atti della XV Riunione Scientifica dell’Istituto Italiano di Preistoria e Protostoria*, (Verona-Trento 27-29 Ottobre 1972), pp. 133-157. All’Insegna del Giglio, Firenze.
- Voza, G. [1973b] “Thapsos, in Archeologia nella Sicilia Sud-Orientale,” in P. Pelagatti and G. Voza (eds), *Archeologia nella Sicilia sud-orientale*, pp. 30-52. Centre Jean Bérard de Naples, Napoli.

**Davide Tanasi** PhD is Adjunct Professor of Archaeology and Ancient History at Arcadia University – The College of Global Studies. He has authored several publications about Mediterranean prehistory including *La necropoli protostorica di Montagna di Caltagirone* (Polimetrica, 2008) and *La Sicilia e l'arcipelago maltese nell'età del Bronzo Medio* (Officina di Studi Medievali, 2008). He is co-director of the Archeomatica Project (IPLab, University of Catania) aimed to develop new digital tools for archaeological research and the preservation of cultural heritage.



A



B

**Figure 10.1.** (A) Plan of southern coastal territory of Siracusa with indications of more relevant Middle Bronze settlements: Ortigia, Cozzo del Pantano, Matrensa, Plemmirio; B) Aerial view of the Siracusa's Great Harbour.



**Figure 10.2.** Aerial view of Cozzo del Pantano with indication of the five main groups of tombs (A, B, C, D, E).



A



B

**Figure 10.3.** (A) Entrance of tomb 13, from the South; (B) Entrance of tomb 23, from the South.

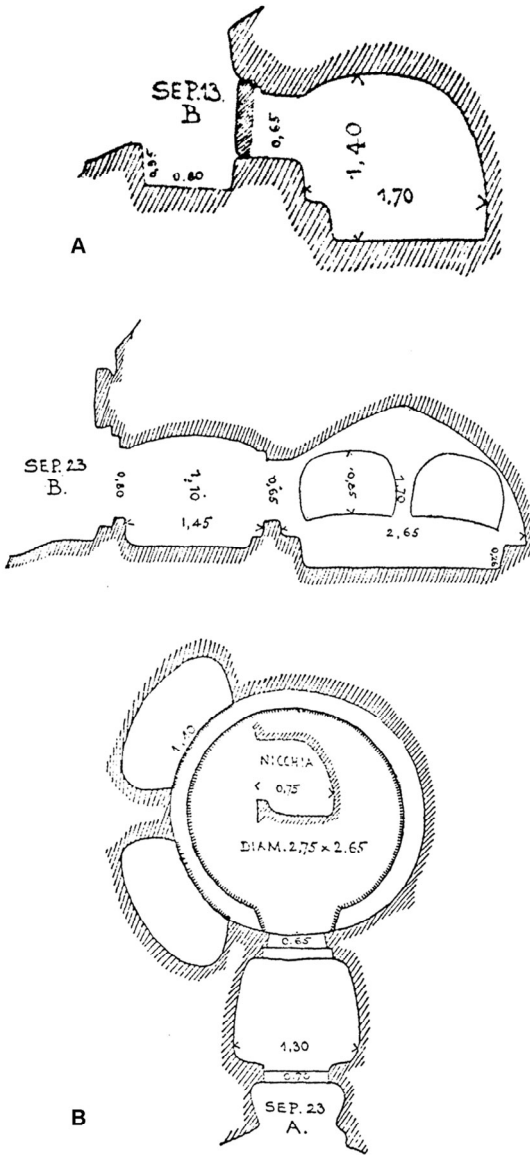
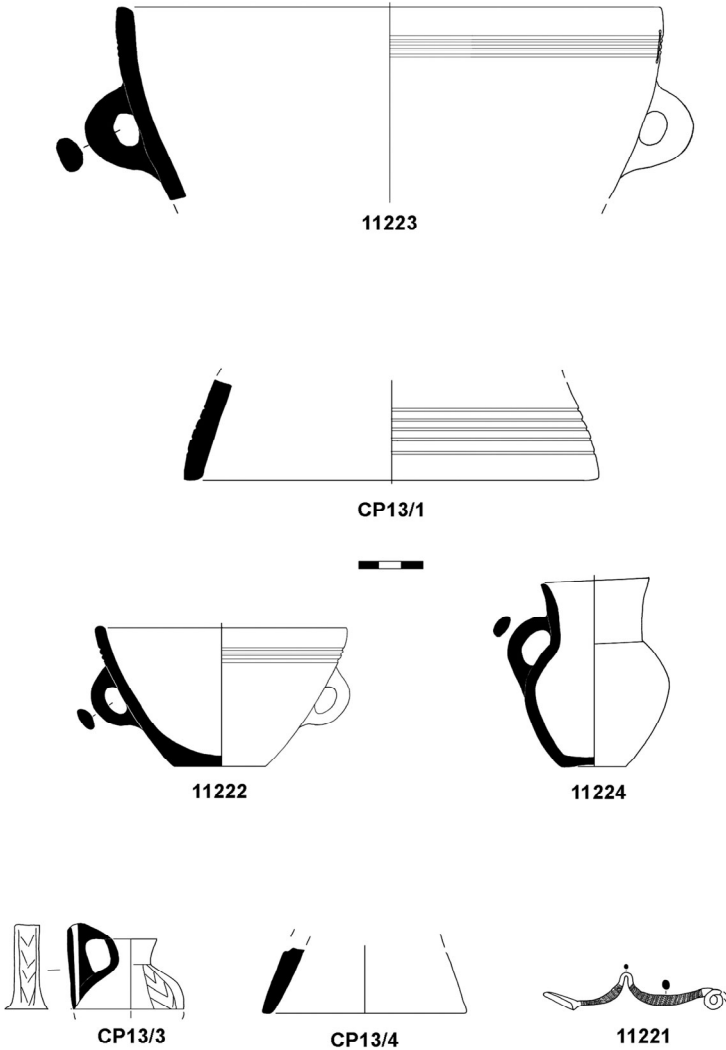
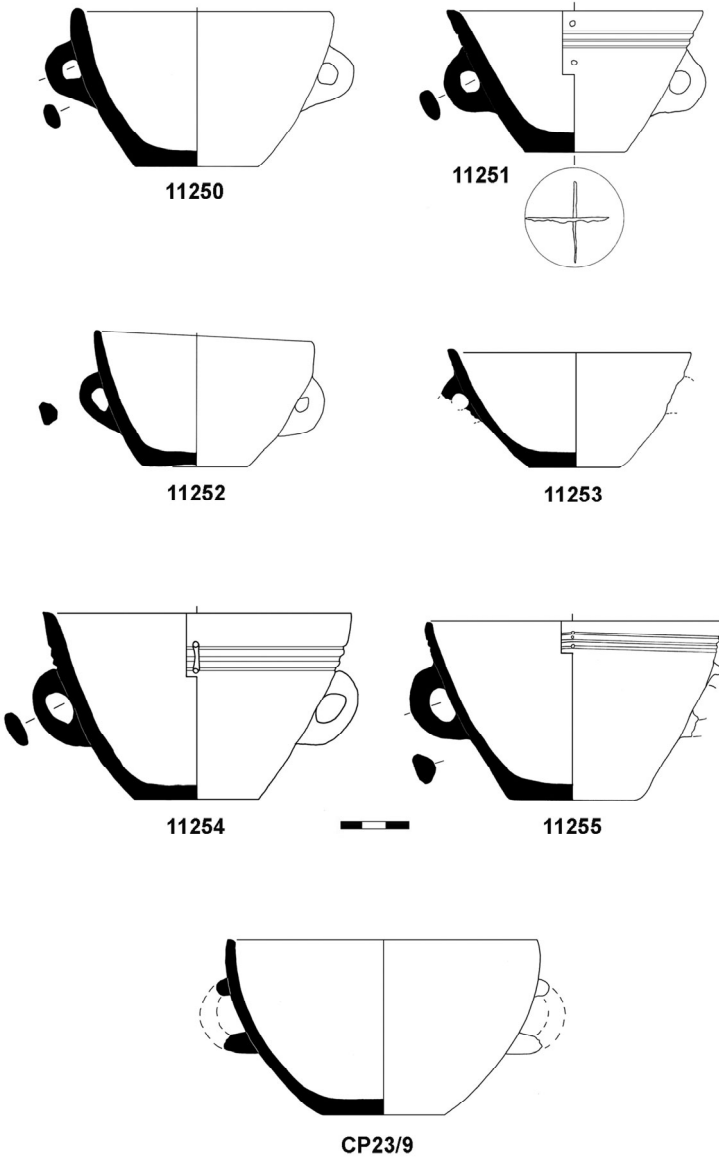


Figure 10.4. (A) Plan and section of tomb 13 (after Orsi 1893); (B) Plan of tomb 23 (after Orsi 1893).

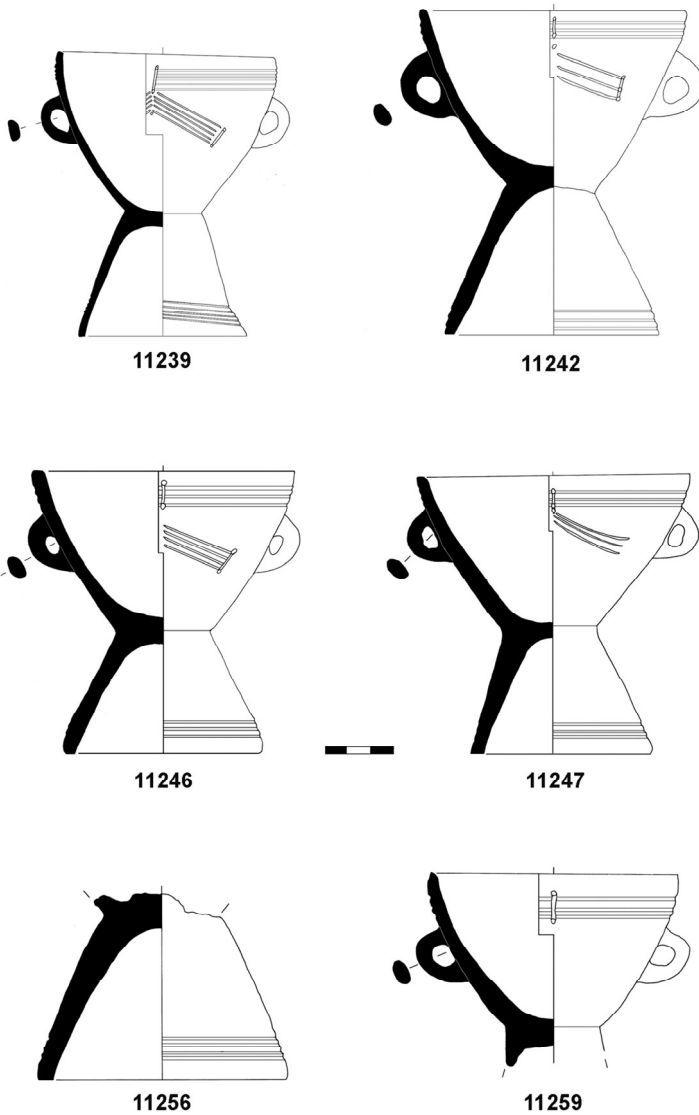


**Figure 10.5.** Tomb 13, Borg in-Nadur type pottery (11223, 11222, CP13/1, 11244; Thapsos pottery (CP13/3, CP13/4); bronze fibula dated to a later phase of reuse (11221) (1:4, drawn by Carlo Veca).

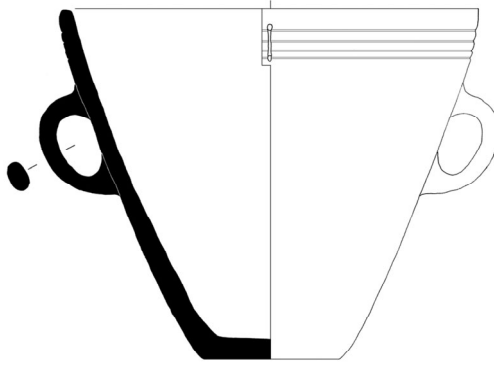


**Figure 10.6.** Tomb 23, Borg in-Nadur-type pottery, simple cups (1:4, drawn by Carlo Veca).

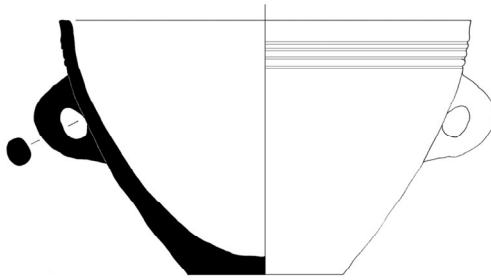




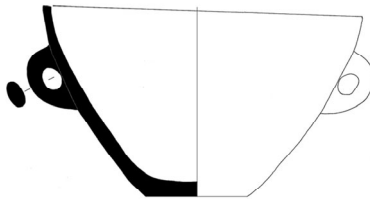
**Figure 10.7.** Tomb 23, Borg in-Nadur-type pottery, pedestal cups (1:4, drawn by Carlo Veca).



11243

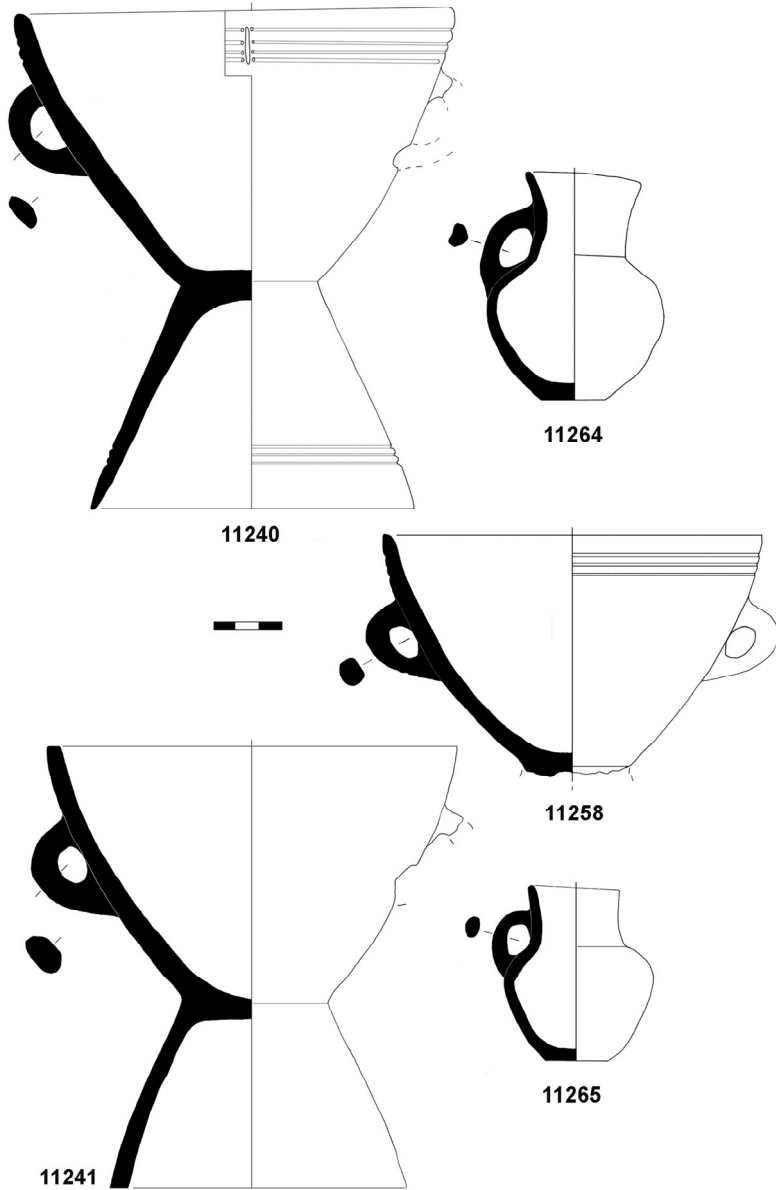


11244



11249

**Figure 10.8.** Tomb 23, Borg in-Nadur-type pottery, simple basins (1:4, drawn by Carlo Veca).



**Figure 10.9.** Tomb 23, Borg in-Nadur-type pottery, pedestal basins and juglets (1:4, drawn by Carlo Veca).

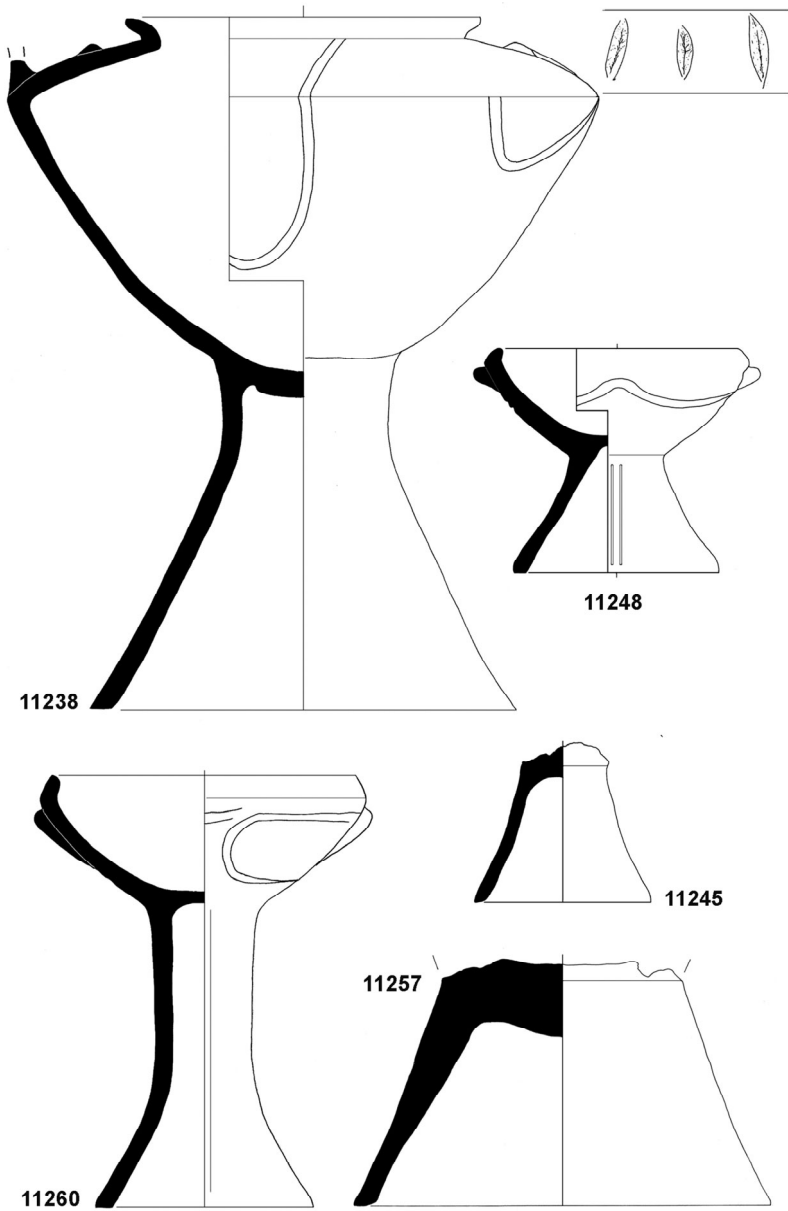
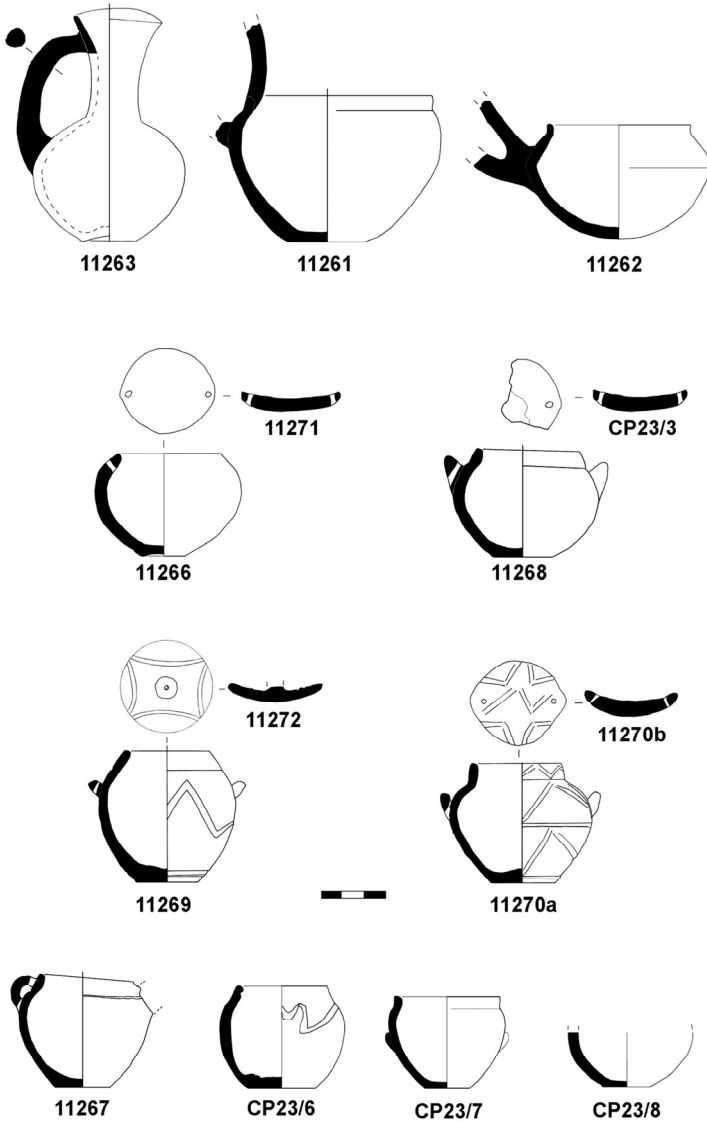
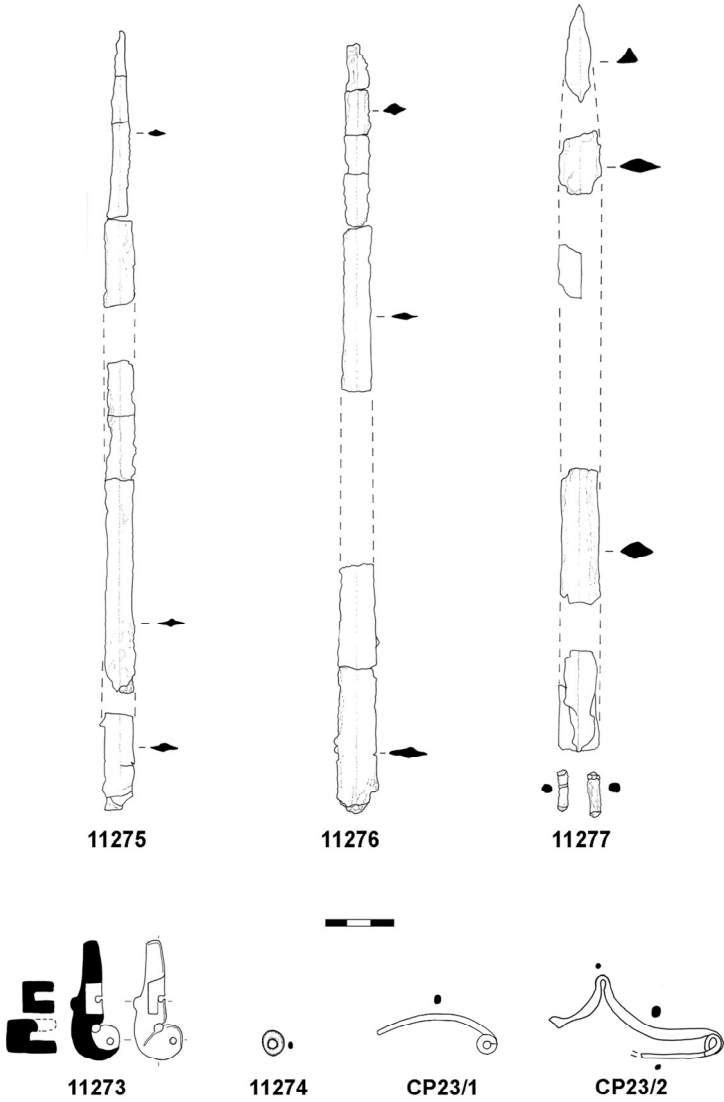


