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The southeast sector of Malta: A gateway for cultural change

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Abstract: Margaret Alice Murray was a pioneer for women's involvement in Egyptology and in archaeology. Due to teaching commitments at the University College London (1898 to 1935), she turned to the Maltese Archipelago as a destination for excavation. Her accounts of work in Malta hold gems of information, and it would be a mistake to dismiss or overlook Murray's contribution to the early archaeological investigations of the islands. Subsequent decades of fieldwork and research have clearly demonstrated that the southeastern sector of Malta played a significant role in cultural and economic change through trade and the influx of people from the eastern Mediterranean. This discussion draws on Murray's work as a springboard for a closer examination of cultural developments in the southeast of the main island of Malta and the archaeological sites in the region.

Keywords: Margaret Murray, Late Neolithic, Borġ in-Nadur, Bronze Age, Tarxien Cemetery, Agricultural fields scars, Purple murex dye, Phoenicians, Wine trade

Introduction

This discussion explores the theme of ancient economic strategies evident in Malta that was presented on the occasion of the Australian Institute of Archaeology's Petrie Oration in October 2024. There is a connection between Malta and William Matthew Finders Petrie through his student and later colleague, Margaret Alice Murray. Her work in the southeast of the main island of Malta forms the launching point for an exploration of why this sector was significant in the major cultural developments that came with the influx of eastern Mediterranean influences and settlers from the Aegean, and later from the Levantine coast. The focus of this discussion falls on what Malta had to offer economically, whether through the labours of its Neolithic community for daily sustenance, or for the maritime traders and settlers who saw commercial advantages in targeting the islands.

Geographic setting

The archipelago lies in the central Mediterranean, 93 km from Sicily and 180 km from North Africa, Figure 1. There are five islands in the group, Malta, Gozo, Comino, Cominotto, and a lesser rock outcrop called Filfla to the south, as well as some smaller islets. The main island is only 27 km long and 14.5 km wide, and is 246 km^2 in area. Packed within this space is an array of remarkable archaeology. The same can be said of the smaller, north island of Gozo. Access to most of the southern coastlines of both main islands is thwarted by high and abrupt cliffs that fall into the sea. In some places they can rise to 130 m above sea level, Figure 2. Malta's resources are few. Limestone bedrock with occasional nodules of flint and chert, clay deposits, natural springs, thin but fertile soils, and the abundance of the sea were all exploited by its inhabitants. Otherwise, there are no other stone or mineral

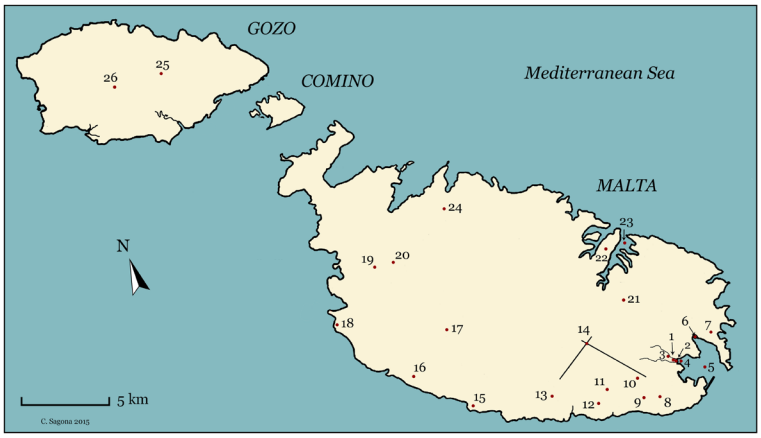

Figure 1: *Map of the Maltese Archipelago. Malta — 1 Borġ in-Nadur; 2 St George's Bay vats; 3 Għar Dalam; 4 St George's Bay; 5 Marsaxlokk Bay; 6 Il-Magħluq ('cothon'); 7 Tas-Silġ; 8 Santa Sfia (Ħal Far); 9 Santa Maria tal Bakkari; 10 Ta' Ġawhar; 11 Safi; 12 Żurrieq; 13 Qrendi; 14 Malta airport; 15 Wardija ta'San Ġorġ; 16 Misraħ Għar il-Kbir; 17 Rabat; 18 Baħrija; 19, Mġarr; 20 Skorba; 21 Tarxien; 22 Valletta; 23 Grand Harbour; 24 Burmarrad. Gozo — 25 Ġgantija; 26 Victoria. Drawn: C. Sagona.*

