



McDONALD INSTITUTE MONOGRAPHS

Temple places

Excavating cultural sustainability in prehistoric Malta

By Caroline Malone, Reuben Grima, Rowan McLaughlin,
Éóin W. Parkinson, Simon Stoddart & Nicholas Vella



Volume 2 of Fragility and Sustainability – Studies on Early Malta,
the ERC-funded *FRAGSUS Project*

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CONTENTS

Contributors	xv
Figures	xxii
Tables	xxv
Dedication	xxxi
Acknowledgements	xxxiii
Foreword	xxxix
<i>Chapter 1</i> Archaeological studies of Maltese prehistory for the <i>FRAGSUS Project</i> 2013–18	1
CAROLINE MALONE, SIMON STODDART, ROWAN McLAUGHLIN & NICHOLAS VELLA	
1.1. Introduction	1
1.1.1. <i>Island studies</i>	2
1.1.2. <i>Chronology and new scientific studies</i>	2
1.1.3. <i>Island criteria</i>	2
1.2. Background to <i>FRAGSUS</i> as an archaeological project	4
1.3. The Cambridge Gozo Project 1987–95	6
1.4. The <i>FRAGSUS Project</i> 2013–18	9
1.4.1. <i>Archaeological concerns in Maltese prehistory and the FRAGSUS Project</i>	9
1.4.2. <i>Time and artefacts</i>	9
1.4.3. <i>Architecture</i>	10
1.5. Five research questions	10
1.6. The field research programme, 2014–16: the selection of sites for excavation and sampling and the goals for each site	12
1.6.1. <i>Tač-Ċawla</i>	14
1.6.2. <i>Santa Verna</i>	14
1.6.3. <i>Kordin III</i>	14
1.6.4. <i>Skorba</i>	14
1.6.5. <i>Ġgantija</i>	18
1.6.6. <i>In-Nuffara</i>	21
1.7. Additional studies	21
1.8. Environmental and economic archaeology	21
1.9. Conclusions	24
<i>Chapter 2</i> Dating Maltese prehistory	27
ROWAN McLAUGHLIN, EÓIN W. PARKINSON, PAULA J. REIMER & CAROLINE MALONE	
2.1. Introduction: chronology building in the Maltese islands	27
2.1.1. <i>Malta and megalithism</i>	27
2.1.2. <i>Malta and the Mediterranean: the development of absolute chronologies</i>	28
2.2. Methodology	29
2.2.1. <i>Sources of data</i>	29
2.2.2. <i>AMS radiocarbon dating</i>	29
2.2.3. <i>Bayesian phase modelling</i>	29
2.2.4. <i>Density modelling</i>	30
2.3. Results	31
2.3.1. <i>Early Neolithic Ghar Dalam and Skorba phases</i>	31
2.3.2. <i>Fifth millennium hiatus</i>	31
2.3.3. <i>Żebbuġ phase</i>	32
2.3.4. <i>Mġarr / transitional Ġgantija phase</i>	32
2.3.5. <i>Ġgantija phase</i>	32
2.3.6. <i>Saflieni phase</i>	32
2.3.7. <i>Tarxien phase</i>	32
2.3.8. <i>Thermi phase</i>	33

2.3.9. <i>Tarxien Cemetery phase</i>	33
2.3.10. <i>Borġ in-Nadur phase</i>	33
2.3.11. <i>Preferred model summary</i>	34
2.3.12. <i>Kernel density model</i>	34
2.3.13. <i>Comparison with other regions</i>	36
2.4. <i>Non-prehistoric dates</i>	37
2.5. <i>Discussion</i>	37
2.6. <i>Conclusion</i>	38
 <i>Chapter 3</i>	
Excavations at Taċ-Ċawla, Rabat, Gozo, 2014	39
CAROLINE MALONE, ROWAN McLAUGHLIN, STEPHEN ARMSTRONG, JEREMY BENNETT, CONOR McADAMS, CHARLES FRENCH, SIMON STODDART & NATHANIEL CUTAJAR	
3.1. <i>Introduction</i>	39
3.1.1. <i>Location and physical setting</i>	40
3.1.2. <i>History of the site</i>	42
3.2. <i>The Van der Blom and Veen watching brief</i>	42
3.2.1. <i>The initial evaluation 1993–4</i>	42
3.2.2. <i>The archaeological investigation 1993–4</i>	44
3.2.3. <i>The Horton-Trump 1995 investigation</i>	47
3.2.4. <i>Pottery phases Ghar Dalam (c. 5500 BC)</i>	47
3.2.5. <i>Tarxien Phase c. 2800 to 2400 BC</i>	48
3.2.6. <i>Later levels of Punic, Roman and Medieval material c. 800 BC to AD 1500</i>	48
3.2.7. <i>Post Medieval</i>	48
3.2.8. <i>The 2014 excavations – methods</i>	48
3.3. <i>Results of the 1995 work and the 2014 work</i>	48
3.3.1. <i>Wall (172)</i>	50
3.3.2. <i>Internal floors and features within the structure: house layers</i>	53
3.3.3. <i>Level 1 deposits</i>	56
3.3.4. <i>Level 2 deposits</i>	60
3.3.5. <i>Level 3 deposits</i>	62
3.3.6. <i>Level 4 deposits</i>	65
3.3.7. <i>Level 5 deposits</i>	67
3.3.8. <i>Level 6 deposits</i>	69
3.3.9. <i>Level 7 deposits</i>	71
3.3.10. <i>Level 8 deposits</i>	73
3.4. <i>Superficial levels and the Roman vine channels</i>	75
3.4.1. <i>North Baulk and Main Quadrant</i>	75
3.4.2. <i>Box Trench 5</i>	75
3.4.3. <i>Box Trench 4 and main (Horton-Trump ‘H’) trench</i>	77
3.4.4. <i>Box Trench 6</i>	79
3.4.5. <i>The prehistoric deposits outside the wall east of the stone structure</i>	81
3.5. <i>The lower levels of extramural occupation</i>	83
3.5.1. <i>Summary</i>	83
3.5.2. <i>The Northern Sector</i>	83
3.5.3. <i>The North Central Sector</i>	88
3.6. <i>Destruction layers, middens and a torba remnant outside the building wall</i>	91
3.6.1. <i>The South Central Sector</i>	91
3.6.2. <i>The South Sector</i>	95
3.6.3. <i>Summary of the stratigraphic sequence of the eastern exterior of the stone structure</i>	96
3.6.4. <i>East extent of the Taċ-Ċawla site</i>	96
3.7. <i>Ancient soils and deposits and the Roman vine channels and pits</i>	103
3.8. <i>The agricultural channels in the northeast area of the site</i>	103
3.8.1. <i>The Roman agricultural channel sequence and fills</i>	104
3.9. <i>Recent historical remains</i>	114

3.10. The material culture of Taċ-Ċawla	114
3.10.1. <i>Ceramics</i>	114
3.10.2. <i>Lithics and artefacts</i>	115
3.11. The plant economy of Taċ-Ċawla	117
3.12. Summary	117
3.12.1. <i>Conclusions and discussion</i>	117
 Chapter 4 Santa Verna	123
ROWAN McLAUGHLIN, CHARLES FRENCH, EÓIN W. PARKINSON, SARA BOYLE, JEREMY BENNETT, SIMON STODDART & CAROLINE MALONE	
4.1. Introduction	123
4.2. The site	124
4.2.1. <i>Location and physical setting</i>	124
4.2.2. <i>History of the site</i>	124
4.2.3. <i>The 1911 excavations</i>	127
4.2.4. <i>The 1961 excavations</i>	127
4.2.5. <i>The Cambridge Gozo Survey</i>	127
4.2.6. <i>The 2014 Survey</i>	129
4.3. The 2015 excavations	129
4.3.1. <i>Methodology</i>	129
4.3.2. <i>Trench A</i>	134
4.3.3. <i>Trench B</i>	135
4.3.4. <i>Trench C</i>	135
4.3.5. <i>Trench D</i>	137
4.3.6. <i>Trench D western extension</i>	143
4.3.7. <i>Trench D northern extension</i>	143
4.3.8. <i>Trench E</i>	146
4.3.9. <i>Keyhole investigations between Trenches C, D and E</i>	149
4.3.10. <i>Trench F</i>	151
4.3.11. <i>Trench G</i>	151
4.4. Soil micromorphology and geochemistry	151
4.4.1. <i>Introduction</i>	151
4.4.2. <i>Physical and elemental characterization</i>	151
4.4.3. <i>Summary of earthen floor micromorphology</i>	151
4.4.4. <i>Conclusion</i>	153
4.5. Discussion	153
4.5.1. <i>Pre-temple features and deposits</i>	153
4.5.2. <i>The prehistoric temple at Santa Verna</i>	157
4.5.3. <i>Destruction and collapse of the temple</i>	163
4.5.4. <i>Evidence of Punic, Roman and Arab phases</i>	164
4.5.5. <i>The medieval chapel of Santa Verna</i>	164
4.5.6. <i>Previous excavation campaigns at the site</i>	165
4.6. The megalithic survey	166
4.7. Summary and conclusions	166
 Chapter 5 Ġgantija	169
CATRIONA BROGAN, CHARLES FRENCH, SEAN TAYLOR, JEREMY BENNETT, EÓIN W. PARKINSON, ROWAN McLAUGHLIN, SIMON STODDART & CAROLINE MALONE	
5.1. Introduction	169
5.2. Location and physical setting of the site	169
5.3. History of the site	170
5.3.1. <i>Museum Department excavations</i>	172
5.4. 2014 survey and excavations	173
5.4.1. <i>Methodology</i>	174

5.4.2. Results	174
5.5. 2015 excavations	180
5.5.1. Excavation rationale	180
5.5.1. Methodology	180
5.5.1. Excavation results	181
5.6. Discussion	187
5.6.1. Introduction	187
5.6.2. Pre-temple features and deposits	187
5.6.3. Stone structure	189
5.6.4. Modern activity	191
5.7. Conclusion	191
Chapter 6 Kordin III	193
ROWAN McLAUGHLIN, CATRIONA BROGAN, EÓIN W. PARKINSON, ELLA SAMUT-TAGLIAFERRO, SIMON STODDART, NICHOLAS VELLA & CAROLINE MALONE	
6.1. Introduction	193
6.2. The site	193
6.2.1. Location and physical setting	193
6.2.2. History of the site	194
6.3. Methodology and personnel	199
6.4. Results: Trench I	201
6.4.1. Trench IA	201
6.4.2. Trench IB	208
6.4.2. Trench IB	208
6.4.3. Trench IC	212
6.5. Results: Trench II	214
6.5.1. Trench IIA	214
6.5.2. Trench IIB	215
6.6. Results: Trench III	217
6.7. Results: Trench IV	219
6.7.1. Trench IVA	219
6.7.2. Trench IVB	219
6.8. Discussion	220
6.8.1. Palaeosols	220
6.8.2. Possible Skorba phase features	221
6.8.3. Mgarr phase layers	221
6.8.4. Pre-temple Ġgantija phase layers	221
6.8.5. The megalithic 'temple' and its date	221
6.8.6. Later activity	222
6.8.7. Re-arrangement of the megaliths	222
6.9. Conclusion	223
Chapter 7 Skorba	227
CATRIONA BROGAN, EÓIN W. PARKINSON, ROWAN McLAUGHLIN, CHARLES FRENCH & CAROLINE MALONE	
7.1. Introduction	227
7.2. The site	227
7.2.1. Location and physical setting	227
7.2.2. History of the site	228
7.2.3. The 1961–63 campaign	228
7.3. Methodology of the 2016 campaign	230
7.4. Results	231
7.4.1. Northern corner	232
7.4.2. Central sondage	232

7.4.3. Eastern corner	235
7.4.4. The upper levels	235
7.5. Discussion	239
7.5.1. Contemporary settlement in southern Italy	241
7.6. Conclusion	242
Chapter 8 In-Nuffara	245
STEPHEN ARMSTRONG, CATRIONA BROGAN, ANTHONY BONANNO, CHARLES FRENCH, ROWAN McLAUGHLIN, EÓIN W. PARKINSON, SIMON STODDART & CAROLINE MALONE	
8.1. Introduction	245
8.2. The site	245
8.2.1. Location and physical setting	245
8.2.2. History of the site	246
8.3. Surface survey	247
8.4. The 2015 excavations	248
8.4.1. Excavation rationale	248
8.4.2. Methodology and personnel	249
8.4.3. Results	249
8.4.4. Geoarchaeological report	254
8.5. Discussion	256
8.5.1. The Bronze Age settlement at In-Nuffara and contemporary use of the rock-cut pit	256
8.5.2. The silos and their construction	257
8.5.3. Site abandonment and later activity at In-Nuffara	258
8.5.4. Punic, Roman and later activity at In-Nuffara	258
8.6. Conclusions	258
8.7. The pottery from In-Nuffara	260
8.7.1. Introduction: In-Nuffara pottery overview report	260
8.7.2. The catalogue	261
8.7.3. Catalogue numbers	261
8.8. Characteristics and manufacture	261
8.8.1. Fabric	260
8.8.2. Surface treatment	260
8.8.3. Decoration	260
8.9. Comparanda	262
8.9.1. Noteworthy missing shapes	262
8.9.1. Unique representations, without parallels elsewhere	262
8.10. Stratigraphic context and date	262
8.11. Recent archaeometric results	263
8.12. Impact of the above on the In-Nuffara assemblage	263
8.13. Concluding remarks	263
8.14. Catalogue of Bronze Age pottery from In-Nuffara	263
Chapter 9 Economy, environment and resources in prehistoric Malta	281
ROWAN McLAUGHLIN, FINBAR McCORMICK, SHEILA HAMILTON-DYER, JENNIFER BATES, JACOB MORALES-MATEOS, CHARLES FRENCH, PETROS CHATZIMPALOGLOU, CATRIONA BROGAN, ALASTAIR RUFFELL, NATHAN WRIGHT, PATRICK J. SCHEMBRI, CHRISTOPHER O. HUNT, SIMON STODDART & CAROLINE MALONE	
9.1. The environment of early Malta	281
9.2. Material resources	281
9.2.1. Indigenous materials	281
9.2.2. Exotic materials: their origins and distribution	286
9.3. Economy and foodways	287
9.3.1. Introduction: the lines of evidence	287

9.3.2. <i>Palaeoecology</i>	289
9.3.3. <i>Plant remains</i>	289
9.4. Faunal remains: mammal bone	294
9.4.1. <i>Introduction</i>	294
9.4.2. <i>Fragmentation</i>	295
9.4.3. <i>Species distribution</i>	295
9.4.4. <i>Sheep/goat</i>	295
9.4.5. <i>Cattle and pig</i>	298
9.5. Other species	299
9.6. Mammal bones: discussion	299
9.6.1. <i>Livestock and religion</i>	302
9.7. Birds and fish	303
9.7.1. <i>Bird bones</i>	303
9.7.2. <i>Fish bones</i>	304
9.8. Faunal remains: conclusions	304
9.9. Human remains	305
9.9.1. <i>Dental wear</i>	305
9.9.2. <i>Stable isotopes</i>	305
9.10. Conclusions: the economic basis of prehistoric Malta	306
 Chapter 10 The pottery of prehistoric Malta	 309
CAROLINE MALONE, CATRIONA BROGAN & ROWAN McLAUGHLIN	
10.1. Introduction	309
10.1.1. <i>History</i>	310
10.1.2. <i>Dating pottery</i>	311
10.1.3. <i>Recent research on Maltese pottery</i>	311
10.2. The FRAGSUS ceramic research programme	313
10.2.1. <i>Pottery phase descriptions</i>	314
10.2.2. <i>The typology and recognition of pottery types in Malta</i>	320
10.2.3. <i>The FRAGSUS pottery analysis: general data from across the sites</i>	323
10.2.4. <i>Pottery frequency</i>	323
10.2.5. <i>Phase frequency on the 2014–16 excavated sites</i>	323
10.2.6. <i>Fragmentation of pottery</i>	323
10.3. Ghar Dalam pottery (Phase 1)	324
10.3.1. <i>Ghar Dalam pottery from FRAGSUS sites</i>	326
10.3.2. <i>Ghar Dalam style representation</i>	326
10.3.3. <i>Ghar Dalam: catalogue descriptions</i>	326
10.3.4. <i>Ghar Dalam: style characteristics</i>	327
10.3.5. <i>Ghar Dalam: fabric, finish and decoration</i>	330
10.3.6. <i>Regional style</i>	330
10.4. Skorba pottery (Phase 2)	331
10.4.1. <i>Skorba (Red and Grey) bowl and jar forms from Santa Verna and Skorba: catalogue descriptions</i>	334
10.4.2. <i>Skorba general forms: catalogue descriptions</i>	334
10.4.3. <i>Red Skorba: catalogue descriptions</i>	335
10.4.4. <i>Forms and shapes</i>	335
10.5. Żebbuġ pottery (Phase 3)	339
10.5.1. <i>The Żebbuġ assemblage</i>	339
10.5.2. <i>Trefontane style: forms</i>	340
10.5.3. <i>Trefontane</i>	340
10.5.4. <i>Trefontane-Żebbuġ bowls: catalogue descriptions</i>	342
10.5.5. <i>Żebbuġ bowls: catalogue descriptions</i>	344
10.5.6. <i>Żebbuġ cups, handles, lugs, bases and profiles: catalogue descriptions</i>	346
10.5.7. <i>Żebbuġ jars and bowls: catalogue descriptions</i>	346

10.5.8. Żebbuġ inverted jars and bowls, sherds and decoration: catalogue descriptions	349
10.5.9. The Żebbuġ assemblage	349
10.6. Mġarr pottery (Phase 4)	351
10.6.1. The FRAGSUS assemblage	351
10.6.2. Mġarr inverted bowls: catalogue descriptions	351
10.6.3. Mġarr patterned sherds and bowls: catalogue descriptions	354
10.6.4. Mġarr decoration	354
10.6.5. Mġarr inverted and everted forms and lugs: catalogue descriptions	355
10.7. Ġgantija pottery (Phase 5)	357
10.7.1. Ġgantija ceramic repertoire	357
10.7.2. Ġgantija everted tapered rim bowls and cups: catalogue descriptions	359
10.7.3. Ġgantija everted rolled rim bowls: catalogue descriptions	359
10.7.4. Ġgantija tapered rim bowls: catalogue descriptions	361
10.7.5. Ġgantija inverted rolled rim jars: catalogue descriptions	363
10.7.6. Ġgantija inverted tapered rim bowls and cups: catalogue descriptions	366
10.7.7. Ġgantija inverted tapered rim bowls: catalogue descriptions	366
10.7.8. Ġgantija rolled rim jars (biconical forms): catalogue descriptions	367
10.7.9. Ġgantija rolled and collared rim jars and bowls: catalogue descriptions	367
10.7.10. Ġgantija deep and tapered rim jars: catalogue descriptions	371
10.7.11. Ġgantija lids, bases and base decorated sherds: catalogue descriptions	373
10.7.12. Ġgantija handles, lugs and decorated sherds: catalogue descriptions	373
10.8. Saflieni pottery (Phase 6)	374
10.8.1. Saflieni vessels and sherds: catalogue descriptions	374
10.8.2. Discussion of Saflieni ceramics	376
10.9. Tarxien pottery (Phase 7)	376
10.9.1. The Tarxien assemblage	376
10.9.2. Tarxien open carinated bowls and cups: catalogue descriptions	376
10.9.3. Tarxien small carinated bowls and cups: catalogue descriptions	378
10.9.4. Tarxien inverted jars and bowls: catalogue descriptions	381
10.9.5. Tarxien textured and rusticated surface vessels: catalogue descriptions	384
10.9.6. Tarxien rusticated coarseware and larger vessels: catalogue descriptions	384
10.9.7. Tarxien two-sided patterned vessels, lids and bases: catalogue descriptions	386
10.9.8. Tarxien handles and lugs: catalogue descriptions	389
10.10. Early Bronze Age pottery	389
10.10.1. Pottery from Thermi-Tarxien Cemetery phases	391
10.10.2. Thermi and Early Bronze Age pottery from Taċ-Ċawla: catalogue descriptions	393
10.10.3. Bronze Age and Thermi pottery: catalogue descriptions	395
10.11. Conclusions	397
Chapter 11 Small finds and lithics: reassessing the excavated artefacts and their sources in prehistoric Malta	399
CAROLINE MALONE, PETROS CHATZIMPALOGLOU & CATRIONA BROGAN	
Part I – The excavated artefacts	
11.1. Introduction	399
11.2. Small finds – ‘Temple’ Culture artefacts	399
11.2.1. Stone artefacts – querns and ground stone	399
11.2.2. Ceramic objects, figurines	403
11.2.3. Shell, beads	403
11.2.4. Bone tools and artefacts	403
11.3. Lithic tools: raw materials and technology	406
11.3.1. Chert – Santa Verna	410
11.3.2. Obsidian – Santa Verna	412
11.3.3. Chert – Taċ-Ċawla	412

11.3.4. Obsidian and chert – Tač-Ċawla	413
11.3.5. Chert and obsidian – Ġgantija	417
11.3.6. Chert and obsidian – Skorba	417
11.3.7. Chert and obsidian – Kordin III	417
11.4. Discussion	418
Part II – The lithic sources	
11.5. Assessing the lithic assemblages and sourcing chert artefacts	420
11.6. Lithic provenance	420
11.6.1. Geological background and chert rocks	421
11.7. Materials and methods	423
11.7.1. Field research	423
11.7.2. Laboratory research	423
11.7.3. Chert sources of Malta and Sicily	424
11.7.4. Geochemical examination	428
11.8. Lithic assemblages	431
11.8.1. Macroscopic examination	432
11.8.2. Mineralogical examination	434
11.8.3. Geochemical examination	435
11.9. Summary and conclusions	440
11.9. Chaîne opératoire	442
11.10. Integration with FRAGSUS	445
Chapter 12 Megalithic site intervisibility: a novel phenomenological approach	447
JOSEF CARUANA & KATYA STROUD	
12.1. Introduction	447
12.2. GIS and the study of the Neolithic in Malta	447
12.2.1. Technical background and crucial advances in pixel coverage	447
12.3. The Neolithic landscape	447
12.3.1. Project aims	448
12.3.2. Methodology	448
12.4. QGIS and associated analyses	449
12.5. The parameters used	450
12.5.1. Height	450
12.5.2. Extent of view	450
12.5.3. Height of observer	450
12.5.4. Curvature	450
12.6. Assumptions and limitations	450
12.7. Results and observations	451
12.7.1. Correlation analysis	451
12.8. Agglomerative hierarchical clustering	454
12.9. Conclusion	454
Chapter 13 Conclusions	457
CAROLINE MALONE, CATRIONA BROGAN, REUBEN GRIMA, EÓIN W. PARKINSON, ROWAN McLAUGHLIN, SIMON STODDART & NICHOLAS VELLA	
13.1. Introduction	457
13.2. Excavation, sampling and some lessons learnt	457
13.2.1. Challenges and opportunities	457
13.2.2. Excavation and recording methods	464
13.2.3. Public engagement	466
13.3. New discoveries	471
13.3.1. Prehistoric settlement	471
13.3.2. 'Temples' and their evolution	474
13.3.3. Dating and the culture sequence	474

13.3.4. Material culture	476
13.4. The bigger picture	478
13.4.1. The FRAGSUS questions revisited	479
13.5. Postscript	482
References	483
Index	503
 Appendices (online only)	
<i>Appendix to Chapter 2</i>	513
A2.1. AMS radiocarbon dates	513
A2.2. Chronological Query Language (CQL2) definition of the preferred model	516
<i>Appendix to Chapter 3</i>	517
A3.1. Taċ-Ċawla context register	518
A3.2. Small find register	546
A3.3. Soil samples	557
A3.4. Pottery numbers and frequency by context and phase	559
A3.5. Pottery weights	566
A3.6. AMS dates	572
A3.7. Taċ-Ċawla: micromorphological analysis of the occupation deposits	573
A3.8. Short report on the environmental samples and handpicked shells from the Taċ-Ċawla, Gozo, excavation	587
A3.9. Taċ-Ċawla Roman materials from the agricultural channels	597
<i>Appendix to Chapter 4</i>	611
A4.1. Santa Verna context register	611
A4.2. Small find register	614
A4.3. Pottery counts and frequency by context and phase	618
A4.4. AMS dates	622
A4.5. Santa Verna: soil micromorphology of the temple floor sequence	622
A4.6. Physical properties of the Santa Verna megaliths	628
<i>Appendix to Chapter 5</i>	631
A5.1. Ġgantija context register	631
A5.2. Finds register 2014 WC Section	632
A5.3. Pottery counts and frequency by context and phase	633
A5.4. AMS dates	635
A5.5. Geoarchaeology report: micromorphology	636
A5.6. Harris Matrix diagram of stratigraphic sequence of Test Pit 1	640
<i>Appendix to Chapter 6</i>	641
A6.1. Kordin III context register	641
A6.2. Small find register	647
A6.3. Pottery register by number in context and phase	652
A6.4. AMS dates	656
A6.5. Kordin III soil sample register	657
A6.6. SV, LOI, RF Loss of Ignition, etc., soil samples	660
A6.7. Kordin marine shell register	661

<i>Appendix to Chapter 7</i>	665
A7.1. Skorba context register	665
A7.2. Small find register	666
A7.3. Pottery database	667
A7.4. AMS dates	668
A7.5. Skorba soil samples	668
A7.6. OSL (optically stimulated luminescence) sample list	669
A7.7. Soil micromorphology and geochemistry	670
 <i>Appendix to Chapter 8</i>	 675
A8.1. In-Nuffara context register	676
A8.2. Small find register	677
A8.3. Palynological analysis of samples from In-Nuffara	678
A8.4. AMS dates	685
A8.5. Soil sample register	686
A8.6. In-Nuffara: soil micromorphology of selected pit fills	687
 <i>Appendix to Chapter 9</i>	 691
A9.1. Palaeobotanical assemblages	692
A9.2. Zooarchaeological assemblages	714
 <i>Appendix to Chapter 10</i>	 723
A10.1. Drawn pottery	724
A10.2. Ceramic thin section analysis of Temple Period, Neolithic and Bronze Age material from Malta	742
A10.3. Phase sequence and forms after Evans (1971) and Trump (1966, 1989)	750
 <i>Appendix to Chapter 11</i>	 763
A11.1. Worked stone artefacts	763
A11.2. Terracotta and shell artefacts	765
A11.3. Worked bone and shell artefacts	765
A11.4. Taċ-Ċawla obsidian assemblage, length and width	766
A11.5. Chert and obsidian numbers from the FRAGSUS sites	769
A11.6. Geological description and analysis of lithic samples	775

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Figures

0.1	<i>David Trump and John Evans together at the Deya Conference, Mallorca.</i>	xxxii
0.2	<i>Joseph Magro Conti at Kordin.</i>	xl
1.1	<i>Early excavation images of Tarxien in 1915 during the superficial clearance.</i>	5
1.2.	<i>Xaghra Brochtorff Circle excavations from 1987–94.</i>	7
1.3.	<i>The Cambridge Gozo Survey 1987–95, recording landscape features and surface scatters.</i>	8
1.4.	<i>General view of Taċ-Ċawla, 2014, and members of the 2014 team.</i>	15
1.5.	<i>General views of work at Santa Verna, 2015.</i>	16
1.6.	<i>General views of work at Kordin III, 2015.</i>	17
1.7.	<i>General views of work at Skorba, 2015.</i>	18
1.8.	<i>General views of work at Ġgantija, 2016.</i>	19
1.9.	<i>General views of work at In-Nuffara, 2015.</i>	20
1.10.	<i>Ceramic processing and finds work.</i>	22
1.11.	<i>Location map of sites investigated by the FRAGSUS Project.</i>	23
1.12	<i>Research intensity on Maltese prehistory.</i>	24
1.13.	<i>Images of scholars and fieldworkers of Maltese prehistory.</i>	25
1.14.	<i>Research pioneers of prehistoric Malta.</i>	26
2.1.	<i>OxCal plot of phases of Maltese prehistory.</i>	34
2.2.	<i>Kernel density estimates for radiocarbon-dated phases of Maltese prehistoric sites.</i>	35
2.3.	<i>KDE models of archaeological phases and the density of dated charcoal from sediment cores.</i>	35
2.4.	<i>KDEs of the temporal distribution of Maltese radiocarbon dates.</i>	36
3.1	<i>Site location map.</i>	40
3.2.	<i>Site location details.</i>	41
3.3.	<i>Site layout of Trench E in 1994.</i>	43
3.4.	<i>Location of scatters surveyed in 1960s and trial trenches in 1993 and 1995.</i>	44
3.5.	<i>General trench layout in 1995: section, trench photograph and stone figurine.</i>	46
3.6.	<i>Site layout in 2014.</i>	49
3.7.	<i>The excavated stone structures and the remnant vine channels and pits.</i>	50
3.8.	<i>The double-sided structure wall and related post- and stake holes.</i>	51
3.9.	<i>The exterior face of the wall (172) in the eastern zone.</i>	52
3.10.	<i>The relationship of wall (287) in BT5 to extramural and internal levels.</i>	53
3.11.	<i>Wall contexts of the Neolithic structure and digital scan of stone walls.</i>	54
3.12.	<i>Structure wall in BT5.</i>	55
3.13.	<i>Structure wall in BT6.</i>	55
3.14.	<i>Recording and excavation of the North Baulk inside the structure.</i>	55
3.15.	<i>Section drawings of BT5.</i>	57
3.16.	<i>Section drawings of BT6 and exploratory trench.</i>	58
3.17.	<i>Location of main box trenches.</i>	58
3.18.	<i>The lower cobble layers and underlying terra rossa in BT6.</i>	59
3.19.	<i>Plan showing locations of principal contexts in Level 1.</i>	59
3.20.	<i>BT6, revealing bedrock overhang, floors and foundation deposits.</i>	60
3.21.	<i>View of the excavations in the western extent of the site.</i>	60
3.22.	<i>The stony cobbled and bedrock base in the eastern quadrant.</i>	61
3.23.	<i>Plan showing location of principal contexts in Level 2.</i>	61
3.24.	<i>Sections cut through structure floors – north side of 1995 trench.</i>	62
3.25.	<i>Level 3 deposits within the ‘house’ structure.</i>	63
3.26.	<i>Re-cut 1995 trench recording location of BT4.</i>	64
3.27.	<i>Layers revealed in BT4.</i>	64
3.28.	<i>The 1995 trench recorded in 2014.</i>	65
3.29.	<i>Level 4 showing main cobble deposits.</i>	66
3.30.	<i>View of the trenches through the eastern half of the structure.</i>	66
3.31.	<i>Level 5 showing main cobble deposits.</i>	67
3.32.	<i>Section record of the North Baulk.</i>	68