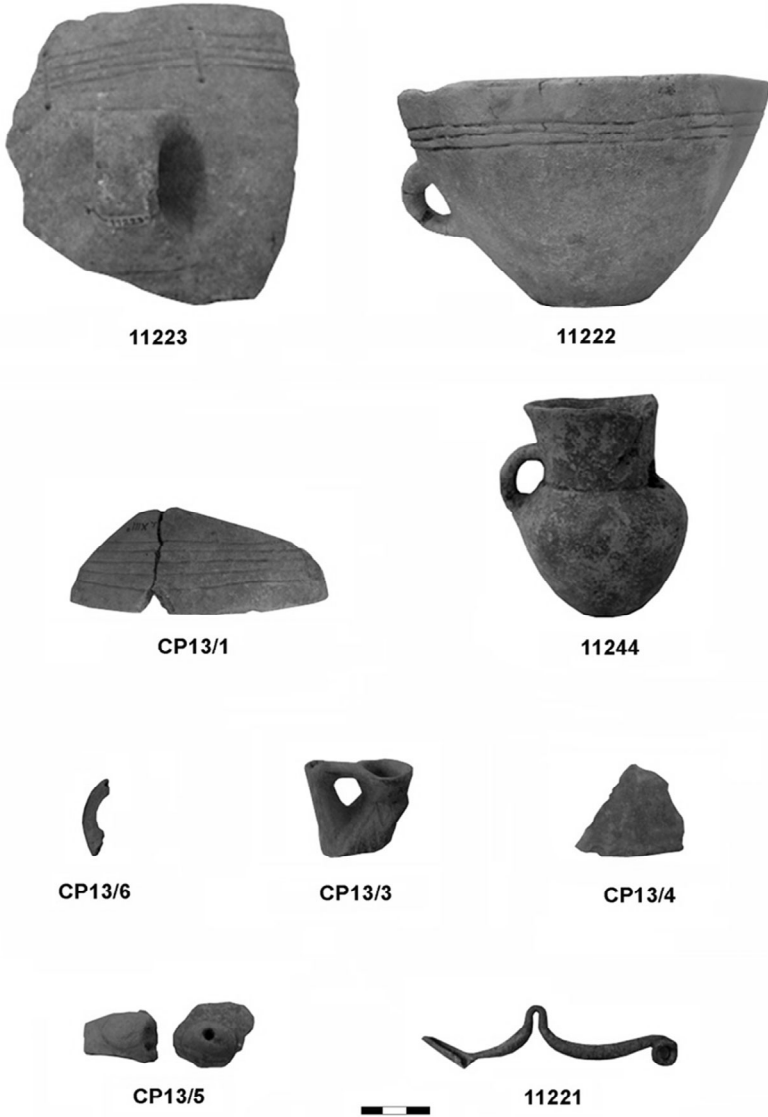
Figure 10.10. Tomb 23, Thapsos pottery, pedestal cups and pedestal basins (1:4, drawn by Carlo Veca).



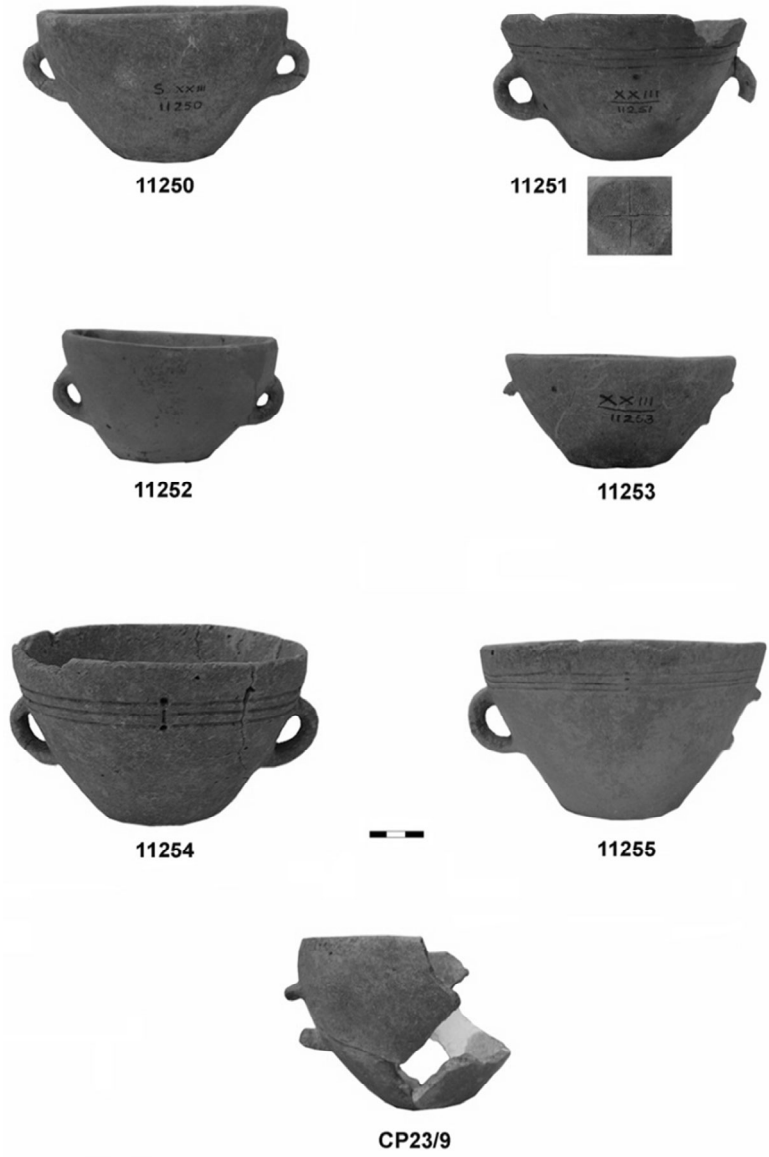
**Figure 10.11.** Tomb 23, Thapsos pottery, juglet, dipper cups, jars with lid (1:4, drawn by Carlo Veca).



**Figure 10.12.** Tomb 23, Thapsos bronze swords, ivory hilt; bronze fibulas dated to reuse phase (1:4, drawn by Carlo Veca).



**Figure 10.13.** Tomb 13, Borg in-Nadur-type pottery (11223, 11222, CP13/1, 11244, CP13/6); Thapsos pottery (CP13/3, CP13/4, CP13/5); bronze fibula dated to a later phase of reuse (11221) (photo author).



**Figure 10.14:** Tomb 23, Borg in-Nadur-type pottery, simple cups (photo author).





**Figure 10.15.** Tomb 23, Borg in-Nadur-type pottery, pedestal cups (photo author).



11243



11244



11249

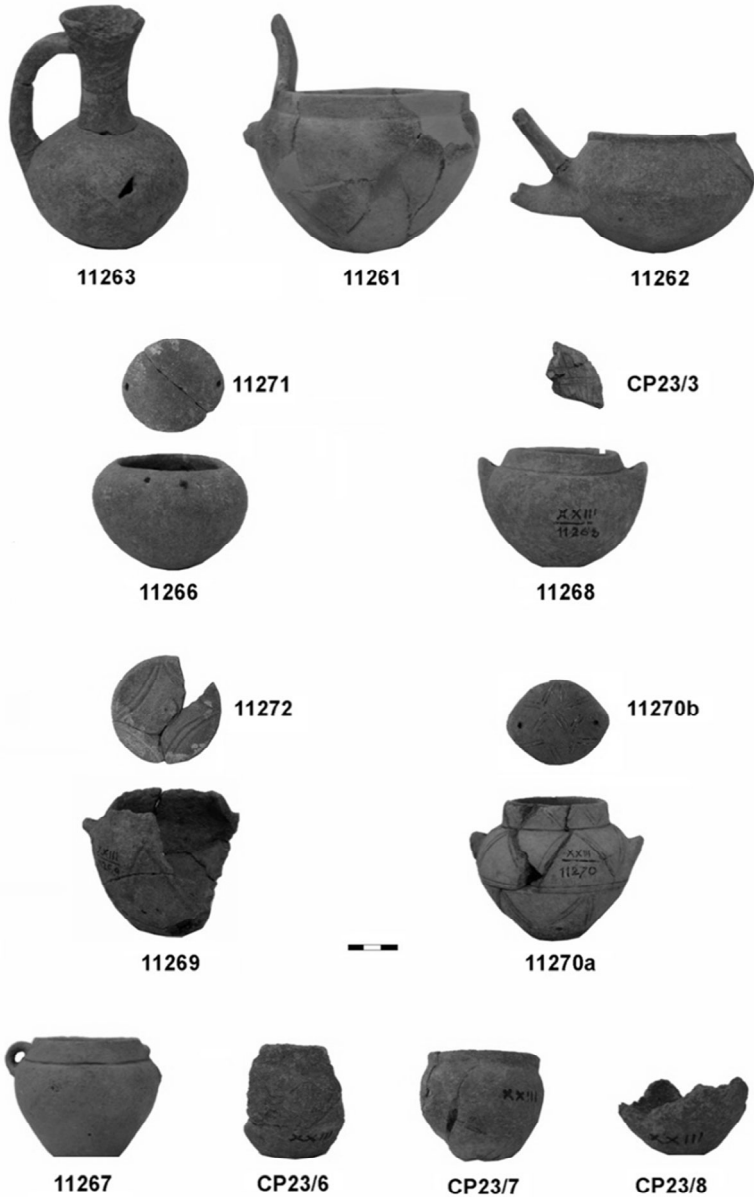
**Figure 10.16.** Tomb 23, Borg in-Nadur-type pottery, simples basins (photo author).



**Figure 10.17.** Tomb 23, Borg in-Nadur-type pottery, pedestal basins and juglets (photo author).



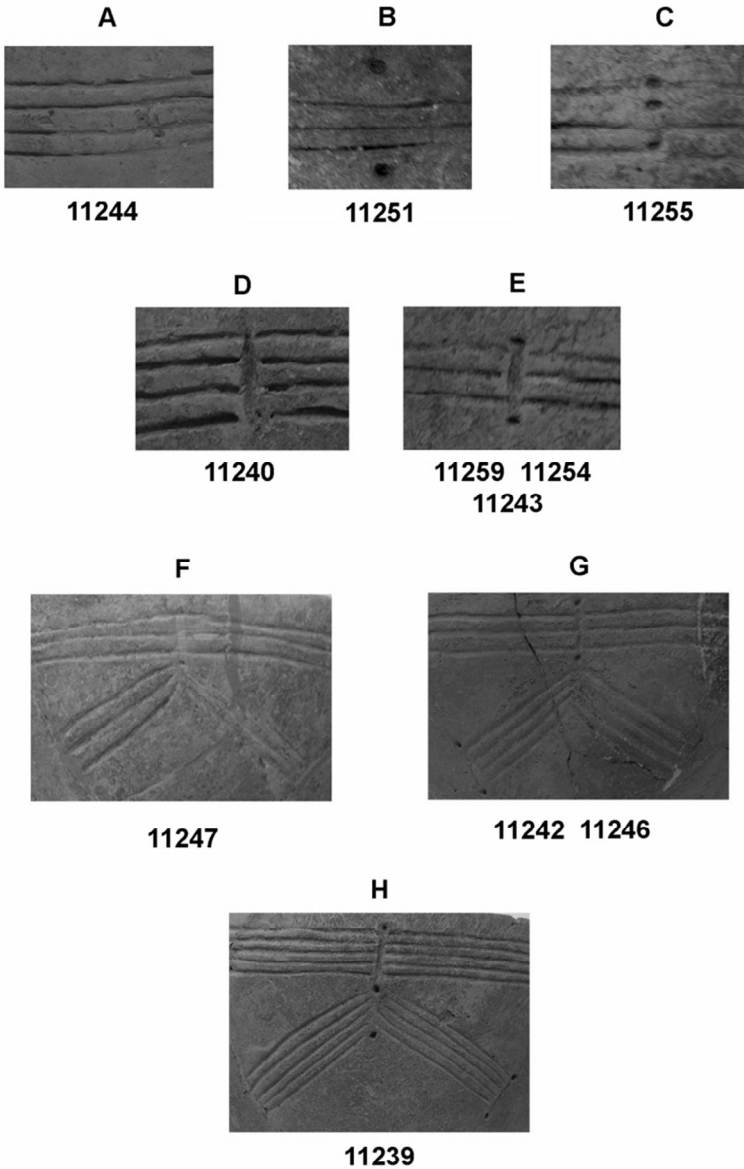
**Figure 10.18.** Tomb 23, Thapsos pottery, pedestal cups and pedestal basins (photo author).



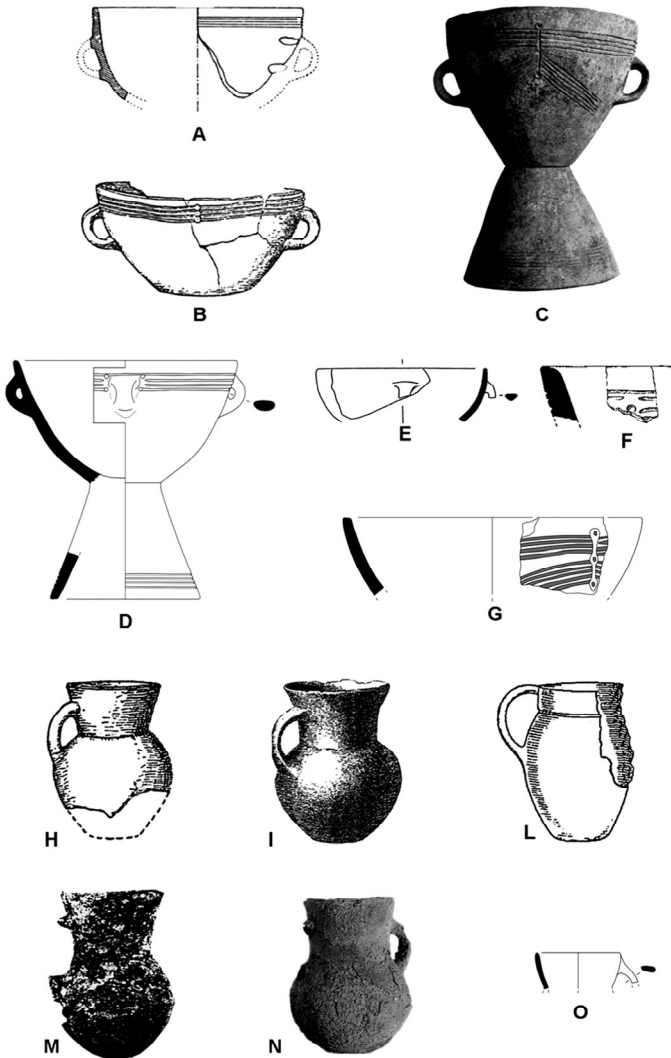
**Figure 10.19.** Tomb 23, Thapsos pottery, juglet, dipper cups, jars with lid (photo author).



**Figure 10.20.** Tomb 23, Thapsos phase bronze swords, ivory hilt; bronze fibulas dated to reuse phase (photo author).

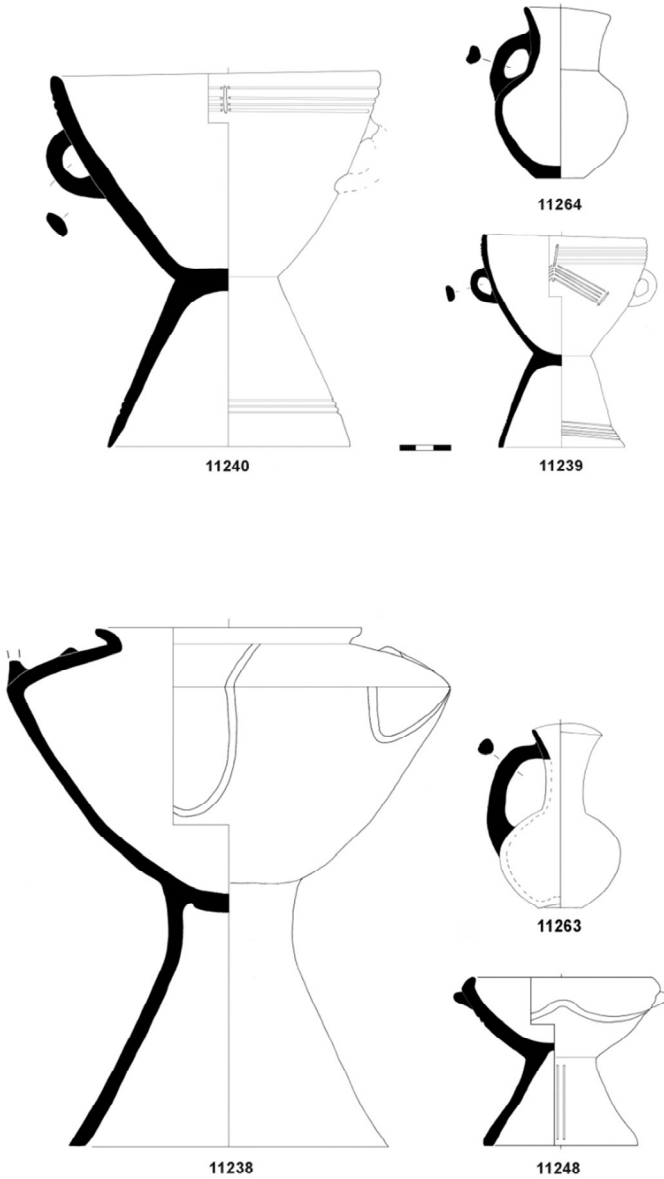


**Figure 10.21.** Decorative motifs of simple cups and basins (A-E) and of pedestal cups and basins (F-H).



**Figure 10.22.** Borg in-Nadur pottery parallels: (A) Chiusazza (after Tinè 1965); (B, H) Thapsos (after Orsi 1895); (C, I) Matrensa (after Orsi 1903); (D, G, O) Borg in-Nadur temple (BN/P13, BN/P40, BN/P56 drawn by Maxine Anastasi); (E) Mtarfa (after Sagona 1999); (F) Xaghra Circle (Malone *et al.* 2009); (L) Ghar Dalam (after Ashby *et al.* 1916); (M) Tarxien (Evans 1971); (N) Ghar Mirdum (after Trump 2002).





**Figure 10.23:** Tomb 23, Borg in-Nadur-type (11239, 11240, 11264) and Thapsos pottery set (1128, 11248, 11263) (1:4, drawn by Carlo Veca).



## **Part IV**

### **Managing the site and its landscape: public outreach**





## 11. Hercules' unfinished labour: the management of Borġ in-Nadur and its landscape

Reuben Grima – Department of the Built Heritage,  
University of Malta, Malta  
reuben.grima@um.edu.mt

**Abstract.** A new paradigm for archaeological site management is established in Malta during the last quarter of the nineteenth century. The history of how this paradigm is shaped by the British colonial context is traced. A series of key innovative measures in archaeological site management that take place from the 1880s onwards at and around Borġ in-Nadur are considered. Practices and attitudes that emerged in that seminal period have continued to pervade approaches to archaeological resource management down to the present. A paradigm shift may be required to achieve a more integrated, socially embedded and holistic stewardship of the archaeological landscape.

**Keywords:** Management, conservation, archaeological sites.

### 11.1. Introduction

The history of the management of Borġ in-Nadur and its surroundings encapsulates many of the successes as well as the failures of archaeological site management in Malta. On several occasions, archaeological remains in this area were among the first to receive attention when new policies and legal instruments were being introduced to better the stewardship of archaeological resources. The management of the archaeological landscape around Borġ in-Nadur is therefore inextricably tied with the historical

context in which it unfolded, and can only be understood and meaningfully discussed in that light.

## **11.2. Historical context**

From the early modern period well into the nineteenth century, the management of archaeological resources in Malta, as in contemporary Europe, was often an arbitrary affair. The fate of archaeological sites depended largely on the level of interest and education of the landowner. The role of the state was generally limited to the issuing of permits for access and study<sup>1</sup> and for treasure-hunting<sup>2</sup>. The plundering of archaeological sites appears to have been tolerated as a gentlemanly sport well into the nineteenth century. In Malta, the foundations of formal archaeological site management by the state were largely laid during the last quarter of the nineteenth century, which is taken as the starting point here.

The inseparability of archaeology from the political environment in late nineteenth- and early twentieth-century Malta has been explored in a seminal paper by Vella and Gilkes<sup>3</sup>. The present discussion revisits that period, to focus specifically on the emergence of the public management of archaeological monuments. This emergence was shaped by two important currents in the context of Malta as a British colony, which will be considered in turn.

### ***11.2.1. Imperial weights and measures***

The first current was the widening recognition in Britain, as in western Europe more generally, of the significance of archaeological monuments to the general public, and the consequent recognition of the responsibilities of the state to ensure this interest was safeguarded. In Britain itself, this recognition was embodied in the passing of the Ancient Monuments Protection Act in 1882, after a decade of campaigning spearheaded by the Liberal Member of Parliament and scholar Sir John Lubbock (later Lord

---

<sup>1</sup> Houel 1787: 92.

<sup>2</sup> Buhagiar 1983: 292.

<sup>3</sup> Vella and Gilkes 2001.

Avebury), who had first moved a private member's bill for the preservation of national monuments in 1873<sup>4</sup>.

The emerging template for the treatment of archaeological monuments was rapidly projected onto the British colonial context, where administrations began to mirror many of the same concerns and measures in the treatment of archaeological sites. The response to these concerns may be witnessed at its most colossal scale in the Archaeological Survey of India, which not only came to represent the most extensive mobilization for the formal recording and management of archaeological sites by the state in a British colonial context, but also the earliest, which in many ways influenced the template for other parts of the British empire. During the second half of the nineteenth century, the Survey went through a succession of setbacks and reforms that bears witness to a progressive recognition of the state's responsibility to record, study and manage archaeological monuments. During his term as viceroy of India (1899-1905), Lord Curzon promoted and consolidated the machinery of the Archaeological Survey. In an often quoted speech to the Asiatic Society, he epitomised the prevailing paradigm of public responsibility for archaeological sites:

It is... equally our duty to dig and discover, to classify, reproduce and describe, to copy and decipher, and to cherish and conserve [archaeological remains]<sup>5</sup>

In Burma meanwhile, an Archaeological Department was founded in 1899. Parallel developments were also witnessed in the colonies of other western powers such as France and the Netherlands around the same time<sup>6</sup>.