Figure 2: *View of coastline cliffs looking west from the Bronze Age site of Wardija ta' San Ġorġ. Photo: C. Sagona.*

resources. At the outset, there can be little doubt that the first of Malta's assets lies in its natural harbours, which offered welcome refuge in the Central Mediterranean. Significant sites around Marsaxlokk Bay throughout the centuries point to this region as one of the key access points to and from the island, and this discussion concerns this southeastern sector of Malta, Figure 3.

Margaret Murray in Malta

Margaret Alice Murray (1863–1963) was a pioneer for women's involvement in Egyptology and in archaeology, and an active supporter of women's equality. She had worked on recording monuments with Petrie at Abydos and Saqqara in 1902 and 1903 (Drower 2006; Ellul-Micallef 2013, vol. 1: 277–79; vol. 2: 253–55; Vella, et al. 2011). When her teaching commitments at the University College of London were such that she could not participate in fieldwork with Petrie in Egypt during the winter field seasons, she turned to the Maltese Archipelago, after meeting Dr, later Sir, Themistocles Zammit in London (Murray 1963: 129). It was the year 1920 and he was there to receive an honorary doctorate from the University of Oxford (Ellul-Micallef 2013: 259, 331). Zammit was an eminent medical doctor, but as director of the museum in Valletta, he is also recognised for his archaeological skills. He promoted the islands' archaeology abroad, and actively investigated existing sites and new discoveries.

More recently, Murray's contribution has been recognised through publications by Kathleen Sheppard and Ruth Whitehouse, not to mention her autobiography, *My First Hundred Years* (Sheppard 2013: 197–222; Whitehouse 2013: 120–27; Murray 1963). Sheppard noted 'as far as I am able to ascertain there are no existing field notes like the ones Petrie would write from the field to his subscribers' (2013: 209). Murray's detailed reports, however, clearly reflect the documentation she made at the time. Her publications concerning Malta were significant (Murray 1923; 1925; 1928a; 1928b; Murray & Caton Thompson 1923; Murray et al. 1929; Murray et al. 1934). The four volumes about fieldwork and museum research were reviewed in several journals, and most recognise

Figure 3: *Satellite image of the southeast region of Malta showing Borġ in-Nadur Late Neolithic and Bronze Age site, dye vats at the shore, some field furrow locations and a grape pressing pan on the east side of Wied Ħas-Saptan, see Figure 22, right. Image: Google Earth (1985), accessed 7/9/2023.*

Figure 4: *Santa Maria tal Bakkari ruins with upright pillars that once supported the roof; behind the property wall in the background is the Punic tower Tal-Bakkari iz-Żurrieq (not visible). Photo: C. Sagona.*

the skill shown by Murray for excavation (E.A.P. 1926; 1929; E.N.F. 1929; 1930; Fallaize 1928; L.H.D.B. 1926; Schuchhardt 1928; V.G.C. 1929; Zammit 1924).

Her summer holidays between 1921 and 1927 were spent in Malta, excavating and working in the museum on a corpus of Bronze Age pottery (Murray 1963: 129). At the same time a colleague, Gertrude Caton-Thompson was excavating at the site of Għar Dalam, the 'Cave of Darkness', in search of hominid remains. Some finds were also recovered from the upper deposits.