3.33.	<i>Photograph of baulk in the North West Quadrant.</i>	68
3.34.	<i>The cleaning and recording of the North Baulk.</i>	70
3.35.	<i>The cleaned floor in Level 7 in the east of the structure.</i>	70
3.36.	<i>Level 6 yellow brown deposits.</i>	71
3.37.	<i>Cleaned floor deposit in Context (195), showing charcoal and burnt lenses.</i>	72
3.38.	<i>Section cut through floors close to the stone wall.</i>	72
3.39.	<i>Level 7 deposits – dark lenses and floors.</i>	73
3.40.	<i>Location of the main Level 8 deposits.</i>	74
3.41.	<i>General view looking south of excavation beyond the 1995 trench.</i>	74
3.42.	<i>View of the extramural layers visible in BT5.</i>	76
3.43.	<i>View of the intermediate stage of excavation of BT6.</i>	77
3.44.	<i>View of the excavation of the internal floors and structure wall.</i>	77
3.45.	<i>Internal floors and remnant walls of the structure.</i>	78
3.46.	<i>The wall structures looking west.</i>	78
3.47.	<i>Upper excavation levels of the area to the north of the stone structure.</i>	79
3.48.	<i>Partially cleared vine pits.</i>	80
3.49.	<i>View of the late stages of excavation showing walls and bedrock.</i>	80
3.50.	<i>Vine pits (8) and (9) and the emerging stones of wall (172).</i>	81
3.51.	<i>The sequence of contexts in the extra-mural deposits in Level 1 and Level 2.</i>	82
3.52.	<i>Northeast Sector postholes and reconstruction plan.</i>	84
3.53.	<i>Intermediate levels in the extramural area and upper prehistoric levels in the extramural area.</i>	86
3.54.	<i>Exposed bedrock in the area immediately outside wall (172).</i>	87
3.55.	<i>Postholes under excavation.</i>	88
3.56.	<i>Section of (268) longitudinal W–E, and cross sections N–S.</i>	89
3.57.	<i>The external cobbled area (210), dumps and displaced wall stones.</i>	90
3.58.	<i>Primary contexts around the structure walls and cleared bedrock in the Main Quadrant.</i>	90
3.59.	<i>Location of stone spread (178).</i>	92
3.60.	<i>View of the north-facing section of the mini baulk and floors within the structure.</i>	93
3.61.	<i>Southwest-facing section of BT3.</i>	93
3.62.	<i>Contexts in southern extramural zone.</i>	94
3.63.	<i>Southern extramural zone with rock-cut and primary features.</i>	94
3.64.	<i>Plan of the east zone of excavation, showing the parallel vine pits/channels.</i>	97
3.65.	<i>Excavated rock features in the southeast excavation area.</i>	97
3.66.	<i>Excavations in the southeast area in 2014.</i>	97
3.67.	<i>Plan of Context (109), section record, and clay oven fragments and drawing.</i>	99
3.68.	<i>Obsidian core and associated pottery.</i>	100
3.69.	<i>Sections and location plan recording the stratigraphy in the southeast area of excavation.</i>	101
3.70.	<i>Box Trench profiles and their numbered contexts.</i>	102
3.71.	<i>Paving stones in Channel 1 and sherd scatters in Context (120).</i>	102
3.72.	<i>Sandstone quern in situ in Context (120) between Channels 2 and 3.</i>	105
3.73.	<i>Layout of the vine pit/agricultural channels across the excavation area.</i>	106
3.74.	<i>Differential coloration of the agricultural channels, looking west.</i>	107
3.75.	<i>The agricultural features during excavation.</i>	108
3.76.	<i>The excavated vine pits and features in plan and profile east of the stone structure (172).</i>	109
3.77.	<i>The mollusc pits in section and plan.</i>	110
3.78.	<i>Photographs of the sectioned snail pit.</i>	110
3.79.	<i>Excavation of the shallow deposits on the east side of the site.</i>	112
3.80.	<i>Bedrock features along the east baulk of the excavation, showing potential posthole and torba deposits.</i>	112
3.81.	<i>Post-medieval kiln or burning pit, showing rubble base and circular edge.</i>	113
3.82.	<i>Possible layout of the Neolithic domestic structures at Taċ-Ċawla.</i>	115
3.83.	<i>Taċ-Ċawla, main trench early in the excavation.</i>	116
3.84.	<i>The site at the close of the 2014 season.</i>	116
3.85.	<i>Later phases of activity at Taċ-Ċawla: Classical and Thermi phases.</i>	118
3.86.	<i>Temple Period phases of activity at Taċ-Ċawla: Tarxien and Ġgantija phases.</i>	118

3.87.	<i>Earlier phases of activity at Tač-Ċawla: Żebbuġ and Skorba phases.</i>	118
3.88.	<i>Lithic distribution at Tač-Ċawla.</i>	119
3.89.	<i>Pottery-lithic distributions at Tač-Ċawla – summed probability plots.</i>	120
3.90.	<i>The FRAGSUS teams during the 2014 season.</i>	121
4.1.	<i>Location map of Santa Verna.</i>	124
4.2.	<i>‘Plan of a Phoenician Temple’: preparatory drawing from Houël’s 1789 engravings.</i>	125
4.3.	<i>The 1911 plan of Santa Verna.</i>	126
4.4.	<i>Selection of photos from the 1911 excavations at Santa Verna.</i>	128
4.5.	<i>South-facing section of the 1961 Trench ‘A’.</i>	129
4.6.	<i>Density of Early Neolithic pottery found in the Santa Verna survey.</i>	130
4.7.	<i>Density of Early Temple Period pottery found in the Santa Verna survey.</i>	130
4.8.	<i>Density of Ghar Dalam, Grey & Red Skorba and Temple Period sherds recovered in 2014.</i>	131
4.9.	<i>Relative proportion of sherds recovered from north and east of Santa Verna.</i>	131
4.10.	<i>Relative proportion of sherds recovered from west of Santa Verna.</i>	131
4.11.	<i>Ground penetrating radargrams of Santa Verna.</i>	132
4.12.	<i>The Santa Verna megaliths partially enveloped with vegetation.</i>	132
4.13.	<i>Site scan of Santa Verna at close of excavation.</i>	133
4.14.	<i>2015 trench layout showing major megaliths.</i>	133
4.15.	<i>Post-excavation photo of Trench A, showing bedrock, looking west.</i>	134
4.16.	<i>Snail figurines from Santa Verna, 2015.</i>	135
4.17.	<i>Post-excavation photo of Trench B, showing terra rossa, looking east.</i>	135
4.18.	<i>Obsidian blade (SF19) from Context (8).</i>	136
4.19.	<i>Sherd of stamped pottery from (17), similar to Sicilian Stentinello ware.</i>	136
4.20.	<i>Post-excavation plan of Santa Verna temple.</i>	137
4.21.	<i>Vertical section of Trump 1961 trench and location of micromorphology samples.</i>	138
4.22.	<i>Saddle quern fragment embedded within torba floor (23).</i>	139
4.23.	<i>Vertical section of 1911 sondage [54].</i>	140
4.24.	<i>South-facing vertical section.</i>	141
4.25.	<i>Threshold stone (57), with Context (59) in the background.</i>	142
4.26.	<i>Fragment of a rim of a large stone bowl from Context (58).</i>	142
4.27.	<i>Stones (59) as they were in 1911 (left) and 2015 (right).</i>	143
4.28.	<i>The western edge surface {21} and floor (121), also showing 1911 sondage [120].</i>	144
4.29.	<i>Detail of preserved plaster at the edge of floor (121).</i>	144
4.30.	<i>Layer (116), a patch of torba of presumed Skorba date.</i>	145
4.31.	<i>Trench D, northeast facing vertical section showing Cut [76] into pre-Temple deposits.</i>	145
4.32.	<i>‘Fire pit’ feature in surface {21}.</i>	146
4.33.	<i>South-facing vertical section of sondage in Trench E.</i>	147
4.34.	<i>The lobed wall (91) of the outer right temple apse running through Trench E.</i>	147
4.35.	<i>Polygonal ‘tiles’, Context (92).</i>	148
4.36.	<i>Obsidian arrowhead from (52) (SF132).</i>	148
4.37.	<i>Photograph from Bradley (1912) of workers at Santa Verna.</i>	149
4.38.	<i>Post-excavation laser scans.</i>	149
4.39.	<i>Photograph of the keyhole investigations between Trenches C, D and E.</i>	150
4.40.	<i>Photograph of chert objects from topsoil (13) in Trench F.</i>	150
4.41.	<i>Thin section photomicrographs from Santa Verna and Ġgantija.</i>	152
4.42.	<i>Ghar Dalam pottery from Context (8) in Trench B.</i>	154
4.43.	<i>Painted ware sherds illustrated in Ashby et al. (1913), of Żebbuġ style.</i>	155
4.44.	<i>Bayesian model multiplot for the Żebbuġ phase and construction of Santa Verna.</i>	156
4.45.	<i>Plans of Santa Verna on discovery and with 2015 excavation features alongside extant megaliths.</i>	157
4.46.	<i>Site profile from north to south.</i>	158
4.47.	<i>Photograph of tiles (92) taken at the time of their discovery.</i>	158
4.48.	<i>Outline plans of the Santa Verna temple.</i>	160
4.49.	<i>Outline plan of the Santa Verna temple, with Ġgantija as a comparison.</i>	161
4.50.	<i>Tarxien phase sherds from (33), the foundation of the Phase V floor.</i>	162

4.51.	<i>Extract from Ashby et al.'s (1913) plan, overlain with the excavation results.</i>	163
4.52.	<i>Tarxien phase pottery from Santa Verna found in 1911.</i>	164
4.53.	<i>Photographs showing the discovery of a Globigerina Limestone slab.</i>	165
4.54.	<i>Schematic plan showing megaliths categorized by volume.</i>	166
4.55.	<i>Digital laser scan, showing stones placed to overlap adjacent members.</i>	166
5.1.	<i>Location map of Ġgantija.</i>	170
5.2.	<i>Hoüel's (1787) engraving of the Xaghra Brochtorff Circle and Ġgantija Temples.</i>	171
5.3.	<i>Lacroix's illustrations of notable artefacts kept by Bayer from Ġgantija.</i>	171
5.4.	<i>The trilithon structure and retaining wall as depicted by Brocktorff (1820s).</i>	172
5.5.	<i>Smyth's engraving (1829) of Ġgantija.</i>	173
5.6.	<i>The fault line at Ġgantija revealed through GPR.</i>	174
5.7.	<i>Orthophotograph of the Ġgantija temples showing resistivity results for the 'olive grove'.</i>	175
5.8.	<i>Plan of Trench 1/2014.</i>	176
5.9.	<i>Trench 2/2014 after excavation.</i>	176
5.10.	<i>Vertical section of Trench 3/2014 showing the wall structure, Context (2004).</i>	177
5.11.	<i>Mid-excavation plan of Trench 3/2014 showing the wall structure, Context (2004).</i>	178
5.12.	<i>Photograph of Trench 3/2014 in the olive grove, looking south.</i>	178
5.13.	<i>The southeast-facing vertical section beneath the former office/WC.</i>	179
5.14.	<i>Section drawing of the southeast-facing section showing in situ megaliths and stratified deposits.</i>	179
5.15.	<i>Typical Tarxien phase sherds recovered from Context (2012).</i>	180
5.16.	<i>Plan of Ġgantija showing the location of Trench 1/2014 ext. (1) and Trench 1/ 2015 (2).</i>	180
5.17.	<i>East-facing vertical section drawing of Trench 1/2014 ext.</i>	181
5.18.	<i>Southeast-facing vertical section drawing of Trench 1/2014 ext.</i>	182
5.19.	<i>Trench 1/2014 ext. post-excavation, with in situ megalith.</i>	182
5.20.	<i>Two Ġgantija phase cups recovered from Context (004).</i>	183
5.21.	<i>Post-excavation plan of Trench 1/2015.</i>	184
5.22.	<i>Post-excavation plan of sondage at the base of Trench 1/2015.</i>	184
5.23.	<i>Superficial vertical section in Trench 1/2015, with micromorphology sample locations.</i>	185
5.24.	<i>Deep vertical section at the base of Trench 1/2015, with micromorphology sample locations.</i>	185
5.25.	<i>Photograph of the excavated ramp structure.</i>	186
5.26.	<i>Pottery from Context (1002)/(1003).</i>	186
5.27.	<i>Mid-excavation photograph of Trench 1/2015.</i>	188
5.28.	<i>Tarxien phase pottery from Contexts (1015) and (1016).</i>	188
5.29.	<i>Laser scan of Trench 1/2015 post-excavation, clearly showing the wall structure.</i>	189
6.1.	<i>Location map of Kordin III.</i>	193
6.2.	<i>The temples of Kordin I and Kordin II as recorded by Caruana (1896).</i>	194
6.3.	<i>Ashby's plans of Kordin I, II and III (Ashby et al. 1913).</i>	195
6.4.	<i>Orthophotograph and survey map of the Kordin site locations.</i>	196
6.5.	<i>Location of prehistoric sites in the area (digital elevation model from LiDAR).</i>	196
6.6.	<i>Location map of Kordin III with viewsheds calculated through LiDAR.</i>	197
6.7.	<i>Image of Kordin III in 1925, surrounded by the enclosing wall.</i>	197
6.8.	<i>Site photos from Ashby and Peet's excavation at the Kordin sites.</i>	198
6.9.	<i>Ashby's plan of Kordin III showing the locations of Evans' and Trump's trenches.</i>	199
6.10.	<i>Evans' plan of Kordin III (adapted from Ashby et al. 1913).</i>	199
6.11.	<i>Evans' and Trump's section and trench drawings.</i>	200
6.12.	<i>Kordin III and the University of Malta 2006 survey.</i>	200
6.13.	<i>Overlay of the 2015 trenches at Kordin III.</i>	201
6.14.	<i>Overview of Trench I.</i>	202
6.15.	<i>Trench 1A and 1C contexts.</i>	203
6.16.	<i>Bayesian model of the radiocarbon dates from sondages in Trench I.</i>	204
6.17.	<i>Plan of eastern end of Trench I.</i>	205
6.18.	<i>Photograph of torba floor (89) and sondage in Context (97).</i>	205
6.19.	<i>Photographic section and section record of (70) and (71).</i>	207
6.20.	<i>Mġarr pottery from midden deposit (71).</i>	207

6.21.	<i>Three stone discs from Context (71) (SF167).</i>	208
6.22.	<i>Small features in Trench 1B.</i>	208
6.23.	<i>Possible stone pendant (SF132), from Context (67).</i>	209
6.24.	<i>The smashed threshold stone (SfM model).</i>	209
6.25.	<i>The smashed threshold in context.</i>	210
6.26.	<i>Photo-model of megalithic wall (6) and fragments of plaster (15).</i>	211
6.27.	<i>Section drawing of plaster fragments in Context (14).</i>	211
6.28.	<i>Fragment of plaster with pigment (SF15) from topsoil in Trench IB.</i>	211
6.29.	<i>Post-excavation photograph of [37] and [42] looking west.</i>	212
6.30.	<i>Struck chert (SF109) from Context (31).</i>	212
6.31.	<i>North-facing section in Trench 1C.</i>	213
6.32.	<i>East-facing section in Trench 1C.</i>	213
6.33.	<i>South-facing section in Trench 1C.</i>	213
6.34.	<i>Sherd of Mğarr pottery from (93) and slingstone from (5).</i>	214
6.35.	<i>Mid-excavation photograph of Trench IC showing (93) after removal of (78).</i>	214
6.36.	<i>Trench II during excavation in 2015.</i>	215
6.37.	<i>Torba floor (151) and related layers.</i>	216
6.38.	<i>Plan and photographs of Trench II.</i>	217
6.39.	<i>Trench III showing excavation progress.</i>	218
6.40.	<i>Pottery and obsidian artefacts.</i>	219
6.41.	<i>Trench IV showing excavation progress.</i>	220
6.42.	<i>Plan of 2015 structures overlain on Ashby's 1909 plan.</i>	222
6.43.	<i>Sectioned deposits revealing 'modern' tin cup beneath megalith.</i>	223
6.44.	<i>View of excavations before site closure, Trench I.</i>	224
6.45.	<i>Laser scan of Trench I.</i>	224
6.46.	<i>The team at Kordin.</i>	225
7.1.	<i>Location map of Skorba.</i>	228
7.2.	<i>Map of Skorba and nearby Temple Period sites and local topography.</i>	228
7.3.	<i>Trump's (1966) excavation plan of Skorba with locations of 2011/ 2016 excavations.</i>	229
7.4.	<i>Trench M during excavation in 2011.</i>	230
7.5.	<i>Work during the 1961 excavation season with position of the 2016 trench indicated.</i>	231
7.6.	<i>Location of the 2016 trench.</i>	231
7.7.	<i>Photograph of the 2015 trench.</i>	232
7.8.	<i>Detailed plans of the 2015 trench.</i>	233
7.9.	<i>Southwest-facing vertical section of the trench.</i>	234
7.10.	<i>Harris matrix for the 2015 excavation at Skorba.</i>	234
7.11.	<i>Shell beads (SF5) recovered from the FRAGSUS excavation at Skorba.</i>	234
7.12.	<i>Section of northwest end of trench, exposing Trump's sondage cut.</i>	235
7.13.	<i>Drawings of southeast-facing section (Trump's 'Y') and the Ghar Dalam wall stratigraphy.</i>	236
7.14.	<i>Section drawing of northeast corner of the trench.</i>	237
7.15.	<i>Deposits in the eastern corner.</i>	237
7.16.	<i>Photograph of the wall.</i>	237
7.17.	<i>Photograph of initial clearance of the trench.</i>	238
7.18.	<i>Southeast-facing section of the trench, showing OSL sampling locations.</i>	239
7.19.	<i>The column extracted for OSL dating in the northeast corner.</i>	239
7.20.	<i>Views of the 2016 excavations at Skorba.</i>	240
8.1.	<i>Location map of In-Nuffara.</i>	246
8.2.	<i>View of In-Nuffara mesa and the Ramla Valley.</i>	246
8.3.	<i>Sketch of a vertical section of two adjoining silo pits from the 1960 excavation.</i>	247
8.4.	<i>Orthographic, LiDAR and topographic imagery of In-Nuffara.</i>	248
8.5.	<i>The remains of a partially eroded rock-cut pit along the limestone cliff-face.</i>	249
8.6.	<i>Structure from Motion orthograph and plan of the trench.</i>	250
8.7.	<i>Photograph of the trench after topsoil removal, with silos visible.</i>	250
8.8.	<i>North-facing section record of Silo 1.</i>	251

8.9.	<i>Photographs of the in situ capstone of Silo 1 following the removal of topsoil.</i>	251
8.10.	<i>North-facing half section of the archaeological deposits within Silo 2.</i>	252
8.11.	<i>Structure from Motion model of the half sectioned deposits in Silo 2.</i>	253
8.12.	<i>Spindle whorls recovered from Silo 2.</i>	254
8.13.	<i>3-D laser scan section and plan of the silos.</i>	255
8.14.	<i>Ceramics catalogue numbers 1–17.</i>	266
8.15.	<i>Ceramics catalogue numbers 18–26.</i>	269
8.16.	<i>Ceramics catalogue numbers 27–37.</i>	271
8.17.	<i>Ceramics catalogue numbers 38–45.</i>	275
8.18.	<i>Ceramics catalogue numbers 46–50.</i>	276
8.19.	<i>Ceramics catalogue numbers 51–65.</i>	278
9.1.	<i>Holocene potential vegetation map of Malta, c. 6000 BC.</i>	282
9.2.	<i>Lagoon wetlands map of Malta in the early Holocene.</i>	284
9.3.	<i>Map showing the origins of exotic materials brought to Malta in prehistory.</i>	286
9.4.	<i>The temporal distribution of economic evidence obtained by the FRAGSUS Project.</i>	288
9.5.	<i>The Maltese pollen data over time.</i>	291
9.6.	<i>Temporal distribution of cereals and legumes.</i>	292
9.7.	<i>a) Cultivated plant seeds; b) wild plants; c, d) horsebeans from Tarxien Cemetery.</i>	293
9.8.	<i>MNI percentage distribution.</i>	296
9.9.	<i>NISP percentage distribution.</i>	296
9.10.	<i>Taċ-Ċawla sheep age slaughter pattern.</i>	296
9.11.	<i>Percentage distribution of sheep/goat bones from Taċ-Ċawla.</i>	300
9.12.	<i>Percentage distribution of sheep/goat bones from Santa Verna.</i>	300
9.13.	<i>Percentage distribution of sheep/goat bones from Kordin III.</i>	300
9.14.	<i>Percentage distribution of sheep/goat bones from In-Nuffara.</i>	300
9.15.	<i>Percentage distribution of cattle bones from Taċ-Ċawla.</i>	301
9.16.	<i>Percentage distribution of cattle bones from Santa Verna.</i>	301
9.17.	<i>Percentage distribution of pig fragments from Taċ-Ċawla.</i>	301
9.18.	<i>Percentage distribution of pig fragments from Santa Verna.</i>	301
9.19.	<i>Tooth of a sand tiger shark from Taċ-Ċawla.</i>	304
9.20.	<i>Graphs of cereal pollen detectability.</i>	306
10.1.	<i>Evans' typological scheme for Maltese phases, 1953.</i>	317
10.2.	<i>a) Number of sherds found per phase at FRAGSUS excavations at temple sites; b) total number; c) total number from the Cambridge Gozo Survey.</i>	318
10.3.	<i>Estimated vessel sizes recorded from rim diameter in the different phases of pottery production.</i>	319
10.4.	<i>Pottery frequency, fragmentation and relative presence.</i>	320
10.5.	<i>Aoristic totals of pottery by phase.</i>	321
10.6.	<i>Context-by-context comparison of fragmentation for Żebbuġ and Ġgantija pottery at Taċ-Ċawla.</i>	322
10.7.	<i>Għar Dalam pottery forms.</i>	328
10.8.	<i>Għar Dalam: classification of patterns.</i>	329
10.9.	<i>Skorba (Red and Grey) bowl and jar forms from Santa Verna and Skorba.</i>	336
10.10.	<i>Skorba general forms.</i>	337
10.11.	<i>Red Skorba.</i>	338
10.12.	<i>Trefontane-Żebbuġ bowls.</i>	343
10.13.	<i>Żebbuġ bowls.</i>	345
10.14.	<i>Żebbuġ cups, handles, lugs, bases and profiles.</i>	347
10.15.	<i>Żebbuġ jars and bowls.</i>	348
10.16.	<i>Żebbuġ inverted jars and bowls, sherds and decoration.</i>	350
10.17.	<i>Mġarr inverted bowls.</i>	353
10.18.	<i>Mġarr patterned sherds and bowls.</i>	355
10.19.	<i>Mġarr inverted and everted forms and lugs.</i>	356
10.20.	<i>Ġgantija everted tapered rim bowls and cups.</i>	360
10.21.	<i>Ġgantija everted rolled rim bowls.</i>	361
10.22.	<i>Ġgantija tapered rim bowls.</i>	362

10.23.	<i>Ġgantija inverted rolled rim jars.</i>	364
10.24.	<i>Ġgantija inverted tapered rim bowls and cups.</i>	365
10.25.	<i>Ġgantija inverted tapered rim bowls.</i>	368
10.26.	<i>Ġgantija inverted rolled rim jars (biconical forms).</i>	369
10.27.	<i>Ġgantija rolled and collared rim jars and bowls.</i>	370
10.28.	<i>Ġgantija deep and tapered rim jars.</i>	371
10.29.	<i>Ġgantija lids, bases and base decorated sherds.</i>	372
10.30.	<i>Ġgantija handles, lugs and decorated sherds.</i>	374
10.31.	<i>Saflieni vessels and sherds.</i>	375
10.32.	<i>Tarxien open carinated bowls and cups.</i>	379
10.33.	<i>Tarxien small carinated bowls and cups.</i>	380
10.34.	<i>Tarxien inverted jars and bowls.</i>	382
10.35.	<i>Tarxien textured and rusticated surface vessels.</i>	383
10.36.	<i>Tarxien rusticated coarseware and larger vessels.</i>	385
10.37.	<i>Tarxien two-sided patterned vessels, lids and bases.</i>	387
10.38.	<i>Tarxien handles and lugs.</i>	388
10.39.	<i>Thermi and Early Bronze Age pottery from Taċ-Ċawla.</i>	394
10.40.	<i>Thermi and Middle to Late Bronze Age pottery.</i>	396
11.1.	<i>Querns and worked stone.</i>	400
11.2.	<i>Querns, bowls and worked stone, mainly from Taċ-Ċawla.</i>	401
11.3.	<i>Discs, querns and grinders from Santa Verna and Kordin III.</i>	402
11.4.	<i>Sling stone and weights, loom weights, worked stone.</i>	404
11.5.	<i>Terracotta objects, snails, beads, shell objects and In-Nuffara loom weights.</i>	405
11.6.	<i>Worked bone and shell objects.</i>	407
11.7.	<i>Pie and bar charts of obsidian and chert artefacts from Taċ-Ċawla.</i>	408
11.8.	<i>Bar charts showing ratios of chert colours and chert tools/obsidian artefacts.</i>	409
11.9.	<i>Santa Verna chipped stone: chert.</i>	411
11.10.	<i>Santa Verna chipped stone: chert and obsidian.</i>	412
11.11.	<i>Ġgantija lithics.</i>	414
11.12.	<i>Taċ-Ċawla chipped stone: chert.</i>	415
11.13.	<i>Taċ-Ċawla chipped stone: obsidian.</i>	416
11.14.	<i>Skorba chipped stone.</i>	418
11.15.	<i>Kordin III chipped stone.</i>	419
11.16.	<i>Geological map of the Maltese Islands including sample locations.</i>	421
11.17.	<i>Geological map of Sicily.</i>	422
11.18.	<i>Chert outcrops on Gozo.</i>	424
11.19.	<i>Chert outcrops on Malta.</i>	425
11.20.	<i>Examples of Sicilian chert rocks: bedded Radiolarian outcrop along the Valona River.</i>	425
11.21.	<i>Examples of black and translucent cherts recorded in Sicily.</i>	426
11.22.	<i>Different angles of Radiolarian beds on the riverbed of the Valona River.</i>	426
11.23.	<i>Representative FTIR spectra of the chert samples from Malta.</i>	427
11.24.	<i>Representative FTIR spectra of the chert samples from Gozo.</i>	427
11.25.	<i>Representative FTIR spectra of the chert samples from Sicily.</i>	428
11.26.	<i>Geochemical models: ternary diagram and binary diagram.</i>	429
11.27.	<i>Normalized patterns of rare earth elements of Maltese and Sicilian chert samples.</i>	430
11.28.	<i>Cluster bar diagram presenting the total number of each assemblage.</i>	431
11.29.	<i>Pie-charts showing the ratio between the different types of rock.</i>	431
11.30.	<i>Representative samples of the first group of artefacts from Ġgantija.</i>	432
11.31.	<i>Representative samples of the second group of artefacts.</i>	433
11.32.	<i>Representative samples of the macroscopically diverse third group of artefacts.</i>	433
11.33.	<i>Comparison FTIR-ATR spectra between a representative artefact and the chert sources.</i>	434
11.34.	<i>Geochemical models cross-examining the Sicilian cherts and the artefacts of group 1.</i>	435
11.35.	<i>Comparable spider plots of REE concentrations of Sicilian chert outcrops.</i>	436
11.36.	<i>Geochemical models cross-examining the Maltese cherts and artefacts of group 2.</i>	437