Malta was no exception to the broad trends that have been noted above, and the emerging recognition of the responsibility of government to ensure archaeological sites were adequately managed and protected closely followed trends elsewhere. In 1881, while the debate in Britain on a revised bill for the protection of ancient monuments moved nearer to enactment, a series of key

---

<sup>4</sup> Delafons 1997: 23-25.

<sup>5</sup> Anderson 1991: 179; Hancock 2008: 38-39.

<sup>6</sup> Anderson 1991: 179-180.

developments took place in Malta. A Committee was set up by the Council of Government to supervise the archaeological excavations at Notabile (the site presently known as the Domus Romana) on 16 February 1881<sup>7</sup>. Only two weeks later, it grew into a Permanent Commission to Inspect Archaeological Monuments<sup>8</sup>.

Shortly after, on 8 April 1881 the need for better preservation of Malta's ancient monuments was raised in a question in the House of Commons. The Under-Secretary of State for the Colonies, Montstuart Elphinstine Grant Duff, assured the House that the Colonial Office would communicate with the Governor in Malta to look into the matter<sup>9</sup>. On 18 April 1881, Lord Kimberley, the Secretary of State for the Colonies, duly wrote to the Governor, Sir Arthur Borton:

My attention having been drawn by Mr. Gregory M.P., who put a question in the House of Commons on the subject, to the alleged neglect of certain ancient monuments in Malta, and frequent communications having reached this office from some of the most eminent European Scholars as to the great importance alike of the Phoenician and of the Roman Antiquities in Malta and its dependencies, I shall be glad to have a report from you upon the state of the Phoenician and Roman remains in these islands, together with any suggestions which you may be able to offer for their better preservation<sup>10</sup>.

The request for such a report closely mirrors contemporary developments in other parts of the Empire, such as the commissioning of pioneer reports on antiquities in India in 1881, 1882 and 1885<sup>11</sup>. In Malta, the colonial administration requested the recently appointed Librarian of the National Library, Annetto Antonio Caruana, to produce the required report on Malta's ancient monuments, which was completed and forwarded to the Colonial Office on 10 April 1882<sup>12</sup>.

---

<sup>7</sup> CoG 1880-1881: 160.

<sup>8</sup> CoG 1880-1881: 207.

<sup>9</sup> HC Deb 8 April 1881 vol 260: c1032.

<sup>10</sup> NAM, GOV 2/1/78 - 219/1881.

<sup>11</sup> Hancock 2008: 39.

<sup>12</sup> NAM, GOV 1/3/16 - 47/1882.



The report provided a learned description and interpretation of the remains, as well as observations on their current state. Caruana indicated in the preface to his report that it also included '...the suggestions I am available to offer for their better preservation', as was expressly requested. However, it appears that this aspect of the report did not entirely meet expectations at the Colonial Office. On 25 April, while acknowledging receipt of the report, the Colonial Secretary wrote to the Governor requesting concrete suggestions for the preservation of the archaeological monuments referred to<sup>13</sup>. Practical measures for the better care of the monuments were evidently the foremost concern at the Colonial Office.

Meanwhile in Malta, on 29 April the Governor wrote to the Colonial Secretary seeking approval for funding for the report to be drawn up for publication<sup>14</sup>. Approval was soon forthcoming<sup>15</sup>. The requested suggestions for the preservation of archaeological monuments were drafted by Caruana and duly dispatched by the Governor on 9 August 1882<sup>16</sup>.

This much shorter report prepared by Caruana following the second, more explicit request from Whitehall is much more focused on practical measures, and allows a rare glimpse into the thinking behind the emerging approach to archaeological resource management, even as it was being invented. In just over 600 words it lays down priorities, recommends formal management and legal protection for archaeological monuments, sets an embryonic archaeological research agenda, defines conservation procedures, proposes measures for an integrated national museum, and even suggests an approach to the thorny questions which we would refer to today under the broad heading of repatriation and restitution. This report is an important foundation stone of modern archaeological resource management in Malta, and deserves to be reproduced in full. The following is the text of the three-page manuscript (Fig. 11.1) held at the National Archives in Malta<sup>17</sup>:

---

<sup>13</sup> NAM, GOV 2/1/79 - 407/1882.

<sup>14</sup> NAM, GOV 1/3/16 - 57/1882.

<sup>15</sup> NAM, GOV 2/1/79 - 429/1882.

<sup>16</sup> NAM, GOV 1/3/16 - 114/1882.

<sup>17</sup> NAM, CSG01 - 11650/1882.

1<sup>st</sup> The rough Stone-monuments deserve the first consideration.

The respective internal arrangements they exhibited, when discovered, have been pulled down and in some cases have entirely disappeared. In order that their general decay, both considerable and rapid, may be prevented, they should be placed under responsible charge and the protection of the law.

This restoration of the interior arrangement, <sup>if some</sup> which I can trace, could be repaired. The preservation of their megalithic construction might be secured by re-bonding their exterior encircling with the smaller stones fallen from the intervals between the large blocks; by replacing the fallen monoliths on their former sites and securing those threatening to fall; and by reconstructing the apses and septa with the stones of which they were formed and that are still lying on the ground.

The greatest care is, however, desirable, in uncovering the rough Stone-monuments and to omit still hidden under rubbish, which are to be seen on several extensive heaths and barrow-wastes noticed in my report (p. 25), and every endeavour should be made to understand them, and their position, in reference to one another and to the whole; that, if possible, their primitive topographical arrangement round the old seats of habitation might be traced.

2<sup>nd</sup> An allowance, of say £ 70, might def

*S. of S.*  
407/82.  
Rough Stone  
Monuments  
Caruana's Report  
Manxton  
Munaidra  
Muckhart  
Cast. etc.

**Figure 11.1.** The first page of Caruana's report of May 1882 (NAM, CSG01 - 11650/1882). A list of five 'Rough Stone Monuments' is pencilled into the left margin.

[f.1r]

1st. The rough stone monuments deserve the first consideration.

The respective internal arrangements they exhibited, when discovered, have been pulled down and in some cases entirely disappeared. In order that their general decay, both considerable and rapid, may be prevented, they should be placed under responsible charge and the protection of the law.

The restoration of the interior arrangement of some, which I can trace, could be replaced. The preservation of their megalithic construction might be secured by re-bonding their exterior enceinte with the smaller stones fallen from the intervals between the large blocks; by re-placing the fallen monoliths on their former sites and securing those threatened to fall; and by re-constructing the apses and septa with the stones of which they were formed and that are still lying on the ground.

The greatest care is, however, desirable in uncovering the rough stone monuments and tombs still hidden under rubbish, which are to be seen on several extensive heaths and barren wastes noticed in my report (§23-25), and every endeavour should be made to understand them and their position, in reference to one another and to the whole, that, if possible, their primitive topographical arrangement round the old centres of habitation might be traced.

2nd. An allowance, of say £ 70, might suf. [f.1v] fice to employ two, or occasionally three workmen in the restoration of these monuments, and in the exploration of the sites where further excavations might be made for the discovery of other antiquities. It is unwise to employ many hands at once in works of this nature, as was practiced last year in clearing the ruins of Melcarte<sup>[18]</sup> without taking notice of the circumstances of each discovery, as the obscure subject of these Cyclopean monuments may be expected to receive some light from particulars, however minute, observable in them. When the localities referred to in my report (§24, 25, 101-104) are explored, and the sites where excavations should be made are pointed out, an estimate of the expenditure required to clear them of the rubbish may be prepared and the work could proceed gradually.

---

<sup>18</sup> A reference to Borġ in-Nadur. For a full account of the antiquarian tradition identifying Borġ in-Nadur as a temple dedicated to Melkart or Hercules, see Bugeja, this volume.

3d. The early Christian cemeteries are next in importance

The same gradual process described in No.2, should be followed in clearing their underground galleries and crypts from the accumulated earth and rubbish, so that they may be seen to advantage. The Catacombs of Malta are all cut in sand-stone rock; hence no other work is required beyond that of cleaning.

4th. In the Report on the Phoenician antiquities, amongst the photographs attached to class II, I illustrated the specimens of Phoenician earthenware existing in the Museum of the Public Library. These, [f.2r] however, are not the choicest specimens of Phoenician fictile art found in Malta. I think it very desirable to complete that collection which is special to these islands, with a view to the formation of a Museum for the exhibition of all local collections of interesting objects in one place, as stated in my report to Government dated 20th January 1881.

The principles laid down in that report may be summed up as follows:-

1st. To include all collections of antiquities, coins, medals, etc. and of Natural History, found in these islands;

2nd. To have accurate fac-similes of those objects of Antiquities found in Malta, and at present existing in foreign Museums, with short accounts of their discovery and migration abroad;

3d. To invite private collectors to send on loan their objects to be exhibited;

4th. To ask the Ecclesiastical Authorities to deposit in this Museum, also on loan, for the same purpose, some very precious vestments, at present never used in sacred functions, as well as other curious objects existing in the Churches of the late Order of St John in Malta.

17/5/82

A.A.C.

The Colonial Secretary's prompt reply, sent on 22 August, granted approval for an annual expenditure of 100 pounds sterling for the preservation and exploration of archaeological sites<sup>19</sup>. Even more significantly, in the same despatch the Colonial Secretary wrote to the Governor:

I approve of the recommendation that these monuments should be placed under the protection of the law, and you have my authority for the introduction into the Council of Government of an Ordinance for effecting that object.

The enactment of such an Ordinance was to languish until 1910. This delay notwithstanding, the resulting 'Preservation of Antiquities Ordinance' follows the more widespread pattern of enactment of comparable legislation throughout those parts of the world controlled by the western powers. In India, for instance, the enactment of the Ancient Monuments Preservation Act in 1904 formally added conservation of archaeological monuments to the responsibilities of the Archaeological Survey<sup>20</sup>.

### *11.2.2. Nationalistic appropriations*

And yet, in spite of these important commonalities that developments in Malta shared with the prevailing paradigms of colonial archaeology, there were also distinctive characteristics. In the specific context of Malta, the broad current that has been described collided with another, more homegrown current, and it is the interplay between the two that was to determine attitudes and practices to the preservation and management of archaeological sites in Malta. It is worth returning for a moment to the creation of the Permanent Commission for the Inspection of Archaeological Monuments in 1881. The wording used by Mr Cachia Zammit in the Council when moving the resolution to appoint the Commission presaged Curzon's better-known statement quoted earlier:

It is enough to say that these islands boast of such archaeological relics, remains and monuments, that they have for ages found the admiration of the most learned societies in Europe. It is therefore

---

<sup>19</sup> NAM, GOV 2/1/79 - 483/1882.

<sup>20</sup> Hancock 2008: 39.

our bounden duty to adopt all means, at our disposal, to protect and preserve them<sup>21</sup>.

Cachia Zammit's words converge with Curzon's in the declaration of duty incumbent on the state, but they diverge in their motive. For Curzon, it is a mission of colonial appropriation by an Empire at its zenith. For Cachia Zammit, it is a matter of nationalist pride that Malta could boast such wealth, and find such admiration.

Practically at the same time as the Permanent Commission was being created, the controversial Keenan report on education in Malta was being finalised for adoption, and the matter of which languages would be taught and promoted, better known as the language question, had become a burning issue<sup>22</sup>. This coincidence between political contestation over the educational system and the investment of resources in the management of archaeological monuments is not unique to Malta, and has been noted in Dutch policy in the East Indies, French policy in Indochina, and British policy in Burma<sup>23</sup>. In all these instances, colonial powers seeking to tighten their hold on empire through the shaping of minds and identities were becoming increasingly sensitive to the relevance of archaeological narratives as an integral part of the same project, which they could no longer afford to neglect.

What distinguishes the debate on archaeological monuments in Malta from that in many of the contemporary colonial contexts is their implications for national identity. A pattern that is found repeatedly in other colonial contexts is that the builders of archaeological monuments were presented as superior to the contemporary natives. In the Dutch East Indies, the idea was promoted that the builders were immigrants of a different race<sup>24</sup>. In present-day Zimbabwe (colonial Rhodesia), an entire mythography was created around the monumental ruins of Great Zimbabwe, to instill the idea that they could not have been built by the native African population but were built instead by Phoenician immigrants<sup>25</sup>. In Burma, the population of the colonial period was

---

<sup>21</sup> CoG 1880-1881: 207.

<sup>22</sup> Frendo 1991: 15-51.

<sup>23</sup> Anderson 1991: 180.

<sup>24</sup> Anderson 1991: 181.

<sup>25</sup> Hall 1995.

considered decadent and incapable of the monumental achievements of its supposed ancestors<sup>26</sup>. The logical consequence of such arguments, as Anderson<sup>27</sup> has persuasively argued, is that such native populations were naturally and culturally disposed to be colonized and led by others more capable of greater achievements (read Europeans), hence creating a further argument to explain, justify and normalise the unequal relationships that nineteenth-century European colonialism created and rested upon.

The Maltese context presents a rather different scenario. The deeply rooted European culture and identity and the prevailing level of education and awareness of the past made it very difficult for the facile arguments of benign domination, which had worked so well in other colonies, to be used to disinherit the more educated strata of the native population of their archaeology. The evidence for Phoenician occupation also took on a different significance here. In Rhodesia, the myth that Great Zimbabwe could only have been produced by white settlers reinforced and perpetuated western preconceptions of Africa as a 'dark sea of barbarism', to provide a convenient precedent for the renewed presence of white settlers and colonists<sup>28</sup>. In Malta, on the contrary, the Phoenician archaeological heritage (which in the nineteenth century, we must recall, was still believed to include the megalithic monuments) became an intrinsic element of modern Maltese identity, the material counterpart of the linguistic argument that Maltese was derived from Phoenician. A number of scholars of the day argued that modern Maltese had a greater affinity to 'Canaanite' or 'Phoenician' than to Arabic. This idea was already being linked to the archaeological evidence in the early nineteenth century<sup>29</sup>. By the late nineteenth century, it had acquired the proportions of a full-blown polemic, about which entire volumes were written<sup>30</sup>. For many of the more educated Maltese, their origin as a nation came to rest on their Phoenician ancestry, which gave them a primordial claim to civilization. This nationalistic

---

<sup>26</sup> Anderson 1991: 181.

<sup>27</sup> Anderson 1991.

<sup>28</sup> Hall 1995: 33.

<sup>29</sup> Smyth 1829: 295-296.

<sup>30</sup> Caruana 1896; Preca 1904.

appropriation of archaeology was summed up in 1884 by Dr Zacaria Roncali during a debate of the Council of Government:

We have been a civilized people since very ancient times, and we were already civilized when another people, who now pretend to have mastered civilization, were in savagery. We have a civilization of which any people may be jealous. Behold our historic temples not to be found anywhere else in Europe...<sup>31</sup>

The two currents of, on one hand, the British colonial government's mission to Cursonize Maltese archaeology as part of the imperial project, and on the other, the nationalistic evocations and references of the same archaeological heritage for the more educated components of the native population, collided in a unique encounter of contesting appropriations. On the one hand, the colonial government felt itself obliged to invest in the care and management of Maltese archaeological monuments, consistent with emerging policies at home and across the empire. On the other hand, these very same monuments were simultaneously becoming potent symbols of resistance, and their neglect or depredation another useful stick with which the native nationalist movement could beat the colonial authorities.

A surprisingly candid exchange, symptomatic of this climate, took place in the Council of Government on 11 May 1881, during a debate on the 8<sup>th</sup> supplementary estimates for that year. At one point, the discussion turned onto the archaeological remains at San Pawl Milqi, about which very little information was available at the time. When Mr Cachia Zammit asked if any relics had been found there, he was told by the Controller of Customs that none were found<sup>32</sup>. Then Mr De Cesare dropped his bombshell:

There is, however, a report circulating, that some relics were excavated and that they were carried away by the hon. and gallant member opposite (Major General Fielding). I am not informed whether the hon. and gallant member has contradicted that assertion.

---

<sup>31</sup> As translated and quoted in Frendo 1991: 31. Quoted in Grima 1998, Vella and Gilkes 2001.

<sup>32</sup> CoG 1880-1881: 590.



Fielding seems to have kept his composure, but his reply is all the more damning for it:

I thought it was hardly necessary on my part to contradict that statement, as I had never heard of the existence of the place when the unfounded statement was put forward. The only relics of the kind which I purchased were dug up in Ginien is-Sultan. I am sorry to say that the man I bought them from seems not to have been of the best sort, as I heard that he had been sent to the Corradino Prison soon after.

Regardless of the merits, the fact that such an exchange could take place at all between two fellow-members of the recently-appointed Permanent Commission to Inspect Archaeological Monuments speaks volumes about the tensions and contradictions that formed the backdrop to archaeological resource management. De Cesare's jibe was calculated to hoist Fielding with his own petard, by underlining the contradiction between the colonial government's newly discovered sense of public responsibility for archaeological resources, and the prevalent culture of plundering and collecting by military officers stationed in Malta. Fielding's reply serves only to confirm that the purchasing and collecting of antiquities was not only practised but condoned, even if it involved conniving with men '...not of the best sort...'.<sup>33</sup>

The incident was by no means unique. The following January, the Governor himself came in the nationalists' sights over a cultural resource management issue, this time the accessibility of the Palace state rooms to the public, when De Cesare claimed during a sitting of the Council of Government that '...Lady Borton had given orders that those rooms be not shown any more to visitors'<sup>33</sup>.

This melting pot of newly-discovered values and contradictory practices was to forge the new paradigm for archaeological site management by the state, still with us today. The same contradictions and diverging motives were to cause a lasting ambivalence in the significance of archaeological sites in the Maltese landscape, even as they were monumentalised.

---

<sup>33</sup> CoG 1881-1882: 212.

### 11.3. Managing the archaeological resource

The historical context that has just been outlined had a direct bearing on the treatment of archaeological remains in and around Borġ in-Nadur, which witnessed a flurry of intensive activity at the same time that Whitehall started taking an interest in Maltese archaeology. Sites at or near Borġ in-Nadur were in fact to become the focus of some of the earliest efforts of the colonial government in the exercise of its newly-discovered responsibilities for the tutelage of archaeological sites.

During the sitting of the Council of Government held on 11 May 1881, Mr Cachia Zammit, speaking for the Permanent Archaeological Commission, informed the Council of the following, shortly before it approved a vote of a further £50 for continuing the excavations he described:

...the excavations made near the Temple of Melcarte have, so far, proved most successful: and the Council may rest assured they will be continued without interruption, once the hon. members are, today, prepared to vote another sum for that purpose. I may as well inform the Council that something like a vestibulum, formed of monolites, 14 and 16 feet high, meets the eye on approaching the ruins of that Phoenician Temple; but the most wonderful of those wonderful Phoenician remains is a reservoir close by. It has been cleared of all the rubbish with which it was filled up, and it has assumed the appearance of a gigantic monument...<sup>34</sup>

The reference to a structure built of monoliths ‘14 and 16 feet high’ seems to tally more closely with the prehistoric remains at Borġ in-Nadur (two decades later, Mayr recorded an upright stone ‘12ft 7ins. high’ at the Neolithic temple site there<sup>35</sup>). The cistern referred to, on the other hand, is evidently the Roman cistern at Ta’ Kaċċatura. The way the two sites are referred to suggests that works at these two sites were being managed and directed as a single project. Each of these two sites was to witness significantly innovative interventions for their preservation, which were effectively being undertaken for the first time.

---

<sup>34</sup> CoG 1880-1881: 589-590.

<sup>35</sup> Mayr 1901; 1908: 64.

### ***11.3.1. Restoration and consolidation***

At Borg in-Nadur, extensive consolidation works appear to have taken place on the Bronze Age wall, which are significant because they may represent one of the earliest conservation interventions on an archaeological site in Malta. The records of the 1881 excavations around this Bronze Age wall are notoriously scanty, and those of any conservation works conducted at the same time even more so. However, the dating of this intervention may be pieced together from the surviving scraps of documentation. A photographic album dated 1868 and held at the National Library has preserved what may be the earliest surviving photograph of the Bronze Age wall<sup>36</sup>. A copy of the same photograph is held in the NMA archives (Fig. 11.2). The wall is shown standing to the height that is familiar to us today<sup>37</sup>. The principal difference that may be noted is that the consolidation of the wall with the insertion of stone wedges between the boulders had not yet taken place when the photograph was taken. Another (this time undated) photograph, conveniently showing the wall from the same viewpoint after consolidation, is held in the archives of the National Museum of Archaeology, and is shown here for comparison (Fig. 11.3).

To narrow down when exactly these consolidation works took place, we turn now to Mayr. Writing almost two decades after the 1881 interventions, he noted that '...the excavations begun in 1881 were soon suspended, without any reports concerning them having been published...' <sup>38</sup> and that the buildings excavated in 1881 within the defensive wall '...have since been filled up again...' <sup>39</sup>. His description and his drawing of these remains relied heavily on '...a plan, drawn up by the then Superintendent of Public Works, E. L. Galizia. The author [Mayr] found it at a photographer's in Valletta, and used it partly as a basis for his sketch' <sup>40</sup>. A photographic print

---

<sup>36</sup> *Antichità Fenicie nelle Isole di Malta e Gozo 1868*: 19. I am indebted to Nicholas Vella for making me aware of the existence of this album.

<sup>37</sup> Corroborating Houel, who as Bugeja, this volume, has convincingly demonstrated, also recorded the wall in the late eighteenth century, standing to around the same height.

<sup>38</sup> Mayr 1901; 1908: 61.

<sup>39</sup> Mayr 1901; 1908: 63.

<sup>40</sup> Mayr 1901; 1908: 63, footnote.



**Figure 11.2.** View of Bronze Age wall circa 1868, before consolidation (source: NMA 11435, Heritage Malta).



**Figure 11.3.** Undated view of Bronze Age wall after consolidation (source: NMA 11434, Heritage Malta).



**Figure 11.4.** Photographic print of Galizia's 1881 plan of Borg in-Nadur, mounted in a copy of Caruana 1882 (source: courtesy of the University of Malta Library).

of the same plan is mounted in a version of Caruana's 1882 report<sup>41</sup> (Fig. 11.4). It shows what appears to be an archaeological sondage within the D-shaped 'bastion' along the Bronze Age wall. The drawing suggests a sondage of considerable depth, because it shows what appear to be three, roughly concentric excavation extents, each one getting progressively narrower and deeper. The inner and outer upper edges of the 'bastion' wall are shown clean and continuous, suggesting that they were consolidated during or shortly after the excavation. Mayr repeatedly notes that parts of the inner walls of the D-shaped structure are of modern construction, even though they may include some ancient elements<sup>42</sup>. Even more informatively, he publishes a photograph (Fig. 11.5) of the external face of the D-shaped Bronze Age wall<sup>43</sup>, which clearly shows the wall after consolidation, narrowing the date of the consolidation works to between 1868 and 1901 with complete certainty, and strongly suggesting that they place around 1881.