Murray had initially been allocated the site of Santa Sfia, and later Santa Maria tal Bakkari. Santa Sfia was later impacted by Malta's first airfield at Ħal Far, so important in World War 2 (MAR 1921–1922: 1; NB 1921–1922: 1–4). One of its runways has now been converted into a road, and the other is used for car racing. Some large prehistoric stones were displaced, and a small length of wall remained, possibly from the Roman period, but no significant ground plan could be discerned, having been stripped of stone in antiquity (Murray 1923: 14–15, pl. 4). Pottery fragments of Punic or Roman date were considered to have come from a robbed tomb, and only one fragment was possibly Bronze Age in date (MAR 1921–1922: 1; NB 1, 1921–1924: 3).

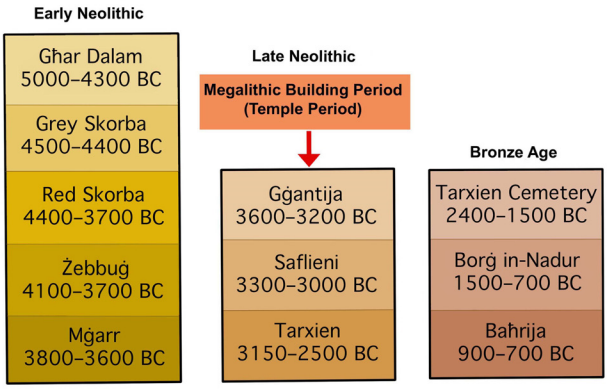

Figure 5: *The prehistoric sequence in Malta. Drawn: C. Sagona.*

Figure 6: *View across prehistoric ruins at Borġ in-Nadur in 1991. Photo: C. Sagona.*

The second site of Santa Maria tal Bakkari, about one kilometre to the west, was in better shape (NB 1921–1924: 3–4). It was a small chapel with pillars that once supported a roof, and an adjoining chamber. Even though it had incorporated some prehistoric stones, it was a shallow deposit, Figure 4. Murray considered that the building could have served as a sacred site, but one that was non-Christian (Anon 1922: 27; MAR 1921–1922: 3–4; Murray 1923a: 16–17, pl. 5).[2] Cultural finds were few, some fragments of Punic or Roman period pottery, as well as a small number of possible Bronze Age wares. Murray was particularly interested, however, in the Late Neolithic and the monumental stone buildings, generally referred to as temples. Indeed, this whole period is usually known as the Temple Period.

The prehistoric, cultural sequence spans the Neolithic, when the islands were first settled, the Late Neolithic, characterised by the massive lobed structures and Bronze Age, when the islands experience an influx of new cultural traditions, Figure 5. The Late Neolithic is also known for the statuary and elaborate carved blocks found in the structures and burial grounds. Depictions of the human form often portray quite corpulent proportions, no doubt indicating the importance of food production and abundance for its inhabitants within this island setting (Vella Gregory & Cilia 2005; Evans 1971; Trump 2002).

Borġ in-Nadur, Murray's third site, is located on land rising a short distance from St George's Bay, within Marsaxlokk Bay in the southeast of the island, Figure 6. A thick Bronze Age wall defined this later settlement, which had grown around the prehistoric, megalithic architecture of the Late Neolithic period. Murray exposed the lobed structures characteristic of that period and, despite its somewhat disturbed deposits, documented the array of cultural finds that were recovered. The lobed plan of the Late Neolithic building can be discerned, in front of which is a large walled forecourt, even though the site was impacted by later interventions, and the collapse of some stones, Figure 7. It is now a heritage-listed open air museum, fenced and with controlled access to the ruins (Bugeja 2011).