11.37.	<i>Comparable spider plots of REE concentrations of local origin.</i>	437
11.38.	<i>Comparable spider plots of REE concentrations: samples from Skorba.</i>	438
11.39.	<i>Geochemical models cross-examining the Sicilian black chert sources and Group 3.</i>	439
11.40.	<i>Comparable spider plot of REE concentrations: Sicilian black chert and Group 3.</i>	439
11.41.	<i>Geochemical models cross-examining the West Sicilian chert.</i>	440
11.42.	<i>Comparable spider plot of REE concentrations: West Sicilian chert Group 3.</i>	441
11.43.	<i>Different flake types from Context 1019 of the Ġgantija assemblage.</i>	442
11.44.	<i>Example of a blade made from the Xaghra Brochtorff Circle.</i>	443
11.45.	<i>A scraper from the Xaghra Brochtorff Circle.</i>	444
11.46.	<i>Unimarginal flake of non-local chert from Santa Verna.</i>	444
11.47.	<i>Bi-marginal flake from Taċ-Ċawla that exhibits serration at its edge.</i>	444
11.48.	<i>Unhafted biface tool from Taċ-Ċawla.</i>	445
12.1.	<i>Viewshed analysis of selected prehistoric sites in Gozo.</i>	452
12.2.	<i>Viewshed analysis of selected prehistoric sites in Malta.</i>	452
12.3.	<i>Viewshed analysis of Borġ in-Nadur.</i>	453
12.4.	<i>Viewshed analysis of the Hal Saflieni Hypogeum.</i>	454
12.5.	<i>Dendrogram of sites in Malta divided into four major clades.</i>	455
13.1.	<i>Remote sensing at Ġgantija and across the landscape.</i>	459
13.2.	<i>Ta' Marziena plan and digital scan.</i>	460
13.3.	<i>Borġ in-Nadur LiDAR and digital scans.</i>	461
13.4.	<i>Dating advances – the Skorba section and its layers.</i>	462
13.5.	<i>Summed date ranges for the excavated sites in the FRAGSUS Project.</i>	463
13.6.	<i>Laser scans of Taċ-Ċawla – plan and section.</i>	464
13.7.	<i>John Meneely and Simon Stoddart scanning Taċ-Ċawla in 2014.</i>	465
13.8.	<i>The multidisciplinary FRAGSUS team meeting in Cambridge in 2016.</i>	466
13.9.	<i>The pollen team, with magnified 3-D-printed pollen grains.</i>	467
13.10.	<i>The launch meeting in 2013 and the team with the Malta High Commissioner in 2014.</i>	468
13.11.	<i>Open days at Kordin III, 2015.</i>	469
13.12.	<i>Exhibition at the National Museum of Archaeology, Valletta, March 2018.</i>	470
13.13.	<i>Conference in Fort Sant'Angelo, March 2018 – key speakers.</i>	470
13.14.	<i>Santa Verna Temple structure, partly revealed in 2015.</i>	472
13.15.	<i>David Trump attending the 2016 team meeting in Cambridge.</i>	472
13.16.	<i>Għajnsielem Road section in 1986, the first 'house' excavation.</i>	473
13.17.	<i>Temi Zammit with the reconstructed great stone bowl of Tarxien.</i>	475
A3.7.1.	<i>Taċ-Ċawla site plan.</i>	573
A3.7.2.	<i>The deep section through the karstic feature.</i>	574
A3.7.3.	<i>Excavation area showing walls, floors, the deep section and section FGH.</i>	574
A3.7.4.	<i>Deep section profile with the location of the micromorphological block samples.</i>	575
A3.7.5.	<i>Photomicrographs of the karstic deep feature and section FGH.</i>	579
A3.7.6.	<i>Section FGH, looking west.</i>	582
A3.7.7.	<i>Section FGH sample G1.</i>	582
A3.7.8.	<i>The Horton Trench and Profile 1/1.</i>	583
A3.7.9.	<i>The Horton Trench Profile 1/2.</i>	584
A3.7.10.	<i>The Horton Trench, Profile 2.</i>	584
A3.8.1.	<i>Percentage distribution of different particle sizes from the vine trench samples from Taċ-Ċawla.</i>	588
A3.8.2.	<i>Percentage distribution of different particle sizes from the shell midden deposits at Taċ-Ċawla.</i>	588
A3.8.3.	<i>Anthropogenic and biological content of the vine trench fill samples.</i>	589
A3.8.4.	<i>Anthropogenic and biological content of the shell midden deposits.</i>	589
A3.8.5.	<i>The same anthropogenic and biological contents in the shell midden deposits.</i>	590
A3.8.6.	<i>Land snails from the vine trench fills.</i>	590
A3.8.7.	<i>Land snails from the shell midden deposits.</i>	590
A3.8.8.	<i>Molluscs from the vine trench fills.</i>	591
A3.8.9.	<i>Molluscs from the shell midden deposits.</i>	591
A3.8.10.	<i>Edible land snail species found in the vine trench fills.</i>	592

A3.8.11.	<i>Edible land snail species found in the shell midden deposits.</i>	592
A3.8.12.	<i>Number of juvenile and adult edible and non-edible land snails in the vine trench fill samples.</i>	593
A3.8.13.	<i>Number of juvenile and adult edible and non-edible land snails in the shell midden deposits.</i>	593
A3.8.14.	<i>Number of the burrower Cecilioides acicula found in the vine trench fill samples.</i>	594
A3.8.15.	<i>Number of the burrower Cecilioides acicula found in the shell midden deposits.</i>	594
A3.8.16.	<i>TCC14/95 before excavation.</i>	595
A3.8.17.	<i>TCC14/95 after excavation, revealing a pit.</i>	595
A3.8.18.	<i>TCC14/100 before excavation. Scale in 10 cm.</i>	596
A3.9.1.	<i>Bowls: open forms.</i>	599
A3.9.2.	<i>Bowls: open forms 2.</i>	600
A3.9.3.	<i>Bowls: open forms 3.</i>	601
A3.9.4.	<i>Plates: open forms 4.</i>	603
A3.9.5.	<i>Lids.</i>	605
A3.9.6.	<i>Jars and jugs.</i>	606
A3.9.7.	<i>Flasks and amphorae.</i>	607
A3.9.8.	<i>North African imports.</i>	608
A4.5.1.	<i>General plan of Santa Verna excavations.</i>	623
A4.5.2.	<i>Section drawings of Trench E, Trump Cut 55 and the Ashby Sondage.</i>	623
A5.5.1.	<i>Ġgantija trench locations and excavation trenches.</i>	637
A5.5.2.	<i>WC trench profile and sample loci.</i>	638
A5.5.3.	<i>Photomicrographs of the Ġgantija WC Tr 1 section profile.</i>	639
A5.6.1.	<i>Harris Matrix diagram of stratigraphic sequence of Test Pit 1.</i>	640
A6.4.1.	<i>Bayesian model multiplot for the AMS dates from Kordin III.</i>	656
A6.7.1.	<i>Marine shell distribution by species at Kordin III.</i>	663
A7.7.1.	<i>Locations of OSL dating samples.</i>	670
A7.7.2.	<i>Harris Matrix of the 2016 excavation trench.</i>	671
A7.7.3.	<i>Skorba thin section photomicrographs.</i>	672
A8.3.1.	<i>Percentage pollen diagram from the silo at In-Nuffara.</i>	680
A8.6.1.	<i>In-Nuffara thin section photomicrographs.</i>	688
A9.1.1.	<i>Bar charts representing the division of Taċ-Ċawla crops between cereal and pulses, and by species.</i>	709
A9.1.2.	<i>Pie charts showing the division of crop groups and the percentage of crops from Taċ-Ċawla.</i>	710
A10.1.1.	<i>Pot drawing frequency diagram.</i>	741
A10.2.1.	<i>Samples 2, 6, 59.</i>	745
A10.2.2.	<i>Samples 13, 14, 15.</i>	746
A10.2.3.	<i>Samples 17, 22, 23.1.</i>	747
A10.2.4.	<i>Sample 23.2, 24, 28.</i>	748
A10.2.5.	<i>Sample 29, Odd 2, Odd 3.</i>	749
A10.3.1.	<i>Evans' (1971) typological scheme.</i>	750
A10.3.2.	<i>Trump's (1989) pottery recognition scheme, as used at the Xaghra Brochtorff Circle excavations.</i>	756
A10.3.3.	<i>Phase sequence and forms after Evans and Trump – forms arranged chronologically.</i>	757
A10.3.4.	<i>Phase sequence and forms after Evans and Trump – bowls.</i>	758
A10.3.5.	<i>Phase sequence and forms after Evans and Trump – jars and flasks.</i>	759
A10.3.6.	<i>Phase sequence and forms after Evans and Trump – cups.</i>	759
A10.3.7.	<i>Phase sequence and forms after Evans and Trump – carinated forms.</i>	760
A10.3.8.	<i>Phase sequence and forms after Evans and Trump – platter and lid forms.</i>	760
A10.3.9.	<i>Phase sequence and forms after Evans and Trump – pedestal forms.</i>	761

Tables

1.1.	<i>Research potential for island study and Malta.</i>	3
1.2.	<i>Timetable of fieldwork.</i>	12
1.3.	<i>Chronological range of FRAGSUS sites and their contribution to the project questions</i>	14
1.4.	<i>Summary table of the archaeological discoveries made by FRAGSUS.</i>	23

1.5.	<i>Chronological range of the FRAGSUS sites.</i>	24
2.1.	<i>Radiocarbon dates obtained by the FRAGSUS Project.</i>	30
2.2.	<i>95% confidence intervals for the modelled dates of phase boundaries.</i>	35
2.3.	<i>Simplified cultural phases.</i>	38
3.1.	<i>Layers recorded within the stone structure.</i>	56
3.2.	<i>Extramural deposits around the stone structure.</i>	82
3.3.	<i>Post- and stake hole dimensions.</i>	85
3.4.	<i>Radiocarbon dates from Pit 268.</i>	89
3.5.	<i>Contexts containing Roman pottery.</i>	104
3.6.	<i>Agricultural channel fills.</i>	104
3.7.	<i>Vine channel fill and cut contexts.</i>	113
3.8.	<i>Taċ-Ċawla and the FRAGSUS questions.</i>	122
4.1.	<i>Radiocarbon dates from Santa Verna Context (90).</i>	146
4.2.	<i>Sample contexts for micromorphological, physical and multi-element analyses.</i>	151
4.3.	<i>pH, magnetic and selected multi-element results from Ġgantija and Santa Verna.</i>	153
4.4.	<i>Santa Verna and the FRAGSUS questions.</i>	167
5.1.	<i>AMS dates from Ġgantija.</i>	187
5.2.	<i>Ġgantija and the FRAGSUS questions.</i>	190
6.1.	<i>Kordin III and the FRAGSUS questions.</i>	225
7.1.	<i>OSL and AMS dates from Skorba.</i>	238
7.2.	<i>Skorba and the FRAGSUS questions.</i>	242
8.1.	<i>AMS dates from In-Nuffara.</i>	256
8.2.	<i>In-Nuffara and the FRAGSUS questions.</i>	259
9.1.	<i>Charcoal identification of timber from the FRAGSUS sites and cores.</i>	290
9.2.	<i>Number of seeds recovered relative to the number of samples taken and their volume.</i>	292
9.3.	<i>Ubiquity of cereal and pulse use at the FRAGSUS Project excavation sites.</i>	292
9.4.	<i>MNI percentage distribution.</i>	295
9.5.	<i>NISP percentage distributions.</i>	295
9.6.	<i>Bird and fish bone.</i>	303
10.1.	<i>Evans' 1953 scheme of pottery phasing.</i>	311
10.2.	<i>Trump's 1966 chronology scheme.</i>	312
10.3.	<i>Trump's 2002 revised chronology scheme.</i>	312
10.4.	<i>New chronological sequence.</i>	312
10.5.	<i>Total number of pottery sherds from Neolithic sites.</i>	313
10.6.	<i>Total number of pottery sherds from Temple Period sites.</i>	313
10.7.	<i>Total number of pottery sherds from Bronze Age sites.</i>	313
10.8.	<i>Total sherds recovered by the FRAGSUS Project for each phase.</i>	313
10.9.	<i>Recognized sherd numbers as recorded in Evans (1971).</i>	315
10.10.	<i>Frequency, relative frequency and fragmentation of pottery by phase.</i>	324
10.11.	<i>Phase 1. Ghar Dalam style characteristics.</i>	325
10.12.	<i>Pattern organization of Calabrian Stentinello pottery.</i>	331
10.13.	<i>Phase 2. Grey Skorba, Grey to Red Skorba Transitional, and Red Skorba style characteristics.</i>	332
10.14.	<i>Phase 3. Żebbuġ style characteristics.</i>	341
10.15.	<i>Phase 4. Mġarr style characteristics.</i>	352
10.16.	<i>Phase 5. Ġgantija style characteristics.</i>	358
10.17.	<i>Phase 6. Saflieni style characteristics.</i>	375
10.18.	<i>Phase 7. Tarxien style characteristics.</i>	377
10.19.	<i>Phase 8a. Thermi style characteristics; and Phase 8b. Tarxien Cemetery style characteristics.</i>	390
10.20.	<i>Phase 9. Borġ in-Nadur style characteristics.</i>	392
10.21.	<i>Phase 10. Bahrija style characteristics.</i>	393
11.1.	<i>Chert and obsidian from FRAGSUS sites.</i>	406
11.2.	<i>Santa Verna lithic assemblage totals.</i>	410
11.3.	<i>Counts of raw material type from Santa Verna.</i>	410
11.4.	<i>Chert and obsidian tool categories from Taċ-Ċawla.</i>	413

11.5.	<i>Taċ-Ċawla chert colours and flake/tool ratios.</i>	413
11.6.	<i>Lithics from Skorba.</i>	417
11.7.	<i>Chert colours from Skorba.</i>	417
11.8.	<i>Kordin III obsidian sources.</i>	417
11.9.	<i>Chert artefact types from Kordin III.</i>	417
12.1.	<i>Sites included in the GIS study, visibility and attributes.</i>	449
12.2.	<i>Pearson correlation matrix for all sites in the study.</i>	451
12.3.	<i>Pearson correlation matrix for sites in Malta.</i>	453
13.1.	<i>Dating implications and changing time range.</i>	458
13.2.	<i>The updated chronology of Maltese prehistory that emerges from the FRAGSUS Project work.</i>	476
13.3.	<i>The FRAGSUS questions and themes.</i>	480
A2.1.1.	<i>AMS radiocarbon dates.</i>	513
A3.1.1.	<i>Taċ-Ċawla context register.</i>	518
A3.2.1.	<i>Small find register.</i>	546
A3.3.1.	<i>Taċ-Ċawla soil samples.</i>	557
A3.4.1.	<i>Pottery numbers and frequency by context and phase.</i>	559
A3.5.1.	<i>Pottery weights.</i>	566
A3.6.1.	<i>AMS dates.</i>	572
A3.7.1.	<i>Soil samples from Horton Trench 2014 and 2015.</i>	576
A3.7.2.	<i>Field descriptions from deep section.</i>	576
A3.7.3.	<i>pH, magnetic susceptibility and multi-element analysis.</i>	577
A3.7.4.	<i>Results of principal components analysis.</i>	577
A3.7.5.	<i>Summary of micromorphological features of karstic feature.</i>	578
A3.7.6.	<i>Field descriptions of excavated contexts.</i>	578
A3.7.7.	<i>Summary of micromorphological features.</i>	578
A3.7.8.	<i>Field descriptions of floor deposits.</i>	579
A3.7.9.	<i>Summary of micromorphological features in floor deposits.</i>	580
A3.8.1.	<i>Handpicked shells from Taċ-Ċawla.</i>	595
A3.8.2.	<i>Details of environmental samples taken and analysed.</i>	596
A4.1.1.	<i>Santa Verna context register.</i>	611
A4.2.1.	<i>Small find register.</i>	614
A4.3.1.	<i>Pottery counts and frequency by context and phase.</i>	618
A4.4.1.	<i>AMS dates.</i>	622
A4.5.1.	<i>Summary of micromorphological features in torba floors and pit fills.</i>	624
A4.5.2.	<i>AMS dates for micromorphological samples.</i>	624
A4.5.3.	<i>Field descriptions of floor samples.</i>	624
A4.5.4.	<i>pH, magnetic susceptibility and multi-element analysis.</i>	624
A4.5.5.	<i>Soil analysis.</i>	625
A4.5.6.	<i>LOI test table.</i>	626
A4.5.7.	<i>Rock fractions.</i>	627
A4.6.1.	<i>Physical properties of the Santa Verna megaliths.</i>	628
A5.1.1.	<i>Ġgantija context register.</i>	631
A5.2.1.	<i>Finds register 2014 WC Section.</i>	632
A5.3.1.	<i>Pottery counts and frequency by context and phase.</i>	633
A5.4.1.	<i>AMS dates.</i>	635
A5.4.2.	<i>Soil sample list.</i>	635
A5.5.1.	<i>Sample contexts for micromorphology.</i>	636
A5.5.2.	<i>pH, magnetic susceptibility and multi-element analysis.</i>	636
A5.5.3.	<i>Summary of micromorphological features.</i>	638
A6.1.1.	<i>Kordin III context register.</i>	641
A6.2.1.	<i>Small find register.</i>	647
A6.3.1.	<i>Pottery register by number in context and phase.</i>	652
A6.4.1.	<i>AMS dates.</i>	656
A6.5.1.	<i>Kordin III soil sample register.</i>	657

A6.6.1.	<i>SV, LOI, RF Loss of Ignition, etc., soil samples.</i>	660
A6.7.1.	<i>Kordin marine shell register.</i>	661
A6.7.2.	<i>Marine shell distribution by grid reference and species.</i>	662
A7.1.1.	<i>Skorba context register.</i>	665
A7.2.2.	<i>Small find register.</i>	666
A7.3.1.	<i>Pottery database.</i>	667
A7.4.1.	<i>AMS dates.</i>	668
A7.5.1.	<i>Skorba soil samples.</i>	668
A7.6.1.	<i>OSL sample list.</i>	669
A7.7.1.	<i>Sample list and contexts in Section 2, Profile D-E, Trench A, Skorba.</i>	670
A7.7.2.	<i>pH, magnetic susceptibility and selected multi-element results.</i>	671
A7.7.3.	<i>Loss-on-ignition organic/carbon/calcium carbonate components and particle size analysis.</i>	672
A7.7.4.	<i>Summary soil micromorphology descriptions for the floor and plaster deposits.</i>	672
A8.1.1.	<i>In-Nuffara context register.</i>	676
A8.2.1.	<i>Small find register.</i>	677
A8.3.1.	<i>Summary pollen data and results of preservation tests.</i>	679
A8.3.2.	<i>Summary pollen data and results of preservation tests.</i>	679
A8.4.1.	<i>AMS dates.</i>	685
A8.5.1.	<i>Soil sample register.</i>	686
A8.6.1.	<i>Sample contexts in two storage pits at In-Nuffara.</i>	687
A9.1.1a.	<i>Macrobotanical raw seed counts from Tač-Ċawla.</i>	692
A9.1.1b.	<i>Macrobotanical raw chaff and non-seed counts from Tač-Ċawla.</i>	704
A9.1.1c.	<i>Tač-Ċawla soil sample numbers, macrobotanical litres analysed, and phytolith sample.</i>	705
A9.1.2a.	<i>Macrobotanical Minimum Number of Seeds from Tač-Ċawla.</i>	707
A9.1.2b.	<i>Ubiquity of crops at Tač-Ċawla and Ġgantija.</i>	709
A9.1.2c.	<i>Density of crops at Tač-Ċawla and Ġgantija.</i>	709
A9.1.2d.	<i>Proportion of crops at Tač-Ċawla.</i>	710
A9.1.3.	<i>Macrobotanical raw counts from Santa Verna.</i>	711
A9.1.4a.	<i>Macrobotanical raw counts from Ġgantija.</i>	711
A9.1.4b.	<i>Macrobotanical raw counts from Ġgantija compared by context.</i>	712
A9.1.5.	<i>Macrobotanical raw counts from Kordin III.</i>	712
A9.1.6.	<i>Macrobotanical raw counts from Skorba.</i>	713
A9.1.7.	<i>Macrobotanical raw counts from In-Nuffara.</i>	713
A9.2.1.	<i>Tač-Ċawla. Fragments and MNI distribution.</i>	714
A9.2.2.	<i>Tač-Ċawla. Distribution of identifiable sheep and goat bones.</i>	714
A9.2.3.	<i>Tač-Ċawla. Cattle fusion data.</i>	714
A9.2.4.	<i>Tač-Ċawla. Pig fusion data.</i>	714
A9.2.5.	<i>Tač-Ċawla. Sheep/goat fusion data.</i>	714
A9.2.6.	<i>Tač-Ċawla. Sheep/Goat age-slaughter data based on tooth eruption and wear.</i>	715
A9.2.7.	<i>Tač-Ċawla. Cattle age-slaughter data based on tooth eruption and wear.</i>	715
A9.2.8.	<i>Tač-Ċawla. Pig age-slaughter data based on tooth eruption and wear.</i>	715
A9.2.9.	<i>Tač-Ċawla. Cattle measurements.</i>	715
A9.2.10.	<i>Tač-Ċawla. Pig measurements.</i>	715
A9.2.11.	<i>Tač-Ċawla. Sheep and Goat astragalus measure.</i>	716
A9.2.12.	<i>Tač-Ċawla. Sheep and goat astragalus measurements.</i>	716
A9.2.13.	<i>Tač-Ċawla. Sheep femur measurements.</i>	716
A9.2.14.	<i>Tač-Ċawla. Sheep and goat humerus measurements.</i>	716
A9.2.15.	<i>Tač-Ċawla. Sheep and goat metacarpal measurements.</i>	717
A9.2.16.	<i>Tač-Ċawla. Sheep and goat metatarsal measurements.</i>	717
A9.2.17.	<i>Santa Verna. Fragments and MNI distribution.</i>	717
A9.2.18.	<i>Santa Verna. Cattle fusion data.</i>	717
A9.2.19.	<i>Santa Verna. Pig fusion data.</i>	717
A9.2.20.	<i>Santa Verna. Sheep/goat fusion data.</i>	718
A9.2.21.	<i>Santa Verna Sheep astragalus measurements.</i>	718

A9.2.22.	<i>Santa Verna. Sheep humerus measurements.</i>	718
A9.2.23.	<i>Santa Verna. Sheep and Goat metacarpal measurements.</i>	718
A9.2.24.	<i>Santa Verna. Cattle measurements.</i>	718
A9.2.25.	<i>Kordin III. Fragments and MNI distribution.</i>	718
A9.2.26.	<i>Kordin III. Sheep/goat fusion data.</i>	718
A9.2.27.	<i>Kordin III. Cattle fusion data.</i>	718
A9.2.28.	<i>Kordin III. Pig fusion data.</i>	719
A9.2.29.	<i>Kordin III. Cattle measurements.</i>	719
A9.2.30.	<i>Kordin. Sheep measurements.</i>	719
A9.2.31.	<i>Kordin. Pig measurements.</i>	719
A9.2.32.	<i>Skorba. Fragments and MNI distribution.</i>	719
A9.2.33.	<i>Skorba. Cattle fusion data.</i>	719
A9.2.34.	<i>Skorba. Sheep/goat fusion data.</i>	719
A9.2.35.	<i>Skorba. Pig fusion data.</i>	720
A9.2.36.	<i>Skorba. Sheep/Goat age-slaughter data based on tooth eruption and wear.</i>	720
A9.2.37.	<i>Skorba. Bone measurements.</i>	720
A9.2.38.	<i>Ġgantija. Fragments and MNI distribution.</i>	720
A9.2.39.	<i>Ġgantija. Sheep/goat fusion data.</i>	720
A9.2.40.	<i>Ġgantija. Bone measurements.</i>	720
A9.2.41.	<i>In-Nuffara. Fragments and MNI distribution.</i>	720
A9.2.42.	<i>In Nuffara. Sheep/goat fusion data.</i>	721
A9.2.43.	<i>In Nuffara. Cattle fusion data.</i>	721
A9.2.44.	<i>In Nuffara. Bone measurements (astragalus only).</i>	721
A9.2.45.	<i>In Nuffara. Sheep/goat age-slaughter data based on tooth eruption and wear.</i>	721
A9.2.46.	<i>Dog measurements.</i>	721
A10.1.1a.	<i>Drawn ceramics.</i>	724
A10.1.1b.	<i>Counts of sherds from the FRAGSUS sites by phase.</i>	741
A10.2.1.	<i>Thin sections of Maltese prehistoric pottery.</i>	742
A10.2.2.	<i>Catalogue of thin section samples.</i>	743
A11.1.1.	<i>Worked stone artefacts.</i>	763
A11.2.1.	<i>Terracotta and shell artefacts.</i>	765
A11.3.1.	<i>Worked bone objects and tools.</i>	765
A11.4.1.	<i>Taċ-Ċawla obsidian length and source data.</i>	766
A11.5.1.	<i>Lithic counts from all sites.</i>	769
A11.5.2.	<i>Santa Verna assemblage totals – chert colours and obsidian.</i>	769
A11.5.3.	<i>Santa Verna obsidian object categories.</i>	769
A11.5.4.	<i>Kordin III chert and obsidian artefact types.</i>	769
A11.5.5.	<i>Skorba lithic categories.</i>	769
A11.5.6.	<i>Skorba chert colours.</i>	769
A11.5.7.	<i>Taċ-Ċawla artefact types obsidian and chert.</i>	769
A11.5.8.	<i>Taċ-Ċawla Chert and Obsidian flake types.</i>	769
A11.5.9.	<i>Taċ-Ċawla chert colours.</i>	769
A11.5.10.	<i>Lithics catalogue.</i>	770
A11.6.1.	<i>Description of the geological samples from the Maltese Islands.</i>	775
A11.6.2.	<i>Description of the geological samples from Sicily.</i>	776
A11.6.3.	<i>Explicatory table of the coding system for the Neolithic Maltese sites.</i>	777
A11.6.4.	<i>Macroscopic description of the chert samples collected from Malta.</i>	778
A11.6.5.	<i>Macroscopic description of the chert samples collected from Sicily.</i>	779
A11.6.6.	<i>The LA-ICP-MS analyses results of the Maltese rock samples.</i>	780
A11.6.7.	<i>Second group of the LA-ICP-MS analyses results of the Maltese rock samples.</i>	781
A11.6.8.	<i>The LA-ICP-MS analyses results of the Sicilian chert samples.</i>	782
A11.6.9.	<i>Second group of the LA-ICP-MS analyses results of the Sicilian chert samples.</i>	782
A11.6.10.	<i>Table recording the total amount of lithics found on sites.</i>	783
A11.6.11.	<i>The macroscopic description of the chert artefacts investigated from assemblages.</i>	784

A11.6.12.	<i>The macroscopic description of the chert artefacts from Skorba assemblage.</i>	797
A11.6.13.	<i>Typology and craft techniques.</i>	800
A11.6.14.	<i>The main and minor peaks of the minerals recorded with the FTIR.</i>	806
A11.6.15.	<i>The main and minor peaks of the minerals recorded with the ATR.</i>	806
A11.6.16.	<i>The LA-ICP-MS analyses results of the Xaghra Brochtorff Circle samples (BR).</i>	807
A11.6.17.	<i>The LA-ICP-MS analyses results of the Kordin samples.</i>	808
A11.6.18.	<i>The LA-ICP-MS analyses results of the Taċ-Ċawla samples.</i>	809
A11.6.19.	<i>Second group of the LA-ICP-MS analyses results of the Taċ-Ċawla samples.</i>	809
A11.6.20.	<i>The LA-ICP-MS analyses results of the Santa Verna samples.</i>	810
A11.6.21.	<i>The LA-ICP-MS analyses results of the Ġgantija samples.</i>	811
A11.6.22.	<i>The LA-ICP-MS analyses results of the Skorba samples.</i>	812
A11.6.23.	<i>Second group of the LA-ICP-MS analyses results of the Skorba.</i>	813

Dedication – in memoriam

John Davies Evans David Hilary Trump

Malta may be small in scale but it has had a rich and important archaeological past which has been explored and enjoyed by many past scholars. A visit to the Archaeology Museums of Malta and Gozo testifies to a long history of collecting, scholarship and passion dating back to the early to mid-nineteenth century. It is a heritage that is beloved by Malta and its visitors alike.

The editors of this volume wish to pay tribute to two remarkable ‘visitors’ to Malta, each of whom, in their own way, made great contributions to our present appreciation of the islands’ ancient past and supported our early researches, teams and ideas. Now we want to record our debt as some of the continuing scholars of Maltese prehistory, since we cannot imagine where we could have begun our current quest to take the story onwards and deeper without their prior work.

On behalf of the whole *FRAGSUS* team, we wish to dedicate this volume to their enduring memory.