In Mayr's photograph, stone chips appear carefully wedged in between the boulders, while further west, a stretch of the wall is almost entirely built in modern dry-stone walling, with the occasional megalithic boulder protruding through it. This treatment recalls the methods Caruana put forward for the preservation of 'rude stone monuments' in his report of 17 May 1882, quoted earlier: 'The preservation of their megalithic construction might be secured by re-bonding their exterior enceinte with the smaller stones fallen from the intervals between the large blocks; by replacing the fallen monoliths on their former sites and securing those threatened to fall...' The consolidation of the Bronze Age wall appears to have taken place within months of those words being written, and may represent the first implementation in practice of the methods they describe.

---

<sup>41</sup> A copy of this version with additional plans and illustrations is held in the UoM Melitensia Section, progressive no. 92597. It includes a number of photographic prints of plans and drawings that post-date the report itself, most of which are marked 'Fomosa Phot.' or 'G.L. Fomosa Phot.'. The photographic reproduction of the plan may well explain why Mayr found it, or a copy of it, 'at a photographer's in Valletta'. The present writer was unable to locate the original Galizia plan of the Borg in-Nadur Bronze Age wall.

<sup>42</sup> Mayr 1901; 1908: 63, 66.

<sup>43</sup> Mayr 1901: plate 10, 1.



**Figure 11.5.** View of Bronze Age wall published by Mayr (1901: pl. 10. 1).

### *11.3.2 Expropriation and enclosure*

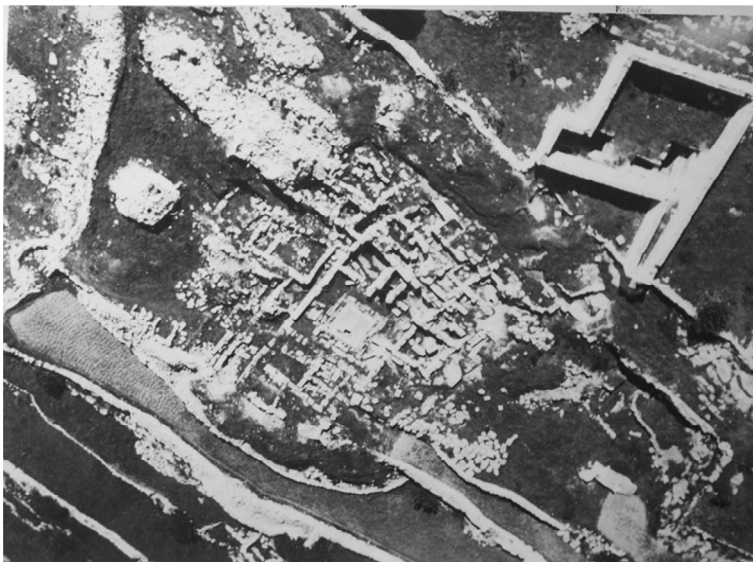
At Ta' Kaċċatura, meanwhile, the work of clearing and recording the site was also proceeding apace. Here an innovation of a different kind took place – the acquisition of the site to help ensure its preservation. In 1881, at a time of unprecedented expenditure on works at the Domus Romana, as well as the excavations at Borġ in-Nadur and Ta' Kaċċatura itself, funding the purchase of the land from private hands would have posed a significant obstacle (we should recall that approval for a regular annual expenditure was only sought and granted the following year, as noted earlier). The alternative solution that was adopted was to give the owner, Lorenzo Mifsud, another plot of government-owned land, at 'Cutaf Gandolf', in exchange for the field 'ta' Ciapciap' on which the remains of the villa stood<sup>44</sup>. The contract with Mr Mifsud was signed on 12

---

<sup>44</sup> CD 50K/1583, 50K/1584.

December 1881<sup>45</sup>, making it one of the very earliest acquisitions of property in Malta expressly for archaeological purposes.

The acquisition of archaeological sites for their study and preservation was soon to become the norm. We may continue to follow this story at Ta' Kacçatura itself. The exchange of land hammered out in 1881 to acquire the villa at Ta' Kacçatura did not include the monumental cistern adjoining the site, as this belonged to a different owner. The date and manner of its acquisition remains unclear. By 1913, however, it appears to have come into Government ownership and was enclosed in a high wall that closely followed the perimeter of the cistern (Fig. 11.6). Here once again, we encounter a very early instance of a measure that followed as a natural corollary to the expropriation of archaeological sites, and which was to become equally paradigmatic.

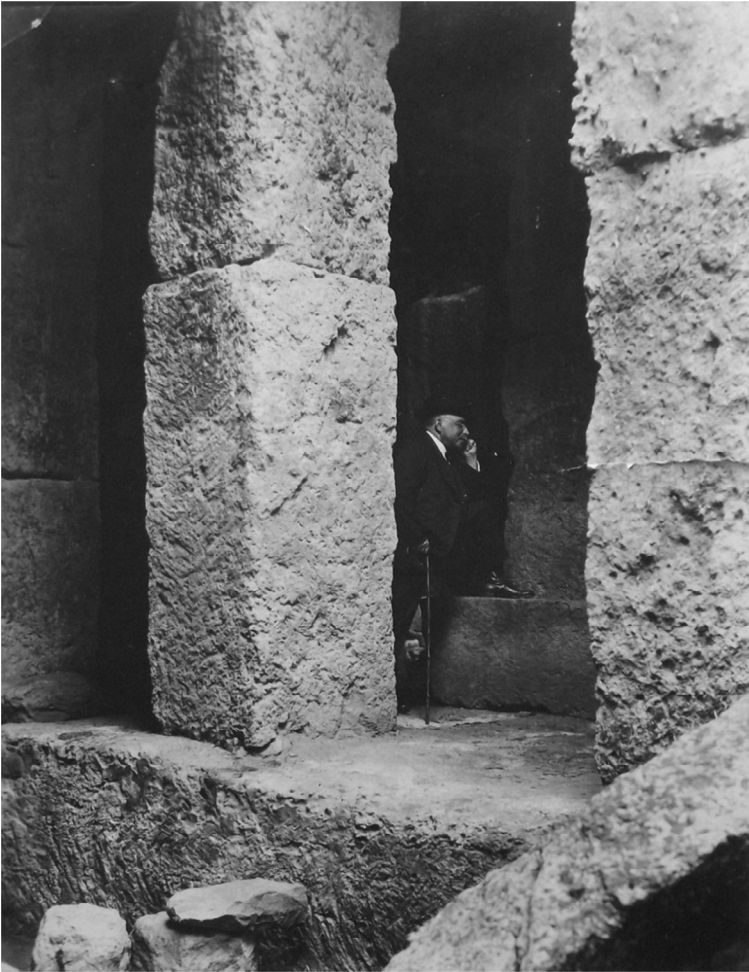


**Figure 11.6.** Aerial view of Ta' Kacçatura showing boundary wall around cistern (top right); dated 1925. (source: NMA 11373, Heritage Malta).

---

<sup>45</sup> Extract from Acts of Notary Franco Camilleri, Contract No. 511 p. 2722 Vol. 138 in PW 1299/51.





**Figure 11.7.** Temi Zammit in the Ta' Kaċċatura cistern in 1924. The composition conveys the scale of the cistern (NMA 11376, Heritage Malta).

Interestingly, it is only the cistern that gets surrounded by a high wall, while the villa itself received no such treatment. This decision does not appear to have been driven by the archaeological value of the different parts of the site, because the unenclosed remains of the villa were at least as significant and as vulnerable as the cistern. To better understand the motivation for this intervention, it may be

useful to recall Cachia Zammit's description, quoted earlier; '...the most wonderful of those wonderful Phoenician remains is a reservoir close by ... cleared of all the rubbish ... it has assumed the appearance of a gigantic monument'. Was it perhaps the sheer scale of the cistern (Fig. 11.7), which lent itself to transformation into a 'wonderful' 'gigantic monument', that determined what should be preserved most assiduously?

An unintended, and unforeseen, result of expropriation was the dislocation of a site from its landscape context, and its disembedding from the networks of stewardship associated with indigenous ownership and tenancy<sup>46</sup>. The main threat to archaeological sites forming part of agricultural land was damage through overzealous efforts to improve the productivity of the land. The expropriation of important archaeological monuments played a crucial role in arresting such damage, and securing their preservation. Expropriation was however open to other risks. It created a vacuum that often left archaeological sites in a no-man's-land that was still vulnerable to the threats of neglect and vandalism. The logical response was to fence in sites to protect them from unwanted intrusion, but unwittingly this further dislocated the archaeological remains from their setting, in physical as well as social terms.

The high dry-stone boundary wall around the cistern at Ta' Kaċċatura was a case in point. It completely isolates the cistern from the villa that it once served, with a wall almost as monumental as the cistern itself, and one that required even more care and maintenance. Notwithstanding the grand scale of this intrusion, it appears that the wall alone soon came to be considered inadequate to protect the site. On 26 September 1913, government entered into the following contract:

The Acting Receiver General & Director of Contracts does hereby grant permission to Tommaso Agius, labourer, son of Francesco, born at Ghaxaq, and residing at Zejtun, to cultivate the trees existing in the field called "Ta' Ciapciap" within the limits of San Giorgio, B'ga, indicated in the Government rent roll with No 879 and to gather such fruit of such trees for the period of one year from the date hereof, which permission may be renewed during the pleasure of the Government.

---

<sup>46</sup> Borg 2002: 64.

In return for the permission granted as above, the said Tommaso Agius does hereby bind himself for the period thereof and for any further period for which the permission may be renewed, to diligently and gratuitously guard the excavations of certain Phoenician Antiquities (Phoenician Water Reservoir) existing in the neighbouring lands called "ta' San Gorg" as shown on a plan hereto annexed for preservation to take care of such excavations and to keep with him the key of the gate thereof, as well as to punctually observe and carry out all orders and instructions which from time to time, he may receive from the Govt in connexion with the said lands and excavations and with the obligations hereby undertaken by him.

This deed (the import whereof has been duly explained etc)...<sup>47</sup>

The wheel had turned full circle – from dispossessing the ignorant natives of archaeological treasures they could not comprehend or be entrusted it, through building walls to keep out said ignorant natives, to His Majesty's Government feeling compelled to enter into a contract with one such ignorant native, effectively entrusting him with the custody of the site. This cycle was to be repeated again and again.

In a 'Scheme for the development of the Museum Department' dated 19 October 1918, Temi Zammit identified three strategic objectives. His third objective was 'Acquisition by the Government of all sites of Antiquarian Interest'. 'Owing to the excessive population and the narrow limits of these Islands,' he wrote, 'our monuments are in danger of being destroyed by ignorant people'. He then went on to give a 'Preliminary list of Monuments of Archaeological and historical interest that should be expropriated'<sup>48</sup>.

Zammit listed twenty-two sites included Borġ in-Nadur. In September 1922, he pursued the matter further in a letter to the Minister of Education:

Sir,

I beg leave to draw your attention to the megalithic ruins of Borġ in-Nadur at Birzebbuga. I have this year with the consent of the owner excavated the field at the back of the main group of ruins,

---

<sup>47</sup> Contract dated 26 / 9 / 1913 No 221 published by Notary to Government, in PW 1299/51.

<sup>48</sup> MAC 1915-1927: 50.

and I do not propose to cover again the remains, which proved to be of great archaeological interest.

I suggest that the Government should take over the fields adjoining the said ruins and I beg that the Public Works Department should take steps to value the site with a view to expropriation

I understand that the owner would accept another field in exchange, in which case the Government will not have to pay any cash...<sup>49</sup>

The letter was quoted during a sitting of the Legislative Assembly on 26 November 1923, during discussion of a vote of £220 for the expropriation of three fields around the megalithic temple of Borg in-Nadur. The vote was approved<sup>50</sup>, but the actual expropriations did not take place for more than a decade. The subsequent history of the expropriation of land to safeguard Borg in-Nadur has been meticulously researched by Borg<sup>51</sup>. The land including the Neolithic remains was finally acquired on 1 May 1935, and a strip of land to permit access to the site was acquired on 15 June 1935<sup>52</sup>. On the other hand, no record of the expropriation of the site of the Bronze Age wall has been traced<sup>53</sup>.

As forceful expropriations of archaeological sites became increasingly the norm, they were to contribute to a progressive erosion of the identification of local communities with those same sites. The policy of expropriation was made possible largely because of the convergence of the two currents already noted, namely a colonial administration anxious to safeguard, and to be seen to be safeguarding, the archaeological prizes across its empire, and a nationalist movement urging on the preservation of sites in Malta for altogether different motives. In the end, the identification with archaeological relics as touchstones of Maltese identity, espoused by the educated elite leading the nationalist movement, never captured the masses<sup>54</sup>. Instead, the growing number of

---

<sup>49</sup> Legislative Assembly, 6: 213.

<sup>50</sup> Legislative Assembly, 6: 216.

<sup>51</sup> Borg 2002: 35-38.

<sup>52</sup> CD 100B/129A, 129B, 129C, 129D.

<sup>53</sup> Borg 2002: 37.

<sup>54</sup> Sant Cassia 1993: 358-361; Grima 1998: 34-35; Vella and Gilkes 2001: 355; Borg 2002: 63-64.

expropriated, fenced, and often poorly interpreted sites came increasingly to be associated with the actions of a foreign and remote power.

In 1920, even while the prolonged saga of expropriation was unfolding at Borġ in-Nadur, a new threat suddenly appeared from an unexpected quarter. It was to be prove more destructive than any ignorant native. On 31 May, a meeting of the Antiquities Committee was convened by the Lieutenant Governor, who also chaired the Committee, to discuss the matter of the silo pits on the shoreline of St George's Bay, below Borġ in-Nadur. A new road that was being constructed was '...being cut through most of the pits existing on that shore...'<sup>55</sup>. Faced with the inevitable, the committee resigned itself to recording the doomed pits as accurately as possible before they were destroyed, but not before the point had been made that the proposal to build the road in such a sensitive area should have been brought to the attention of the committee at a much earlier stage. The result was a plan (Fig. 11.8) completed a year later, with section drawings of the 32 pits destroyed by the road works, and 41 that were left intact<sup>56</sup>.

The committee had resolved that 'such pits as were not destroyed should be preserved from further damages'. The widening of the same road half a century later was however to take a further toll of the surviving pits.

A rather more positive development took place on 9 November 1928, when the Antiquities Committee resolved that a substantial tract of Wied Dalam should be included in the list of sites protected by the Antiquities (Protection) Act 57. The Committee requested two of its members, Mr Giuseppe Despott and Architect Carmel Rizzo, to inspect the site and demarcate the area to be protected. On 15 January 1929, they duly reported back to the Committee that they had identified a stretch of the valley some 5,000 feet long as meriting protection<sup>58</sup>, and that they had marked it out on the survey

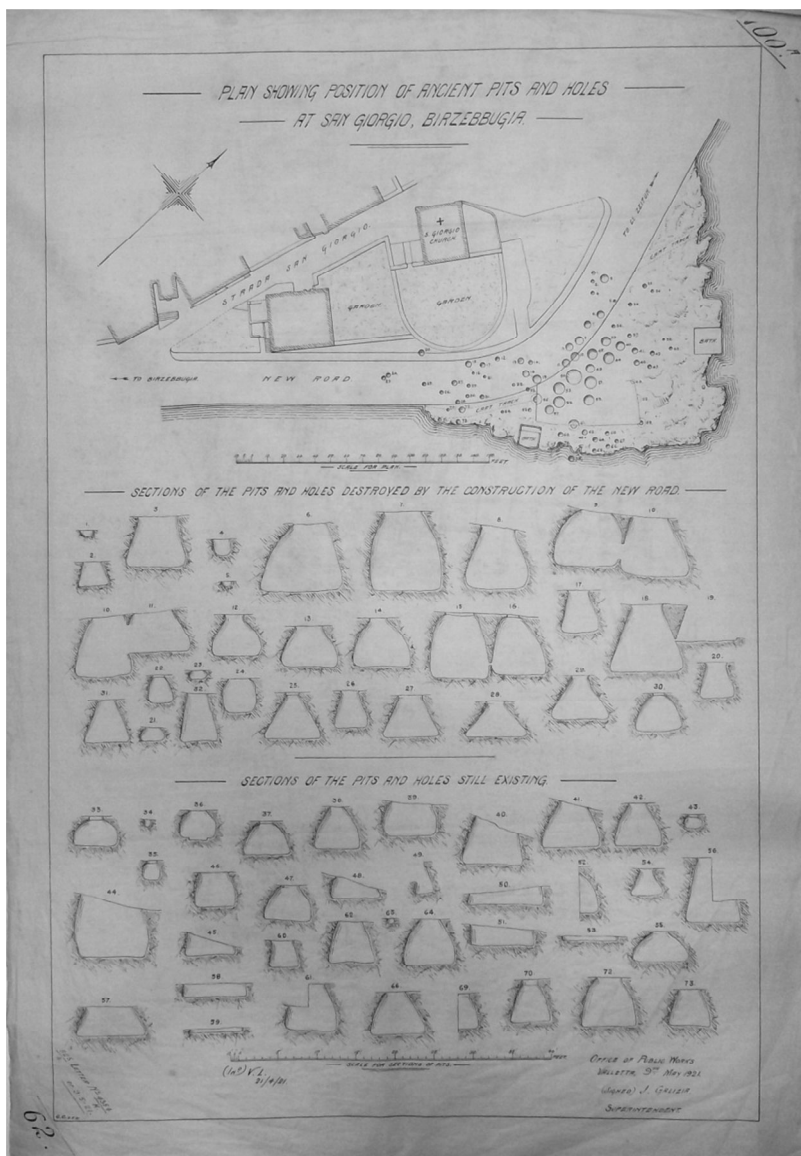
---

<sup>55</sup> MAC 1915-1927: 53.

<sup>56</sup> CD 100A/62.

<sup>57</sup> MAC 1927-1945: 29.

<sup>58</sup> MAC 1927-1945: 31.



**Figure 11.8.** The record of the silo pits created prior the construction of a road between 1920 and 1921 (source: CD 100A/62).

sheet of the area<sup>59</sup> (Fig. 11.9). The following month, the protection of the valley was announced by Government Notice. The revised 'List of buildings, sites and remains having a geological, archaeological, antiquarian or artistic importance' published in the Malta Government Gazette in 1932 includes the following entry:

The portion of Uied Dalam extending for about 5000 feet between the Cala San Giorgio, Birzebbugia, and the district known as "Ta Haxun"<sup>60</sup>

Although three years had gone by since the inclusion of Wied Dalam in the list, it was still unique, as the only attempt to include an extensive landscape feature, in what was otherwise a list of monuments or localized features.

The protection of Wied Dalam is significant for the history of cultural resource management in Malta for a second reason. Apart from its inclusion in the list of protected sites published in the Government Gazette, it appears that the process was set in motion to purchase the entire ravine in order to ensure its preservation. On 13 October 1930, the Antiquities Committee was informed that the Public Works Department had estimated the value of the protected length of the ravine at about 1,300 pounds<sup>61</sup>. At this point, the discussion appears to have taken a significant turn. The Committee noted, as recorded in the minutes, that expropriation should not be necessary because, as a site '...declared to have an antiquarian interest by a special government notice, the ravine is well protected against further interference which will cost nothing to the government'<sup>62</sup>. Plans for expropriation were dropped, and another important, albeit forgotten, milestone in the history of cultural resource management in Malta was passed. Here for the first time, the model of expropriation as the be-all and end-all measure for the protection of a site or monument was being questioned, even as the new possibilities of protection opened up by the recently enacted Antiquities (Protection) Act began to be brought to bear as a viable

---

<sup>59</sup> A copy of survey sheet 132 showing the area to be protected outlined in red is preserved in the Works Division records office as CD 100/114.

<sup>60</sup> MGG 1932: 1050.

<sup>61</sup> MAC 1927-1945: 49.

<sup>62</sup> MAC 1927-1945: 50.



**Figure 11.9.** Detail of plan CD 100/114, showing extent of protected length of Wied Dalam.

alternative. The fact that Wied Dalam was much more extensive than most sites that had been protected until then must have helped precipitate this shift in thinking. The listing of Wied Dalam was an early and important step closer to safeguarding a landscape rather merely a site. The shift in thinking from site to landscape was closely followed by an important corollary – that it is very difficult in practice to enforce protection on such a grand scale through expropriation, and more realistic to do so through legislation to regulate the stewardship of land and resources while leaving them in private ownership.



### ***11.3.3. The post-colonial period: plus ça change ...***

The management history of Borġ in-Nadur and its surroundings since the Second World War is largely repetitive of the developments we have reviewed so far. On 4 January 1964, F.S. Mallia, the Curator of Archaeology, submitted a written report to the Director of Museums, describing a serious case of vandalism on the Neolithic remains at Borġ in-Nadur. The actions he recommended in response will sound familiar: '...enclosing the area with iron posts...', '...two or three surprise patrols from the police station...', and '...an adult local resident to be offered a small remuneration to keep an eye on the remains until the boundary wall is put up...'<sup>63</sup> In the event, the fence was estimated to cost £350, but was never erected, in spite of funds being available<sup>64</sup>. A Birżebbuġa resident, Mr Gianni Ellul, was engaged at the rate of 2 shillings a day to keep an eye on the site, in an arrangement reminiscent of the one noted earlier at Ta' Kaċċatura. The arrangement for Borġ in-Nadur appears to have lasted a little more than three months<sup>65</sup>. The vandalism of the site with spray paint in February 1994<sup>66</sup> also echoes earlier incidents.

Efforts to regulate activity beyond the narrow confines of the land expropriated by government, in the same spirit as the Antiquities Committee when it decided, in 1930, that Wied Dalam could be protected without its expropriation, have also been witnessed in the latter part of the twentieth century. In January 1972, for instance, the Director of Museums withheld approval for an application to build an extension to an existing farm building on private land between the Neolithic temple and the Bronze Age wall at Borġ il-Nadur<sup>67</sup>. The scheduling of the site by the Planning Authority in 1994, according it Grade A status and a 100 m buffer zone, proved instrumental in the regulation of the launching of petards from within the scheduled area during the local parish feast<sup>68</sup>. Decades of under-resourcing and neglect, meanwhile,

---

<sup>63</sup> MUS 1/64: 1.

<sup>64</sup> MUS 1/64: 23.

<sup>65</sup> MUS 1/64: 14, 19, 20, 22.

<sup>66</sup> Grima 1998: 41.

<sup>67</sup> MUS 3/72.

<sup>68</sup> MUS 1/64: 32-36.

rendered the archaeological resources in this area even more remote and inaccessible<sup>69</sup>.

Yet in all these actions, the fundamental underlying relationship between the archaeology, the state and the public inherited from the colonial period remained unaltered. The public's role continued to oscillate between apathy at best and a threat at worst. The state continued to play the role of beleaguered policeman, generally stepping in just in time, or almost, to rescue archaeological monuments from some new threat from the uneducated population. A curious development in the recent history of this site has unexpectedly shifted this stasis. A religious cult has emerged over the past five years, the followers of which believe that Borġ in-Nadur may be the site of supernatural apparitions<sup>70</sup>. Regardless of its merits or otherwise, the cult has succeeded in drawing crowds of people from all walks of life to the site. An alternative footpath has been re-opened across Wied Dalam to cope with this flow. This movement has unwittingly put Borġ in-Nadur on the map for more people than ever before. A re-appropriation of sorts of the site by the community has started taking place.