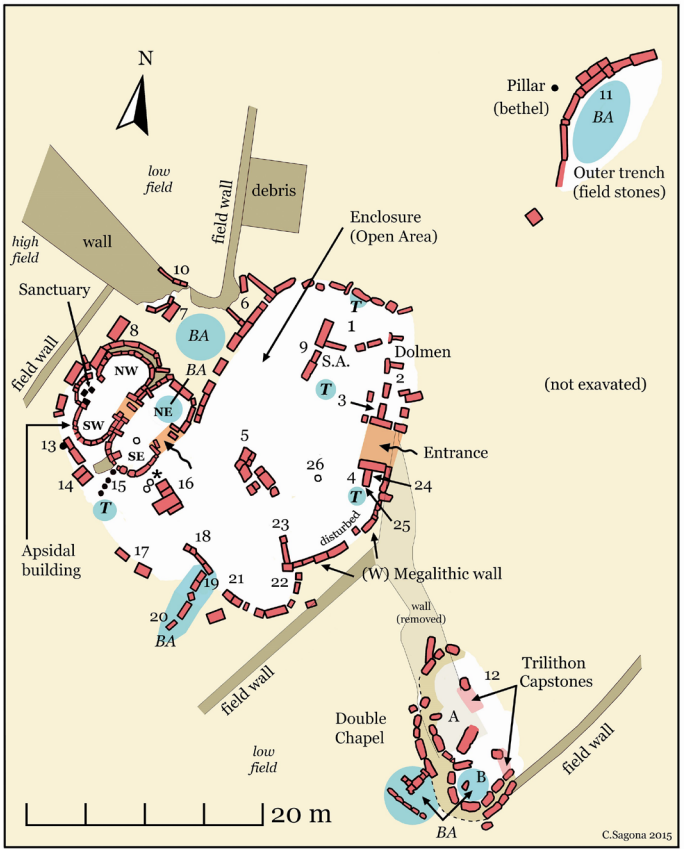

Figure 7: *Borġ in-Nadur complex with Murray's locations indicated on her plans or in her text, as well equivalent abbreviated markings on the artefacts she found: A and B – chambers in the so-called 'chapel' (see Double Chapel and no. 12); Apsidal building – Neolithic Period comprising chambers SW, SE, NE, NW and the small apse described as the Sanctuary with three standing stones in the space (black squares); BA – shaded areas with Bronze Age deposits; Dolmen (DW or dolmen wall) – standing stones incorrectly identified as a dolmen, it was part of the Neolithic structures, perhaps a niche; Double Chapel – remnants of another Neolithic structure (see A and B and 12); S.A. – perhaps 'south area' relative to chamber no. 1 (1923: 27–28); Small circles indicate well-used mortars; T – areas of torba, plaster floor from the Bronze Age; W – reference to the megalithic boundary wall from nos 24 to 18; 1 – Chamber 1 (1923: 32); 2 – Chamber 2; 3 and 4 – small niche-like alcoves (1925: 24; see cat. no. 239); 5 – group of stones; 6 – Chamber 6; 7 – flat slab with three standing stones; 8 – flat slab; 9 – short wall of three stones; 10 – tops of megaliths in the wide field wall (1923: 26); 11 – outlying structure; 12 – megalithic structures enveloped by a later wide field wall; 13 – upright column; 14 – two unconnected slabs; 15 – four small pillars; 16 – stones with steps on southeast side; 17 – stones not in the original position; 18 – segment of megalithic wall; 19 – a possible Bronze Age wall lines; 20 – north-south wall, possibly Bronze Age; 21 to 22 – possible remnant curved structure; 23 – offset in megalithic wall; 24 – small niche described as a 'guardroom' by Murray; 25 – torba floor remnant (Bronze Age); 26 – mortar C. Sagona after Murray (1923; 1925; 1929). Drawn: C. Sagona.*

Murray's finds

Although Murray's publications are now dated, the recent identification of the material she excavated, which is held in the British Museum, has opened the way to a deeper understanding of her field methods, and greater clarification of the excavated material in the National Museum of Archaeology in Valletta (Briffa and Sagona 2017, Collection 12, cat. nos 239–403). It was clear from a reappraisal of the Borġ in-Nadur site that Murray's markings had not been recognised (Tanasi and Vella 2011). Davide Tanasi, after re-examination of Murray's finds, noted:

> *It is not known in which way Murray marked the fragments after the excavations and no traces of signs previous to those made in 1952 [by John D. Evans] can be observed on the pieces with the exception of specimen BN/P58c (2011: 73–74).*

The fragment in question was simply inked '1924' on the surface (Tanasi 2011: 74). Excavation practices were outlined in Murray's reports, which included re-burying the pottery each evening in between twice weekly transportation of finds to Valletta, but only after they had been 'washed, dried and *marked*' (author's emphasis; Murray 1925: 20).[3]

As Evans apparently did not work on Murray's excavated material in the British Museum, he could not have made the markings on that pottery (Tanasi 2011: 72). It should be noted that markings similar to those on the British Museum pottery do appear on the fragments in the Valletta Museum, Figure 8. One fragment in the British Museum, for instance, was inked by Murray as coming from 'SU of entrance' meaning 'southern upright of the entrance', Figure 9.

As Murray's plans of the site can be matched to the markings on the pottery, it would have been possible to make the association, Figure 7. Not all fragments were inked, and it is possible that the existing markings once represented groups of pottery fragments she stored in separate boxes, perhaps in lots that she considered could be reconstructed (Tanasi 2011: 72, after Murray 1923a: 31). If so, the original association is now lost, apart from some that were reconstructed in the Valletta Museum at the time, and later illustrated by Evans (1971: 16–17, cat. nos BN /P.1–6, 8, 10, 12, 14, 19; also Tanasi 2011: 71–73). It is worth noting that Murray was working before sites were excavated, using a grid system developed in the 1930s by the Tessa and Mortimer Wheeler at British locations (Dever and Lance 1982), hence her documented contexts are descriptive.

Blue highlights on the plan are later Bronze Age areas and the locations named on the plan, are those used by Murray in her mapwork and texts, Figure 7. She did indicate, however, her field practices concerning deposits:

> *The whole was sifted by hand so that every particle of flint and scrap of pottery should be found. In this way a number of small flint chips were obtained, some not larger than 1/16 of an inch across; they appear to be the débris left by a workman when making or sharpening a flint implement. (Murray 1923a: 31).*

Until recently, the lithic finds from Borġ in-Nadur that she published remained one of the few accounts of stone tools for the island (Murray 1923b; 1925: 28, pls 23–24; cf. Vella, C. 2011: 191–192).

As all the material in the British Museum derived from Murray's excavations was added to the collection in 1923, it must have come exclusively from the areas excavated to that date. The map in the first report that