Professor John Davies Evans (OBE) (1925–2011) arrived in Malta in 1952 from Cambridge to commence the task of organizing the war-damaged museum collections in preparation for a synthesis of Maltese prehistory. His task was enormous, and involved a new assessment of the pottery and material culture sequence of Maltese prehistory. He prepared his now classic study *The Prehistoric Antiquities of the Maltese Islands*, published in 1971, which has remained the primary compendium of reference to this day. Together with carefully targeted excavations, John Evans set in train the many questions that inspired not only David Trump, his successor, to explore and challenge the com-

plex story of Malta’s prehistoric past, but also ourselves over the last 35 years. John noted important aspects of sequence, material connectivity and, of course, the temples. These he recorded and described in such detail that his work remains vitally important today.

David Hilary Trump (OM) (1931–2016) succeeded John Evans, having already experienced Maltese prehistory in the field with him, and became the Curator of the Museum of Archaeology for five years until 1963. In that short time, he too made an enormous impression on the understanding of prehistoric Malta. His work at Skorba (as we discuss in Chapter 7) was inspired and informed, and it too set the direction for the future explorations of prehistory in the islands. David Trump maintained his interest in Malta throughout his career, leading regular study tours to the island and latterly, with ourselves, undertaking the sustained programme of fieldwork at the Xagħra Brochtorff Circle (1987–9). He wrote numerous books and papers on Malta’s prehistory, popular and academic; and his contribution has been widely acknowledged through museum displays, the award of the Order of Merit of Malta and an Honorary Degree from the University of Malta for which he felt hugely honoured. But back in the United Kingdom, from whence both these scholars came, there has been less mention of their work on Malta. Evans moved eastwards to Crete in his research interests, and has been identified mainly with that work; whilst Trump, a retiring and extremely modest individual, did not promote his achievements on Malta during his teaching years at Cambridge, which was arguably too theoretical to fully appreciate his remarkable contribution.



Figure 0.1. *David Trump and John Evans together at the Deya Conference, Mallorca (c. 1983) (reproduced with permission of Judith Conway, niece of John Evans).*

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All archaeological excavations described in this volume were carried out using standard methods, in accordance with the policies of the SCH, in particular the guidance given in the document *Operating Procedures and Standards for Archaeology Services – February 2013*. Permits to enable excavation, survey, sampling and study were granted through the SCH and we are especially grateful to Anthony Pace and Nathaniel Cutajar for their unstinting efforts to ensure fieldwork was enabled.

Tač-Ċawla

The Tač-Ċawla excavations were directed by Prof. Caroline Malone, and the crew consisted primarily of students and staff from UoC, UM and QUB, supervised by Stephen Armstrong, Jeremy Bennett and Conor McAdams, with additional supervision from Dr Simon Stoddart, Dr Sara Boyle and Dr Emily Murray. We are also very grateful for Dr George Azzopardi who sought out accommodation for the project, assisted on

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Santa Verna

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Ġgantija

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We thank especially HM and its staff on Gozo, who enabled access and provided much assistance at this busy World Heritage Site (the most visited ancient site in the islands), namely George Azzopardi, Daphne M Sant Caruana and Nicolene Sagona.

Kordin III

The excavations were directed jointly by Prof. Caroline Malone and Prof. Nicholas Vella, assisted by Dr Reuben Grima, Dr Rowan McLaughlin, Ella Samut-Tagliaferro and Dr Simon Stoddart. The crew consisted mainly of students from UM, who participated as part of their annual training excavation. They were supervised by Jeremy Bennett, Dr Catriona Brogan, Rebecca Farrugia, Dr Reuben Grima, Tore Lumsdalen and Eóin Parkinson. Flotation of soil samples was undertaken by Dr

Evan Hill. Digital laser scanning was undertaken by John Meneely and Jeremy Bennett. We also acknowledge the kind assistance of Fondazzjoni Wirt Artna, the Malta Heritage Trust, who granted access to the site.

Skorba

The excavations were directed by Prof. Caroline Malone and Dr Rowan McLaughlin, who were assisted by Stephen Armstrong, Jeremy Bennett, Dr Catriona Brogan, Emma Hannah and Eóin Parkinson. OSL profiling and geoarchaeological sampling was performed by Prof. Charles French, Dr Timothy Kinaird (University of St Andrews), Dr Simon Stoddart and Dr Sean Taylor. The site was laser scanned by Jeremy Bennett. We thank HM for enabling access to the site and Dr Josef Caruana and Katya Stroud for supporting the work.

In-Nuffara

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Post-excavation

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Permits and access

The *FRAGSUS* team is very grateful to the heritage bodies of Malta, namely HM and the SCH and their officers, who enabled access to sites and provided the

permissions and opportunities to study the buried archaeology. It cannot be over-emphasized just how privileged the *Project* has been in having access to excavate and examine the exceptional sites of prehistoric Malta. Not only is the entire category ‘Maltese Temple’ protected, but most sites are also inscribed within the UNESCO World Heritage Site listing for Malta. Some readers may wonder why very small trenches and sondages were permitted at all, whilst others may query the value of small investigations. This volume presents a range of scales of study from the small to the large across prehistoric sites and assesses the value of particular data sets that have been collected. Together with Volume 1, which examines the wider landscapes and environments of early Malta, and Volume 3, which examines the bones and lives of the ancient individuals, this volume fills the middle ground – the sites themselves, and we thank all our collaborators and volunteers in this venture. In particular, we thank the willing site assistants, volunteers, surveyors, cooks and illustrators who gave their time and energy to the archaeological work, and we list them below:

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Foreword

Joseph Magro Conti

Consider, 5000 years ago you are on one of the smallest islands in the Mediterranean, which has no water sources, dependent on brief winter rain showers, shallow soil patches, with only stone, clay and salt as natural resources, perhaps a few trees and shrubs. How would you live in such environment? This second volume of the *FRAGSUS Project* (2013–18) provides readers with fresh information achieved through high quality scientific research on palaeoenvironmental analysis, radiocarbon dating, human and faunal bone studies as well as on ceramics, lithics, domestic contexts and monuments, fully addressing five main questions targeted by the project. The support of the European Research Council has been transformative in making this new knowledge about Maltese prehistory more understandable and accessible, as a reader will discover throughout this and the other two volumes.

The coming of *FRAGSUS* was a long journey. Twenty-seven years passed since I first met the main protagonists of this project, Prof. Caroline Malone and Dr Simon Stoddart. They left a long-lasting positive impression on me. I was an archaeology undergraduate at the University of Malta in 1993, under the academic guidance of Prof. Anthony Bonanno, with colleagues Nicholas Vella (now Professor, and former Head of the Archaeology Department at the University of Malta) and Dr Anthony Pace (my predecessor as Superintendent of Cultural Heritage). I was on my first archaeological research excavation by an Anglo-Maltese mission at the unique Neolithic mass burial site of the Xaghra Brochtorff Circle in Malta's sister island of Gozo. A couple of decades later I had the opportunity to participate on other research digs in Malta with Malone-Stoddart, this time as part of *FRAGSUS* at Kordin III Neolithic temples in Malta, a site about which I had long endeavoured to raise awareness for its better understanding and management.

The Temple Period is renowned for the monumental megalithic structures (presumed temples) and the associated underground mass burial places, which offer an aura about the Neolithic mindset, belief system, organisation, ritual and physical capabilities in engineering and art. But what should be further intriguing to the reader is another aspect of human life – how the early people lived? What evidence is there for this aspect from the Temple Period? Previously, such questions were largely without much evidence except sporadic discoveries of typical deposits and material culture, but which were very lacking in data to advance site prediction and environmental data collection. The very few huts so far discovered and interpreted as domestic were ephemeral and thus prone to unrecorded destruction during building construction. I was pleased to contribute my knowledge of domestic sites to the publication of the Gozo study in 2009, and delighted to write this Foreword. This work records the next stages of discovery of the inhabitation record of the Maltese islands, most notably at Taċ-Ċawla, a site preserved from development by the action of the Superintendence.

In the past fifty years, the Maltese Islands have undergone successive building booms, each significantly endangering Malta's historic environment. In my quest as an applied archaeologist/heritage manager for over two decades at the Planning Authority and for the past two years as Superintendent of Cultural Heritage, I have endeavoured to collaborate with disparate stakeholders to save or mitigate impacts on the fragile remains of the past, and to raise awareness. The findings from *FRAGSUS* will be an especially useful source of information for policy makers, heritage managers, regulatory agencies and conservation scientists in their quest to preserve and understand Malta's past. The study enables them to make informed decisions about future human impacts on the archaeological heritage, mainly caused by



Figure 0.2. *Joseph Magro Conti at Kordin.*

building development on the small island environment and its island society and economy.

This volume is a seminal interdisciplinary study, not only for Maltese prehistory but also a milestone

in world prehistory more generally. As prehistory pre-dates the invention of writing, the approach of *FRAGSUS*'s research agenda turns archaeo-environmental data into 'words' by digging deep into the embryonic matrix of garden soils on which the temples builders sustained themselves. The project can now explain queries about this sustainability, a theme that is still relevant to modern generations. With the use of multidisciplinary and multinational teams of specialists, the study placed innovative scientific approaches at the fore, and addressed silent aspects that go beyond the traditional art-historical basics of Grand Traditions. The investigations into the core essence of life five millennia ago belong to new scientific approaches.

The *FRAGSUS Project* has addressed lacunae and used unconventional approaches in theory and method to obtain robust scientifically-backed results that have filled in significant gaps in the research agenda of Maltese prehistory and beyond. Equally, the results have surely raised many questions for future research agendas. I look forward to further collaboration, and I am eager to see more collaborative projects between Maltese veterans and upcoming academics and our overseas colleagues.

Joseph Magro Conti
Superintendent of Cultural Heritage, Malta
September 2020

Chapter 8

In-Nuffara

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Charles French, Rowan McLaughlin, Eóin W. Parkinson,
Simon Stoddart & Caroline Malone

8.1. Introduction

The excavations at In-Nuffara,¹ Gozo, were undertaken as part of the ERC funded *FRAGSUS Project*.² In 2015, work focused on the excavation of two Bronze silo pits located on the southeastern aspect of the plateau identified over the course of survey work in 2014. The plateau had formed a substantial, naturally defended Bronze Age hilltop settlement with steep sheer rock sides around much of its perimeter. The goal of the 2015 fieldwork was to address some of the *FRAGSUS* questions relating to the end of the Temple Period that could explore how landscape, culture and economy changed in the second millennium BC. Our aim was to excavate, record and sample sealed archaeological deposits for radiocarbon dating, zooarchaeological, palaeobotanical and geoarchaeological analyses. Such material had the potential to illuminate the chronology and economy of these poorly known aspects of the Maltese Bronze Age, as well as give context to the broader environmental changes of Malta after the end of the third millennium BC.

The Maltese Bronze Age has suffered from a lack of recent systematic fresh archaeological research, given that the major sites for the period at Borg in-Nadur (Murray 1923, 1925, 1929; Vella 2015; but see Tanasi & Vella 2011) and Baħrija (Evans 1971; Peet 1910; Trump 1961) were last substantially excavated over half a century ago, before routine scientific sampling and dating were possible. In this respect, the data retrieved from the 2015 excavations on In-Nuffara have yielded important insights into the diet, economy and landscape of the Bronze Age settlement, an aspect that could not be considered during the 1960 excavations at In-Nuffara (Evans 1971). The information obtained from In-Nuffara also provides important context for post-Temple Period Malta and enables a more nuanced understanding of changes within the Maltese environment and economy over the course of prehistory (§8.4.1,

Excavation rationale). This understanding links with the broader environmental changes that are recorded and discussed in Volume 1 of the Project, and with our discussions of the role of Malta within the central Mediterranean area in later prehistoric times.

8.2. The site

8.2.1. Location and physical setting

In-Nuffara is a small uninhabited plateau located approximately 1 km southeast of the Xagħra Plateau, overlooking the Ramla Valley to the north and the central plain of Gozo to the south (Fig. 8.1). Rising steeply from the surrounding countryside, the plateau of In-Nuffara forms a prominent feature within the local landscape (Fig. 8.2). From the summit there are extensive views of the surrounding countryside as well as clear views of the sea and the neighbouring islands of Comino and Malta. The northern side of the plateau looks out across the Ramla Valley towards the southern slopes of the Xagħra Plateau and the prehistoric temple of Ġgantija (Volume 1, Chapter 5). The physical location of the Bronze Age settlement at In-Nuffara, on a mesa plateau, conforms to the broader shift to naturally defended locations that were chosen for other Bronze Age settlements on the Maltese Islands (Volume 1, Chapters 6–7) and the wider southern-central Mediterranean (Terranova 2015; Vidal González 1998).

The In-Nuffara Plateau is formed from Upper Coralline Limestone, which itself is undergoing a process of fissuring and collapse, especially along its eastern border, while the lower ground surrounding the plateau is composed of Blue Clay. The soils on the plateau today tend to be very thin and eroded, mainly comprised of carbonate raw soils derived from weathered Globigerina Limestone. These immature soils tend to have a very low organic content, making them unsuitable for agricultural purposes (Vella 2001). The soils may not have been so eroded in the past, if



Figure 8.1. Location map of In-Nuffara.

we draw analogy with the well-developed pre-temple soils at Ġgantija and Santa Verna on the northern side of the Ramla valley (Volume 1, Chapter 5). The soils on the surrounding clay slopes of the plateau are formed of soils from the L-Inglin series (Lang 1960) and today are heavily terraced. The 2015 excavation site is situated in the southeastern corner of the plateau at an altitude of approximately 139 m, at grid reference UTM 33S 434635E 3988925N (or 36.230° N, 14.1624° E on the WGS84 datum).

8.2.2. History of the site

There is little of archaeological interest to be seen on the present surface of In-Nuffara, and few traces of human activity, save for a scatter of modern walls, hunting hides (low stone walled enclosures) and bird traps across the plateau. Today, the plateau is isolated and barren, with a thin covering of garrigue scrub and large areas of exposed rock. Despite the apparent lack of resources, the plateau evidently supported a substantial Bronze Age settlement, although most surface traces of the settlement have disappeared as a result of aggressive surface erosion and destruction. The settlement evidence survives most substantially in rock-cut surface features and bell-shaped rock-cut pits. The rock-cut pits on In-Nuffara were first reported by L. Gravina, who noted concentrations of Borg in-Nadur pottery and bell-shaped pits cut directly into the hard



Figure 8.2. View of In-Nuffara mesa and the Ramla Valley below, taken from the northwest of the plateau, from the direction of Ġgantija temples.

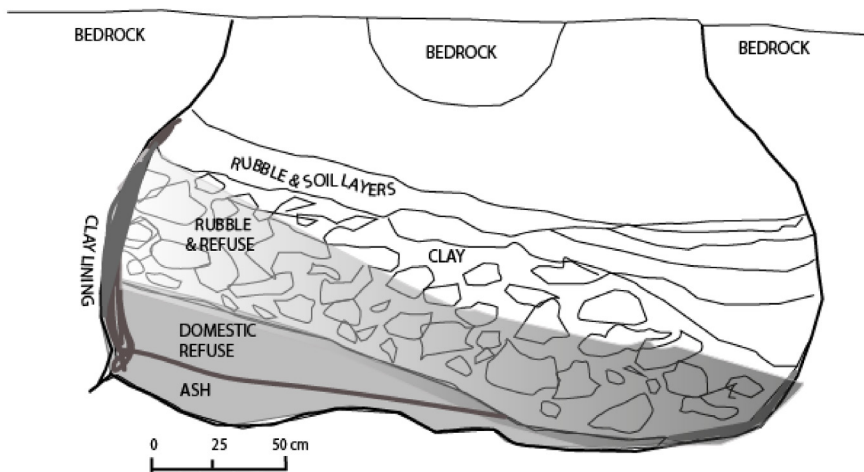


Figure 8.3. Sketch of a vertical section of two adjoining silo pits from Attard-Tabone and Trump's 1960 excavation at In-Nuffara, redrawn from Trump's notebooks.

Upper Coralline Limestone (Evans 1971, 171). In total, fifteen rock-cut pits have been located on the plateau, although the presence of partially eroded pits along the cliff edge of the plateau raises the possibility that others have been already lost. Clusters of bell-shaped rock-cut pits are commonplace throughout the Maltese Islands, often found in naturally defended locations, and are generally interpreted as either grain silos or water cisterns associated with Bronze Age defended settlements (Evans 1971, 200–1). Elsewhere on Gozo, c. 100 rock-cut pits were found on the Gozo Ċittadella in Rabat in 1860, constituting evidence for a second substantial Bronze Age settlement nearby (Bonanno 1986; Volume 1 Chapter 7), and more have come to light during recent renovation works. On Malta, clusters of bell-shaped rock-cut pits are known at several sites, such as at Wardija Ta' San Ġorġ, St. George's Bay and il-Qlejgħa tal-Baħrija (Cardona & Zammit 2015; Evans 1971).

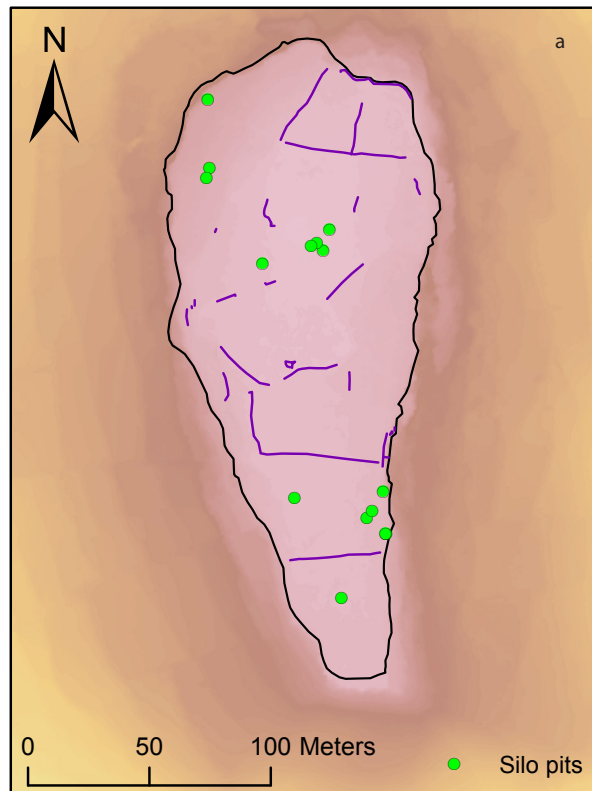
In-Nuffara was first investigated archaeologically by Joseph Attard-Tabone and David Trump in 1960 (Trump 1972, 153), when they excavated a rock-cut pit with a double aperture. A section drawing of the pit by Trump shows that they discovered four distinct layers during the excavation (Fig. 8.3). At the base of the silo there was a clay lining lay beneath a grey 'ashy' deposit, believed to contain grains of cereal. This was covered by a midden layer of domestic refuse containing quantities of Bronze Age ceramics. Over this lay the final layer which represented several episodes of silting, clay, refuse and rubble. According to the excavation notes, Attard-Tabone and Trump interpreted the rock-cut feature as a grain silo, rather than as a water cistern. This was partially based on the discovery of cereal grains within the deposits, but they also believed that the natural crevices within the bedrock would have made it unsuitable for the retention of water. The

excavators concluded that the pit's function changed from a grain silo to a refuse pit during the Middle to Late Bronze Age Borġ in-Nadur phase (c. 1500–750 bc) on the basis of ceramic evidence from the midden layer. Yet, the precise date of this transition remained unknown. Some of the notable finds, as well as the section drawing, from the Attard-Trump excavation are displayed in the Casa Bondi Museum (Rabat, Gozo) including several complete or near complete ceramic pots, spindle whorls, clay anchors, and a bell-shaped lid with triple handle of Sicilian Pantalica North type (Vella *et al.* 2011).

8.3. Surface survey

In 2014 and 2015, the FRAGSUS Project conducted a Global Navigation Satellite System (GNSS) survey of the plateau to record the archaeological features and identify potential areas for future excavation. All possible anthropological and archaeological features were recorded, including modern bird-traps, hides, pottery concentrations and all rock-cut features. Particular importance was placed on locating all rock-cut silo pits that might contain intact archaeological deposits relating to Bronze Age activity on the plateau (Fig. 8.4).

The survey of the steep slopes surrounding In-Nuffara was of limited success. The unavailability of real-time GNSS on the Maltese Islands resulted in survey readings that were only accurate to within several metres. Furthermore, confident identification of rock-cut pits along the highly eroded and fissured cliff face of the plateau-top was difficult. The survey was also inhibited by the density of vegetation growing on the slopes. This made access to potential features challenging, although a selection of rock-cut features were identified (Fig. 8.5). The survey of the surrounding slopes also highlighted the fragile and



eroding nature of the archaeological features on the plateau. The survey of the plateau recorded 15 rock-cut silo pits including two adjacent pits suitable for archaeological prospection (Fig. 8.4). The location of each silo was recorded using the GNSS receiver in uncorrected mode. The survey also identified and recorded a spring line at the foot of the hill that was situated within private gardens.

8.4. The 2015 excavations

8.4.1. Excavation rationale

Excavation at In-Nuffara fulfilled the *FRAGSUS Project* goal to sample contexts covering a wide chronological range of Maltese prehistory. The work ensured that material representing the later Bronze Age palaeo-economic environment was captured to construct a more robust understanding of landscape and economic changes after the Temple Culture phase. A pair of adjacent and apparently intact rock-cut silo pits located on the southeastern aspect of the In-Nuffara Plateau were chosen for excavation. One major benefit of excavating the rock-cut pits is that archaeological deposits are generally sealed and protected from erosion, in contrast to deposits situated on the plateau surface. The

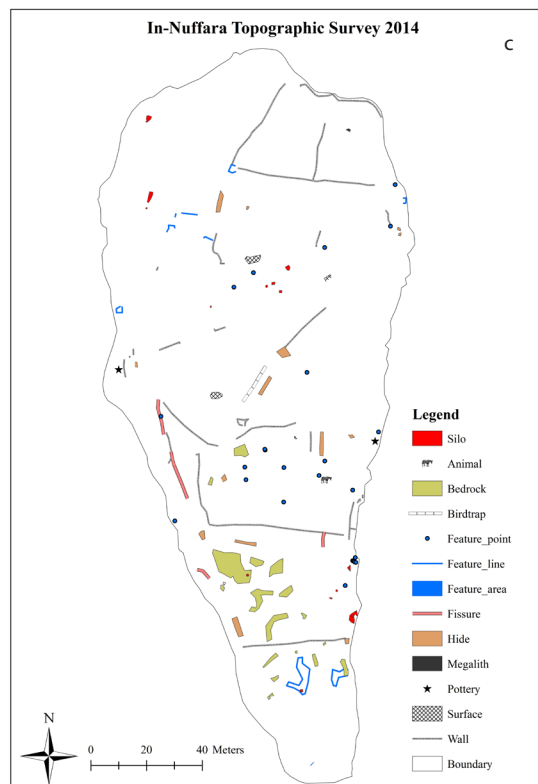
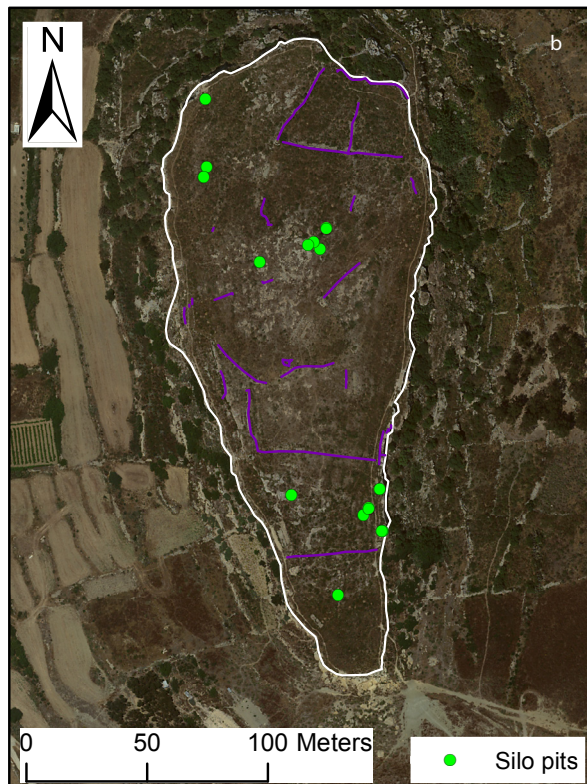


Figure 8.4. a) Orthographic imagery of In-Nuffara; b) LiDAR-derived Digital Terrain Model (DTM) map of the site; c) Topographic features recorded through survey and remote sensing in 2014–15.



Figure 8.5. *The remains of a partially eroded rock-cut pit along the limestone cliff-face.*

excavations of Bronze Age pits at In-Nuffara aimed to retrieve environmental data in the form of pollen, faunal and plant remains by extracting soil samples. A second goal was the retrieval of material suitable for radiocarbon dating, which, when combined with the associated ceramic record that was likely to be in the deposits, would enable a greater refinement of Maltese Bronze Age chronology; a period that spans over 1000 years but lacked detailed radiocarbon dating (Chapter 2).

8.4.2. Methodology and personnel

The excavation at In-Nuffara took place from 15 March to 3 April 2015 and was granted a permit from the Superintendence of Cultural Heritage (SCH). This permit enabled a trench measuring 6×4 sq. m to be set out around the openings of two rock-cut pits identified during the 2014 survey. A local site grid was established using a Total Station and which was later aligned to the UTM grid using differential GNSS.

Following the clearance of topsoil within the trench and the recording of a number of small rock-cut features on the surface of the bedrock, work commenced on excavation of the pits themselves. In each pit, the uppermost fills were removed until there was enough working room to create a half section. The sections

were continued to the base of each pit and recorded. All of the fills were dry-sieved on site for finds, except for bulk samples of soil taken for environmental data, which were subsequently wet-sieved by flotation off-site. A total of 53 10 litre soil samples were taken, at least one from every context from within the two pits, and many more samples were taken from the intact Bronze Age contexts. Each context was sub-sampled for palaeobotanical or geoarchaeological analysis, and ascribed a hue using Munsell colour designation. In addition, three soil micromorphology samples and four pollen column samples for palaeoecological analysis were collected. Five organic samples were submitted for radiocarbon dating (three cereal grains, a legume a fragment of charcoal) and successfully dated. Soil samples were also taken for OSL dating but were not processed as the radiocarbon evidence provided adequate chronological precision.

The excavated pits, and several others known to exist around the plateau, were surveyed using Ground Penetrating Radar (GPR), and these provided baseline data for future explorations of pit and feature locations where there was no surface indications of such features. The bedrock features around the openings of the excavated pits were planned using the Total Station in reflectorless mode. Structure from Motion (SfM) photogrammetry was undertaken at several points during the excavation by Robert Barratt (Cambridge Archaeological Unit – CAU) and Donald Horne (CAU), enabling accurate recording and visualization of the pits and their intact archaeological deposits in section. A post-excavation 3-D laser scan of the rock-cut surface features and both silo pits was also undertaken by John Meneely (Queen’s University Belfast) (Fig. 8.7).

8.4.3. Results

8.4.3.1. Rock-cut surface features

The removal of topsoil layers revealed a number of small features cut into the bedrock surrounding the entrances to the pits (Figs. 8.6, 8.7 & 8.8). In total, there were ten cuts within the 6×4 m trench, representing the two pits, natural fissures, possible postholes, and a number of short rectangular cuts. All the fills of the rectangular cuts were treated as equivalent to topsoil since they gave no indication of their function or date. Many of the cuts and shapes in the bedrock appear to respect the pit entrances and were probably contemporary or slightly later in date.