#### **11.4. Conclusion: towards a re-engagement of the public**

The task of managing the archaeological landscape in the public interest, pioneered in the 1880s on some of the sites at and around Borġ in-Nadur, is far from complete. The fragmentation and dislocation caused by the expropriations, enclosures and practices of the colonial and post-colonial period continue to alienate popular attitudes towards these sites. The challenge today is to reverse this trend in order to permit audiences to encounter the archaeological resources at Borġ in-Nadur as integral components of a multi-period cultural landscape. The resumption of this unfinished task requires the same sense of novelty and innovation that was evident in the 1880s, if we are to succeed in creating a new paradigm of stewardship that is meaningful and relevant for our times. It will no doubt be a Herculean task, but that is no reason not to attempt it.

---

<sup>69</sup> Grima 1997.

<sup>70</sup> [www.borgin-nadur.org/mt/lewweldehriet.php](http://www.borgin-nadur.org/mt/lewweldehriet.php)

### **Acknowledgements**

I am most grateful to the editors of this volume for their continuous support and advice, and to Professor JoAnn Cassar, Head, Department of the Built Heritage, for facilitating the writing of this paper. I am also indebted to the Director-General of the Works Division and to Heritage Malta for kind permission to consult and reproduce their records, and particularly grateful for the unfailing helpfulness of the staff at the National Archives of Malta, the Melitensia section of the University of Malta Library, the National Library of Malta, the Works Division and the National Museum of Archaeology.

### **Abbreviations**

CD	Chief Draughtsman's Office
CoG	Debates of the Council of Government
CSG	Chief Secretary to Government
HC	House of Commons
MAC	Minutes of the Antiquities Committee
MGG	Malta Government Gazette
MUS	Museum Department
NAM	National Archives, Malta
NMA	National Museum of Archaeology
PW	Public Works Department

### **References**

- Anderson, B. [1991] *Imagined Communities. Reflections on the Origin and Spread of Nationalism*. 2<sup>nd</sup> edn. London, Verso.
- Borg, A. [2002] *Ruins in a Landscape: A Consideration of Past and Present Perceptions of Archaeological Sites in Malta*. Unpublished B.A. (Hons.) dissertation, Department of Classics & Archaeology, University of Malta.
- Buhagiar, M. [1983] "The study of the Maltese palaeochristian catacombs", in *Melita Historica* 8/4: 291-298.
- Caruana, A. A. [1882] *Report on the Phoenician and Roman Antiquities in the Group of the Islands of Malta*. Malta, Government Printing Office.
- Caruana, A. E. [1896] *Sull'origine della lingua maltese. Studio storico, etnografico e filologico*. Malta, Tipografia C. Busuttill.
- Delafons, J. [1997] *Politics and Preservation: A Policy History of the Built Heritage 1882-1996*. London, E & FN Spon.

- Frendo, H. [1991] *Party Politics in a Fortress Colony: the Maltese Experience*. 2<sup>nd</sup> edn. Malta, Midsea Books.
- Grima, R. [1997] “Can we go to Ta’ Kaççatura?”, in *Malta Archaeological Review* 2: 11-13.
- Grima, R. [1998] “Ritual spaces, contested places: the case of the Maltese prehistoric temple sites”, in *Journal of Mediterranean Studies* 8: 33-45.
- Hall, M. [1995] “Great Zimbabwe and the lost city: The cultural colonization of the South African past,” in P. J. Ucko (ed.), *Theory in Archaeology: A World Perspective*, pp. 28-45. London, Routledge.
- Hancock, M. E. [2008] *The Politics of Heritage from Madras to Chennai*. Indiana, Indiana University Press.
- Houel, J. [1787] *Voyage Pittoresque des Isles de Sicile, de Lipari, et de Malte*, Tome 4. Paris.
- Mayr, A. [1901] Die vorgeschichtlichen Denkmäler von Malta, *Abhandlungen der Königlich Bayerischen Akademie der Wissenschaften* 21: 645-721.
- Mayr, A. [1908] *The Prehistoric Remains of Malta*. Translated from the German for the Marchioness of Milford Haven. Printed for private circulation.
- Preca, A. [1904] *Malta Cananea, ossia Investigazioni Filologico-Etimologiche nel Linguaggio Maltese*. Valletta.
- Sant Cassia, P. [1993] “The discovery of Malta: nature, culture and ethnicity in 19th century painting (review article)”, in *Journal of Mediterranean Studies* 3: 354-377.
- Smyth, W. H. [1829] “Notice of some remains at Gozo, near Malta”, in *Archaeologia* 22: 294-296.
- Vella, N. C. and Gilkes O. [2001] “The lure of the antique: nationalism, politics and archaeology in British Malta (1880-1964)”, in *Papers of the British School at Rome* 69: 353-384.

**Reuben Grima**, lecturer in the Department of the Built Heritage (Faculty for the Built Environment, University of Malta) served for many years as curator of prehistoric sites, with the Museums Department then with Heritage Malta. He studied archaeology at the universities of Malta and Reading, then read for his PhD at the Institute of Archaeology, University College London, where he held a Commonwealth Scholarship. His research interests include landscape archaeology, archaeological site management, and public engagement with the past.

## 12. Presenting the Bronze Age to the public at the National Museum of Archaeology

Sharon Sultana – National Museum of Archaeology,  
Heritage Malta, Malta  
sharon.sultana@gov.mt

**Abstract.** The National Museum of Archaeology of Malta is at present working on opening the Bronze Age room to the public. The project team has engaged on presenting a display which will be as informative, interactive and accessible as possible, to match visitors' needs. An outline and explanation of the reasoning behind the display layout and content is given.

**Keywords:** museum, visitors, Bronze Age, permanent exhibition

### 12.1. Introduction

The National Museum of Archaeology is housed in the Auberge de Provence<sup>1</sup>, in the main street of Valletta, Malta's capital city (Fig. 12.1). At present, the museum has approximately 195 m<sup>2</sup> of permanent display space. Located on the ground floor, the present display takes us on a walkthrough of the Neolithic period covering a span of time which goes from about 5200 to 2500 BC. Starting from Malta's first settlers, it shows how their culture evolved into something quite unique. This is a period during which Malta's megalithic monuments – listed by UNESCO as World Heritage Sites – were built.

---

<sup>1</sup> The Auberge de Provence was originally built for the Provençal Knights of the Order of St John in 1571. It is one of the most stylish baroque buildings still distinguishable in Valletta. Due to its importance it has been scheduled by the Malta Environment and Planning Authority which means that any intervention on the building fabric needs the permit of this authority.

Work is currently underway on the museum's upper floor so that another five halls of permanent display areas, covering an area of 400 m<sup>2</sup>, are opened to host the subsequent Bronze Age, Phoenician, Punic, Roman and Byzantine periods. The aim is to give visitors enough information about all these periods whilst acting as a catalyst to a number of museums and archaeological sites found in the Maltese islands. It is planned that the Bronze Age hall, which will cover 68 m<sup>2</sup>, will be opened to the public by the middle of 2011.

## 12.2. Museums and visitors: past and present

Museums are one of the principal means whereby people can gain access to their history<sup>2</sup>. But what do people expect from a visit to a museum? As Principal Curator of the National Museum of Archaeology, this is one question I pose especially when analysing what can be improved at the museum, how new audiences can be attracted to the museum whilst working towards visitor satisfaction and encouraging repeat visitors. Unfortunately not many museum visitor surveys have been carried out locally and most of those carried out abroad were conducted inside the museums, therefore leaving the non-visitor out of the picture. Non-visitors are silently saying a lot by not visiting and we should be aware of their reasons for doing so.

A brief overview of the history of museums, with an emphasis on museums in Malta, will help us understand why museum visitor numbers are not as high as they could potentially be. Malta's first public museum opened its doors in 1903 at Palazzo Xara in Valletta, after a very successful exhibition which coincided with the Duke and Duchess of York's royal visit. This took place some twelve years after a letter entitled 'WANTED – A museum for Malta' featured in *The Malta Times and United Services Gazette*, in which the author not only reproached local people for not taking

---

<sup>2</sup> Merriman 2000: 139.



**Figure 12.1.** The National Museum of Archaeology.

care of their heritage, but also asked why Malta is without a museum, stating that: ‘such an institution is not a luxury; it is a necessity ... The idea that a museum is simply a store house of curiosities has long since been discarded.’<sup>3</sup> A small part of the local collection was put together by the Maltese knight Giovanni

---

<sup>3</sup> Gambin 2003: 17.

Francesco Abela in the first half of the seventeenth century and displayed in his country house. Those allowed to see the collection were probably acquaintances of Abela, besides visiting antiquarians and other dignitaries. The collection was eventually transferred to the Public Library in 1811 and a selection of it was put on display. Even in this case the collection would have only been seen by those literate people who would have ventured into the Public Library. Such a scenario, whereby places housing collections were seen as places for the elite and learned individuals, was not only a local occurrence, but seems to have been the case all over the museum world at this time<sup>4</sup>.

In 1955 the Auberge de Provence was designated to house both the Archaeology and Fine Arts collections, with the former occupying the ground floor and the Fine Arts taking up the upper floor. As both collections started growing, the Fine Arts collection was moved to Admiralty House in South Street, Valletta, and in 1973 the museum was renamed the National Museum of Archaeology. In 1995 it was decided to close the museum for a period of time in order to embark on the Permanent Exhibition Project which essentially meant refurbishing the museum and updating the display. At the time the display consisted of showcases with numerous artefacts inside them, either labelled individually or as a group (Fig. 12.2). No other interpretation accompanied the artefacts. Although the artefacts were a gold mine for researchers and academics, the accompanying labels were more often than not too scholarly to be understood by the general public. The museum reopened its doors in 1998, with the Neolithic period display that was considered to be very fresh and accessible to any visiting audience (Fig. 12.3). We feel that this text is still too academic and longer than the standard text cited in museology studies<sup>5</sup>. Since then, improvements have been made at other Heritage Malta sites and museums to ensure more readability of the artefacts, providing a storyline that can be understood by more diverse visitors (Figs 12.4, 12.5).

---

<sup>4</sup> McLean 1997: 10; Merriman 2000: 85.

<sup>5</sup> Museum Practice 1997: 64





**Figure 12.2.** The display at the National Museum of Archaeology before 1995.

This brief overview on the development of museum displays gives us an idea why museums were, until quite recently, considered as “boring places” that one had to visit, most often on compulsory school trips. Bourdieu<sup>6</sup>, claims that the family in which a child is reared, influences the child’s future performance. Children who are exposed to museums are more likely to visit museums when they grow up. On the other hand, if a person visited a museum at a young age and had a negative experience, the likeliness is that the same person would not be inclined to visit museums as an adult. In a survey carried out in 1985 in Britain,<sup>7</sup> it was found that 35% of the people surveyed associated museums with libraries, 34% with monuments for the dead, 11% with schools, 10% with churches, and 3% with community centres; the

---

<sup>6</sup> Bourdieu, a social theorist, cited in Merriman 2000: 79.

<sup>7</sup> Merriman 2000: 63. The survey was conducted on both visitors and non-visitors.



**Figure 12.3.** The display on the ground floor at the National Museum of Archaeology inaugurated in 1998.

remaining 7% associated museums with other places. This is the challenge that museums are faced with nowadays: to break away from the exclusively scholarly minded and able image that people often have of museums. To do this, museums need to move away from the concept of instruction for academics to a space in which the concept of edutainment (education and entertainment combined) is achieved. Museums also need to upgrade their display to meet visitor expectations, whilst enticing new audiences to visit museums as a most positive experience.

In 2006, a survey was carried out locally in order to understand what the public, both visitors and non-visitors expect from museums in general<sup>8</sup>. The survey showed that 66.5% of those

---

<sup>8</sup> The survey was part of a thesis entitled *Museums and Audiences – Bridging Gaps* which I submitted in part fulfilment for the degree of Masters of Arts in Cultural Heritage Management. The survey was conducted on 250 locals and covered all museums in the Maltese islands, with the National Museum of Archaeology taken

interviewed had at some time visited a local museum, an encouraging datum by any degree<sup>9</sup>. Out of these, 35% had visited the National Museum of Archaeology at least once<sup>10</sup>. One of the questions asked was how interviewees spend their free time. In both categories (visitors and non-visitors) ‘family outings’ garnered the most percentages with 56.2% and 51.1% respectively. If museums want to attract more local visitors, then this is surely something that needs to be taken into consideration. Museums need to market their product as a potential option for a family outing, by providing activities for the whole family, as a group. Leisure time in today’s fast-paced society seems to be diminishing whereas places offering leisure services are increasing. With this in mind, museums have to compete with other leisure industries whilst at the same time maintaining the edutainment concept. Such a concept should appeal to parents/guardians who usually try to find means of informally educating their children.

Part of the survey also sought data relevant to the extension of the permanent display at the National Museum of Archaeology<sup>11</sup>. The following is a summary of the salient points which emerged from this survey and which were taken into consideration when planning the extension of the permanent display. When interviewees were asked to select their preferred means of how information should be disseminated, 75% chose audiovisuals, 43.7% chose text with images on interpretative panels, 29.7% said they prefer audio guides, 18.7% chose guidebooks, and 18.7% chose catalogues. 98.4% of the interviewees agreed that the display should have elements of interactivity, with some respondents claiming that children and youths are very attracted to such interactive material and that they understand more when they touch

---

as a case study. Specific questions related to it were asked especially in view of the enlargement of the permanent exhibition to be hosted in the upper floor of the museum. The survey was conducted by phone in order to reach non-visitors as well.

<sup>9</sup> Merriman 2000: 64, states that in any year, between 47 to 58 % of the British population visits museums. An Italian survey shows that 41% of the population are museum goers (Rabinovitch 2003, cited in Black 2005: 19).

<sup>10</sup> Sultana 2008: 50.

<sup>11</sup> The questions posed covered the whole extension of the permanent display and thus were not just intended for the Bronze Age display.



**Figure 12.4.** The display at the Domus Romana which was inaugurated in 2005.

things. They also pointed out that instructions are very important to help those who are not familiar with interactive equipment<sup>12</sup>.

When the interviewees were asked if they had any general suggestions to make in view of the Permanent Exhibition Project, 40.6% answered with suggestions which included the following: interactive spaces, especially for children; different types of media; simple language; help at hand by staff; security, and consideration for a wider audience which includes persons with disabilities and the illiterate. When asked to indicate what they thought should be exhibited in these halls, only 62.5% gave an answer. Out of this, 80% said they expected to see original artefacts related to the particular historical periods, without mentioning any specific artefacts. The remaining 20% maintained that there should be audiovisuals and different types of media to explain the way people lived in the past, also referring to such themes as religion, traditions, and clothing.

---

<sup>12</sup> Percentages add up to more than 100 due to multiple answers being provided by interviewees who chose more than one medium.



**Figure 12.5.** The interpretation panels at the Domus Romana.

***12.2.1. Media and facilities throughout the display***

The work on the Permanent Exhibition Project is a collective effort which involves the input of many divisions within Heritage Malta and even of specialists from outside the agency. At the start of the project all those involved met to discuss the message that we want to convey and how this is going to be implemented<sup>13</sup>. The feedback that was gathered from the survey was also taken into consideration.

Since audiovisuals rated the highest as preferred means of information dissemination, as a project team, we have made it a point to supplement textual information with audiovisuals. The Bronze Age display will in fact have two audiovisuals, as explained below. Some of the interpretation panels will have digital frames so that we are not limited to the amount of images we would like to

---

<sup>13</sup> The Project team is mainly made up of Curatorial, Project Unit, Exhibitions and Design Unit, Maintenance Unit and the Communication Unit within Heritage Malta. As a consultant, the Heritage Malta sought the services of Dr David Trump (Curator of the Archaeology section of the Museums Department between 1958 and 1963) to assist us with the concepts, text, and choice of artefacts for the Bronze Age display.

show due to space restrictions or clutter on the interpretation panel. Audio guides are also being considered to form part of the visitor experience. Statistics show that locally there are still people with a very low level of literacy and audio guides are one way of addressing this problem<sup>14</sup>. Research has shown that museum visits increase with the level of education people have<sup>15</sup>. The higher the level the more likely one is to visit a museum. From the survey conducted locally the trend is the same as can be seen from the table below<sup>16</sup>:

	Non-visitors		Visitors	
	Males %	Females %	Males %	Females %
Primary	18.5	18.5	6	9.3
Secondary	76.1	73.9	70.5	74.9
Tertiary	–	6.5	20.2	15.8
Missing system	5.4	1.1	3.3	–

**Table 12.1.** Visitors and Non-Visitors profile according to level of education.

Museums need to work towards breaking this trend by making available different media which will cater for all walks of life. Different levels of information need to be available and it will then be up to the individual to source the preferred means. The media will range from cartoons within the interpretation panels to guidebooks with more detailed information. Guided tours shall also be given their due importance since a lot of people need immediate feedback and this two-way communication mode will also cater for illiterate or semi-illiterate people who would not be able to read the

<sup>14</sup> In 2005 the overall rate of illiteracy in Malta stood at 7.2% of the whole population (as reported in the *Times of Malta*, 27 January 2011). The term illiteracy described individuals who could not write a complete sentence in Maltese or English.

<sup>15</sup> Merriman 2000: 43, Merriman 2000: 80.

<sup>16</sup> Sultana 2008: tables 11, 33 and 34, reproduced in one table.

text. With regard to interpretation panels, it has been decided that the maximum number of words must not exceed 150 and be written in simple language. One might argue that 150 words per interpretation panel is not enough to incorporate all the necessary information, but the intention is to have supplementary media which will accommodate individual needs. Each panel shall have text in Maltese and English and the bottom part of each panel will include a cartoon sketch which will summarise the message we want to convey and, at the same time, make the display more child friendly. When making a display accessible for children one is automatically making it accessible for a wider range of audiences. Museum personnel need to keep in mind that at times it is not just a matter of age but also the familiarity with the subject. This means that a child might be more conversant with a subject or theme that an adult may find difficulty with. With regard to child-friendly measures, we shall also have a room with various activities which relate to the periods being displayed, for we concur with the belief that: 'Learning in early childhood is of greatest importance because it establishes patterns of acquisition of culture that remain with us throughout our lives.'<sup>17</sup> Moreover, accessibility is a term that is very much at heart at the National Museum of Archaeology and is tackled both from the physical and intellectual aspect<sup>18</sup>. Indeed, the National Museum of Archaeology became fully accessible to persons with mobility impairments in the last quarter of 2007<sup>19</sup>. It is our intention to provide portable stools in the museum since space constraints do

---

<sup>17</sup> Anderson 1999: 73.

<sup>18</sup> In the 2006 National Strategy for Cultural Heritage, (*Strateġija Nazzjonali dwar il-Patrimonju Kulturali*, [2006], *Ministeru għat-Turizmu u Kultura*, Malta: 19) accessibility covers a number of issues and includes various issues and matters: the conservation and display of artefacts; education which needs to cater for all levels of education; reinforcement of values such as cultural identity, gender equality and cultural diversity; physical and intellectual access for disadvantaged sectors of society, and the establishment of research agendas to generate new knowledge and update information. The curatorial teams from Heritage Malta hold discussions with the National Commission for Persons with Disabilities on a regular basis in an effort to provide a positive museum experience for persons with various impairments through the use of different types of media.

<sup>19</sup> A ramp was installed outside the main door in Republic Street and the necessary arrangements were made to increase the power supply of the museum to cater for the lift, thus providing access to the upper floor.

not allow us to have sufficient seating space integrated in the display areas. In this manner we are trying to cater for visitor comfort as well. We shall also be integrating a number of interactive exhibits. As much as possible we have integrated elements of interactivity which will, as studies have shown, facilitate visitors in their understanding<sup>20</sup>.

In the display used for the Bronze Age room there shall be an interactive weaving loom which the visitor can work and weave. Clear instructions shall accompany the weaving loom. Apart from helping visitors understand more, interactivity captivates one's attention span<sup>21</sup>.

Objects recovered from an archaeological excavation are best understood in their context but this is not always possible. A site has to be excavated for it to be understood and therefore artefacts have to be unearthed and cannot be left in situ for a number of reasons including conservation issues and theft. This lack of context has long been felt by museum personnel and is addressed by producing, whenever possible, excavation photographs showing artefacts in situ, having reconstructions and also video footage of archaeologists explaining the sites. In this manner we are moving away from cluttering showcases with similar artefacts, as was commonplace in the recent past, and instead showing representative examples recovered from the site. It is evident that the focus has to be on the collection by taking into consideration the requirements of the artefacts which, by museum standards, would encompass conservation and the display environment. It is very important, nevertheless, that museums address the needs of the audiences by providing stories that these collections can tell. McLean sums up this concern aptly: 'Instead of only placing our objects on pedestals, it's time we placed our visitors on pedestals as well.'<sup>22</sup> Our

---

<sup>20</sup> Hooper-Greenhill (1994: 145) has shown that visitors tend to remember 10% of what they read, 20% of what they hear, 30% of what they see (including pictures, film, diorama), 70% of what they say (including participating in a discussion or giving a talk), and 90% of what they say and do (including handling and talking about objects or using interactive exhibits).

<sup>21</sup> Studies have shown that when interactive material formed part of a display, the average time spent by visitors at an exhibit increased from 13.8 to 23.8 seconds; Melton 1936 cited in Hein 1998: 143.

<sup>22</sup> McLean 1993:5, cited in Black 2005:7.



concerns respond to the common needs of museum visitors drawn up in 2001 by the USA visitor Services Association which compiled a list, termed the ‘Visitors’ Bill of Rights’ which assembles what museums should aim at gratifying.<sup>23</sup>

### *12.2.2. The Bronze Age display at the National Museum of Archaeology*

The aim of the permanent display is to give enough information to the visitors so that they get an overview of the Bronze Age in Malta and to make sure that the museum acts as a gateway to those local Bronze Age sites which are accessible to the public. Related to this is the wish to give visitors a most positive experience according to the expectations discussed above. The main challenges encountered relate mainly to limitations of space imposed by the historic building. No structural changes are permissible and the display has to be accommodated within the layout of existing rooms. The choice and the amount of artefacts reflect these limitations.

The Bronze Age period in Malta, which starts about 2400 BC and ends with the permanent settlement of the Phoenicians in Malta about 700 BC, does not provide as many bronze artefacts as one would expect, when considering the label used to designate the period. The principal metal artefacts are the daggers and axes found in the cemetery levels of the Tarxien temple complex and another dagger found at Ghar Mirdum, a cave site located in the limits of Dingli. However, it is not only the metal artefacts that are important for this period, but other materials, including the perishable ones such as textiles, food and wood. Material evidence – and the lack of it – help us gain an insight into the way people lived during this period.

---

<sup>23</sup> Rand 2001: 13-14 cited in Black 2005: 32. These include: comfort (‘Meet my basic needs’), orientation (‘Make it easy for me to find my way around’), welcome/belonging (‘Make me feel welcome’), enjoyment (‘I want fun’), socialising (‘I came to spend time with family and friends’), Respect (‘Accept me for who I am and what I know’), communication (‘Help me understand and let me talk too’), learning (‘I want to learn something new’), choice and control (‘Let me choose; give me some control’), challenge and confidence (‘Give me a challenge I know I can handle’), revitalisation (‘Help me leave refreshed, restored’).