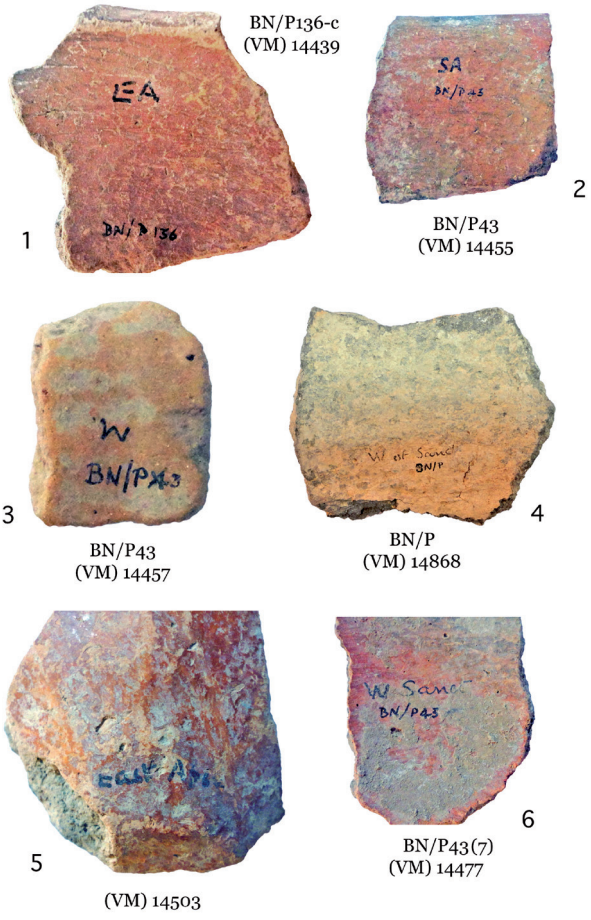

Figure 8: *Pottery fragments held in the National Museum of Archaeology, Valletta, inked with museum inventory numbers (BN code for Borġ in-Nadur; /P for pottery; other numbers are more recent catalogue entries); additional markings by Murray: 1. 'EA'; 2. 'SA'; 3. 'W'; 4. 'W of Sanct.'; 5. 'East Apse'; 6. 'W sanct.' Images: C. Sagona.*

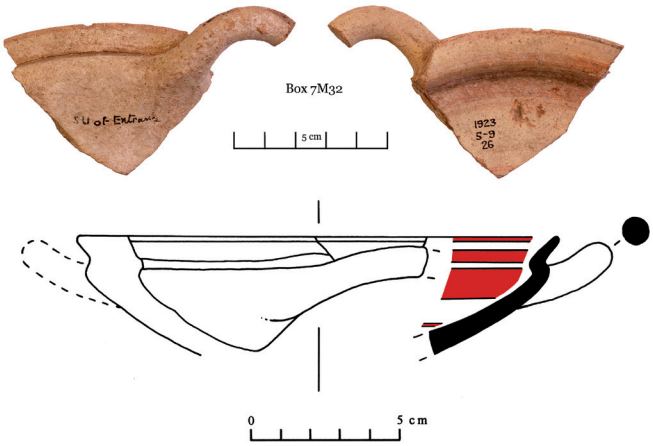

Figure 9: *Kylix, Phase II, c. 600–500 BC, held in the British Museum, Box 7M32, inv. no. 1923/5–9/26, inked 'SU of Entrance.' Image: C. Sagona, courtesy of the Trustees of the British Museum.*

appeared in the same year clearly shows the excavation had only uncovered about two thirds of the Open Area or Enclosure, and the ground plan of the lobed building, but not the areas immediately to its south, the remaining enclosure, nor the cluster of megaliths that would later be designated the 'Double Chapel', comprising two partial rooms, Figure 7 (A and B) and possible Bronze Age remnant architecture (Murray 1923a: pl. 7).

In 2023, another important collection of Maltese antiquities held in the Museum of Archaeology and Anthropology (MAA), University of Cambridge, appeared online. One group was given by Murray from her Borġ in-Nadur excavations, but also included in this collection were finds from Baħrija, Mġarr, Skorba, and Tarxien.[4] It is worth noting that lithics also feature in the collection held in Cambridge, including at least one imported obsidian flake (cf. Vella, C. 2011: 178).

Aspects of the late Neolithic economy

Factors driving change in Malta across successive cultural horizons were characterised by offshore contacts and the settlement of newcomers. Fuelling these new arrivals was a range of economic interests. While domesticated animals – sheep, goat, pig and cattle – and marine resources formed part of the prehistoric diet, grinding querns and lithic implements with gloss from use as sickles indicate that agriculture was a significant part of the ancient economy between the Mġarr and Tarxien Late Neolithic Phase, 3800–2500 BC (Figure 5; Marriner et al. 2012; Carroll et al. 2012: 38).