8.4.3.2. Silo 1

The rock-cut pit to the south was named ‘Silo 1’ and assigned context number Cut [12]. Its capstone was found intact above the silo entrance. The pit was about

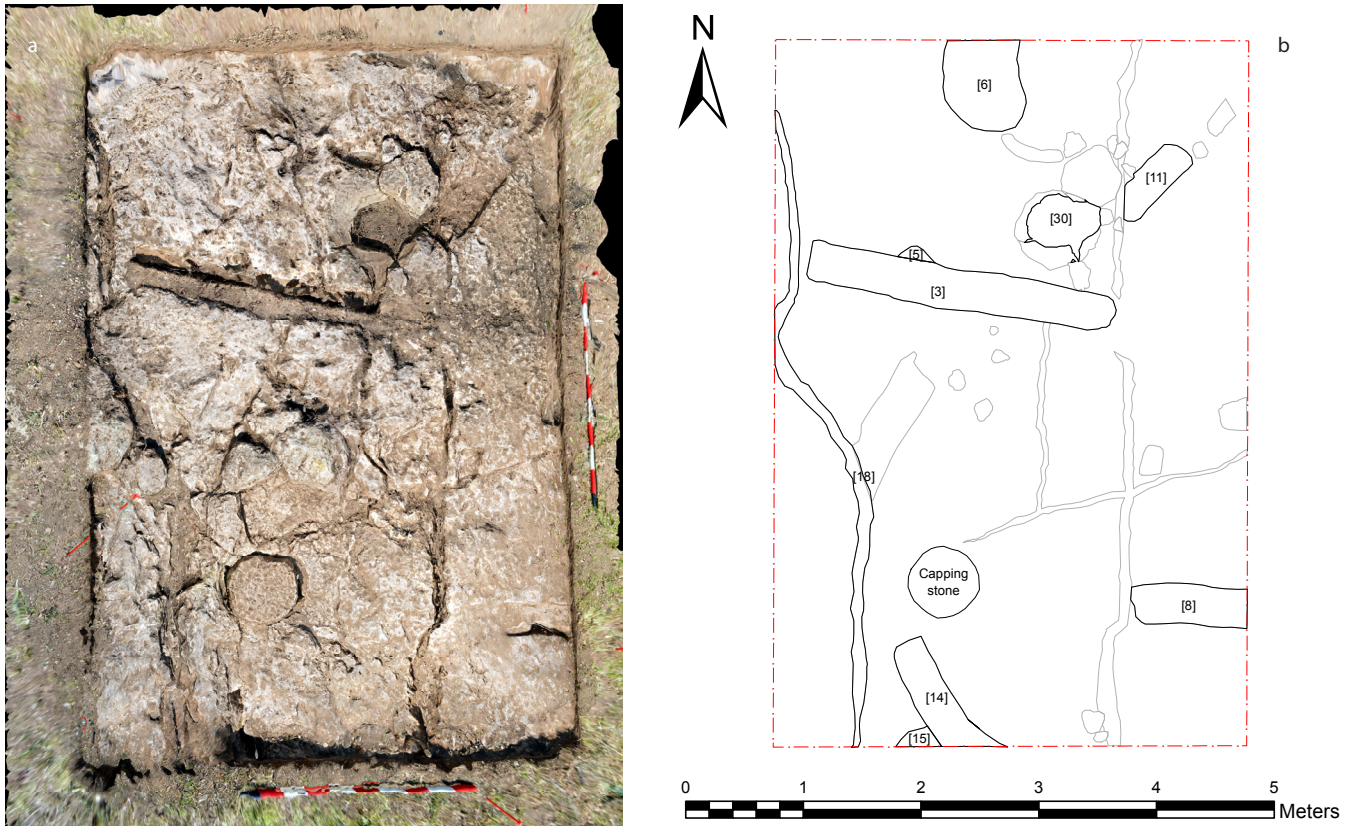


Figure 8.6. a) Structure from Motion orthograph and plan of the trench showing the position of the rock-cut gully features and rock-cut pits (Silo 1 is represented by the in situ capping stone and Silo 2 is represented by Cut [30]); b) plan of trench.



Figure 8.7. Photograph of the trench after removal of the topsoil. The opening Silo 2 can be seen in the mid-left of the photo, while the intact capstone of Silo 1 is visible towards the rear of the trench. Also visible are a number of rock-cut gullies.

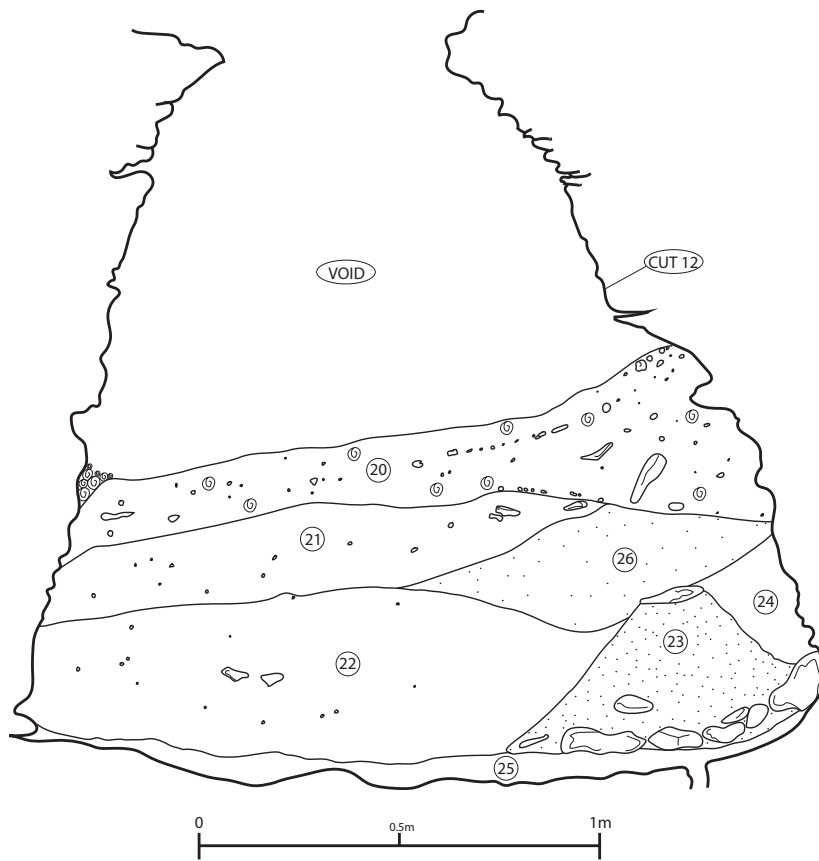


Figure 8.8. North-facing half section of the archaeological deposits within silo 1 (Cut [12]).



Figure 8.9. Photographs of the in situ capstone of Silo 1 following the removal of topsoil.

2 m deep and, at its widest point, about 2 m across and contained seven contexts (Fig. 8.8, Silo 1). Context (25), a clay layer approximately 8 cm deep, was formed against the base and sides of the pit. Context (23), a layer of silt c. 42 cm deep containing large amounts of pea grit and medium-sized limestone rocks, lay on top of Context (25). Micromorphological analysis of this context suggested that this was a fine sandy/silty clay loam soil material derived from the ambient soil on the plateau, exhibiting similarity with the pre-temple buried soil at Ġgantija (Volume 1, Chapter 5). This was covered by friable silts Layers (22) and (24) most probably derived from wind-blow and rain splash. Context (22) was c. 45 cm deep and was considered to be an intact archaeological layer that contained a Roman amphora sherd. Context (24) was 33 cm in depth and contained Borg in-Nadur phase pottery. Context (26), a 31 cm thick layer of friable silt with frequent inclusions of pea grit was above Layers (22) and (24), although it was restricted to the western half of the pit. The next deposit, Context (21), contained slightly larger gravel as well as sherds of medieval

pottery and modern material, including plastic, and was 24 cm deep. The uppermost fill was Context (20), was a thick silty deposit c. 44 cm deep, which contained slightly smaller gravels than (21). Context (20) also contained medieval pottery, a large number of snail shells and was contaminated by topsoil. There was a void of approximately one metre height between the uppermost fill and the entrance hole of the pit, which was blocked with an apparently intact capstone (Figs. 8.9 & 8.10).

8.4.3.3. Silo 2

'Silo 2' to the north of 'Silo 1' was assigned the cut number [30]. Silo 2 was unsealed and measured approximately 2 m deep by 2 m at its widest point. Unlike 'Silo 1', and although it was unsealed by a capstone, this pit contained a greater quantity of material and intact archaeological deposits, with a total of 16 separate stratigraphic contexts (Figs. 8.11 & 8.12).

At the very base of the pit, there were three crevices or fissures in the bedrock, orientated east-west. On closer inspection, a quantity of soil, Context (46),

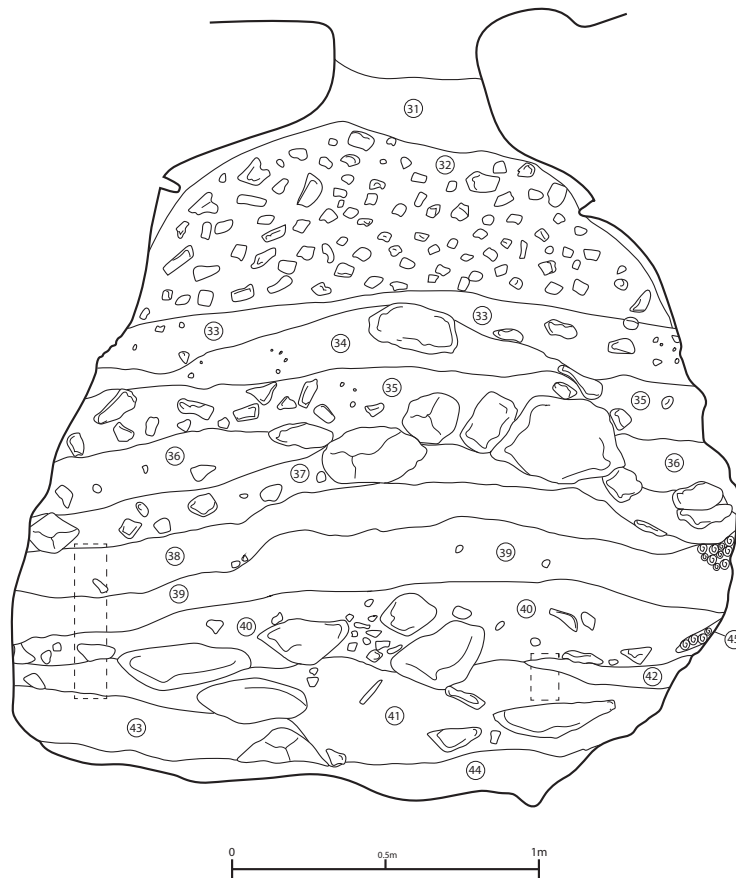


Figure 8.10. North-facing half section of the archaeological deposits within Silo 2 (Cut [30]).

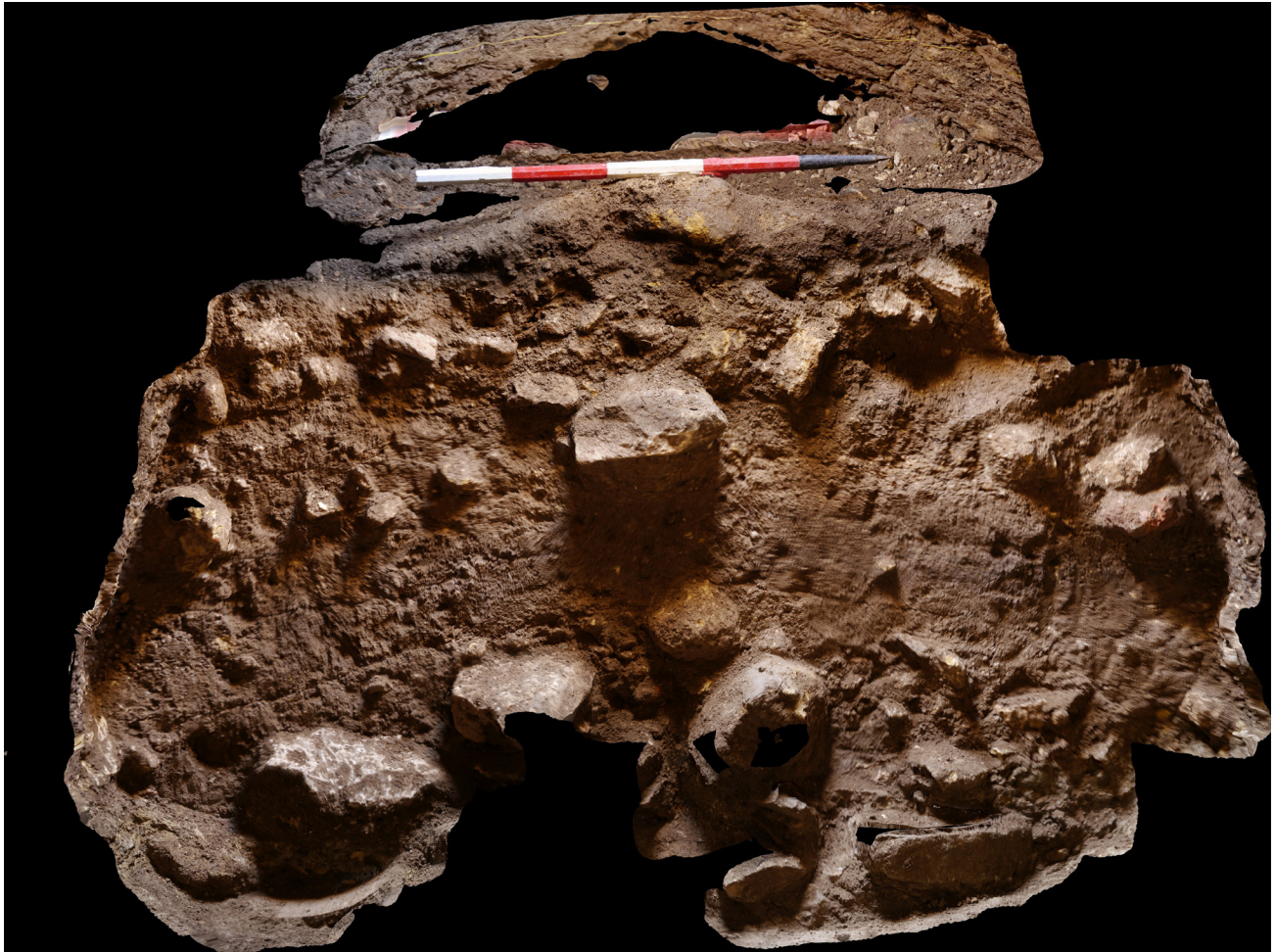


Figure 8.11. Structure from Motion model of the half sectioned archaeological deposits within Silo 2 (Cut [30]).

was found trapped within one of the crevices. This soil was partially removed and, although much more soil had slipped further down into the fissure, enough was gathered for a pollen sample (Sample #53) (see detailed palynological report in Appendix A8.3). This was dominated by *Lactuceae*, an indicator of pastoral vegetation (Volume 1, Chapter 3). A few small sherds of undiagnostic prehistoric pottery were also recovered from this context. These fissures were sealed by Context (44), a clay lining that covered the entire base of the pit to a depth of about 10 cm. Approximately 90 per cent of this lining was bulk sampled (Sample # 51). Although relatively sterile, some charcoal was found in the sample, as was a small quantity of undiagnostic pottery. Above the clay lining, Context (43) formed a 17 cm deep layer of pale green-grey compacted clay with frequent pale-yellow silt inclusions and a small proportion of midden material. Context (43) produced two samples suitable for AMS radiocarbon dating, a charred *Fabaceae* seed dated to 1117–926 cal. BC

(UBA-31032, 2856±32 BP) and a fragment of *vesicular cerealia* that was dated to 1260–1002 cal. BC (UBA-31031, 2924±43 BP). These dates place this layer within the Late Bronze Age. This deposit, which was presumably also derived from the lining material, had only been preserved because of the thick layer of midden material, Context (41), which had been added on top of it. Context (41) formed a friable, silt loam about 35 cm deep, and contained a large amount of domestic refuse, including broken pottery and a large amount of animal bone. The pottery, dating from the Borg in-Nadur phase, ranged from small pieces of delicate pot, including one nearly complete juglet (similar to Evans 1971, Fig. 40: 8) found upturned at the bottom of the context (Chapter 10), to large thick pieces of huge storage vessels. Two dating samples from Context (41) were submitted for AMS radiocarbon dating which yielded dates spanning the Middle-Late Bronze Age. A charred *Hordeum* grain was dated to 1207–948 cal. BC (UBA-31033, 2890±36 BP) and a charred grain of *Triticum* was dated to 1412–1234

cal. BC (UBA-31034, 3065 ± 30 BP). Additional finds from Context (41) were a spindle whorl, a selection of oddly shaped stones, which may represent grindstones or querns, two potential capstone fragments and a possible structural stone (Chapter 10).

Context (42), identified along the northern edge of the pit above Context (41), was a pale green-grey compact clay with silt inclusions, and appears to represent a layer of collapsed lining from the pit's walls. Context (40), a moderately firm clay silt with frequent medium and large stones, with a depth of 36 cm, overlay both contexts (41) and (42). Both contexts (40) and (41) were very similar in composition, containing both pottery and bone, although it was noted that the pottery sherds in the upper deposit (40) were more abraded and weathered than those in the lower Context (41). The pottery was of later Bronze Age style, although one of the sherds was from a Punic period bowl. Context (45) was found around the edges of the pit, encircling (40), and contained a particularly high concentration of snail shells. A similar layer, Context (39), overlay (40), and comprised a moderately firm dark brown clay silt, around 21 cm deep. As with the preceding Context (40), this appeared to be another midden layer that was rich in Bronze Age pottery, but with two probable Punic or Roman sherds. Another band of snails, at the edge of the silo walls, c. 15 cm wide and 12 cm deep, surrounded this context. This deposit was overlain by Context (38), a moderately firm clay silt, with occasional stones. This layer contained mainly Borg in-Nadur phase pottery, as well as the rim of a Roman 'crisp' ware cup and two well-fired Roman sherds.

Context (37) overlay Context (38) as a loose stony 19 cm deep deposit. Context (37) contained a substantial amount of medium and large sized stones that, upon their removal, were found only just to fit through the entrance of the pit, and had been intentionally forced into the silo. Pottery from this layer was predominately from the Borg In-Nadur phase, although it also contained wheel turned Punic

ceramics and post-medieval Knights Period sherds, including a neck fragment of a red-slip amphora. The next layer, Context (36), was a sandy silt containing medium-to-large stones. Finds from this layer included a possible capstone, discovered lying in the bottom of the layer, near the interface with Context (37) and a diverse collection of ceramics. Amongst the pottery identified from Context (36) were 'Crisp' ware of Punic or Roman date, one sherd of a Late Roman corrugated amphora, one large piece of a ring-based bowl with green glaze dating to the medieval period and one sherd of Knights Period red-slip ware. This was covered by Context (35), a clay silt containing medieval glazed pottery. The following Context (34), was also a clay silt with a number of limestone inclusions measuring >50 cm in diameter and containing medieval glazed pottery. This was covered by a silt Context (33) with occasional stone inclusions and a mixture of modern material, including glass and iron, as well as Roman and medieval ceramics. Above this was Context (32) composed of compacted small to medium sized stones (typically up to 0.4 m in diameter), mixed with fine-grained sediments. The stones were unrolled and unweathered and contrasted with the rare and highly abraded ceramic finds. The uppermost layer of this pit, Context (32), was a topsoil-derived silt, comprising stony deposits and bioturbation.

8.4.4. Geoarchaeological report

Analysis of soil geomorphology was undertaken on selected pit fills by Prof. Charles French (University of Cambridge). The excavations on the Upper Coralline Limestone plateau of In-Nuffara revealed a number of primary/lower secondary fills composed with what appeared to be soil-like material (Figs. 8.9 & 8.11). Given the otherwise severe denudation of the topsoil over this plateau, the silo deposits presented an ideal opportunity to sample for micromorphological analysis. Accordingly, four soil blocks (samples 17, 40, 503, 509) were taken from the two pits and were prepared for thin section analysis (Appendix A8.6).



Figure 8.12. Spindle whorls recovered from Silo 2 (Cut[30]).

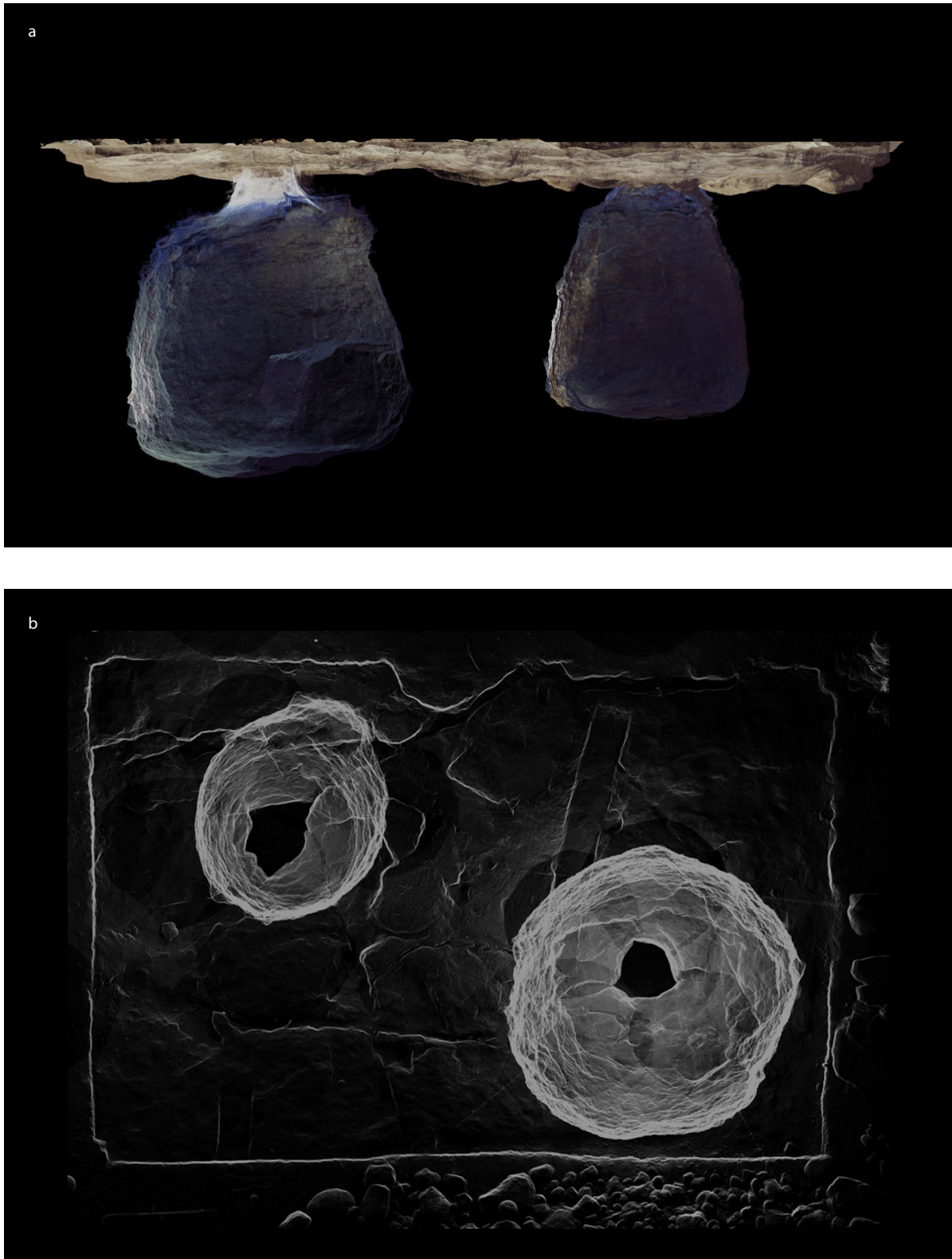


Figure 8.13. *a) 3-D laser scan section of ‘Silo 1’ (left) and ‘Silo 2’ (right), illustrating their ‘bell-shaped’ morphology; b) 3-D laser scan of the silos showing them in plan. The difference in volume can clearly be seen between Silo 1’ on the left and ‘Silo 2’.*

8.5. Discussion

8.5.1. The Bronze Age settlement at In-Nuffara and contemporary use of the rock-cut pit

The years of natural erosion and anthropogenic activity have left few traces of the Bronze Age settlement on In-Nuffara, and thus it is difficult to draw conclusions about the size or complexity of the settlement. On the surface of the plateau, the only surviving indicators were two concentrations of Bronze Age pottery and a number of shallow rock-cut features, whilst the 2014–15 site survey revealed more extensive subterranean evidence of settlement activity. The fifteen rock-cut silo pits recorded indicate that In-Nuffara was once a substantial settlement extending over the entire surface. Without further data, it is unclear whether each silo related to an individual dwelling or instead, was part of a collective storage facility for the hilltop community.

From the collapsed lining in the base of both pits, it is evident that the material contained within did not relate to the initial phase of settlement. It is likely that the earlier (Middle) Bronze Age deposits in the silos were removed when they were repurposed as refuse pits. Consequently, the pits inform on the later phases of Bronze Age occupation on the plateau. The ceramic assemblages and radiocarbon dates from the lower deposits of ‘Silo 2’ produced Middle-Late Bronze Age dates. In particular, the five AMS radiocarbon dates retrieved from Silo 2 place the settlement at 1412–895 cal. bc, spanning the Middle-Late Bronze Age Borg in-Nadur phase (II B2-II B3), according to Tanasi and Vella’s (2011) chrono-cultural scheme.

The position of In-Nuffara, atop a steep sided plateau with commanding views of the surrounding countryside, is typical of several second millennium bc Bronze Age settlement sites on the Maltese Islands. These naturally defended locations were enhanced by the construction of additional defences, as seen at the Borg in-Nadur type-site (Fig. 13.2) (Terranova 2015; Vidal González 1998), with the situation on the Maltese Islands following a trend noted throughout

the southern-central Mediterranean Bronze Age. Similar shifts towards nucleated settlement appear to have occurred throughout the second millennium bc in Sicily (Leighton 2005), but are most notable on the Aeolian Islands, where settlement shifted to naturally defended elevated locations and promontories (Bernabò Brea & Cavalier 1960, 1991; Martinelli *et al.* 2010). The emergence of fortified settlements in the mid-second millennium bc also occurred in southern peninsular Italy, as at Coppa Nevigata (Cazzella *et al.* 2012) and Roca Vecchia (Pagliara *et al.* 2017); on the Tyrrhenian Islands; in the Sardinian Nuraghic complexes (Melis 2017); and the mountaintop Torre of southern Corsica (Peché-Quilichini & Cesari 2017).

The presence of silo pits and large ceramic storage vessels at In-Nuffara and other Maltese Bronze sites indicates that the shift to defended and nucleated settlement was contemporaneous and closely related to major economic changes in the organization, management, storage and distribution of food resources. These economic shifts were common in other Bronze Age Mediterranean contexts. They were arguably employed as a display of power, perhaps related to the control and management of territory and its associated resources, whilst also reinforcing the appearance of strength and control (Trump 2008; Vidal González 1998), rather than responding to a genuine need for defence (Sollars 2005).

The location of In-Nuffara also reflects the trend on Malta in the Middle-Late Bronze Age to occupy more marginal areas, set away from productive soils (Boyle 2013, 346–8). Whilst it is not possible to tell from the pollen evidence if any cultivation was practised on or near, the plateau, relatively intense pastoral activity was active within the wider landscape (Volume 1, Chapters 3 & 5). Faunal assemblages from In-Nuffara and the Temple Period sites reported on in this volume also suggest that the pattern of animal husbandry did not significantly change over the course of Maltese prehistory, with an overall reliance on ovicaprids that were best adapted to the dry conditions (Malone *et al.* 2019; Chapter 9).

Table 8.1. AMS dates from In-Nuffara.

ID	BP	Error	Material	Phase	Context	Calibrated date bc (95% CI)	Details
UBA-31034	3065	30	<i>Triticum cf. aestivum/durum/turgidum</i>	Borg in-Nadur	41	1412–1234	Midden material
UBA-31031	2924	43	vesicular cerealia fragment	Borg in-Nadur	43	1260–1002	Midden material mixed with collapsed clay lining
UBA-31033	2890	36	<i>Hordeum</i>	Borg in-Nadur	41	1207–948	Midden material
UBA-31032	2856	32	Fabaceae (possibly <i>Pisum</i>)	Borg in-Nadur	43	1117–926	Midden material mixed with collapsed clay lining
UBA-33024	2824	39	Charcoal	Borg in-Nadur	44	1110–850	Date of clay lining

The micromorphological evidence from Silo 1 suggests that the soils on the plateau had once been much better developed and more similar to those observed in pre-late Neolithic contexts on the Xagħra Plateau. During the earlier Holocene, prior to the establishment of the Bronze Age settlement, the plateau was well vegetated with greater soil cover. The Later Bronze Age fills from the silos show evidence for drying soils and decreased vegetation, echoing a similar process of transformation seen between the Early Neolithic and Temple Period (French *et al.* 2018). This evidence demonstrates the adverse impact of anthropogenic activity on In-Nuffara in late prehistory, and the erosion over centuries has left few traces of the Bronze Age settlement.

The recovery of five loom weights and three spindle whorls (see also Fig. 11.4) from within Silo 2 also indicates that textile manufacturing was practised on the plateau during the second millennium BC (Fig. 8.13). This would have drawn the Maltese Islands into the wider orbit of contemporary textile production and craft specialization typical of the period in the central Mediterranean (Bazzanella 2012; Gleba 2014, 2017). Loom weights have been found at other Bronze Age sites (Evans 1971; Sagona 1999, 2015), and fragments of actual textiles and spindle whorls are well documented from the early second millennium BC Tarxien Cemetery cremation burials at Tarxien. Some scholars have debated whether Malta may have supplied textiles to Sicily during the Borg in-Nadur phase; although it has been suggested that any trade impetus came from the Maltese because of the few identifiable imports from Sicily during this period (Leighton 1999, 208–9). Sagona (1999, 2015, 2016) has presented the hypothesis that bell-shaped pits at St. George's Bay on Malta may have been used as dying vats for the large-scale production of purple murex shell dye and the dying process of textiles during the Bronze Age. Whilst evidence for localized production of murex-dyed textiles in the Mediterranean does extend back to the early second millennium BC, large-scale Punic industrial production is thought to have occurred much later in the first millennium BC (Marín-Aguilera *et al.* 2019). There is no suggestion here that textile production at In-Nuffara was particularly associated with the silos or that murex dye was used.