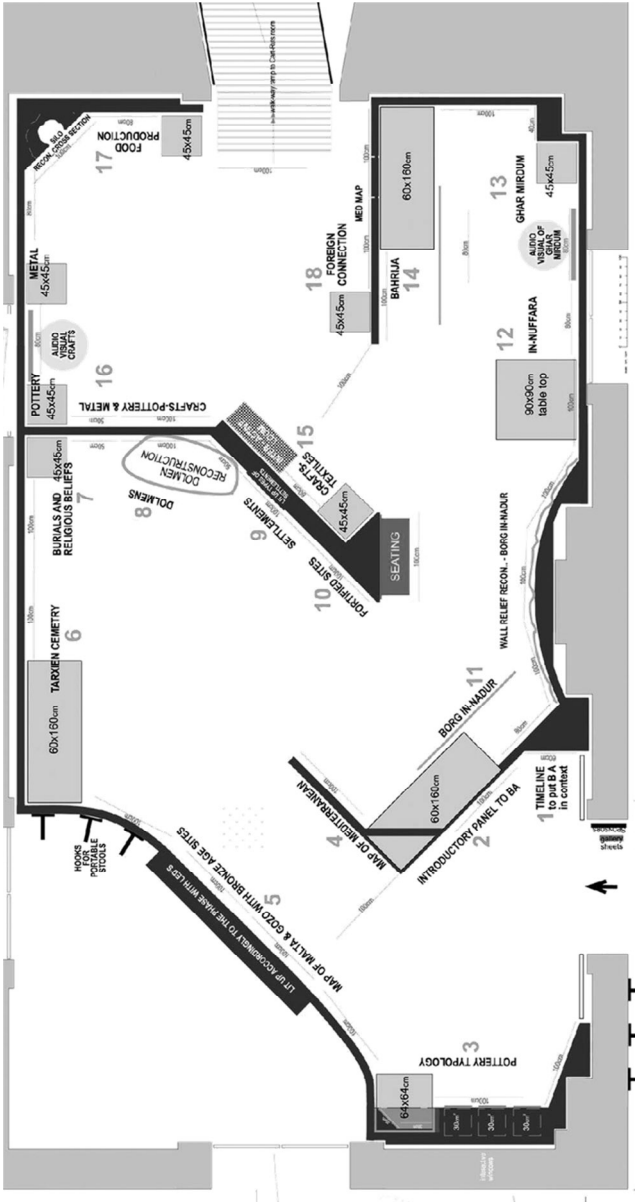


Figure 12.6. Proposed layout of the Bronze Age room display, drawn by the Exhibitions and Design Unit, Heritage Malta.

The layout of the display (Fig. 12.6) is designed in such a way that it provides a continuous visitor flow. When it came to deciding whether to have a diachronic (that is, chronological) or a synchronic (that is, thematic) layout, we decided to combine both. In discussing how one should create exhibitions for learning purposes, Blais points out that ‘both approaches provide a suitable context for learning but it is important to keep a balance between the two within an exhibition and across a whole museum’<sup>24</sup>. Chronology is very important in archaeology since it provides a sequence of periods, at times also of sub-periods, within a timeline. On the other hand, a thematic display facilitates visitor comprehension through themes with which they are familiar.

As can be seen from the display layout (Fig. 12.6), the first image to greet the visitors will be a timeline to put the Bronze Age into a temporal context. Such a timeline will recur in each subsequent room so that the visitor can, at a glance, know the dates of each phase in absolute terms and relate this to the periods which came before and which follow. So, although the timeline will be the same in all the rooms, the period specific to each room will be highlighted.

The next panel will briefly introduce the Bronze Age by explaining basic differences between this period and the previous Temple period (Neolithic) displayed on the ground floor. Moving on, one will be able to see the first showcase which will show the visitor the difference in pottery types. We felt that it was essential to make visitors aware of how archaeologists use pottery recovered from a succession of layers to arrive at a relative chronology of a particular site. In this case we will be replicating the “layers” in the showcase, by displaying a succession of pots from each phase (Tarxien Cemetery phase, Borġ in-Nadur phase, Baħrija phase) placed one on top of the other, including one from the previous Temple period (at the bottom) and one from the subsequent Phoenician period (at the top). Next to this showcase, three flaps will be integrated in an interpretation panel. Opening each flap will reveal a pot representative of each phase. On the underside, each flap will carry more detailed information about the characteristic

---

<sup>24</sup> Blais 2004: 31.

shapes, decoration and fabric that differentiates one pottery style from the other. The use of such flaps provides a simple but immediate means of interactivity, enticing visitors, including children, to spot the differences between each pot.

Two large maps placed opposite each other will flank the visitor route. One will show a map of the Mediterranean, putting the Maltese archipelago in spatial context and the other will show a map of Malta and Gozo with all the Bronze Age sites marked according to the one of the three phases they represent, illuminated at the push of a button. This not only allows interactivity to take place but introduces visitors to a variety of site names which recur throughout the exhibition as well as allow them to comprehend the preferred choice for settlement at this time.

The next space will deal with Tarxien Cemetery as a site and with the theme of Burials and Beliefs. When the Tarxien temple complex was excavated between 1915 and 1917, a layer of ash and burnt human bones was uncovered in the first season of digging. This layer contained numerous artefacts – including personal ornaments, anthropomorphic figurines, highly decorated pottery, and above all the metal daggers and axes – which were very different from the ones recovered from the layer below belonging to the Temple period. At the time, the excavator and curator of the museum, Themistocles Zammit, immediately recognised the area as a cremation cemetery dating to the Bronze Age. This ash layer also provided us with the choice of colour scheme to adopt for the Bronze Age room: a warm light grey.

Synonymous with the Maltese Bronze Age are the dolmens. These structures are usually associated with funerary rituals even though scanty archaeological finds have been unearthed from beneath them. We have decided to reconstruct a dolmen in order to show visitors the type of structure up close since many locals have a misconception of the word “dolmen” and confuse it with what archaeologists term a “trilithon”. The diorama should help to put this right. After giving an overview of funerary rituals and associated structures, another panel will explain the different settlement types known for this period. The panel devoted to Fortified Sites explains briefly these types of sites and introduces visitors to one of the main Bronze Age sites discovered in Malta,

namely Borg in-Nadur. The site itself still retains an impressive example of a fortified wall, a part of which shall be reconstructed within the display area. Next to this reconstruction there will be a showcase which will hold an array of artefacts recovered from this site. Archaeologists have shown that the wall defended a village of oval huts which would have accommodated a community running into a few hundreds. A number of querns and rubbing stones discovered on the hut floors suggest that agricultural activity took place here<sup>25</sup>. The large number of rock-cut pits which are found along the shore below the site were probably used as storage spaces for the produce, if not vats for retting textiles.

In the next space, one will be able to see artefacts from three other sites, namely Nuffara (Gozo), Ghar Mirdum and Bahrija. The Ghar Mirdum showcase will be accompanied by an audiovisual showing original film footage of the exploration of the cave site taken by the explorers in 1965<sup>26</sup>. Moving on to the last section of the display, the visitors can learn about craft technology of the Bronze Age. Textile and pottery production and metal making shall be explained through the use of an audiovisual, which will depict crafting using ancient techniques. Apart from the interpretation panels and the artefacts chosen to illustrate these crafts in more detail, we shall have a reconstruction of a vertical weaving loom, with loom weights of the type found on several sites, which the visiting public can use to weave<sup>27</sup>.

The last section of the exhibition will be presenting food production and foreign connections. Evidence of food-related artefacts, such as querns, animal bones, carbonised beans and pottery vessels, will be displayed along with a reconstruction of the type of rock-cut bell-shaped silo pit which has been discovered in numerous Bronze Age sites in Malta and Gozo. As can be seen

---

<sup>25</sup> An example of such querns shall be displayed with the section which gives information about evidence of food-related artefacts in the Bronze Age.

<sup>26</sup> The footage was filmed by Malta Television as part of a programme called *Din il-Gimgha*. A copy of the footage was made available to Heritage Malta by the Public Broadcasting Services.

<sup>27</sup> Wild 1998: 33. Since we do not have direct evidence from Maltese sites of what a Bronze Age weaving loom would have looked like, we decided to go for a very basic one. The interpretation accompanying it will alert visitors to the fact that the prehistoric looms of Malta may have been different.

from the choice of themes, we have made a conscious attempt to discuss topics that visitors will be familiar with, such as how and where people lived and the crafts used in order to produce daily necessities. Before exiting the room we shall present, through archaeological remains which include imported material consisting mostly of pottery, the contacts that the Bronze Age settlers in Malta kept with different regions, especially with regions in south-east Sicily.

### 12.3. Conclusion

As soon as the Bronze Age room opens to the public a new task will kick in: that of evaluating the display according to the feedback we shall receive by visitors and from the generation of new knowledge based on discoveries or re-interpretation of data (like that contained in various papers in this book). The museum already has a visitors' book which we evaluate once a month to see what things are liked and disliked, and what is thought to require improvement. This feedback will allow us to gauge how the display has been received by the visiting public. Moreover, we intend to take on board any valid suggestions which may be applicable for the rest of the Permanent Exhibition Project, work on which continues as I write.

### References

- Anderson, D. [1999] *A common wealth: 12 Targets for development of Museum learning* [accessed 2 June 2007] Available from World Wide Web [http://webarchive.nationalarchives.gov.uk/+http://www.culture.gov.uk/NR/rdonlryres/944FC371-311C-4C8F-BF8F-3B4C10A4702B/0/Common\\_Wealth.pdf](http://webarchive.nationalarchives.gov.uk/+http://www.culture.gov.uk/NR/rdonlryres/944FC371-311C-4C8F-BF8F-3B4C10A4702B/0/Common_Wealth.pdf)
- Black, G. [2005] *The Engaging Museum. Developing Museums for Visitor Involvement*. Routledge, London.
- Blais, J. M. [2004] "Creating Exhibitions for Learning", in H. Moffat and V. Woollard (eds), *Museum and Gallery Education*, pp. 27-38. Altamira Press, Lanham.
- Gambin, K. [2003] *One Hundred Years of Heritage 1903-2003*. Midsea Books in association with Heritage Malta, Malta.
- Hein, G. E. [1998] *Learning in the Museums*. Routledge, New York.

- Hooper-Greenhill, E. [1994] *Museums and their Visitors*. Routledge, New York.
- Lindauer, M. A. [2005] “From salad bars to vivid stories: four game plans for developing ‘educational successful’ exhibitions”, in *Museum management and Curatorship* 20: 41-55.
- Mc Lean, F. [1997] *Marketing the Museum*. Routledge, London.
- Mc Manus, P. [1994] “Families in Museums,” in Miles R., Zavala L., *Towards the Museum of the Future*, pp. 81-98. Routledge, London.
- Merriman, N. [2000] *Beyond the Glass Case: The Past, the Heritage and the Public*. Leicester University Press, Leicester.
- Museum practice* [1997], Issue 5 (volume 2, Number 2), Museums Association, Pensord Press. Blackwood, Gwent.
- Strateġija Nazzjonali dwar il-Patrimonju Kulturali* [2006], Ministeru għat-Turiżmu u Kultura, Malta.
- Sultana, S. [2008] *Museum and Audiences – Bridging gaps*. Unpublished M.A. (Cultural Heritage Management) dissertation, Institute of Conservation and Management of Cultural Heritage, University of Malta.
- Times of Malta* [2011] Illiterates appreciate second chance to improve skills, accessed on 27th January 2011, on <http://www.timesofmalta.com/articles/view/20110127/local/illiterates-appreciate-second-chance-to-improve-skills>
- Wild, J. P. [1998] *Textiles in Archaeology*. Princes Risborough, Shire.

**Sharon Sultana** graduated in 1995 with a first degree in Archaeology from the University of Malta. In 2008 she obtained her Master’s in Cultural Heritage Management from the same university, with a dissertation on Museums and Audiences. She is currently the Principal Curator of the National Museum of Archaeology.





## 13. Virtual reconstruction of the Borġ in-Nadur megalithic temple

Filippo Stanco – University of Catania, Italy  
fstanco@dmi.unict.it

Davide Tanasi – Arcadia University,  
The College of Global Studies, MCAS, Italy  
TanasiD@arcadia.edu

Dalma Cultrera – University of Catania, Italy  
dalmacultrera@hotmail.it

**Abstract.** In the past decade, Computer Graphics have become strategic for the development of projects aimed at the interpretation of archaeological evidence and the dissemination of scientific results to the public. Among all the solutions available, the use of 3D models is particularly relevant for the reconstruction of poorly preserved sites and monuments destroyed by natural causes or human action. These digital replicas are, at the same time, a virtual environment that can be used as a tool for the interpretative hypotheses of archaeologists and an effective medium for a visual description of the cultural heritage as it crosses linguistic barriers. In this paper, the methodology, aims and outcomes of a virtual reconstruction of the Borġ in-Nadur megalithic temple, carried out by Archeomatica Project of the University of Catania, are offered as a case study for a Virtual Archaeology of prehistoric Malta.

**Keywords:** 3D modeling, virtual archaeology, virtual heritage, Archeomatica Project.

### 13.1. Virtual archaeology: the future of the past

In the last fifty years, the growing use of computer applications has become a main feature of archaeological research<sup>1</sup>. Since the 1990s when computer science was oriented towards the creation of tools and solutions for the archive and management of quantitative data, to the development of virtual models and to the dissemination of knowledge, computer applications came to embrace a true theoretical approach to the problems of archaeology. Indeed, they are now able to direct interpretative models and affect the language and contents of the study of the past<sup>2</sup>.

Nowadays, among all the branches of computer science, Computer Graphics is in general the more effective tool for dealing with cultural contents<sup>3</sup>. Their importance lie in the four main steps of the archaeological process: fieldwork, recording, interpreting, dissemination of results. If during an excavation their application is restricted to the use of laser scanners and 3D GIS, where archaeologists can be considered as mere ‘users’ of technologies made available by the research efforts of computer scientists, in the moment of decoding ancient data and in the subsequent phase of encoding and simplifying them, research strategies and goals of archaeology and computer science coincide<sup>4</sup>. In this perspective, the digital solution would appear to be the most successful strategy for passing on our shared heritage to future generations.

Heritage is considered to encompass more than the archaeological retrieval of past material evidence. It also includes tradition, artistic expression and cultural evidence. UNESCO defines heritage as ‘our legacy from the past, what we live with today, and what we pass on to future generations’<sup>5</sup>. In both definitions, the concept is not restricted to human-made artefacts, but includes natural landscape sites and abstract cultural manifestations.

The term Virtual Heritage is similar to that of ‘virtual archaeology’ intended as ‘digital reconstructive archaeology applied

---

<sup>1</sup> Zubrow 2006.

<sup>2</sup> Vannini 2000.

<sup>3</sup> Stanco and Tanasi 2011a.

<sup>4</sup> Daly and Evans 2006.

<sup>5</sup> UNESCO World Heritage Centre: <http://whc.unesco.org>

to the reconstruction of three-dimensional archaeological ecosystems<sup>6</sup>. But independently of the term's meaning the common ground for research seems to be to approach Virtual Archaeology (henceforth, VA) as a means of producing tools that aid understanding.

The birth of VA was not simply caused by the proliferation of 3D modeling techniques in many fields of knowledge, but as a necessity to archive an overgrowing amount of data and to create the best medium to communicate those data with a visual language. From this point of view, the application of 3D reconstructions, obtained using different techniques, became the core area of study in VA, particularly for its potential of facilitating the sort of cognitive interaction offered by a 3D model<sup>7</sup>. In this way, virtuality turns into a communication method more effectively if applied to particular fields, especially archaeological sites which are well preserved but are not accessible or sites which are not preserved but known through traditional documentation<sup>8</sup>.

The process of creating images for the visualisation of historical buildings is not exclusive to the digital age. Recent computer-generated imagery represents a modern version of previous hand-drawn reconstructions, and likewise old image production techniques aim at producing visual outputs from the acquired or generated three-dimensional information. Heritage virtual models disseminated through the Internet and numerous websites provide a vast number of examples with diverse objectives and presentation technologies.

Directly linked to technological resources, virtual heritage has benefited from the recent fast growing stream of digital advancements originating from academic, government and industry laboratories<sup>9</sup>. Historically, virtual reconstruction projects basically targeted three separate groups: the conservator, who expected to encounter relevant documentation, the historian who sought interpretation, and the general public, which required visual realism<sup>10</sup>. Each user category holds its set of demands, expecting

---

<sup>6</sup> Ryan 2001: 245.

<sup>7</sup> Stanco and Tanasi 2011a.

<sup>8</sup> Cultraro *et al.* 2009; Stojakovic and Tepavcevic 2009.

<sup>9</sup> Addison 2000.

<sup>10</sup> Addison 2000.

diverse and specific results that determine the degree of success of a reconstruction project. Equally, virtual heritage contributes in different ways to each group.

The historical reliability of the 3D models produced by the growing number of virtual reconstructions constitutes a major concern expressed by several researchers worldwide. The necessity to recognise whether an image portrays a scientifically based version of a historical building or artefact comprises a fundamental question affecting all virtual heritage projects.

Furthermore, one largely neglected potential of ‘virtuality’ centered on evidence coming from the past is that it can offer a valuable experimental environment in which to test the reliability of one’s assumptions. From this point of view, 3D computer graphics came to be considered on the same level as archeology itself, as a digital version of archaeology by experiment<sup>11</sup>, characterised by the study of the ‘practice supporting the theory’<sup>12</sup>. It aims to replicate experiments involving site formation process, test methodological assumptions by applying them to known contexts. In the same way similar research can be conducted virtually, interacting with a 3D model replicating reality<sup>13</sup>. In this sense of a cognitive tool, the use of 3D models in archaeological research can be intended as a sort of benchmark of what the perceptual senses and the mind perceived in the first instance: a sort of ‘seeing causes believing’ opposed to a simple and sometimes misleading ‘seeing is believing’ which is often altered by the cultural biases of the archaeologists<sup>14</sup>. So digital technology is not only used to provide tools of discovery and communication but mostly interactive feedbacks<sup>15</sup>.

### **13.2. From field to screen: archaeological 3D modeling**

Against this background, in 2007 an interdisciplinary research programme of VA, named Archeomatica Project, was begun by the Image Processing Laboratory of the University of Catania<sup>16</sup>. It is

---

<sup>11</sup> Longo 2003; Bellintani and Moser 2003; Thomas 2009.

<sup>12</sup> Coles 1981.

<sup>13</sup> Moser *et al.* 2009.

<sup>14</sup> Dennett 1996.

<sup>15</sup> Frischer 2009.

<sup>16</sup> [www.archeomatica.unict.it](http://www.archeomatica.unict.it)

aimed to create new tools for archaeological research within the field of 2D digital imaging and 3D graphics, in particular to: (1) produce automatic systems of recognition and classification of graphic data; (2) to develop virtual models of archaeological sites and items with a high degree of accuracy following the data obtained during excavation and study, through the use of laser scanner and 3D modeling techniques<sup>17</sup>.

The essence of this project is a cognitive process based on a peer-to-peer exchange of knowledge between experts of computer science and archaeology working side by side. The Archeomatica Project, which represents through its scientific results one of the most recent trends in VA and in the modern policies in the conservation of archaeological heritage, is also aimed at defining a common multidisciplinary language to improve the quality of the message of this new discipline to the outside world.

Several achievements were obtained by the Archeomatica Project through archaeological 3D modeling, namely the recreation of landscapes, architecture, and objects by digital means based upon the current state of the salvaged monuments integrated with the data coming from historical and archaeological research using software for developing 3D models<sup>18</sup>. 3D modeling is probably the most popular computer-based technique applied to cultural heritage as it represents the core of the ‘serious games’ used in many multimedia projects<sup>19</sup>. The archaeological 3D modeling is not just a simple cognitive tool used to reproduce virtual aspects of the past, like objects of everyday life<sup>20</sup>, but to improve knowledge and aid or facilitate comprehension. It is also, above all, a method of recording all the archaeological data in a much more complete way than traditional photography and drawing; besides, it is also a tool aiding interpretation for researchers involved in the theoretical reconstruction of the past itself. From this point of view, it is a kind of virtual benchmark of the archaeologists’ theories where the hypothesis is tested and corrected in order to produce a truthful

---

<sup>17</sup> Sangregorio *et al.* 2004; Stanco and Tanasi 2008; Gallo *et al.* 2011; Stanco and Tanasi 2011a.

<sup>18</sup> Margounakis 2008.

<sup>19</sup> Anderson *et al.* 2009.

<sup>20</sup> Salvadori 2009.

image of something buried by time; a kind of ‘solid modeling to illustrate the monument’ becoming ‘solid modeling to analyse the monument’<sup>21</sup>.

A useful field for the application of this technique is prehistory, for which the scarcity of iconographic sources and the generally poor state of conservation of the finds, makes extremely complex both the process of decoding the information and of transmitting knowledge to the public<sup>22</sup>. And it is also extremely suitable for the virtual reconstruction of vanished heritage due to the growing capacities of digital media to replicate and interpret lost or inaccessible cultural heritage sites. The best example of this kind of digital research is represented by the reconstruction of the Bamiyan buddhas in Afghanistan (destroyed by the Taliban in 2001)<sup>23</sup>, of the Iranian Arg-e Bam citadel (devastated by an earthquake in 2003)<sup>24</sup>, and of the Archaeological Museum of Baghdad (looted in 2003 in the wake of the turmoil of the Second Gulf War)<sup>25</sup>.

### 13.3. Computer graphics and Maltese prehistory

The research carried out between 1987 and 1994 by the Anglo-Maltese team working at the Brochtorff Circle at Xagħra (Gozo)<sup>26</sup> resulted in seminal contributions for the virtual reconstruction of some features of Maltese prehistoric sites. These include the study of inter-visibility and of the influence of light sources on ritual practices, the interaction between the participating audience and the space defined by the architecture of the temples, alternative virtual reconstructions of ritual furniture and liturgical artefacts, reconstruction of no longer existing structures represented in later graphic and photographic documentation; these are just a few examples of those achievements<sup>27</sup>.

---

<sup>21</sup> Reilly 1992: 99.

<sup>22</sup> Hodder and Doughty 2007.

<sup>23</sup> Gruen *et al.* 2004; Gruen and Hanusch 2008.

<sup>24</sup> Reza Matini and Ono 2010.

<sup>25</sup> Cultraro *et al.* 2009.

<sup>26</sup> Malone *et al.* 2009.

<sup>27</sup> Chalmers *et al.* 1995; Belcher *et al.* 1996; Chalmers and Stoddart 1996; Chalmers *et al.* 1996; Lim *et al.* 1996; Stoddart and Chalmers 1996.

Of particular importance is the work of Chalmers and Debattista<sup>28</sup> in which for the first time guidelines for the virtual reconstruction in 3D modeling of Maltese megalithic architecture (both built and rock-cut) are provided. Relevant was also the effort to apply methodologies from computer games, like narrative and environment interactivity, for enhancing the on-site evaluation of visible and invisible features of Mnjadra temple, carried out by an Australian researcher<sup>29</sup>.