Although there are signs that the Maltese inhabitants had sporadic contact with neighbouring islands, they had to maximise the productivity of their homeland for their daily needs. The so-called 'cart ruts' found extensively across the islands should figure strongly in this evaluation. I have argued that 'cart-ruts' is a misnomer, and that they are in fact scars of regular field lines cut into the

Figure 10: *Aerial photo with rock-cut furrows clustered within possible ancient field plots (coloured pink green and yellow) at Misraħ Għar il-Kbir, after Zammit (1928: pl. 3; field plot overlay by the author).*

bedrock, coupled with intersecting lines used for runoff management to channel water to or from the furrows (Sagona 2004; 2015a: 115–129). When viewed in satellite images, the evidence is clear. They are proof of a deep knowledge of their ancient island environment. No doubt the inhabitants faced a problem of a growing population, and the ever pressing need to increase food supply.

Extensive scars can be found throughout the main islands, in areas not compromised by urban development. One very large group is located south of Dingli, at Misraħ Għar il-Kbir, with clusters of furrows running in different directions, which are likely to have been ancient fields, Figure 10. Unfortunately, these cuttings are given the nickname 'Clapham Junction', which only helped to cement the notion that the scars were the result of extensive traffic by wheeled vehicles.

In a detailed plan of one cluster drawn by Joseph Magro Conti and Paul Saliba, field furrows are clearly shown cut by Roman period quarries marked C, D, E, and by cross channels used to funnel away excess water and possibly capture valuable silt, Figure 11 (Magro Conti and Saliba 1998; cf. Magro Conti and Saliba 2007: 223, ref NW_0064). Often, furrows and channels run into pits and depressions, where both water and soil could be conserved. That the furrows are cut by Roman period quarries strongly suggest that, by that time, these furrows were no long in use.

The Neolithic communities worked at building soil, and honed water-wise practices with clever agricultural strategies. With the current state of technology, it would be possible to record these scarred landscapes in greater detail, documenting additional anomalies that may demonstrate an associated agricultural function, such as trickles lines, catchment pits and depressions, pecked areas from furrow manufacture, stepped areas that formed at the juxtaposition of adjoining fields, and so on. We

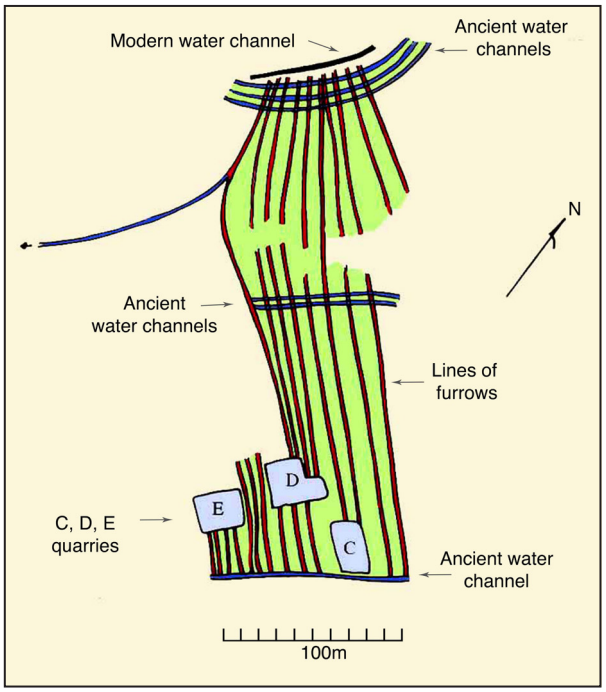

Figure 11: *Plan of one of the rock-cut furrows groups at Misraħ Għar il-Kbir showing water channels crossing the furrow lines at roughly 90° angles; C, D, E are areas of later Roman period quarries that cut through the ruts, base plan after Magro Conti and Saliba (1998; author's annotations).*

should think of these rocky and barren lands as once under mixed crops, and possibly under fields of grains like barley (Sagona 2004: fig. 4).