Other than the silo pits, the only other discernible features of Bronze Age settlement activity on the plateau are a series of rock-cut gullies that criss-cross the bedrock around the entrance to the pits (Fig. 8.7). The possibility that the rock-cut gullies were created in the Roman period as rock-cut agricultural trenches was dismissed, given their inconsistent orientation and spatial relationship with each other, as well as

their short, shallow and narrow morphology. Similar rock-cut gullies have been found in association with other silos on the Maltese Islands, such as the Bronze Age coastal settlement of Wardija ta' San Ġorġ (Evans 1971). It is possible the rock-cut features may represent bedding trenches for structures associated with the silo pits, or as drains to control and direct the flow of surface water away from the pits.

8.5.2. *The silos and their construction*

The excavation on In-Nuffara showed that the pits were cut directly into the Upper Coralline Limestone of the plateau. 'Silo 1' had a volume of 2.9 cu. m, while 'Silo 2' was larger with a volume of 6.74 cu. m, which increases to 6.88 cu. m when the clay lining is removed (Figs. 8.14 & 8.15). Whilst they share the same basic bell-shape shape, their distinct forms suggest that the construction of each silo took advantage of the natural qualities of the limestone by utilizing natural voids within the rocks. It is also possible that the different silo shapes were designed for different functions.

The presence of capstones, both *in situ* on 'Silo 1' and within the Fill (36) of 'Silo 2', indicates that both pits were intended to be sealed in order to protect their contents. Both pits were also found to have vestiges of a clay lining, intended to seal the natural fissures in the bedrock, making the pits more suitable for storage. A sample of charcoal contained within the clay lining of 'Silo 2', Context (44), dated the construction of the silo to 1110–895 cal. BC (UBA-33024, 2824±39), the end of the Borg in-Nadur phase. Although the date from the clay lining is among the latest retrieved from the site, all radiocarbon dates display considerable overlap and reflect the turbidity of the archaeological deposits within the pit.

Although the excavation was unable to identify any *in situ* material from the pits that was directly related to their precise function, the clay lining in both pits implies they were used for storage. Bell-shaped silo pits are common across the Maltese Islands and it is generally agreed that they were originally used either as grain silos or water cisterns. Attard-Tabone and Trump's 1960 excavation on In-Nuffara noted the partially preserved clay lining and cereal grains in the lowest fills of two conjoined silos, leading them to conclude that the pits were primarily used for grain storage (Trump 1972). Similar clay lining from the 2015 excavations suggest that Silos 1 and 2 could have been sealed and made suitable for either grain or water storage. This latter interpretation is plausible given that the closest water source to the site lies at the base of the plateau, and large clay vessels could have been placed inside the silo as water storage containers, if not the clay-lined pit itself. Many of silo pits

on the Maltese Islands are found in close proximity to sources of fresh water, such as at Qlejgha, Qala Hill and Wardija ta' San Ġorġ (Trump 1972, 125, 140 and 120–1, respectively) hinting perhaps that water security may have been just one function. The association of silos with naturally defended upland or coastal settlement locations could suggest that food and drinking water security, in hidden cool subterranean pits, was a concern in second millennium BC Malta.

8.5.3. Site abandonment and later activity at In-Nuffara

The collapsed layer of clay lining found at the base of Silos 1 and 2 (Layers (23) and (43) respectively), represent the point at which both the pits fell out of use. After the collapse of the lining in 'Silo 2', it was repurposed as a refuse pit. A thick layer of material (Context (41)) derived from the settlement site on the plateau above was thrown into the pit, on top of the collapsed clay lining. Based on the pottery and radiocarbon dates of 1412–926 cal. BC (UBA-31031, UBA-31032, UBA-31033 and UBA-31034), the collapse and subsequent reuse of the silo took place during the Borg In-Nadur phase. When compared with the construction dates for the silo, the radiocarbon dates indicate the settlement only lasted a few centuries before the site was abandoned.

8.5.4. Punic, Roman and later activity at In-Nuffara

Following the abandonment of the Bronze Age settlement archaeological evidence records continuing activity at In-Nuffara. Intermittent and deliberate depositional activity added to deposit in the silos, interspersed with episodes of silting. Despite the abandonment of the settlement and the absence of evidence for later settlement activity on the plateau, the pits remained in episodic use for a long time, perhaps up to 2000 years after their initial abandonment.

In 'Silo 2', the deposits show that after the dump of midden material (Context (41)) concurrent with the abandonment of the site, another layer of midden material, Context (40), was added to the silo. This contained a large quantity of abraded and fragmentary Borg in-Nadur pottery that appears to have been exposed on the plateau for a considerable length of time before deposition. Significantly, some sherds from Context (40) refitted with sherds from the lower Context (41), which revealed that they were from the same vessel. Context (40) also contained a sherd of highly abraded Punic pottery, dated tentatively to the fourth and third centuries BC, indicating several centuries had elapsed between deposition of Contexts (41) and (40). This observation demonstrates that the pots were not deposited in their entirety, and instead were broken at ground level before being dumped or swept into

the pits at various times. Context (40) was covered by a series of layers of silting and deliberate infilling episodes. These silts (Context (39)) represented a long episode during which large quantities of terrestrial snail shells were deposited around the pit edge and suggest the silo was open and exposed. The majority of pottery from this context was unidentifiable, but it included two sherds of Punic/Roman pottery. Similarly, Context (38), also represented a long episode of silting, but contained mixed Borg In-Nadur and Roman sherds (§8.4.3.3). Context (37) above was interpreted as deliberate backfill because of the presence of large stones barely able to fit through the aperture of the pit. This layer contained two sherds of Roman *terra sigillata* pottery, as well as sherds of Punic and later Knights Period ceramics, suggesting that the infilling of Silo 2 probably occurred from the post-Medieval period onwards. The deposit above this, Layer (36), also contained Knights Period pottery, a sherd from a Roman amphora, as well as a possible capstone. The three uppermost layers in 'Silo 2' (35), (34) and (33) contained nothing identifiably older than the Medieval period. The large size of the stones in Context (34) suggests a deliberate backfill. The top Context (33) contained fragments of modern glass and iron as well as medieval pottery and suggests a relatively recent modern silting episode.

Medieval ceramics were also recovered from 'Silo 1', whilst Roman material was found at the bottom of the pit (Context (25)) and was covered by episodic silt accumulations, Contexts (22), (24) and (26). The presence, however, of modern and earlier materials, including plastic in the fill demonstrated that the pit lay open for a long period of time, before a deliberate in-filling during the sixteenth and seventeenth centuries.

8.6. Conclusions

The campaign of excavation and survey carried out at In-Nuffara in 2014 and 2015 focused on the recovery of samples for dating and economic-environmental reconstruction with the goal of addressing the specific FRAGSUS questions (see Table 8.2). The survey in 2014 identified remnants of walls and various rock-cut features which could not be definitively attributed to the Bronze Age, but it did identify fifteen rock-cut pits scattered across the mesa top. The distribution of the pits helps to establish the extent of settlement activity on the plateau, and indicates that In-Nuffara was once the setting of a substantial settlement.

The radiocarbon evidence and material culture obtained from the 2015 excavations of the two silos confirm they were constructed and used during the

Table 8.2. *In-Nuffara and the FRAGSUS questions.*

FRAGSUS questions	In-Nuffara
1a. What was the impact of human settlement on Malta?	Fortification and defence in upland fragile locations, rapid impact on vegetation and slope stability, erosion, loss of soil, exhaustion.
1b. How rapid was the process of deforestation, erosion and degradation?	Possible indication of rapid contemporary erosion and loss of vegetation cover. Possible first exploitation of unstable clay slopes with new vine and olive crops, leading to rapid soil movement and loss.
1c. When did technical mechanisms to manage the environment develop – such as terracing, water and food storage?	Middle to Late Bronze Age silo strategy for safe storage of food or/and water. Possible introduction of terraces, but undated
1d. Were such mechanisms in place before or after the Temple Culture collapsed?	Pits for storage appear to be a Bronze Age innovation.
2a. How did a very small island community in prehistoric times manage to sustain dense, complex life over millennia, and what specific social, economic and ritual controls emerged to enable this?	Evident defence concerns dictated settlement choice, hidden stores in pits, possible use of stored cereals, oil, vine products, concentrated communities. Settlements were short-lived, only a few centuries and perhaps not continuously.
2b. Were the monumental temples instrumental in the process of sustaining cultural life?	No evidence they played any role by the Middle to Late Bronze Age.
3a. What sort of agriculture was used, and what did people eat, especially as the landscape became increasingly degraded and the environment more unpredictable?	Cereals, pulses, possible olive and vine products, fish also exploited, ovicaprid-focused farming.
3b. Were there failures in the food supply?	Silos suggest value of hidden food stores in unstable world.
3c. What impact did diet, disease and stress have on the population?	No evidence.
4a. What was the size and nature of the early Maltese population?	Possibly large groups in sites like In-Nuffara, several dozen people but uncertain size of communities.
4b. What role did demographic connectivity (immigration) play in maintaining island sustainability?	Stock and plants. Metals. Exotic Italian pottery styles from the wider Mediterranean world. Boats suggested and more interaction.
5a. Was there social-economic or environmental failure at the end of the Temple Culture, and what may have caused society to collapse or change so drastically?	Suggested episodes of drought and poor climate in the second millennium BC, with rapid soil and vegetation loss, shown by pollen data.
5b. Was there a hiatus between the Temple Culture and later Bronze Age settlers?	No evidence before the Middle to Late Bronze Age at In-Nuffara, but short-lived occupation suggests unstable and punctuated settlement on Malta in the second millennium BC.
5c. Are other hiatuses apparent in the sequence, such as between the earlier Neolithic and the Temple Period?	

Borġ in-Nadur phase of the Middle to Late Bronze Age, dating to the second half of the second millennium BC. 'Silo 1', despite having a seemingly *in situ* cap stone, contained largely later and disturbed deposits, whilst 'Silo 2' yielded greater quantities of Bronze Age material culture and intact ancient deposits. The chronological span of the dates indicates that Bronze Age settlement on the plateau may have been short-lived, with the dates representing the construction and abandonment of the site clustering around the end of the second millennium BC. Whilst the 2015 excavation at In-Nuffara yielded little insight into the surface features of the Bronze Age settlement itself, it is clear that materials contained within the

pits were largely secondary deposits related to the abandonment and later use of the site. The collapsed lining at the base of both the pits shows that they fell out of use and ceased to be maintained, and that both appear to have been cleared out at the end of the settlement's existence, before being repurposed as refuse pits. Consequently, any material directly relating to their original function is now absent from the archaeological record. The clay lining implies their use as storage containers, but without firm evidence to indicate what was contained within – although grain and water were likely. Previous excavations of rock-cut silos on the Maltese Islands have proven to be similarly uninformative, with the pits cleared of

their original contents. This reuse of bell-shaped silos seems to have been widespread across the Maltese islands, either being repurposed as refuse pits (e.g. St George's Bay, Mtarfa Ridge, Qlejgha, Tal Mejtin, Wardija ta' San Ġorġ and In-Nuffara) or, in some cases, used as tombs during the Punic period (e.g. Ġnien is-Sultan, Mġarr, Birkirkara and Ghajnsielem).

The study of the In-Nuffara silos has added significantly to the knowledge of later Bronze Age Malta, especially in terms of economic data and of the pottery in use in the final centuries of the second millennium BC. The dating of various levels of deposition within 'Silo 2' has yielded the first absolute radiocarbon dates for the later Bronze Age in Malta, and these provide a control point around which to estimate the longevity of the later prehistoric cultural phases and to link with those beyond Malta. The difficulty in removing the upper levels of large stones dumped in the top of the silos most likely deterred later generations from clearing them of their contents. Silo 2 was left relatively intact for its fortuitous discovery in 2015 and may represent a rare find, given the later history of these features across the landscape. When found in quantity, prehistoric pottery sherds have long been regarded as a valuable ingredient in the production of *deffun* (plaster for roofing and flooring), and were actively sought in the past, perhaps with ancient pits cleared of their contents for this purpose. *Deffun* includes quantities of crushed prehistoric pottery sherds mixed to a thin water-proof mortar with clay and crushed limestone (Chetcuti 2003, 2005; Dudley *et al.* 1921, 31). As it is, some thousand or so diagnostic later Bronze Age pot sherds were recovered and are reported on below.

8.7. The pottery from In-Nuffara

The typological study and cataloguing of the ceramic material was undertaken by Prof. Anthony Bonanno (University of Malta). Prof. Caroline Malone (Queen's University Belfast) drew the material and prepared the plates.

8.7.1. Introduction: In-Nuffara pottery overview report

A homogenous group of around a thousand pottery fragments was retrieved from a distinct sealed deposit in 'Silo 2', one of two silo pits excavated on the In-Nuffara Bronze Age settlement by the FRAGSUS team in 2015. The pottery assemblage ranges from very small (classified as 'miniature') cups and jars, through bowls of various sizes and medium-size jars, to very large, thick-walled storage jars. The maximum diameter of the latter (e.g. storage jars 49 – NUF41-30, with a rim

diameter of 46 cm, and 50 – NUF41-2919, with rim diameter of 48 cm) exceeds that of the opening of the silos and could not have been introduced in the pit unless they were broken. The layer they were found in, Context (41), was sandwiched between two others, Contexts (40) and (42), both of which produced fragments that could be refitted with others from it. This suggests that these came from the interface between Context (41) and the other two layers during the 2015 excavation, or else that there had been some partial, even if minimal, displacements since their deposition.

This is not the first of such rock-cut pits discovered with a quantity of pottery inside. In 1960 another such bottle-shaped pit was partially cleared by Joe Attard; when the find was reported to the Museum Department the rest was cleared (Trump 1962, 5). As in the 2015 case, 'traces of the original clay lining to the walls survived'. The stratigraphic sequence in 1960 was much simpler; only three strata were identified, the middle of which (2), being 'soft, dusty brown earth', contained much pottery and animal bones. The other two layers, (3) above and (1) below, were 'practically sterile'. The pottery belonged to the Borġ in-Nadur phase described as 'mainly red-slipped, varying to blotchy black, unburnished' (Trump 1962, 5). Only one complete pot was retrieved, a small jar with incised decoration. The rest were very large fragments that could be, and some were, recomposed. Among the shapes the author listed 'a large cup with high handle, a small three-handled lid, bowls, large jars, etc.' Trump also highlighted the presence of sherds decorated with dots of red slip, or 'dribble Borġ in-Nadur painting', which he had already noted at Bahrija. On the basis of the lowest stratum (1), namely 'the mouldered residue of the last contents of the pit', he interpreted the original purpose of the pit as a grain storage one, followed by a domestic rubbish tip (2) and rain-wash (3) (Trump 1962). Trump's short report is, apart from a drawing of the section of the pit, not illustrated, but the description of both the stratigraphic sequence and the list of shapes are uncannily similar to those of the 2015 find.

During a visit to the site in 1985, a few pieces of pot were picked up from the surface of In-Nuffara by members of the Grupp Arkeologiku Malti. A trench 1 × 1.5 m was cut in a place near the edge of the cliff, which yielded a 27 cm deposit full of large sherds and animal bones as well as pebbles. Fifteen cm below the surface a change of colour was noted. The lower layer contained a lot of pottery mostly of the Borġ in-Nadur type. What is noteworthy is that a few Bahrija type sherds and a green stone pendant were also identified among the finds (*Il-Menhir I*, 4 (March 1986), 48).

8.7.2. *The catalogue*

The present catalogue is selective and does not intend to cover all recognized vessels. Moreover, owing to editorial constraints, only a selection of the most representative shapes from the catalogue have been illustrated by drawings and photographs. After the drawings were made, the profiles of some vessels (such as the ribbed cup 19 – NUF41-49/19 and the large storage jar 50 – NUF41-19) were further extended with more joinable fragments, including their respective bases. As far as bases are concerned, apart from those incorporated within the drawing of the whole profile, only one out of a score has been drawn (36 – NUF43-A) belonging to a largish bowl or jar. Lids are noted for their scarcity at Borġ in-Nadur (Tanasi 2011, 130–1) and only two probable specimens have been identified in the 2015 assemblage from In-Nuffara [36 C-D].

8.7.3. *Catalogue numbers*

The criterion selected for the sequential order of the catalogue is mainly the size of the pots, ranging from small (1, 2, 5, 6, 7, 8, 9), to medium (21–23), to largish bowls and jars (14, 16–20, 31–33), to large thick-walled storage jars (*pithoi*) (47–50) and trays (55, 56). The sequence is also dictated by the arrangement of the figures (8.16–8.21). Where numbers are cited, they refer to the sherd/drawing in the catalogue, whilst a more detailed additional identifier (NUF41- etc.) refers to the primary study numbers that are retained on the material (stored in the National Museum of Archaeology in Valletta). As most of the loose handles (all of the strap type, narrow in the middle and widening toward the edges) belong to largish bowls and jars, they are placed after these, followed by examples of loose fragments with incised decoration.

8.8. Characteristics and manufacture

One of the questions posed from the beginning of the pottery analysis was whether this Bronze Age pottery was thrown on a wheel, even if a slow one. What appears to be an indication of the use of a potter's wheel are finger marks on the interior of some largish pots and a series of concentric circles in low relief on the lower surface of a flaked crust and on the corresponding upper surface of a 4 cm thick flat base of a jar. These ringed surfaces appeared after sections of the upper crust had flaked off. Sagona (2015, 235, item no 2112/9, fig. 1:159.1) noted and illustrated this feature on the Borġ in-Nadur pottery from the University of Malta excavations at Tas-Silġ. Yet, she attributed it to the coil technique which she extended to the whole structure of the pots, including the walls (Sagona 2015, 23). While the above feature could well

be the result of coil technique, no trace of the latter has been noted in the elevation of the pottery structure.

In the case of the small (miniature) pots with grey inside surfaces, it would seem that this rough surface was achieved by pressing the fingers while some pressure was being exerted on the outside, perhaps for burnishing.

8.8.1. *Fabric*

Apart from a few miniature pots in totally grey fabric, the rest, from small-sized cups to large thick-walled storage jars, are pretty uniform, that is, in pinkish buff clay for walls less than 0.5 cm thick, fired to a grey/black core in thicker walls.

8.8.2. *Surface treatment*

Apart from the rough surface of the grey fabric miniature pots, most items are burnished both on the exterior and the interior. In most cases they are covered by a red slip ranging from bright orange-red to coral-red with widespread blotches. In some cases, the slip also covers the top margin of the interior leaving the rest without. This slip has a tendency to develop hairline cracking, but only a few fragments of the NUF41 assemblage display such cracks suggesting that this phenomenon results from (millennial) aging rather than an intentional, or consciously tolerated, quality.

A small group of undiagnostic sherds (not drawn) carry circular red spots characteristic of the 'dribbled ware' that David Trump identified among the material from the In-Nuffara silo-pit of 1960 (Trump 1962), and that were also found at Tas-Silġ (Sagona 2015, 130–1, figs. 1:19.10–13, 1:160.2, 4, 5). Of interest in this respect is also an article by Davide Tanasi (2008–2009) that deals with the pottery deriving from the 1960 silo-pit at In-Nuffara, but that, in reality, is focused mainly on the 'dribbled ware class' from this site.³

8.8.3. *Decoration*

Surface decoration, generally consisting of a band of several parallel incised lines, is also well represented by many sherds, many of which are joinable to form large bowls, both conical and spherical. These lines tend to be shallower and less careful and steady than in some corresponding shapes from Tas-Silġ (Sagona 2015, 129, fig. 1:18.2) and Borġ in-Nadur (Briffa & Sagona 2017, figs. 38: 1, 4, 8; 39: 2, 7; 41: 4, 7–12; Tanasi 2015, 45, fig. 23). Zig-zagging incised lines are not uncommon and examples have been recorded in the Borġ in-Nadur assemblage (Briffa & Sagona, 67, 73, figs. 40: 7, 44: 6–8, etc), but bands formed of two parallel lines enclosing incised dots or lentils (such as on 43) have not been traced elsewhere. No traces

of soot or blackening arising from use of the pots for cooking have been encountered; the abundant black blotches clearly result from bad or uneven firing. There are also a couple of examples of perforated holes intended for mending or securing cracked walls of medium-sized pots.

8.9. Comparanda

The range of recognized shapes for Borġ in-Nadur pottery has been increasing at a fast pace over the last decade. Those illustrated by Evans (1971) were limited to sixteen, only one form of which is close to our cup 6, NUF41-21. Comparisons were also made with the classifications created by Sagona (2015), Tanasi (2011, 2015) and Trump (2004). It must be said, more and closer comparisons were expected for the 2015 assemblage than have been made. The lack of many clear parallels may be attributable to the different nature of the context in which this assemblage was found and, possibly, to the different scenario(s) behind the act of its deposition. The depositional process of the other two published contexts was slow and protracted, involving the gradual disposal of individual pots following their breakage from normal use. That of Ghar Mirdum, in a cave, or former overhang, is of an even more aberrant nature, one that is even more difficult to reconstruct. In the case of NUF41, a considerable number of pots of a wide range of shapes and sizes were thrown inside a man-made pit in the ground whose original function (that of storage of food or water) was no longer viable. The larger context in four cases seems to be that of a settlement, probably a group of inhabited huts, although a case has been made for a continuation of a sacred or cultic purpose at the Tas-Silġ site (Cazzella & Recchia 2012). What still remains to establish is whether NUF41 was merely a dump or some sort of ritual, possibly connected with the closure of the container as a functioning storage space. Notwithstanding the similarity of context observed above, there are certain differences between the typologies, some of these differences involve absences, while others concern items that are unparalleled elsewhere.⁴

8.9.1. Noteworthy missing shapes

The most notable missing shape is that of the hour-glass biconical ‘fruit bowl’, which seems to belong to the Early Borġ in-Nadur phase, unless some of the medium-sized bowls with curving profile were originally joined to any of the bases of the same fabric and slip. Yet, we have never found the joining floor sections in between, except in [14] and [24]. Even the Cups/Basins Type 1A specimen from Borġ in-Nadur

illustrated by Tanasi (2015, 45, fig. 23, 108) does not seem to possess the missing waist-line section. Also absent are typical ladles (or dippers) with axe-shaped handles such as those present at Tas-Silġ (Sagona 2015, 127, fig. 1: 16.2–10). Even the large storage jars seem to have had no handles.

8.9.2. Unique representations, without parallels elsewhere

The most conspicuous example of unique vessel forms is a group of beautiful and artful bowls with undulating profiles (10, 12, 16), which must have originally extended down beyond the waist and that do not seem to have any parallels elsewhere. It would be interesting to check whether the as yet unpublished material from the silo-pit excavated in 1960 at In-Nuffara had any similar shapes. Similarly, the cup with ribs on both the inside and outside that probably extended to form handles raised above the rim (19) is not noted anywhere else. Another remarkable difference between this and other assemblages is the frequent flat insloping lip on the rims of the medium-sized and largish bowls of NUF41 (e.g. 8, 24, 27, 29, 30, 38, 39, 46, 51–53, 62) in contrast to the generally rounded ones found elsewhere.

8.10. Stratigraphic context and date

Some movement of sherds from Context (41) to other contexts, has already been noted. Contemporary sherds from (40) and (42) were identified and some of these were actually joinable to forms in Context (41). The presence of refitting sherds in strata immediately above or below 41 could possibly be explained as having come from the interface between the two strata during excavation. Others from further up would suggest later disturbance; but one from Context (44), lower down, is more difficult to explain.

The clay lining from the very bottom of the silo pit, and from the soils sealed below it, have produced radiocarbon dates ranging from 1260 to 895 cal. bc. These dates (with an average of c. 1100 bc) provide a *terminus post quem* for all the layers above it, suggesting that they belonged to contemporary or later episodes. This would mean that the deposition of all the Borġ in-Nadur pottery in Context (41) took place around or after 1100 bc. It would also mean that all the forms, fabrics, slips and decorations present in this assemblage were in current use when they ended up inside the pit. This is of fundamental importance for the study and dating of the ceramic repertoire of the Maltese Middle Bronze Age (the Borġ in-Nadur phase), and certainly cannot be ignored in future studies.

8.11. Recent archaeometric results

Recent petrographic and chemical analysis (Barone *et al.* 2015) have attributed all the fabrics of Borg in-Nadur pottery to only two main groups: Fabric A and Fabric B. Apart from the miniature pots with their purplish brown slip, and the gritty fabric of one of them (5, 7, 9), we can say that all the pottery from NUF41 belongs to either subclass ('Fabric') 2 of Fabric A in Tanasi's classification (Tanasi 2015: Table 3), which is described as 'Pink fabric with red mottled slip' and corresponds to Trump's phase IIB2; or to subclass ('Fabric') 4 of Fabric A, which is described as 'Reddish yellow fabric with dark red mottled slip', corresponds to Trump's phase IIB3.

Some undiagnostic fragments with disc shaped painted spots fall under the class of 'Dribbled and painted Ware' also classified by Trump as occurring in phase IIB3.

A thin section was taken of one large thick sherd (vessel 29) that showed the fabric comprised calcite, shell and iron, fired in an Fe rich groundmass, and was porous. The sample demonstrates a high level of fire cracking, shown on the typical 'crocodile skin' effect on the surface of much of the pottery. Shell fragments are large and evident in thin section (Appendix Fig. A10.2.1).

8.12. Impact of the above on the In-Nuffara assemblage

Taking into consideration the assessment on the Borg in-Nadur pottery made by one of the most authoritative scholars involved in its study (Tanasi 2015: 39), namely, that 'with regard to technological characterization related to the manufacture and decorative repertoire of Borg in-Nadur phase pottery no further data can be added to the previous study' (Tanasi 2008, 69–73; 2011, 88–98), the above remarks, especially the firm *post quem* radiocarbon dates produced by the In-Nuffara silo, need to be taken into consideration in any future assessment of this prehistoric phase and its pottery.

8.13. Concluding remarks

What is Context (41)? The current interpretation seems to be that of a mere 'midden', the same explanation given to the rock-cut pit cleared in the early 1960s. We find this interpretation hard to buy. There are so many easier ways of disposing of pottery and animal bones, including dumping beyond the cliff edge. The animal remains would have been better used for fertilizing the soil outside the settlement. The effort

involved in breaking up the large jars whose diameter was greater than that of the pit mouth militates against such a description. In many ways the general characteristics of this pottery assemblage are paralleled by that excavated in 1960 by Joe Attard Tabone and David Trump inside the similar silo-pit at In-Nuffara.

In her recent account of Maltese archaeology, Claudia Sagona has interpreted a number of scenarios in Maltese prehistory denoting the ritual termination of the original use of a building or a feature as 'ritual closure'. Given the contextual similarities with the 1960s silo pit and its contents, possibly also with the 1985 uncontrolled investigation of another silo pit on the same hill, it is tempting to see a ritualistic exercise rather than a simple dumping episode. This suggestion, however, begs a number of other questions: in this case, a closure of what? Of just this particular silo pit, or of the whole site? The total absence of Bahrija style pottery would suggest an abandonment of the site before the arrival of the carriers of the Bahrija style pottery around 900 BC. However, the short report of the 1985 clearance does refer to some Bahrija pottery.⁵ Why would people bother to ritualize 'dumping of pottery'? In the present circumstances I do not have an answer. It is easier to explain the ritualization of the animal bone disposal, especially if it comes from ritual feasting. It is a real pity that the similar assemblage discovered in similar circumstances (the other silo pit at In-Nuffara with a similar sequence of layers) has not been published properly.⁶ It too was described as dumped. With a fuller knowledge of both of these instances we would be in a much better position to derive further evidence for a better interpretation.⁷

8.14. Catalogue of Bronze Age pottery from In-Nuffara

Abbreviations used in Figures 8.14–8.19:

BD	Base diameter
D	Diameter
RD	Rim diameter

Note: This catalogue, beginning overleaf, lists items more or less in order of size, ranging from miniature pots, through medium-sized bowls and jars, to huge, thick-walled storage jars and finally handles. Sequential numbering is applied to relate to the order of the drawings in Figures 8.14–8.19.

1. NUF41-29. Miniature cup (Evans 1971, fig. 40, Shape 8) with globular body curving out sharply from an inward kink at the shoulder to an undulating neck and rounded rim. Umbilicate base.

RD 4 cm.

Crispy thin walls of very fine fabric fired beige. Dark purple-brown slip on the outside and on the inside of neck; the rest is un-slipped.

2. NUF41-56. Miniature cup, rather globular with rounded shoulders and narrowing neck to rim. Umbilicate base. Part of a handle projecting from shoulder.

RD 4 cm.

Somewhat badly fired dark grey throughout. Roughly shaped on the inside, somewhat smoother on outside. Few red blotches on dark grey surface on the outside. No apparent slip.

Decoration: row of six lentil-like pellets aligned with the rim, *c.* 1 cm below the lip.

Similar rows of pellets but on differently shaped cup and juglet in the 2003–2009 Tas-Silg assemblage (Copat *et al.* 2012: fig. 8 (1, 9)). Parallels also with Borg in-Nadur (Murray 1923, plate XII 114–115). Tanasi & Vella (2011, figs. 117 (no 37497), 119 and 112) show other comparable forms decorated with small pellets.