In 2006 some major projects were carried out by Heritage Malta as part of its long-term objective of creating a visual portfolio of all its sites as tools for better heritage management and monitoring<sup>30</sup>. Among its major achievements is the completion of the 3D models of the temple sites of Haġar Qim and Mnajdra, which formed part of the groundwork for a much larger project which aimed to build shelters to protect the temples from natural and human induced causes of deterioration. At the same time, Heritage Malta commenced preparations for the 3D modeling, using laser scanning technology, of three other sites, namely Ta' Haġrat, Skorba, as well as the interior of the Hypogeum. In a project promoted and implemented jointly by the Department of Archaeology of the University of Cambridge (UK) and the National Museum of Archaeology (Heritage Malta), funded by the Templeton Foundation, emphasis was placed on the digitisation of archaeological artefacts and sites related to Maltese prehistoric figurative art.

#### **13.4. The virtual model of the Borġ in-Nadur temple**

In the summer of 2010, an interdisciplinary team from the Archeomatica Project was actively involved in a research plan drawn up by Arcadia University of Philadelphia to understand the temple of Borġ in-Nadur in Malta, in collaboration with the University of Malta and Heritage Malta (the Maltese national agency responsible for the management of museums and

---

<sup>28</sup> Chalmers and Debattista 2005.

<sup>29</sup> Flynn 2000; Flynn 2004; Flynn 2005.

<sup>30</sup> Mallia 2007.

archaeological sites). The temple in question goes back to the end of the fourth millennium BC but was reoccupied and reused from the beginning of the third millennium right down to the Phoenician settlement of the island in the course of the eighth century BC.

About 20 megalithic sites are known in Malta and Gozo and together they probably represent the most relevant tourist attraction of the archipelago and, indirectly, the backbone of its economy. However, the temple of Borġ in-Nadur is less well known than the rest, even though it started off as a major attraction for Grand tourists and travellers in the Early Modern and Colonial periods<sup>31</sup>. It was explored in the second half of the 1920s by a team of British archaeologists. The excavations uncovered a monumental sacred complex, characterised by a singular plan including a megalithic enclosure with different cult places. A large number of finds were unearthed, demonstrating the wealth of the community using the site. At that time, the conditions of the temple building were rather good. Orthostats and megaliths were still standing, paving slabs and cultic stone objects located on them were preserved in situ and a good part of the original plan of the sanctuary area could be clearly made out. The preliminary reports of the explorations, published promptly in 1923, 1925 and 1929, were accompanied by a thorough drawn and photographic documentation of the main structures and included accurate measurements of nearly all megaliths (Fig. 13.1).

In the past 80 years, for different reasons this site was forgotten and generally neglected with the result that the current conditions of the entire archaeological area are unfortunately rather poor<sup>32</sup> (Fig. 13.2). As a consequence, Borġ in-Nadur has not been included in any tourist itinerary and the site is currently only open to the public by appointment.

For these reasons, the attempt to develop a virtual archaeology project around the site seems timely especially to clarify some features of the temple which now appear to be lost and to offer a new tool for promoting the site. In this context, the work done to date in the field of computer graphics and digital imaging on

---

<sup>31</sup> See Bugeja, this volume (chapter 2).

<sup>32</sup> See Grima, this volume (chapter 11).



Maltese prehistoric sites provided useful information for planning the Borġ in-Nadur reconstruction.

In the case of the megalithic temple, the starting point for this archaeological 3D model work (Fig. 13.3) was the collection of all the graphic and photographic documentation available for this monument, consisting mostly of publications from the 1920s, and carrying out a site survey to evaluate what has been lost or is covered. In addition, extruded multilayered plans containing information about orography, provided by the Malta Environment and Planning Authority<sup>33</sup> with superimposed high resolution aerial photographs of the Marsaxlokk Bay area, taken at an altitude of 2000 m, were elaborated in order to develop a Digital Elevation Model (DEM)<sup>34</sup> to be used as a ‘visualsecape’<sup>35</sup> for the location of the model. The temple has been rebuilt using the measurements provided in Murray’s reports, while all the other structures were reconstructed using dimensions recorded on site or through comparisons with other temple sites.

The work tool used is Blender<sup>36</sup>, an open source cross-platform software for modeling, rendering, animation, post-production, creation, and playback of interactive 3D contents. It is extremely versatile, functional, and constantly open to implementations based on the research of its application in various fields, including archaeology<sup>37</sup>.

The 3D model was not intended to reconstruct in elevation the missing parts of the temple but was aimed at rediscovering digitally what was found by the archaeologists nearly 80 years ago. Therefore, the model of the temple and of the surrounding territory became a useful virtual environment for carrying out tests of inter-visibility between the temple and another two adjacent sites occupied in the same period, namely the Borġ in-Nadur village and the Ghar Dalam cave. Furthermore, the visibility of the temple’s ruins from the sea and from the Roman Villa of Ta’ Kaċċatura was checked in order to validate the visual importance of the site in later times. In order to add realism to the digital replica, a study of light sources was

---

<sup>33</sup> [www.mepa.org.mt](http://www.mepa.org.mt)

<sup>34</sup> Maune 2007.

<sup>35</sup> Llobera 2003.

<sup>36</sup> [www.blender.org](http://www.blender.org)

<sup>37</sup> Stanco and Tanasi 2011b.

carried out, simulating a complete cycle of the sun on mid-summer day through the use of the Radiance raytracer<sup>38</sup>. The final outcome of the processing and post-processing phases is a 10-minute video, in which the virtually rebuilt megalithic temple of Borġ in-Nadur is shown in its landscape accompanied by music composed for the project by the Maltese musician Renzo Spiteri<sup>39</sup>.

The last phase of the exercise includes also the development of an interactive 3D model of the temple in the conditions in which it was in the 1920s. An advantage of interactive visualisation is to insert users in the loop. Conversely to passive media such as computer animation, it is now the users that drive the navigation and the inspection of the digital artefact. An interactive system allows users to follow their specific interest while choosing the exploration path, focusing on the details that hit personal interest and giving the possibility to choose the duration of the visualisation session on the basis of the specific insight experience and needs<sup>40</sup>.

For making lighter the rendering process without losing quality and limiting interactivity, a system with 17 static stations of observations was developed for the interactive 3D model. In Blender environment, 17 stations with wide-angle cameras, located in specific positions inside the temple area, pointing front, left, right, up, back, and down rendered the scene into 90° views. These views were then smoothly stitched into required fish-eye projections by the panorama stitcher Hugin<sup>41</sup>. From the projections, proper textures were extracted for creating 17 spheres, one for each station, inside which the camera of the Blender Game Engine was located. The passage from one station/sphere to another is through simple links, causing the sensation of walking inside the temple, following the available paths.

The navigation interface includes an interactive map of the temple, indicating the current position of the human-sized avatar moving inside the ruins<sup>42</sup>, as in the popular Virtual Museum of the Ancient via Flaminia.

---

<sup>38</sup> <http://radsite.lbl.gov/radiance>

<sup>39</sup> [www.renzospiteri.com](http://www.renzospiteri.com)

<sup>40</sup> Dellepiane *et al.* 2011.

<sup>41</sup> <http://hugin.sourceforge.net>

<sup>42</sup> [www.vhlab.itabc.cnr.it/flaminia](http://www.vhlab.itabc.cnr.it/flaminia)

### 13.4. Final observations

In conclusion, the life history of the Borġ in-Nadur temple demonstrates that the archaeological heritage is under constant threat and danger: danger to be vandalised or, even worse forgotten.<sup>43</sup> Architectural structures and cultural and natural sites are exposed to pollution, tourists, and wars, as well as environmental disasters such as earthquakes, floods, or climatic changes. Hidden aspects of our cultural heritage are also affected by agriculture, changes in agricultural regimes due to economic progress, mining, gravel extraction, construction of infrastructure, and the expansion of industrial areas. 3D modeling could be extremely useful for the identification, monitoring, conservation, restoration, and promotion of archaeological sites. 3D computer graphics can support archaeology and the politics of cultural heritage by offering scholars a 'sixth sense' for understanding remains from the past, as it allow us to experience it<sup>44</sup>. 3D documentation of still extant archaeological remains or building elements is an important part of collecting the necessary sources for a virtual archaeology project. New developments permit this documentation phase to be accomplished, using tools available for free to obtain correct measurements and ground plans from photographic representations. This is important when preserving archaeological remains, when older phases are reconstructed in a virtual way. The original state, the restored state, and eventual in-between states can be recorded easily through photo modeling techniques<sup>45</sup>. Furthermore, the recent application of 3D computer graphics has proved crucial in planning strategies of conservation and restoration issues concerning monuments that are part of world cultural heritage, on which there is still an open debate, as in case of the restoration of the Parthenon on the Acropolis of Athens<sup>46</sup>.

---

<sup>43</sup> In actual fact, round the clock security is provided at the site. See Grima, this volume (chapter 11).

<sup>44</sup> Moser 2005.

<sup>45</sup> Pletinckx 2009.

<sup>46</sup> Toganidis 2007.

## Acknowledgements

The authors are thankful to Emanuele Sangregorio and Simone Tomasello for the development of the interactive 3D model.

## References

- Addison, A. C. [2000] "Emerging Trends in Virtual Heritage", in *IEEE Multimedia* 7/2: 22-25.
- Anderson, E. F., McLoughlin, L., Liarokapis, F., Peters, C., Petridis, P., and de Freitas, S. [2009] "Serious Games in Cultural Heritage," in M. Ashley, F. Liarokapis (eds), *State of Arts and Reports*, Proceedings of the 10th International Symposium on Virtual Reality, Archaeology and Cultural Heritage (VAST), (St Julians, Malta, 22-25 September 2009), pp. 29-48. Eurographics Association, Aire-la-Ville.
- Belcher M., Chalmers, A., Harrison, A., and Stoddart, S. K. F. [1996] "Teaching the visualisation of landscapes", in H. Kamermans and K. Fennema (eds), *CAA 95. Interfacing the past, Proceedings of Computer Applications and Quantitative Methods in Archaeology* (Analecta Praehistorica Leidensia I), pp. 483-487. University of Leiden, Leiden.
- Bellintani, P. and Moser, L. (eds) [2003], *Archeologie Sperimentali. Metodologie ed Esperienze fra Verifica, Riproduzione, Comunicazione e Simulazione*, Atti del Convegno (Comano Terme – Fivavè, 13 - 15 settembre 2001). Provincia autonoma di Trento, Trento.
- Chalmers, A. and Debattista, K. [2005] "Investigating the Structural Validity of Virtual Reconstructions of Prehistoric Maltese Temples", in M. Mudge, N. Ryan and R. Scopigno (eds), *Proceedings of the 6th International Symposium on Virtual Reality, Archaeology and Cultural Heritage (VAST)*, pp. 1-6. Eurographics Association, Aire-la-Ville.
- Chalmers, A. and Stoddart, S. K. F. [1996] "Photorealistic graphics for visualising archaeological site reconstructions", in A. Higgins, P. Main and J. Lang (eds), *Imaging the Past. Electronic imaging and computer graphics in Museums and Archaeology* (British Museum occasional Paper 114), pp. 85-93. British Museum, London.
- Chalmers, A., Stoddart, S. K. F., Lamprell, A., Salisbury, A. [1996] "An integrated information system for archaeological evidence", in H. Kamermans and K. Fennema (eds), *CAA 95. Interfacing the past, Proceedings of Computer Applications and Quantitative Methods in Archaeology* (Analecta Praehistorica Leidensia I), pp. 37-41. University of Leiden, Leiden.
- Chalmers A., Stoddart S.K.F., Tidmus J., Miles R. [1995] "INSITE: An Interactive Visualisation System for Archaeological Sites", in J. Huggett, N. Ryan (eds), *Computer applications and Quantitative methods in archaeology 1994* (BAR International Series 600), pp. 225-228. Tempus Reparatum, Oxford.

- Coles J. [1981] *Archeologia sperimentale*. Longanesi, Milano.
- Cultraro, M. Gabellone F., Scardozi G. [2009] “The Virtual Musealization of Archaeological Sites: Between Documentation and Communication,” in F. Remondino, S. El-Hakim, L. Gonzo (eds), *3D Virtual Reconstruction and Visualization of Complex Architectures*, Proceedings of the 3rd ISPRS International Workshop” (3D-ARCH 2009), (Trento, 25-28 February 2009), *International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences XXXVIII-5/W1*: 1-6.
- Daly, P., Evans T. L. [2006] “Archaeological Theory and Digital Pasts”, in T. L. Evans and P. Daly (eds), *Digital Archaeology. Bridging Method and Theory*, Routledge, London.
- Dellepiane M., Callieri M., Corsini M., Scopigno R. [2011], “Using Digital 3D Models for Study and Restoration of Cultural Heritage Artifacts”, in S. Battiato, G. Gallo and F. Stanco (eds), *Digital Imaging for Cultural Heritage*, pp. 39-70. CRC Press, New York.
- Dennett D. C. [1996] “Seeing is believing”, in K. Akins (ed.), *Perception. Vancouver Studies in Cognitive Science. Vol. 5*, pp. 158–172. Oxford University Press, Oxford.
- Flynn B. [2000] “A Maltese temple as game space”, in H. Thwaites (ed.), *VSMM 2000 Proceedings of the 6th International conference on Virtual systems and multimedia*, pp. 50-56. International Society of Virtual Systems and Multimedia, Ohmsha.
- Flynn, B. [2004] “Games as inhabited spaces”, in *Media Studies and Computer Games* 110 (Special issue of Media International Australia incorporating Culture and Policy): 52-61.
- Flynn, B. [2005] “Exploration of Maltese Prehistoric Temples through the application of Multimedia Technologies”, in *Mediterranean Archaeology and Archaeometry* 5/2: 23-34.
- Frischer, B. [2009] “Art and Science in the Age of Digital Reproduction: From Mimetic Representation to Interactive Virtual Reality”, in *Arqueologica 2.0*, Proceedings of 1st International Meeting on Graphic Archaeology and Informatics, Cultural Heritage and Innovation, (Seville 17-20 June 2009), pp. 35-48. SEAV, Seville.
- Gallo, G., La Rosa, V., Stanco, F. and Tanasi D. (eds) [2011] *Radamante al computer. Archeologia e informatica nel mondo minoico: l'esperienza catanese*, Atti delle giornate di studio, Catania 11 e 28 novembre 2008. Regione Sicilia, Caltanissetta.
- Gruen, A. and Hanusch, T. [2008], “Image- and model-based reconstruction of the small Buddha of Bamiyan, Afghanistan, in *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences XXXVII, B5*: 1-6.

- Gruen, A., Remondino, F. and Zhang, L. [2004] "Photogrammetric reconstruction of the great Buddha of Bamiyan, Afghanistan, in *The Photogrammetric Record* 19/107: 177-199.
- Hodder, I. and Doughty, L. (eds) [2007] *Mediterranean Prehistoric Heritage: Training, Education and Management*. McDonald Institute of Archaeology, Cambridge.
- Lim, E., Stoddart, S.K.F., Harrison, A. and Chalmers, A. [1996] "Recent examples of geographical analysis of archaeological evidence from central Italy", in H. Kamermans and K. Fennema (eds), *CAA 95. Interfacing the past, Proceedings of Computer Applications and Quantitative Methods in Archaeology (Analecta Praehistorica Leidensia I)*, pp. 331-336. University of Leiden, Leiden.
- Llobera, M. [2003] "Extending GIS based analysis: the concept of visualscape", in *International Journal of Geographic Information Sciences* 1: 1-25.
- Longo, L. [2003] "Archeologia Sperimentale, Esperimenti in Archeologia, Divulgazione. Osservazioni su Significato e Ruolo dell'Archeologia Sperimentale", in *Rivista di Scienze Preistoriche* 53: 549- 568.
- Mallia, J. [2008] "Bridging the gap: the Megalithic Temples in the 21st century", in M. E. Zammit and J. Mallia (eds), *Ta' Hagrat and Skorba, Ancient Monuments in a Modern World*, pp. 119-130. Midssea Books, Malta.
- Malone, C., Stoddart, S., Bonanno, A. and Trump, D. (eds) [2009], *Mortuary Customs in Prehistoric Malta: Excavations at the Brochtorff Circle at Xagħra (1987-94)*. McDonald Institute of Archaeology, Cambridge.
- Margounakis, D. [2008], "Virtual Reconstructions in Archaeology", in D. Politis (ed.), *E-Learning Methodologies and Computer Applications in Archaeology*, pp. 146-156. Information Science Reference, Hershey.
- Maune, D. F. [2007] *Digital Elevation Model Technologies and Applications: the DEM users manual*. American Society for Photogrammetry and Remote Sensing, Bethesda.
- Moser, M., Hye, S., Goldenberg, G., Hanke, K. and Kovacs, K. [2009] "Digital Documentation and Visualization of Archaeological Excavations and Finds Using 3D Scanning Technology", in *Arqueologica 2.0*, Proceedings of 1st International Meeting on Graphic Archaeology and Informatics, Cultural Heritage and Innovation, (Seville 17-20 June 2009), pp. 351-355. SEAV, Seville.
- Moser, S. [2005] "Archaeological Representation. The virtual Conventions for Constructing Knowledge about the Past", in I. Hodder (ed.), *Archaeological Theory Today*, pp. 262-283. Polity Press, Malden.
- Pletinckx, D. [2009] "Virtual Archaeology as an Integrated Preservation Method" in *Arqueologica 2.0*, Proceedings of 1st International Meeting on Graphic Archaeology and Informatics, Cultural Heritage and Innovation, (Seville 17-20 June 2009), pp. 51-55. SEAV, Seville.

- Reilly, P. [1992] “Three Dimensional Modeling and Primary Archaeological Data”, in P. Reilly and S. Rahtz (eds), *Archaeology and the Information Age: A Global Perspective*, pp. 97-122. Routledge, London.
- Reza Matini, M. and Ono, K. [2010] “Accuracy Verification of Manual 3D CG Reconstruction: Case Study of Destroyed Architectural Heritage, Bam Citadel, in M. Ioannides (ed.), *EuroMed 2010*, pp. 432-440. Springer-Verlag Berlin, Heidelberg.
- Ryan, N. [2001] “Documenting and validating Virtual Archaeology”, in *Archeologia e Calcolatori* 12: 245-273.
- Salvadori, F. [2009] “Modellazione dei Reperti” in V. Fronza, A. Cardini and M. Valenti (eds), *Informatica e Archeologia Medievale. L'esperienza senese*, pp. 131-147. All'Insegna del Giglio, Firenze.
- Sangregorio, E., Stanco, F. and Tanasi, D. [2008] “The Archeomatica Project: Towards a new application of computer graphics in Archaeology”, V. Scarano, R. De Chiara, U. Erra (eds), *Proceedings of 6th Eurographics Italian Chapter Conference (EG It)* (Fisciano 2-4 luglio 2008), pp. 1-4. Eurographics Association, Aire-la-Ville.
- Stanco, F. and Tanasi, D. [2008] “La computergrafica nella ricerca archeologica. Dal 3D Modeling alla Digital Archaeology”, in A. Gueli (ed.), *Scienza e Beni Culturali*, Atti del V Congresso Nazionale di Archeometria, (Siracusa 26-29 Febbraio 2008), pp. 605-617. Morrone, Siracusa.
- Stanco, F. and Tanasi D. [2011a], “Experiencing the Past: Computer Graphics in Archaeology”, in S. Battiato, G. Gallo and F. Stanco (eds), *Digital Imaging for Cultural Heritage*, pp. 1-37. CRC Press, New York.
- Stanco, F., Tanasi, D. and Gallo, G. [2011b] “Free to rebuild. Software open source per la ricostruzione virtuale delle architetture minoiche di Haghia Triada (Creta)”, in *Archeofoss 2010*, Atti del V Workshop Open Source, Free Software e Open Format nei processi di ricerca archeologica, (Foggia 6-7 maggio 2010).
- Stoddart, S. K. F. and Chalmers, A. [1996] “La validità scientifica della ricostruzione virtual reality: Esempi da Sud Africa e Malta”, in G. Bermond Montari (ed.), *Prehistoric Research in the Context of Contemporary Society. Colloquium XXXVII Prehistoric research in current society in relation to the economic development and evaluation of sites*, XIII Congress of the UISPP, (Forlì, 8-14 September 1996), pp. 109-117. Abaco, Forlì.
- Stojakovic, V. and Tepavcevic, B. [2009] “Optimal Methods for 3D Modeling of Devastated Architectural Objects,” in F. Remondino, S. El-Hakim and L. Gonzo (eds), *3D Virtual Reconstruction and Visualization of Complex Architectures*, Proceedings of the 3rd ISPRS International Workshop” (3D-ARCH 2009), (Trento, 25-28 February 2009), *International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences XXXVIII-5/W1*: 1-6.

- Thomas, G. [2009] *Experimental Archaeology*. Routledge, London.
- Toganidis, N. [2007] “Parthenon Restoration Project”, in A. Georgopoulos and N. Agriantonis (eds), *Anticipating the Future of the Cultural Past*, Proceedings of the XXI International CIPA Symposium, pp. 1-6. ICOMOS, Athens.
- Vannini, G. [2000] “Informatica per l’Archeologia o Archeologia per l’Informatica?”, in *Archeologia e Calcolatori* 11, 311-315.
- Zubrow, E. B. W. [2006] “Digital Archaeology. A Historical Context”, in T. L. Evans and P. Daly (eds), *Digital Archaeology. Bridging Method and Theory*, pp. 3-9. Routledge, London.

**Filippo Stanco** PhD is Assistant Professor with the Department of Mathematics and Computer Science, University of Catania. He is co-director of the Archeomatica Project (IPLab, University of Catania) aimed to develop new digital tools for archaeological research and the preservation of cultural heritage. He has been an organiser and associate editor of several conferences and symposia and peer reviewer for several international journals.

**Davide Tanasi** PhD is Adjunct Professor of Archaeology and Ancient History at Arcadia University – The College of Global Studies. He has authored several publications about Mediterranean prehistory including *La necropoli protostorica di Montagna di Caltagirone* (Polimetrica, 2008) and *La Sicilia e l’arcipelago maltese nell’età del Bronzo Medio* (Officina di Studi Medievali, 2008). He is co-director of the Archeomatica Project (IPLab, University of Catania) aimed to develop new digital tools for archaeological research and the preservation of cultural heritage.

**Dalma Cultrera** graduated with a MA degree in Archaeology in 2007 and is currently attending the School of Archaeology at the University of Catania. Her research involves the study of pottery of Bronze and Iron Age Sicily, archaeospeleology and digital archaeology. She participates actively in several research projects with the Superintendence of Catania and the Archaeological Museum of Siracusa.





**Figure 13.1.** The temple at the time of Murray's excavations: (1) General view from the North-East (1923); (2) Great Upright from the South-East (1923); (3) Great entrance, showing megalith built into wall (1925); (4) North-West Apse (1925); (5) Large biconical pillar (1923); (6) Mortar in situ (1925); (7) Niche showing the three standing stones (1923).