3. NUF40/41-53. Two joining fragments of small spheroid cup with slightly everted and thinning rim.

RD 11 cm.

Typical pink fabric with pinkish red slip on the outside, with a wavy band of a darker (brownish) hue. Dark brown slip on the inside.

Similar to ‘dipper cups’ of Type 3, nos’ 37134 and 37137, from Borg in-Nadur (Tanasi 2015, fig. 53a-b).

4. NUF41-54. Small fragment of small cup of spheroid shape with a short tapering upright rim.

RD 11 cm.

Pinkish fabric with irregularly applied slip: thick and pasty, from brownish to dark brown on the outside; similarly, at the top of the rim on the inside, fading out further down.

Similar in profile and size to ‘closed pot’ no. 291 in Briffa & Sagona (2017: 61, fig. 36:7, 94:5), but without ridge on juncture between neck and shoulder.

5. NUF41-24. Squat pear-shaped miniature cup. Drawing extends profile to a widened mouth. Umbilicate base.

RD 5 cm.

Fabric fired dark grey inside; blotchy dark grey to light grey and pinkish on the outside. Very rough, bumpy surface on inside; slightly smoother on the outside, revealing plenty of white grits. No visible slip.

6. NUF41-21. Small single handled cup with very complex profile. Slightly baggy lower body with a narrow umbilicate base, topped by a curving swell before meeting an in-sloping shoulder. The latter is separated from the vertical rim by a deep groove which corresponds to a sharp indent on the interior. The handle rises from the thinning but rounded lip and re-joins the body on mid-shoulder.

BD 3 cm; RD 7.5 cm.

The fabric is pinkish-buff in colour, without any grey core. A coral red slip with large black blotches covers the whole exterior surface except for a third of it where it has eroded away. The same slip covers the interior of the rim with only four circular dribbled spots on the un-slipped rest.

Similar to Evans’ (1971, fig. 40, Shape 7, 16; and fig. 4, 7) ‘high-handled jug’, and Sagona’s (2015, 123, no. 2034/70, fig. 1: 12 (1)) ‘small jug with swelling neck off-set from the shoulder and the juncture of neck and shoulder is defined by a groove: traces of a handle where rim rises near break; thin walled; grey 10YR 5/1 through section; lightly burnished dark mottled greyish brown 10YR 4/2 on interior and exterior slip. RD 5’. Murray (1923, Plate XII, no. 115; 1929, Plate XXV, no. 258) also illustrates similar profiles from Borg in-Nadur.

7. NUF41-57. Small globular cup with in-sloping neck, umbilicate base and two handles linking rim to neck and extending upward beyond the rim. About half of the circumference is represented by three large glued fragments and two unglued ones. No part of the rim survives.

RD c. 9 cm, narrowest D 10 cm.

Pink buff fabric, but fired entirely grey on the inside and pink on the outside. Inside surface is very coarse and rough; somewhat smoother on the outside, but still comparatively coarse. Blotchy coral red slip. No slip inside. Large portion of outer surface is blotchy black. Small areas preserve typical orange slip on a lighter pink surface.

The form has similarities with Murray (1929, Plate XIII), although with a smoother neck profile.

Umbilicate base is similar to fragment of 'small omphalos base probably from a closed vessel' no. 364 in Briffa & Sagona (2017, 70, fig. 42.13). The In-Nuffara example compares with an example from Borg in-Nadur (Murray 1929, Plate XIII) but with a smoother neck angle.

8. NUF41-30. Small fragment, 1 cm high, of inward sloping curved rim of a miniature jar, preserving also a tiny part of the shoulder which probably expanded out into a globular body.

RD 5 cm.

Greyish brown fabric with white lime specks covered by a purplish dark brown slip.

9. NUF41-2. Small inverted jar.

Max D 7 cm.

Orange, fine fabric. Reassembled from several fragments.

10. NUF41-50. Medium sized open bowl on hollow base (Evans 1971, fig. 40, Shape 6, but apparently without a separating floor between bowl and base). Undulating profile narrowing at the bottom to splay sharply out again to another curve of the missing supporting base. Single handle rising at an angle from the rim. The whole diameter of the rim is preserved from at least seven joinable fragments.

RD 17 cm.

Well-fired, pinkish fabric with slightly greying core. Outer and inner surfaces covered by a flaking dark orange slip with large black blotches on the exterior.

Same profile as [12] but larger.

Some similarity to the 'thin-walled cup' from a silo at Mtarfa (Sagona 1999, 55, fig. 7:4), but without the 'sharp groove at the juncture of the neck and shoulder'.

11. NUF42-69. Circular, solid clay base supporting a broken cylindrical pillar, possibly belonging to a figurine or a lamp.

BD 6 cm.

Pink-beige, badly fired clay with grey core up to 2 mm from the surface. No slip.

A lamp with such a base (no 37437) is illustrated in Tanasi 2015: fig. 90 (Type 3).

12. NUF41-52. Small bowl (Evans 1971, fig. 40, Shape 5/6, but without a separating floor between bowl and base) with undulating profile narrowing at the bottom before turning sharply out again to another curve of the missing base. Remarkably thin walls. Only a third of the rim survives in four glued fragments. No hint of a handle.

RD 11 cm.

Well fired pinkish fabric, grey at the core. Brown-orange slip on outer and inner surfaces. Some blotches on the exterior.

Same profile and fabric/slip characteristics as [16], but smaller and squatter.

No parallels in Tanasi (2015).

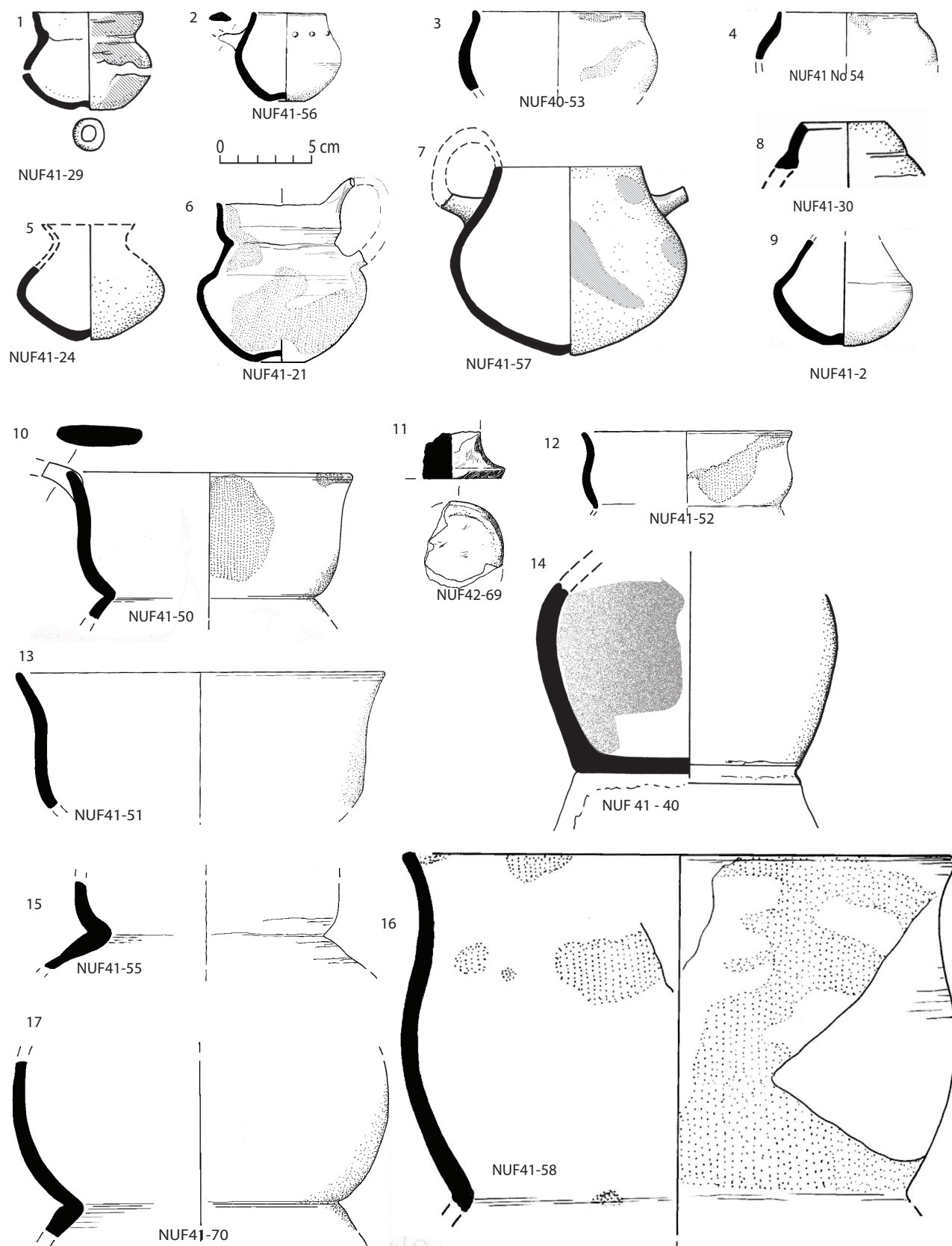


Fig 8.14. Ceramics catalogue numbers 1–17.

13. NUF41-51. Medium sized deep open bowl with undulating profile (Evans 1971, fig. 40, Shape 6, but apparently without a separating floor between bowl and base). Three glued fragments. Same typology as [1–10], [12 and [16] but with more gently curved profile.

RD 20 cm.

Pinkish-orange fabric with a darker slip partly worn off on the inside surface. Lighter orange-coloured slip on the outer surface where even less of it survives.

Same profile, but slightly more elongated is the 'deep bowl fragment with gently curved profile; thin angular lip' no. 307, with same fabric and slip, in Briffa & Sagona (2017, 63, fig. 37: 12, 96: 6).

14. NUF41-40. Lower part of a very deep, thick-walled globular bowl with lower belly ending in a flat floor and extending downward probably to form a cone-shaped base. Upper container is separated from the lower base by the flat horizontal floor on the inside and by a deep line on the outside.

The surface is smooth and covered by a coral-red slip on the outside and very rough on the inside.

Probably similar to a 'fragment from a conical footed deep bowl' in Sagona (2015, 125, no. 2169/23, fig. 1.14 (2)); and to a 'waist fragment of a large bi-conical bowl' no. 344 in Briffa & Sagona (2017, 68, fig. 41: 5).

15. NUF41-55. Several fragments (up to five joining ones) probably belonging to a medium-sized bowl (broadly Evans 1971, fig. 40, Shape 5/6) with undulating profile like that of [10] and [16], or gently curved profile like that of [13] and [17], but only the midriff section survives, missing most of the upper and lower profile.

Minimum internal D 11.5 cm.

Pinkish, relatively well-fired fabric. Uniform bright pinkish red slip becoming dark brown on the exterior, beyond a vertical break.

16. NUF41-58. Very large and deep bowl with undulating wall profile and a sharp angular kink at the bottom of the surviving fragments (Evans 1971, fig 40, Shape 5/6 but apparently without a separating floor between bowl and bas), suggesting a prolonged section serving as a base. Formed of at least seven glued fragments. Eight more unjoined pieces are bagged with [16] having a similar body form and blotchy coral-red slip. Two of these are joinable to the rim.

RD 32 cm.

Fabric fired pink and covered with a coral-red slip inside and outside, with large black blotches and cracking areas, in some fragments more than others.

Same typology as [10] and [13]. Also Tanasi's (2011, fig. 4: 30) Beaker type 4, but upside down and with a floor between upper and lower parts.

17. NUF41-70. Spherical bowl with a lower extension below a waistline inward kink, whose profile is reconstructed from three joined fragments and a separate fragment preserving a part of the upper body and a part of the lower one (Evans 1971, fig. 40, Shape 6 but apparently without a separating floor between bowl and bas). Missing rim.

Rather coarse fabric fired pink throughout, covered by a blotchy dark brown slip on outside and scattered discs in the inside (dribbled paint), ranging from light pink to dark brown.

18. NUF41-39. Largish open-mouthed pot of bulbous shape. Formed of 14 sherds, permitting the reconstruction of great part of the rim and upper body. Lower walls curved in towards base.

RD 23 cm.

Crispy, regularly fired pink fabric. Extremely blotchy coral red slip, with large black blotches on the outside and overlapping on the inside for the uppermost 5.5 cm. Characteristic hair-line cracking on the whole outer surface, but limited to a 5 cm band, from the rim down, on the inside.

19. NUF41-19. Ten joinable fragments providing whole profile of a small bowl with two reinforcing ribs emerging from both inside and outside and projecting upward beyond the rim, probably to form a (missing) handle, balanced by a similar feature on the opposite side. Umbilicate base.

DM 15 cm.

Sandy pink-beige fabric fired grey at the core, covered by a purple-brown slip on both sides displaying traces of burnishing where preserved.

A similar fragment from Tas-Silġ, no. 2034/72 in Sagona (2015, 134, fig. 1: 23 (11)): a 'body fragment with applied raised oblique bar; Late BN (Brown) Slipped Ware; medium coarse, grey brown fabric; greyish brown slip on exterior, smoothed plain interior'.

20. NUF41-6/8-39. Largish open-mouthed pot of bulbous shape. Formed of 14 sherds, permitting the reconstruction of great part of the rim and upper body. Lower walls curved in towards base.

RD 23 cm.

Crispy, regularly fired pink fabric. Extremely blotchy coral red slip, with the characteristic hair-line cracking on the whole outer surface, but limited to a 5 cm band, from the rim down, on the inside. May be distorted parts of [18], but profile seems different.

21. NUF41-25. Small open bowl with straight walls on the inside, slightly convex on the outside. Thin, sharp-edged lip. Painted blotchy pattern inside and out. Umbilicate base.

RD 15 cm.

Similar in profile, but without incised decoration to Borg in-Nadur Slipped Ware fragment no. 3033/4 from Tas-Silġ in Sagona (2015, 125, fig. 1: 13.9), a 'deep conical bowl; simple rounded lip; deeply incised horizontal and oblique grooves'. Also Evans (1971, fig. 40) shape 1, but without handles; and Tanasi (2015), Type 7.

22. NUF41-71. One fragment of rim of simple open bowl with lightly curving walls, like [25] and [26].

RD 14 cm.

Coarse fabric fired pink. Typical coral-red slip, mostly worn off.

Same comparanda as for [25] such as Tanasi (2011, no. BNP/136a, fig. 4.18) 'cup/basin type 1b'.

23. NUF41-60. Medium-sized open bowl with simple curving sides and a base that is flat on the interior but with a depressed margin on the perimeter on the exterior (Evans 1971, fig. 40, shape 1, but without handles). Tapering rim with a rounded lip. Whole profile made up of three joined fragments.

RD 14 cm.

Orangey pink fabric with some black blotches penetrating deeply in the core. Coral-red slip with black blotches resulting from the same defective firing.

Similar to [21] and [22] with their respective comparanda. Similar to Briffa & Sagona (2017, 67, fig. 40) vessel 6, but without handles or studs; and Sagona (2015, 125, fig. 1) 13.9, but without incised decoration.

24. NUF41-36. Base and rim sherds of a container (consisting of at least eight joinable and/or glued fragments) with curved out-sloping walls and missing lower section.

D (at the narrowest point) 17–18 cm. thickness of walls 1–1.5 cm; of base 2–4 cm. External D at base 16 cm.

Fabric fired grey at core and internal rough surface. Coral-red slip on outside. Pink-buff fabric fired grey at the core. Coral-red slip, rather uneven inside, with black blotches outside. No decoration.

Similar double tronco-conic shape to no. 2169/24 in Sagona (2015, 125, fig. 1.14.2), Tanasi's (2015) Type 1A.

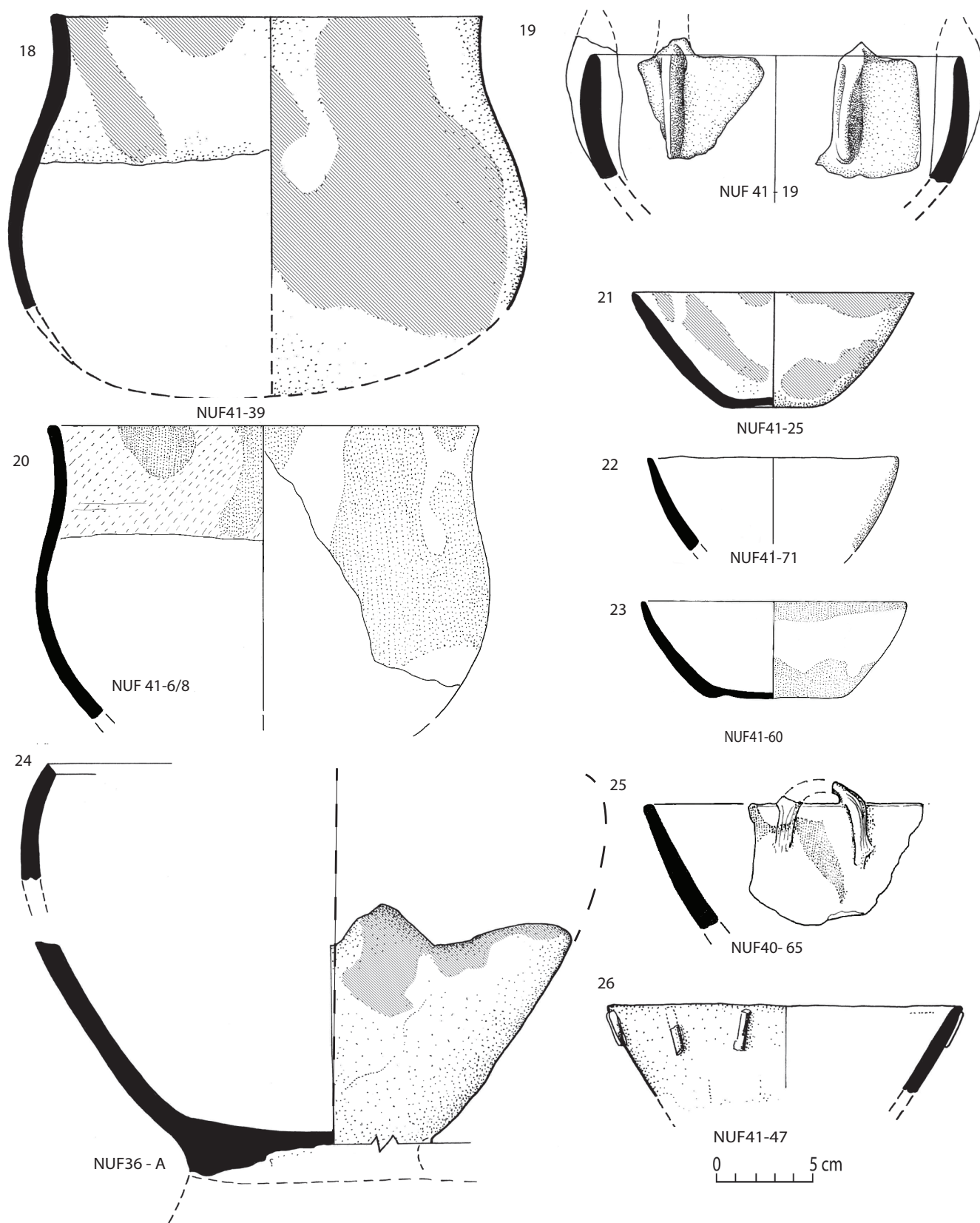


Fig. 8.15. Ceramics catalogue numbers 18–26.

25. NUF40-65. Medium-sized bowl with outward slanting walls, including a rounded lip and two external ribs rising upward to join in a handle beyond the rim.

RD 18 cm.

Rather coarse fabric fired pink with coral-red slip, blotchy in places and worn off in others.

26. NUF41-47. Just two not joinable fragments of the rim of a largish cup with rather straight everted walls. On one fragment are two slightly raised ribs broken off close to the rim, most probably part of a loop handle projecting up beyond the rim. The second fragment seems to come from the opposite side because it preserves only one rib.

RD 17 cm.

Coarse fabric fired pink to grey. One of the fragments shows coral-red slip with black blotches dominating. The other fragment is covered by orange slip, quite uniform on outside, wearing off on the inside.

27. NUF37-A. Large fragment of medium-sized, hemispherical bowl with flattened, inward sloping lip and vertical strap handle. Made up of four joined fragments. Two mending holes. Upper end of handle attachment highlighted by incised groove.

RD 35 cm.

Fabric fired grey almost from surface to surface. Coral-red slip, fired dark grey almost on whole internal surface, with a small area fired red on and around handle.

Similar in shape, rim, low handle to Tanasi's 'Cup/basin Type 1B' (Tanasi 2011, 1000, fig. 4.18 BRG/010/90; and 2015, fig. 23). Bowl 2161/6 in Sagona (2015, 126, fig. 1:1 5 (9)) has the same profile and RD, whereas no. 1046/16 (Sagona 2015, fig. 1:15 (5)) has a similar handle but is one-third the size. Copat *et al.* (2012, fig. 825) has the same shape, lip, and one dimple. Briffa & Sagona (2017, 65, fig. 39.3) has the same shape and low position of strap handle, but with pellets.

28. NUF41-37B. Large fragment of a large bulbous pot with narrowing mouth.

RD 30 cm.

Red slip inside; red slip with extensive blotches outside.

Parallels can be seen in Copat *et al.* (2012, 59, fig. 8.6, 7), but with decoration; and Sagona (2015, 129, no. 2101/24, fig. 1: 18 (5)), 'deep pot with walls sloping inward; rounded lip; drab ware; dark grey N4/ clay; mottled light brownish-grey slip both inside and outside; matt and smoothed finish'.

29. NUF41-31. Fragment of a medium-sized hemispherical globular bowl with in-sloping neck and flat and horizontal rim with a raised dimple 2 cm below the rim.

RD 19 cm.

Dark purple-brown slip on outside and inside on a pinkish-beige fabric.

Some similarity in profile to a rim sherd of a 'large hole-mouthed jar in Coarse Pink Buff Ware' no. 2061/17 from Tas-Silg in Sagona (2015, 138–9, fig. 1:27 (7)). The bevelled rim profile compares with Murray (1923, Plate XIV-153) and Tanasi (2015, fig. 24, no. 37392).

30. NUF41-15/2. Largish bowl with simple curvilinear walls and in-sloping rim with rounded edges, and traces on some sherds of a strap handle springing from the rim, much like [1]–[10].

RD 24 cm.

Coarse, gritty fabric fired red and black. Mostly grey slip on the inside. Large black blotches on outside, sparing small coral-red patches on outside. Similar bevelled rim to [32] below, same comparanda apply.

Not illustrated: A similarly shaped larger, thicker pot to [30] [NUF41-31], with similar fabric but with very unevenly fired slip with large black blotches on outside; orangey slip with uneven hue intensity on inside, and fired differently. Flattened, slightly insloping lip. Four glued sherds, the middle one with a fresh break.

RD 31 cm.

Coarse fabric fired dark-grey throughout. Unslipped, grey inside surface. Dirty yellow-brown on outside, covered by dark-grey grime.

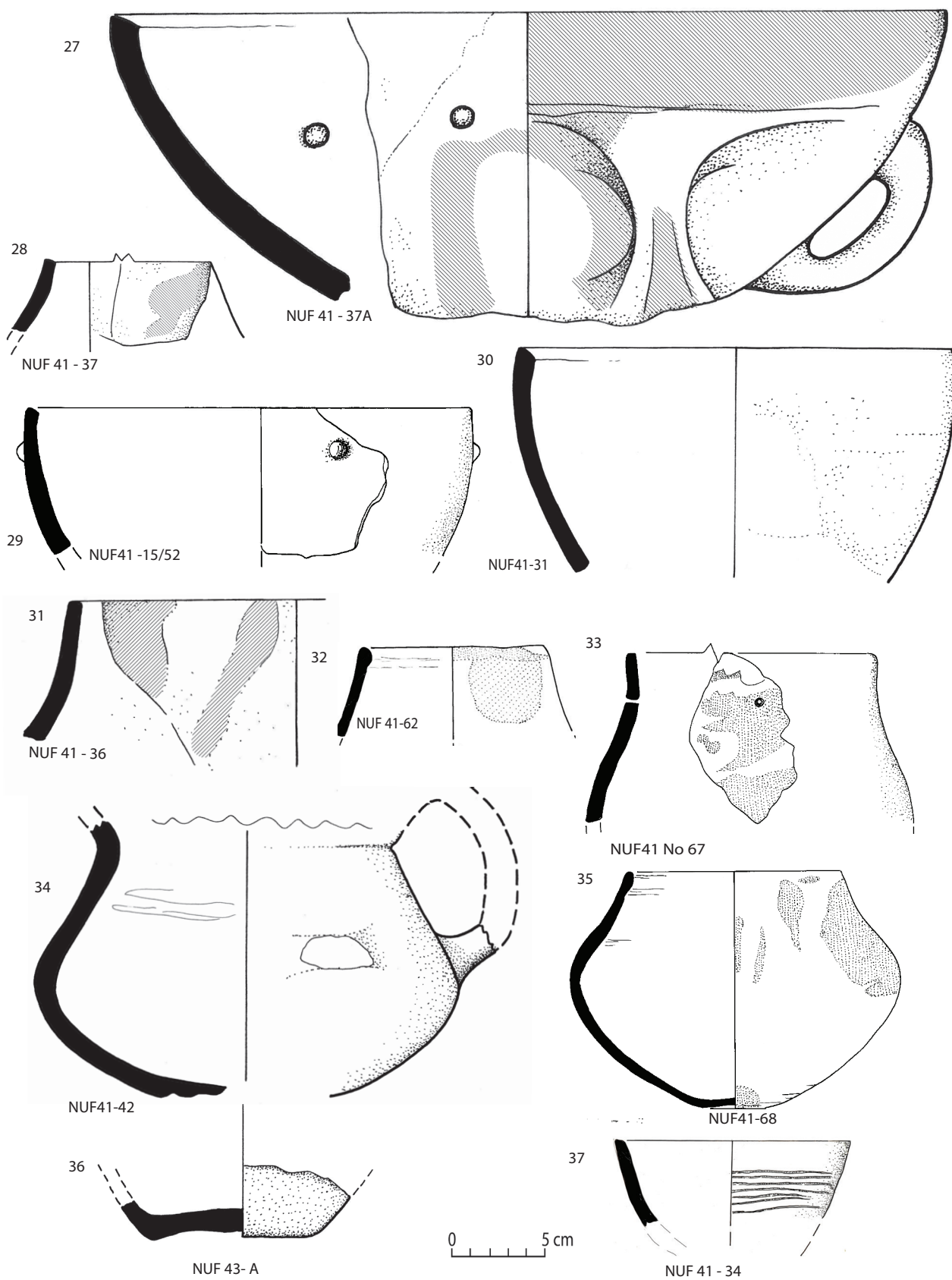


Fig 8.16. Ceramics catalogue numbers 27–37.

31. NUF41-36. Large fragment of a large bulbous pot with narrowing mouth. Similar to [28] but with narrower rim diameter.

RD 20 cm

32. NUF41-62. Rim of small-sized jar with inward sloping mouth and slightly rounded rim, thickened on the inside.

RD 8 cm.

Usual pink fabric fired grey at the core and, in this case, also on the inside surface which is left very rough. Blotchy coral-red slip only on the outside.

Inner thickening of lip like that of jar no. 37139 from Borg in-Nadur (Tanasi 2015, fig. 45: Jar Type 4), but more vertical. Rim fragment of 'deep pot with walls sloping inward' no. 2101/24 in Sagona (2015, 129, fig. 1:18 (5)) has similar RD but no thickened lip.

33. NUF41-67. Medium-sized jar. Two joining fragments of upper body preserving 2 mm of the rim and a perforated hole, probably for mending.

RD uncertain.

Typical pink fabric fired grey at core. Typical coral-red slip: hairline crackling but uniform inside; some crackling and black blotches outside. Similar in shape to vessels illustrated in Copat *et al.* (2012, 59, fig. 8.6, 7).

34. NUF41-32. Kettle-shaped jug with sagging lower body and in-sloping neck before turning out sharply at the height of the upper attachment of the handle. Lower handle attachment on the point of maximum expansion of body. Comprised of three large glued sherds joinable to two other glued sherds; other loose sherds of same shape.

Unknown RD (Max. D 22 cm).

Usual pink-buff fabric fired greyish at core. Brownish-red, partly worn off, slip with black blotches on the outside; un-slipped on inside.

35. NUF41-68. Small squat pear-shaped jar with walls thinning from the waist down. Umbilicate base. Rim with thinning rounded edge. Wholly reconstructible profile from 19 sherds, out of 38 (some joined and glued).

RD 15 cm.

Fabric fired grey in upper half, turning pink from waist down. Very rough grey surface, without slip inside; typical smooth coral-red slip, blotchy and crackling on the outside.

Same profile in jar rim fragment from Tas-Silġ in Sagona (2015, 131, fig. 1: 20 (4)), but without handle.

36. NUF43-A. Base of a largish bowl with raised centre. Three glued fragments.

Base D: 9 cm.

Coarse grey fabric. Usual coral-red clay with uneven hues and black blotches on outside, including under surface of base; creamy rough surface on inside.

Other bases identified (but not illustrated):

A-Similar to [36] with raised (umbilicate) centre. More than 10 cm of height of body preserved.

Base D: 11 cm.

Usual pink-buff fabric fired grey at core. Self-slip inside; usual coral-red slip with large blotches outside.

B-Similar base of a largish globular bowl with raised (umbilicate) centre.

Base D: 6.5 cm.

Usual pink-buff fabric fired grey at core.

Coral red slip on outside. Unslipped and coarse surface inside.

C-In crate 4. Fragment of a medium-thick disc, flat and plain on one side and rough and bumpy on the other. Probably a lid.

D: 24 cm.

Well fired pinkish buff clay without a grey core. Self-slip.

Similar to Tanasi's (2015, 64, fig. 84a-b) lid type 3A.

D-In crate 4. A similar fragment of medium-thick disc with a slightly concave profile tapering towards the centre. Probably a lid.

D: 24 cm.

Pink-buff clay fired slightly grey at the core. Rather rough surface on both sides.

37. NUF41-34. Small bowl. Flattened rim. Consists of four glued sherds (whole rim + 5 cm height of wall).

RD 22 cm.

Pink fabric fired grey at core. Coral-red slip only on outside.

Decoration: seven horizontal irregular incised lines encircle the bowl c. 2 cm below rim.

Similar comparisons as for [40] below.

38. NUF41-35-36. Largish spheroid bowl with flattened, inward sloping rim. Same shape as [39] but preserves a small part of a handle pointing down. Two separate fragments, each of two glued sherds.

RD 30 cm.

Pink buff fabric. Coral-red slip: evenly spread inside, blotchy outside.

Decoration: four irregular horizontal lines incised below the rim.

39. NUF41-32/45. Almost entire profile of a largish spheroid bowl with flattened, inward sloping flat lip. Three joined pieces extend profile by c. 18 cm from the rim. Numerous other sherds, including handle (not drawn) on shoulder.

RD 36 cm.

Pink buff fabric. Coral-red slip: uniform on outside, apart from two flaked areas; less uniform on the inside. Decoration: four lightly incised, irregular horizontal lines.

A vessel illustrated in Briffa & Sagona (2017, 63–4, fig. 38: 1) has the same profile and decoration but lip not flattened.

40. NUF41-44. Chalice-shaped largish bowl with curved walls sloping out towards the rim. In-sloping lip with rounded inner edge. Two large fragments extend profile downward by 16 cm from rim.

RD 28 cm.

Pinkish buff coarse fabric with a large eroded patch on the left. Coral-red slip, uneven both inside and outside. Decoration: four irregular horizontal lines incised below the rim and two diagonal others on top of them. Seven other diagonal lines near the base.

Possibly Tanasi's (2011, fig. 4.17; 2015, Type 1A, fig. 24, no. 31012) 'Cup/basin Type 1A'; the form is similar to the upper cup, but it does not seem to join to a conical base. Similar in profile and incised decoration to Briffa & Sagona's (2017, 66) no. 39: 7. Also similar in shape and inclined lip surface to a deep bowl fragment no. 2101/13 in Sagona (2015, 125, fig. 1: 14 (1)), an 'even grey hard-fired fabric; red burnished exterior slip, dark reddish grey interior streaky slip'; and even closer in profile to fragment no 3036/6 (Sagona 2015, 125, fig. 1:13 (7)). None of these, however, present a flat lip.

41A. NUF41-51 and additional fragments. Similar zig-zag decoration (Copat *et al.* 2012, fig. 8, no 6.

41B. NUF41-64. Part (without rim) of a jar with undulating wall profile consisting of five joinable pieces.

Typical pinkish fabric misfired to various hues, including black patches.

Decorated with two horizontal bands consisting of two parallel incised lines enclosing short oblique incised lines. The top band is interrupted at the upper right corner by zigzagging bands with the same pattern hanging from a single incised line.

42. NUF41-53. Four other loose fragments with similar decoration, but marked [16], two of which are thicker and have a chamois-coloured interior surface. Unclear whether they are from the same vessel as [41] above.

43. NUF41-50. Small fragment of wall of medium-sized bowl with three parallel incised lines (with white paste infill) meeting obliquely at an angle.

Dark grey-brown fine fabric.

44. NUF41-59. Wide-mouthed, medium-size jar with flat horizontal lip rounded at the edges, and a curiously slanting strap handle. Walls c. 1 cm thick. Larger fragment from Context (40); fragment with handle from Context (41).

RD 20 cm.

Orange-pink fabric fired grey at the core and covered with coral-red slip, cracked and wearing off on the outside, more consistent on the inside, but wearing off close to the rim.

Jar with similar skewed handle in Sagona (2015, 131, fig. 1:20 (5)).

45. NUF41-54. Fragment of a thick-walled container with a slightly raised vertical rib on the outside.

Rather gritty fabric fired pinkish brown close to the surface and grey in the centre of the section. Dark purple-brown slip wearing off on the inside.

Though sharing the unusual rib and purple-brown slip exhibited by sherd [19] above, it belongs to a much thicker-walled container.

46. NUF41-27-33. Large globular jar represented by an unnumbered fragment (Crate 5): c. 12 cm high, medium thick (1.3–1.5 cm) rim and walls and flattened rim, and indent.

RD 21 cm.

Fabric fired grey to black at the core and inside surfaces. Brownish slip on the outside.

Jar 28, NUF41-37, is the same as Copat *et al.* (2012, 59) fig. 8.7.

47. NUF41-27. Medium sized, elongated jar with slightly curved, in-sloping sides and horizontally flattened lip. Consists of four glued fragments, the extreme right tip of which fits the extreme left tip of two more joined and glued fragments (six fragments of rim in all) forming more than half the diameter. One more fragment, joinable with the extreme left of the main combination discovered on 20/11/2017.

Inside RD 22 cm.

Usual pink-buff fabric fired black at the core. Brownish slip with black blotches on the outside and unslipped coarse surface on the inside.

None of Tanasi's types of 'cooking jars' or 'storage jars' have a similar profile with a similar flattened and externally thickened rim, except his 'New Type 6' of Jar (Tanasi 2015, 53–6, fig. 41).

48. NUF41-38A. Handle. Fragment of a largish bowl with wall thickness ranging from 1 to 1.2 cm, and a vertical strap handle.

Coarse and gritty fabric fired grey right into the internal unslipped surface. Unusual yellow-brown slip, mostly turning dirty grey on outer surface.

Not illustrated: Five fragments of a similarly shaped jar with slightly thicker walls and wider flat rim. Rim separated from body by a sharply incised groove.

Coarse fabric fired grey with unusual dark brown slip on both surfaces.

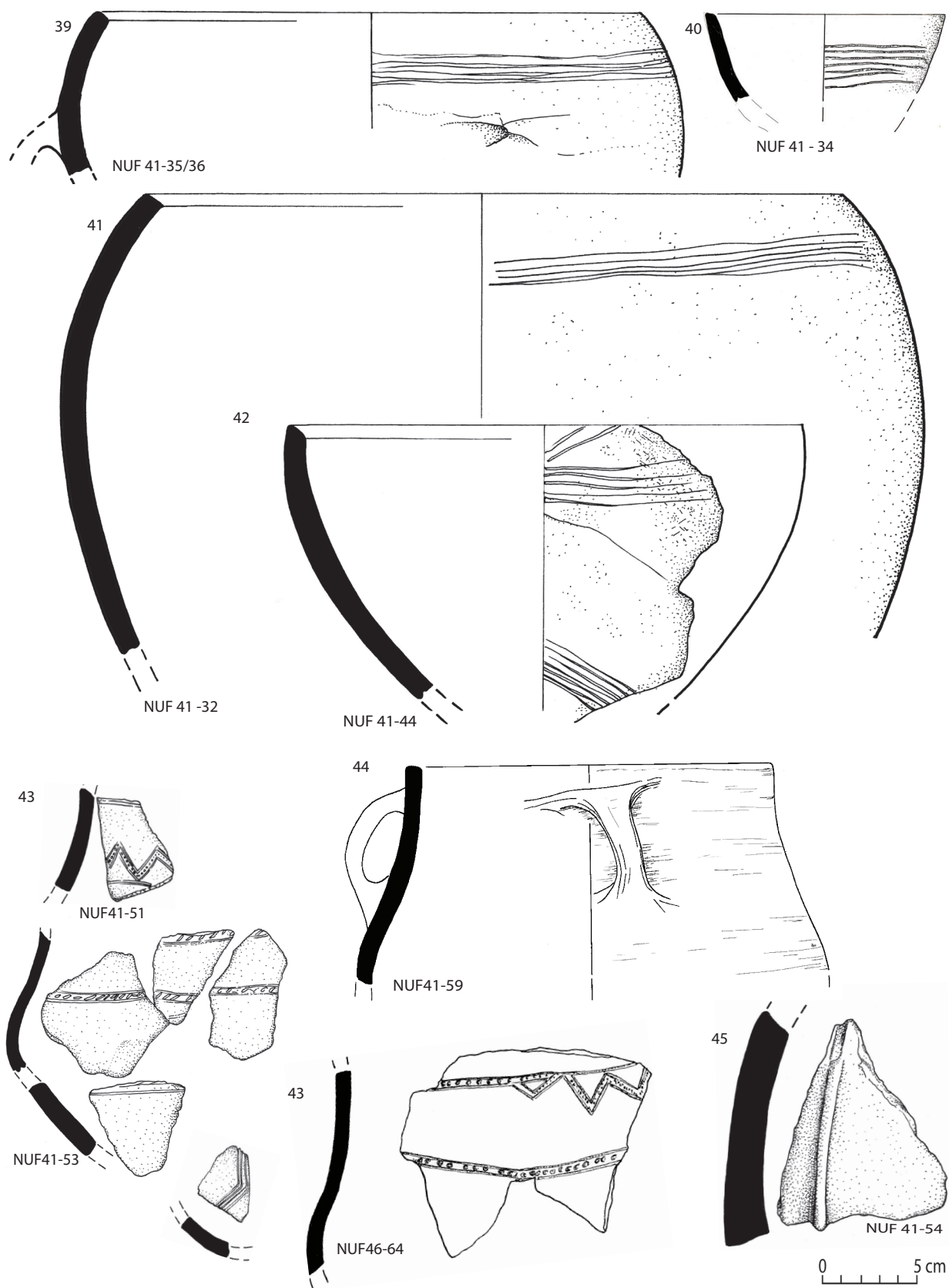


Fig. 8.17. Ceramics catalogue numbers 38–45.

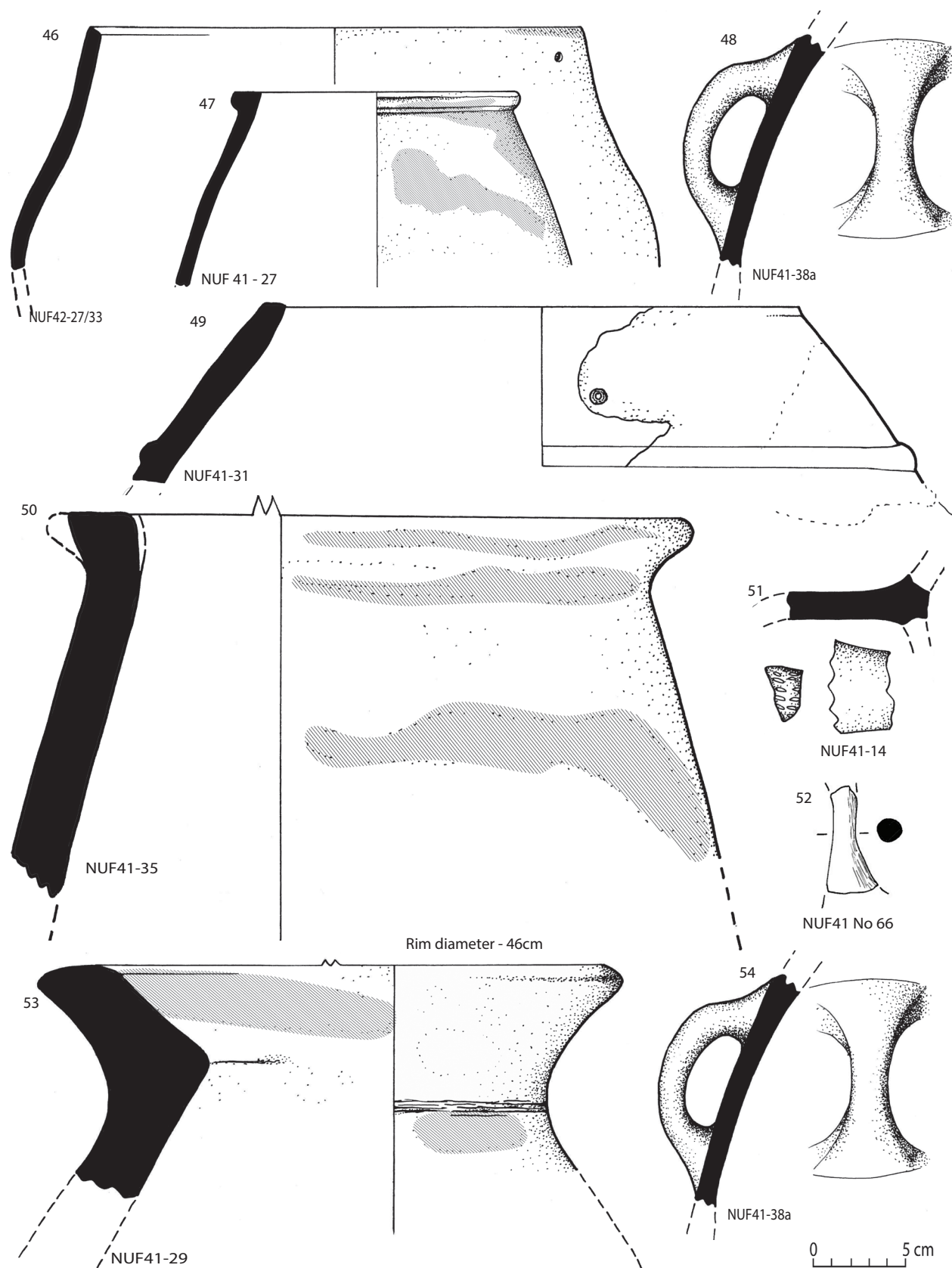


Figure 8.18. Ceramics catalogue numbers 45–50.

49. NUF41-30. Huge jar of roughly the same size as [50] but with walls sloping gradually inwards towards the rim which turns out at the very top. The profile can be extended far beyond the drawing from joinable pieces which do unite with a flat base (*Crate 2*).

Flat base (3.25 cm thick) with part of the rising wall joinable to wall fragments in crate.

RD 48 cm.

Base: pink fabric fired grey on the inside upper surface. Self-slip on both sides, but pinkish on the inside and creamy pink to yellow on the outside.

Similar profile in closed jar fragment from Borg in-Nadur (Briffa & Sagona 2017, 72, fig. 44: 3).

50. NUF41-29. Huge globular jar with very thick (3-4 cm) walls sloping inward towards a narrow neck where they curve out sharply to a wider rim. The sharp turn is more angular on the inside, marking more distinctly the separation of the mouth from the body. At least four joinable fragments.

RD 46 cm.

Irregularly incised horizontal lines mark the separation of the mouth from the body on the outside. Typical pinkish-buff fabric fired grey at the core. Dark purplish slip on the outside; coral-red slip on the inside, turning white at one spot in lower part of neck.

Compares with fragment from Borg in-Nadur (Murray 1923, plate XIV, 162).

51. NUF41-48. Large spheroid jar with neck sloping inwards. Six glued fragments and joining complete typical strap handle.

RD 30 cm.

Usual pink fabric fired grey at the core. Coral-red slip preserved entirely on the inside and wearing off on the outside. No blotches. Similar shape and handle noted by Murray (1925, plate XVIII, 2).

52. NUF41-34. Large jar with 1 cm-thick walls with neck sloping inwards, preserving upper part of strap handle. Similar to [53] but without horizontal raised rib.

RD 24 cm.

Pinkish buff fabric fired grey at the core. Coral red slip, without black blotches, inside and outside, wearing off in patches on the outside.

Similar to Tanasi's Type 4 Jar (1915: 52, fig. 45) but rim is not thickened internally. Some similarity in profile to small rim fragment of a jar in Coarse Pink Buff Ware (no 1039/43) from Tas-Silġ in Sagona (2015, 138, fig. 1:27 (4)), a 'hole-mouth form, rounded lip, self-slipped and smoothed surfaces'. Similar shape and handle also noted by Murray (1925, plate XVIII, 2), although without the neck cordon.

53. NUF41-46. Large jar with curved body and straight, sharply inward-sloping neck and rim. More than 12 fragments, practically all joinable and most of them glued together. A raised horizontal rib encircles the neck below the rim, with a strap handle attached to its lower side. Another joinable fragment of the rim, which has a drilled mending hole, and other sherds survive that could enable a full profile to be reconstructed. The jar had probably three, possibly four, handles since two of the handles within one quarter of the jar are placed at different levels: the drawn one joins the body just below the horizontal rib, the undrawn one (better preserved) joins it 4.5 cm below the rim.

RD 28 cm.

Pinkish buff fabric, fired grey at the core. Coral red slip, uniform on the top third of the outer and inner surface, but with large black blotches on outer surface and no slip on inner surface below that. Similar to Tanasi's (1915, 52, fig. 45) Type 4 Jar, but rim is not thickened internally.

54. NUF41-12. Rim and part handle. Fragment of a large bowl or pot with upper part of a strap handle attached to the rim.

RD 23 cm.

Coral red slip on exterior and interior surfaces.

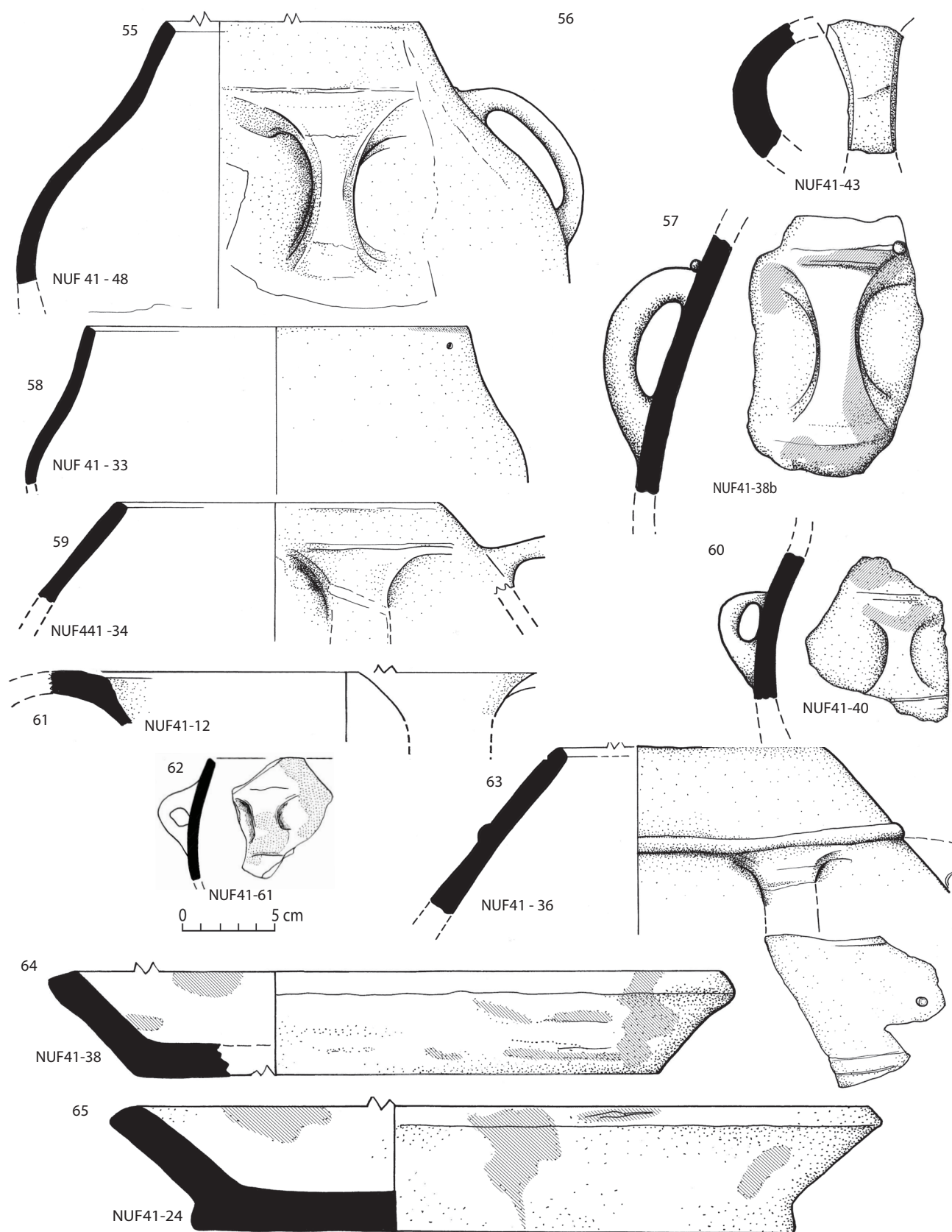


Fig 8.19. Ceramics catalogue numbers 51–65.

55. NUF41-24/4. Medium-sized tray with flat base and splayed straight sides. Rim rounded on the inside; angular and slightly inclined on the outside. Floor projecting out at an angle.

RD 45 cm. External base D 23 cm.

Typical pinkish buff fabric with thick grey core, almost to the surface. Typical coral-red slip with large black blotches on both surfaces.

Parallels are evident in Tanasi's (2011, fig. 4.32) Tray Type 2A; Copat *et al.*'s (2012, 59, fig. 8.10) tray with tronco-conical walls; and Briffa & Sagona's (2017, 71–2, no. 378, fig. 43: 12, 104: 5) wider and shallower 'baking pan'. Also similar to Tas-Silġ tray nos. 1027/736, 1043/144, 1043/211 in Sagona (2015, 141, fig. 1.31 (1–3)).

See also Copat *et al.* (2012, 59, fig. 8.10); Tanasi (2011, 121, fig. 4.32 (PN/P81h)).

56. NUF41-24B. Tray similar to [55] but floor does not project at an angle. Very little survives of the floor (2 not joinable fragments).

RD 44–46 cm.

Fabric very different from [55] and from the rest of the assemblage: very coarse and badly fired, similar to that of Punic-Roman cooking ware. Very gritty in section, showing tiny bits of stone or fired clay. Buff colour and relatively smooth on inside, mostly grey and rough on outside.

Similar in shape, but slightly deeper and narrower, to Tas-Silġ tray no. 1042/47 in Coarse Pink Buff Ware (Sagona 2015, 141, fig. 1.31.4).

57. NUF41-38B. Handle of largish bowl with walls up to 1 cm thick and vertical strap handle with upper attachment highlighted by a horizontal groove on top of its upper attachment and a small knob on its right end. Very coarse and gritty fabric, fired grey at the core and purplish brown on the inner face. Surface is rougher on outside than inside. Usual coral-red slip on the outside, fired almost entirely black. Similarities to handle knob from Borg in-Nadur (Murray 1923, Plate IX, 8).

58. NUF41-38A. Handle fragment of a largish bowl with wall thickness ranging from 1 to 1.2 cm, and a vertical strap handle. Coarse and gritty fabric fired grey to the internal unslipped surface. Unusual yellow-brown slip, mostly turning dirty grey on outer surface.

59. NUF41-66. Small long handle with round section and widening out to join the wall of its pot at one end.

Max. L. 4.8 cm.

Typical pink fabric with some traces of black soot on one side.

60. NUF4-13/43. Two joined fragments of a strap handle, like [63].

61. NUF41-14. Fragment of a strap handle, similar to [63], with rice-shaped impressions filled with white paste on the interior of the rim.

Grey sandy fabric.

62. NUF41-61. Medium-sized spherical bowl with inward slanting rim top. Consists of one fragment with smallish strap handle.

Uncertain RD, probably 16 cm.

Pink fabric fired grey, without a slip, on the inside, and pink with blotchy coral-red slip on the outside.

63. NUF41-41. Strap handle (one of a series of such handles) of large bowl or pot. Wide at the attachment to the pot, and narrowing toward the centre. Lower attachment missing.

Usual pink-buff fabric. No apparent slip on inside; blotchy coral red on outside.

64. NUF41-42. Large fragment of a large bowl or pot with a relatively smaller, but thicker, strap handle (one of a series of such handles), wide at the attachment to the pot, and narrowing toward the centre.

65. NUF41-40. Fragment of a whole strap handle of a largish bowl. Outer edges of attachments to the body highlighted by a groove. Two sherds.

Fabric: coarse, unusual purplish right through in section, from surface to surface. Dark purplish-brown slip, with predominating black blotches on outside; almost, but not quite, self-slipped on inside.

[Note: 33 other pieces of similar strap handles but of different sizes are not illustrated here]

Decoration characteristic of 'Dribbled ware', so called by Trump (and later Tanasi), was noted on numerous sherds, particularly from NUF41-70. This comprised some 16 sherds, including two separate glued sherds, with similar painted discs ('dribbled').

Dribbled wares were discovered at Borġ in-Nadur, Baħrija, a silo pit at In-Nuffara and at Tas-Silġ (Tanasi 2008–2009 [2013], with previous bibliography).

Notes

1. Grid ref. UTM 33S 434635E 3988913N (ED50 datum). WGS84 36.041°N, 14.274°E. Site code: NUF2015.
2. *FRAGSUS*: Fragility and sustainability in restricted island environments: Adaptation, cultural change and collapse

in prehistory. A collaborative programme of research between Queen's University Belfast, Heritage Malta, Cambridge University, the University of Malta and the Superintendence of Cultural Heritage, Malta. European Research Council seventh framework programme (FP7) 'Ideas' Advanced Grant: 323727. Principal Investigator: Prof. Caroline Malone <http://www.qub.ac.uk/sites/FRAGSUS/>

3. See Note 4 below.
4. D. Tanasi, whose help is gratefully acknowledged, identified parallels for five of Borġ in-Nadur pottery shapes from the list AB submitted to him (personal communication dated 12/06/2018).
5. In connection with this, the present writer has a hand-written note saying that a report on this activity by G.A.M. [Grupp Arkeologiku Malti] was submitted to Dr Tancred Gouder [the Director of the Museums Department] on 3/8/1995.
6. Although D. Tanasi's article (2013, Table 1) about prehistoric painted pottery focuses on the 'dribble ware', it also gives a numerical breakdown of the shapes and types represented by the pottery assemblage of 2944 sherds retrieved from the In-Nuffara pit in 1960.
7. It is relevant to recall Tanasi's (2008–2009, 11–12) suggestion that three to four identified shapes of the dribbled ware from the 1960 pit must have been used for ritual purposes on the grounds of the special technical features evident in its manufacture, which were understood to represent 'a pottery class of high level produced by the most skilled potters'.

Temple places

The ERC-funded *FRAGSUS Project* (*Fragility and sustainability in small island environments: adaptation, culture change and collapse in prehistory, 2013–18*) led by Caroline Malone (Queen's University Belfast) has focused on the unique Temple Culture of Neolithic Malta, and its antecedents and successors through investigation of archaeological sites and monuments. This, the second volume of three, presents the results of excavations at four temple sites and two settlements, together with analysis of chronology, economy and material culture.

The project focused on the integration of three key strands of Malta's early human history (environmental change, human settlement and population) set against a series of questions that interrogated how human activity impacted on the changing natural environment and resources, which in turn impacted on the Neolithic populations. The evidence from early sites together with the human story preserved in burial remains reveals a dynamic and creative response over millennia. The scenario that emerges implies settlement from at least the mid-sixth millennium BC, with extended breaks in occupation, depopulation and environmental stress coupled with episodes of recolonization in response to changing economic, social and environmental opportunities.

Excavation at the temple site of Santa Verna (Gozo) revealed an occupation earlier than any previously dated site on the islands, whilst geophysical and geoarchaeological study at the nearby temple of Ġgantija revealed a close relationship with a spring, Neolithic soil management, and evidence for domestic and economic activities within the temple area. A targeted excavation at the temple of Skorba (Malta) revisited the chronological questions that were first revealed at the site over 50 years ago, with additional OSL and AMS sampling. The temple site of Kordin III (Malta) was explored to identify the major phases of occupation and to establish the chronology, a century after excavations first revealed the site. Settlement archaeology has long been problematic in Malta, overshadowed by the megalithic temples, but new work at the site of Taċ-Ċawla (Gozo) has gathered significant economic and structural evidence revealing how subsistence strategies supported agricultural communities in early Malta. A study of the second millennium BC Bronze Age site of In-Nuffara (Gozo) likewise has yielded significant economic and chronological information that charts the declining and changing environment of Malta in late prehistory.

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