1



2



3



4



5



6

**Figure 13.2.** Current conditions of the temple: (1) Main entrance to the Forecourt, from the East; (2) Overview of the Forecourt and the Apsidal Building, from the West; (3) Southern Forecourt and Apsidal Building, from the North; (4) Dolmen and Great Upright from West; (5) Large biconical pillar, now half buried; (6) Grinders grouped together in the southern Forecourt.



**Figure 13.3.** (1) Digital Elevation Model (DEM); (2) DEM with a superimposed aerial photograph; (3) 3D model of the temple, aerial view; (4) Entrance to Apsidal Building; (5) Main entrance to the Forecourt; (6) Detail of the pierced megalith on the northern outer wall of the Forecourt; (7) Detail of the texture used to represent the limestone.



## 14. Taking stock

Davide Tanasi – Arcadia University,  
The College of Global Studies, MCAS, Italy  
TanasiD@arcadia.edu

Nicholas C. Vella – Department of Classics and Archaeology,  
University of Malta, Malta  
nicholas.vella@um.edu.mt

The principal aim of this collection of essays has been to throw light on the history of Malta and the south-central Mediterranean in the second millennium BC. The research exercise was triggered by a collective interest in Borġ in-Nadur as a rich antiquarian and archaeological landscape and in the cultural material uncovered during a number of excavations in the major prehistoric sites found there. It is not up to us to say whether collectively or as single or joint contributors we managed to accomplish our aim as fully as we had hoped. The reader will find that several queries that came our way when the work was in progress either remain unanswered, often for reasons beyond our control, or were attended to only briefly; others, we believe, were tackled more fully with interesting results. Nonetheless, we hope that the unanswered queries will stimulate the sort of constructive debate that allows research to progress. What we want to do by way of conclusion is to take stock and point out where we feel research should be directed in the short and medium terms. We do not presume that ours is the *only* valid research agenda that can structure Bronze Age studies in the Maltese islands. Other researchers will have their own queries which, no doubt, will enrich the tapestry of meanings which we endeavour to give material culture from the distant past.

## The site and its landscape

The centennial interest in the area of Borġ in-Nadur has produced some of the most fascinating accounts of Malta's antiquarian literature. Indeed, the way in which people have sought to understand the sites, in particular the megalithic ruins and the underground water cistern at Ta' Kaċċatura, may be taken as representative of the process of transformation which antiquarianism underwent to become archaeology at the beginning of last century. Revisiting those accounts and the fieldnotes kept by one of the archaeologists has also allowed us to throw light on queries that have been posed about the late prehistoric culture of the Maltese archipelago. Our wish is to locate Margaret Murray's own papers as even they might contain precious information not considered worth publishing at the time.

Beyond the site of Borġ in-Nadur, much work remains to be done. We are still lacking a comprehensive survey of dolmens, traditionally associated with the Early Bronze Age (Tarxien Cemetery phase); it is clear that their distribution along the margins of major topographic features, including deep-sided wadis, plateaus and plains, begs explanation. Hilltop sites long associated with the Borġ in-Nadur cultural *facies* – including, for instance, In-Nuffara, Wardija ta' San Ġorġ, Wardija ta' San Martin, Il-Qolla – still lack comprehensive surveys which would document the known rock-cut 'silo pits', identify rock-cut features (including post holes and hut foundations), catalogue portable stone equipment (including rollers and querns), and collect systematically the few pottery sherds that have luckily escaped the attention of the avid amateur and collector. Understanding of the landscape context of such sites at the micro scale – in terms of catchment (water, soils, stone), access to the sea, and visibility, for instance – will allow us to write site biographies of the sort accomplished by two of the contributors to this volume.

## The artefacts

The inauguration of the Bronze Age display at the National Museum of Archaeology in Valletta will go a long way to ensure that awareness is raised about Malta's late prehistory. This will also

serve to whet the appetite of those who want to learn more, including research students, and those visitors who will feel that tours of the archaeological sites will be a natural extension of their visit to the museum. A management and conservation plan for the sites and the surrounding landscape is needed, probably more than ever before, even if the accomplishment of this task will require Herculean strength and determination!

The reserve collection at the National Museum of Archaeology includes material from Borg in-Nadur that limitations of time forced us to omit from this volume. This includes the following: the shell and bone material collected by Murray and her team from the megalithic temple; pottery collected in 1969 during the removal of one of the spoil mounds produced as a result of Caruana's work in 1881; and the study of unpublished materials from Trump's excavations in the village area. In addition, a detailed inventory ought to be drawn up of the several worked stone objects that can be seen scattered within the confines of the temple site. We believe that there may also be pottery in reference collections abroad, England in particular. It would be worth expending time to see whether this is the case and to study what may be available.

It is clear to us that the significance of the material from Borg in-Nadur can only be understood when seen in conjunction with material (admittedly mostly pottery) from other contemporary sites in the Maltese archipelago and elsewhere, Sicily in particular. Comprehensive catalogues of the pottery, for instance, should allow researchers to identify the degree of convergence or divergence in the choice of pottery equipment and hence of material indicators of "how things were done" in different contexts (domestic and funerary to start with), and identify the productive roles that some sites might have had in prehistory. This should also allow researchers to query the role material cultural elements might have had in the construction of local, regional and supra-regional social and cultural identities.

### **Cultural processes in Late Mediterranean prehistory**

Understanding cultural processes in prehistory implies a good grasp of the element of time. In practical terms this translates into the

existence of a reliable yardstick, a good relative chronology and an even better absolute one. The work at the site of Tas-Silġ, carried out by an international team (in the southern sector of the site) led by the University of Malta between 1996 and 2005 and by an all-Italian team (in the northern one) led by the University of Rome since 2003, will allow revisions to be made. Since 2007, the Italian prehistorians have repeatedly made summary reference to a new periodisation scheme for the Maltese Bronze Age on the basis of the spectacular discoveries made in the re-used megalithic temples. The full publication of the results should allow us to understand the rationale behind the revision and provide the stratigraphic and dating evidence to sustain the claims being made.

If social identities were encouraged if not wholly built on the possibilities of seaborne mobility, in contexts where pluri-ethnicities existed, as has been suggested in this volume, it is clear that we will need to know what elements of material culture were travelling *to* where and *from* where. For pottery, in particular, it is imperative that imports are distinguished from local productions. Since it was not possible to carry out archaeometric tests on samples of pottery studied in this volume, care was taken to refer to pottery typical of the Borg in-Nadur cultural *facies* found in Sicily as belonging to a type; it is possible that the vessels are actual imports rather than imitations, produced by locals or resident foreign craftsmen.

It is clear that quality research can only be accomplished in the right environment, where initiative is not stifled but encouraged and commended, where new research tools and novel research questions are not frowned upon but welcomed, where proper provisions are taken to ensure that knowledge and skill transfer is built into any international research enterprise. Above all, no high quality research can be carried out without sufficient financial backing. We acknowledge here the fact that the award received from the Shelby White-Leon Levy Foundation of the United States made it possible to accomplish much of what is presented here; more importantly perhaps, the financial aid has ensured that the results are available for free download to as wide an audience as access to the World Wide Web permits. We also acknowledge the fact that the research



institutions to which the majority of the contributors to this volume belong – namely, Arcadia University, Heritage Malta, University of Catania, University of Malta – support the initiatives of the sort embarked upon here. It is, however, disheartening to note that in Malta cultural heritage studies have not yet made it to the priority lists drawn up by government research grant-awarding bodies. This is a real pity, and a missed opportunity, which can generate spin-offs that go from knowledge creation to enhanced public awareness of a cultural heritage with a clear Mediterranean dimension.

Our parting wish may sound paradoxical but we hope that the research presented here becomes outdated, in part or in whole, for in that case the likelihood is that somebody or a group decided to ask questions, follow an insight, seek financial backing, and produce results.



## Index of places

- Afghanistan, 398  
Arg-e Bam, 398.  
Ariano Irpino, 295.  
Athens, 145, 403.  
Avellino, 295.  
Baghdad, 398.  
Bahrija, 3, 37, 89, 99, 113, 117, 131,  
132, 146, 148, 210, 260, 266,  
267, 275, 300.  
Balearics, 253.  
Bidnija, 165.  
Biržebbuġa, 3, 19, 227, 369.  
Burma, 343, 350.  
Calafarina, 273, 286.  
Caldare, 209.  
Cambridge, 257.  
Campania, 295.  
Cannatello, 209, 260, 265, 274, 285,  
298.  
Capo Graziano, 260, 264.  
Capreria, 209.  
Carthage, 271.  
Castelluccio, 257.  
Catania, 9, 10, 123, 286, 397.  
Cavallerizza, 20.  
Cerro del Villar, 269, 270.  
Chiusazza, 106, 273, 286, 295, 336.  
Ciane, 286.  
Corsica, 253.  
Cozzo del Pantano, 9, 104, 106,  
108, 114, 260, 262, 263, 272,  
285-288, 290-293, 295-304,  
306, 308.  
Crete, 143, 144, 146, 207, 267.  
Cyprus, 253, 254, 298.  
Dalmatia, 265.  
Delimara, 226.  
Dingli, 385.  
Edinburgh, 256.  
Egypt, 256.  
England, 72, 254, 415.  
Filicudi, 258, 264.  
Floriana, 30.  
Fomm ir-Rih, 266.  
Gela, 288  
Ġgantija, 21, 24, 53.  
Ġhajn Kittien, 18.  
Ghar Dalam (Ġnien ta' Dalam), 15,  
18, 35, 117, 126, 129, 225, 227,  
284, 297, 336, 401.  
Ghar Mirdum, 3, 99, 106, 107, 108,  
113, 114, 116, 117, 119, 122,  
123, 128-130, 209, 297, 298,  
300, 307, 385, 389.  
Ġhaxaq, 229.  
Ġnien ta' Ghadir, 18.  
Gozo, 3, 20, 21, 22, 24, 27, 45, 53,  
64, 99, 163, 169, 181, 205, 258,  
266, 300, 388, 389, 398, 400.  
Gudja, 229.  
Haġar Qim, 20, 204, 243, 256, 399.  
Hal Far, 169.  
Hal Ġinwi, 227, 239.  
Hal Millieri, 165.  
Hal Safflieni, 203.  
Huelva, 267.  
Il-Qolla, 414.  
India, 343, 344, 349.  
Indochina, 350.  
In-Nuffara, 3, 64, 99, 106, 108, 113,  
122, 123, 128, 130, 132, 148,  
266, 275, 300, 389, 414.  
Italy, 137, 146, 229, 253, 258.  
Kordin, 169.  
Lemnos, 146.  
Lipari, 84, 258, 260.  
Magnisi, 260, 307.  
Marnisi, 20.  
Marsascala, 226, 230, 233, 235,  
239, 242, 244.

- Marsaxlokk, 9, 17, 18, 20, 23, 24, 188, 225- 232, 235, 236, 239, 241, 242, 244, 246, 401.
- Matrensa, 108, 114, 272, 286, 295-297, 303, 304.
- Melos, 142.
- Messara Plain, 143.
- Mnajdra, 20, 205, 399.
- Molinello, 273, 286, 297.
- Monte Campanella, 209.
- Monte San Paolillo, 123, 286.
- Morocco, 268.
- Motya, 269.
- Mtarfa, 3, 99, 106, 108, 111, 113, 116, 119, 123, 130, 131, 153, 296, 300.
- Mursia, 260.
- Mycenae, 257.
- Ognina, 108, 209, 273, 286, 296.
- Ortigia, 113, 273, 286, 303.
- Palermo, 285.
- Pantalica, 138.
- Petrokephali, 143.
- Phaistos, 142.
- Philadelphia, 399.
- Phylakopi, 142.
- Plemmirio, 114, 260, 272, 286, 297, 303.
- Polizzello, 265, 274.
- Prinias Patela, 143.
- Punta Milazzese, 260.
- Rabat (Gozo), 27.
- Rabat (Malta), 28, 30, 32.
- Ras il-Pellegrin, 180, 183, 188.
- Ras il-Wied, 231.
- Rhodesia (Zimbabwe), 350, 351.
- S. Angelo Muxaro, 274.
- San Ġirgor, 230.
- San Ġorg (il-Gżira), 227.
- San Ġorġ [tal-] Ghadir, 18.
- San Luċjan, 227.
- Santa Sfia, 35.
- Sardinia, 253, 271.
- Sarepta, 271.
- Segesta (Monte Barbaro), 267.
- Sicily, 9, 54, 97, 99, 100, 104, 106, 108, 111, 113, 114, 117, 137, 142, 146-148, 207, 209, 211, 252- 254, 257-263, 265-269, 271, 283-286, 291, 295- 298, 300-302, 304, 306-308, 390, 415, 416.
- Siggiewi, 233.
- Siracusa, 9, 113, 114, 137, 260, 284, 285, 286, 288, 293, 303, 307.
- Skorba, 37, 175, 202, 284, 399.
- Spain (Iberia), 267-269, 291.
- St George's Bay, 3, 27, 227-230, 235, 239, 242, 365.
- St Thomas Bay, 226, 230, 242, 244, 246.
- Ta-Harbat, 25.
- Ta' Kaċċatura (Ta' Ċapċap), 3, 17, 18, 25, 28, 29, 32, 33, 35, 166, 168, 229, 230, 239, 246, 354, 359, 360, 362, 369, 401, 414.
- Ta' Medewwiet, 25.
- Ta' Trapna, 205.
- Ta'Haġrat, 181, 186.
- Tal-Bakkari, 35.
- Tal-Ġawhar, 23, 24.
- Tal-Kasar (Kasar), 20, 24.
- Tarxien, 53, 58, 77, 80, 114, 144, 148, 169, 202-205, 210, 257, 297, 385, 388.
- Tas-Silġ, 20, 30, 60, 88, 106, 123, 134, 147, 148, 164, 169, 188, 211, 225-231, 239, 241-246, 275, 296, 416.
- Thapsos, 108, 113, 114, 117, 129, 137, 138, 148, 209, 260-265, 272-274, 285, 286, 290, 291, 296-298, 300, 304, 306, 307.
- Trapani, 267.
- Tunisia, 268.
- Tyre, 271.
- Valletta, 9, 48, 72, 168, 178, 195, 233, 355, 373, 374, 376, 414.
- Vendicari, 108, 260, 273, 286.
- Verderame, 267.

- Vulpiglia, 284.  
Wardija ta' San Ġorġ, 414.  
Wardija ta' San Martin, 414.  
Wied Dalam, 3, 15, 166, 167, 227-229, 242, 365, 367-370.  
Wied Żembaq, 3, 15, 227, 228, 229, 242.  
Xaghra (Casal Caccia, Brochtorff Circle), 22, 76, 77, 84, 99, 108, 116, 181, 202, 203, 205, 210, 296, 398.  
Xewkija, 20.  
Xrobb l-Ghaġin, 227, 239.  
Żejtun, 165, 226, 230, 231, 237, 239, 246.  
Żurrieq, 35.



## Index of names

- Abela, G. F., 19, 20, 24, 30, 375, 376.  
Alberti, G., 138, 298.  
Andrefsky, W., 176.  
Ashby, T., 20, 29, 35.  
Astarte, 164.  
Bate, D. M. A., 35.  
Bernabò Brea, L., 137, 138, 257.  
Blais, J. M., 387.  
Blakolmer, F., 139.  
Boisgelin, L., 24.  
Borton, A., 344.  
Bosio, A., 30.  
Bourdieu, P., 377.  
Bres, O., 24.  
Broodbank, C., 251.  
Burke, K. A., 35.  
Busuttil, M., 30.  
Caruana, A. A., 3, 20, 30, 32, 33, 55, 61, 168, 344, 345, 346, 357, 358, 415.  
Caruso, E., 286-288.  
Caton Thompson, G., 35.  
Chipiez, C., 33.  
Ciantar, G. A., 20, 30.  
Cicero, 230.  
Delgado, A., 269  
Despott, G., 365.  
Ellul, G., 369.  
Evans, A., 256, 257.  
Evans, J. D., 20, 37, 49, 52, 54, 58, 72-75, 80, 81, 83, 85-89, 99, 100, 108, 112, 115, 118, 128, 129, 139, 140-142, 145, 152, 195, 201, 206, 257, 258, 296, 297.  
Fazello, T., 19.  
Ferrer, M., 269.  
Flinders Petrie, W., 48.  
Formosa, G. L., 30.  
Furumark, A., 141.  
Galizia, E. L., 30, 55, 355,  
Garrod, A., 256.  
Gilkes, O., 342.  
Grant Duff, M. E., 344.  
Haxiaq, M., 19.  
Helms, M. W., 302.  
Hercules, 6, 18, 19, 20, 24, 25, 30, 168, 341.  
Hodos, T., 268.  
Houel, J., 7, 21-25, 27, 30.  
Quintinus (Jean Quintin d'Autun), 18, 19, 24, 25, 30, 38.  
La Rosa, V., 137.  
Lacroix, F., 24.  
Leighton, R., 254.  
Leith Adams, A., 26.  
Lord Curzon, 343, 349, 350.  
Lord Kimberley, 344.  
Lubbock, J. (Lord Avebury), 342.  
MacGill, T., 24.  
Mayr, A., 29, 30, 33, 34, 354, 355, 358.  
Melkarte (Melqart), 6, 19, 25, 46, 168, 241.  
Militello, P., 10.  
Murray, M. A., 3, 7, 9, 34-36, 38, 45, 46, 48, 49, 52-54, 71-75, 84-86, 92, 95, 99, 128, 131, 138, 142, 144, 148-150, 152, 166-168, 173, 177, 178, 181, 183, 186, 191, 192, 196, 200, 202, 204-208, 296, 298, 401, 414, 415.  
Myres, J. L., 257.  
Orsi, P., 137, 286, 287, 288, 289, 290, 291, 293, 304.  
Periccioli Borzesi, G., 24.  
Perrot, G., 33.  
Ptolemy, 6, 18, 168.

- Rhind, A. H., 256.  
Rizzo, C., 365.  
Roncali, Z., 352.  
Sagona, C., 64, 65, 123.  
Spiteri, R., 10, 402.  
Tallack, W., 25.  
Thevet, A., 19.  
Trump, D. H., 3, 7, 37, 38, 45, 46,  
54, 55, 58, 60, 61, 64, 65, 74,  
84, 88, 89, 91, 134-136, 138,  
139, 168, 169, 188, 206-208,  
415.  
Ugolini, L. M., 37, 257.  
Vander Linden, M., 284.  
Vassallo, C., 25, 30, 38.  
Vella, C., 51.  
Vella, N. C., 342.  
Vives Ferrándiz, J., 291, 301, 306.  
Voza, G., 137, 138, 290.  
Ward-Perkins, J., 258, 259.  
Zammit, M., 89.  
Zammit, T., 34, 35, 48, 49, 52, 53,  
58, 144, 148, 257, 363, 388.



*Praehistorica Mediterranea*  
Collana di studi di Archeologia Preistorica  
diretta da Pietro Maria Militello

Edizione stampata – ISSN 1974-6040  
Edizione elettronica – ISSN 1974-6121

### **Comitato Scientifico**

Fritz Blakolmer (Universität Wien)  
Nicola Cucuzza (Università di Genova)  
Neculai Bolohan (Universitatea Al. I. Cuza Iasi)  
Birgitte Eder (Universität Freiburg)  
Reinhard Jung (DAI Athen)  
Evangelos Kyriakidis (University of Kent)  
Marie-Louise Nosch (University of Copenhagen)

*Praehistorica Mediterranea* è una nuova collana di archeologia che vuole affrontare temi e problemi del Mediterraneo preistorico diventando nel contempo sede di confronto tra tradizioni di studio differenti. La collocazione siciliana della collana, nata presso l'Ateneo di Catania, non è casuale, non solo per il tanto decantato ruolo centrale dell'Isola nella storia del Mediterraneo ma anche per la sua ambigua collocazione nella storia della ricerca paleontologica, oscillante tra due poli opposti, quello della apertura verso l'esterno e quella di una chiusura verso l'interno, in ricostruzioni storiche che deformano il tratto oggettivo della insularità nella insularizzazione, nella autoreferenzialità, un rischio corso da tutte le isole-continente, come Sardegna o Creta.

Nei nostri intenti invece non è la Sicilia, ma tutto il bacino del Mediterraneo ad essere centro dell'attenzione. Per le dimensioni stesse dei volumi la collana si profila inoltre a taglio saggistico, destinata ad ospitare contributi su vari temi relativi alla produzione, circolazione, uso e consumo di beni nel Mediterraneo preistorico e in quelle aree interne che se non si possono considerare "mediterranee", con il grande mare hanno avuto tuttavia rapporti significativi.

Il Mediterraneo come “sistema mondo” dunque, evitando però approcci aprioristici e verificando di volta in volta quali e quanti sistemi si siano storicamente formati e a che livello (economico, sociale, cognitivo), superando in tal modo semplicistiche visioni centro-periferia.

La convivenza di più voci è presente già nel comitato scientifico, formato da studiosi dell’Europa centrale, settentrionale, orientale e, ovviamente, mediterranea. Un comitato che mi auguro possa rapidamente allargarsi e soprattutto proficuamente contribuire al dibattito ed al confronto nel tentativo di creare una prospettiva il più possibile condivisa.

~ ~ ~ ~

*Praehistorica Mediterranea* is a new archaeological series which deals with topics and problems of the prehistoric Mediterranean, and aims to become a forum for discourse between different historiographical traditions. Its physical location in Sicily is not the result of chance. It is due to the often quoted central role that this island played throughout the history of the Mediterranean, and also to the ambiguous attitude of Sicilian research tradition, which shifts between the two opposite poles of openness towards the wider Mediterranean area and reticence in purely local historical interpretation, which transforms the fact of insularity into the factoid of “insularization” and self-reference, a danger common to all the large islands, such as Sardinia or Crete.

In our opinion, however, the focus of attention will be not only Sicily, but the Mediterranean basin as a whole. In the format of the volumes, the series will distinguish itself by being devoted to essays and contributing to various topics such as the production, circulation and consumption of goods in the prehistoric Mediterranean and in those inner areas which cannot be properly considered “Mediterranean”, but which had significant relations with the great sea.

To sum up, the Mediterranean is considered to be a “world system”, although aprioristic views are avoided, and in each case it is verified which and how many systems developed, and at what level (economic, social, cognitive) in order to overcome the monolithic “centre-periphery” view.

The mix of different perspectives is already apparent in the Scientific Board of the review, which comprises researchers from central, northern and Eastern Europe as well as the Mediterranean. This scientific board will, I hope, rapidly widen and will, above all, contribute fruitfully to the scientific debate and to the attempt to create as shared a perspective as possible.

Publications:

Davide Tanasi (2008) *La necropoli protostorica di Montagna di Caltagirone*, Polimetrica Publisher, Italy.

Vittorio Giovanni Rizzone, Anna Maria Sammito, Simona Sirugo 2009, *Il museo civico di Modica "F.L. Belgiorno"* Polimetrica Publisher, Italy.

Davide Tanasi and Nicholas C. Vella (eds) 2011, *Site, artefacts and landscape - Prehistoric Borġ in-Nadur, Malta*, Polimetrica Publisher Italy.





The DVD contents can be run on all major computer operating systems and each copy of the DVD has been tested to this effect. The producer of the DVD and the publisher are not responsible for any malfunction that may be caused by running the DVD and its contents.

Copying and distribution of the DVD and of all its contents are strictly forbidden.