Efforts to run animal-drawn carts along the ruts essentially failed. In view of this, it has also been argued that the vehicles could have been sleds with stone runners (Trump 2002: 284–85). But how much simpler to see such stone runners as agricultural plough shears, like those fitted into ancient 'ards' used by hand. There are no prehistoric depictions of carts, or wheels, or sleds in Neolithic Malta. If Malta had the wheel, it would have been cutting-edge technology. To date, wheeled vehicles are thought to have been invented around 4200 to 4000 BC in Mesopotamia.

Building soil

As to the process of making soil on rocky terrain, the ancient communities could have utilised manure and seaweed, depending on their proximity to coastal areas. Most importantly, however, there are two similar ethnographic accounts concerning soil production in Malta (Sagona 2015a: 127–28). One that appeared in the *Edinburgh Medical and Surgical Journal* for 1830 made this very important observation about the Maltese bedrock:

> *...this rock, which consists chiefly of carbonate of lime with about seven per cent of alumina, is ... remarkably soft and crumbly, so that with very little expense of labour, it may be easily*

***Figure 12**: Satellite image of adjoining disused fields in southern Gozo with rock-cut furrows running in varying directions (36° 1.889'N, 14° 19.392'E. Image: Google Earth (1985), accessed 23/5/2021.*

> *broken down and converted into a soil of extreme productiveness. In this way, fields are every year reclaimed, and it is probable that much of the land at present under cultivation has been reclaimed in a similar manner. (Anon 1830: 154).*

Examples of field patterns are numerous; for example, four walled fields can be seen in one satellite image of southern Gozo, Figure 12. It clearly captures short spans of field furrows oriented in varying directions relative to the landscape. If these are cart tracks, why are they equally spaced in rows, why are they running in varying directions, and why would anyone run vehicles for such short distances?

A fundamental economic reason, namely vital food production, was the driving force behind the rock cuttings. Essentially, the furrows point to the ingenuity and strategic economic thinking of the indigenous islanders. From this approach, we have an indelible window by which to calculate the extent of arable land exploited in antiquity, of possible crop yields and, hence, the likely maximum population number that could be supported in the islands during prehistoric times. 'Indelible' only as long as the areas in which they are found are not targeted for development.

Submerged furrows

Returning to southeast of the island, offshore, into Marsaxlokk Bay, one satellite image is quite informative. On a calm day in April 2013, the shallow sea floor was clearly visible, revealing submerged furrows channelling into catchment areas, now sand-filled pits, Figure 13. They suggest that the need to increase arable land was pushed as far as the islands could support, and that rising sea levels eventually and permanently covered this area. Even more important, these cuttings indicate the great antiquity of the practice of building fields. They did not function as roads, they were certainly not Roman in date, nor were they associated with quarries, and they did not facilitate the movement of quarried stone, which is one of the prevailing interpretations.

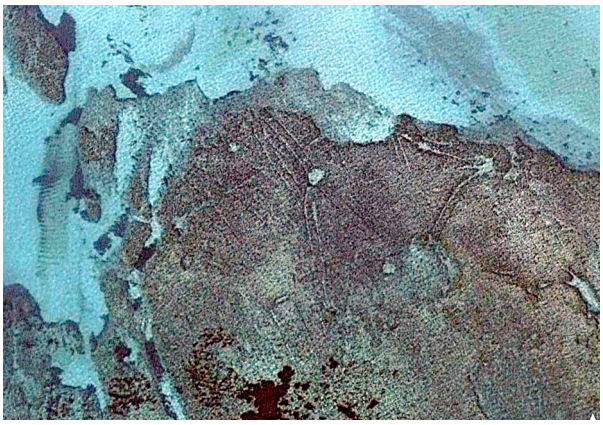

***Figure 13:** Likely submerged field furrows in Marsaxlokk Bay running into pits. Image: Google Earth (1985), accessed 15/4/2013.*

New directions: Aspects of Tarxien Cemetery and Borġ in-Nadur period economy

It seems that the indigenous communities were ready for change, perhaps driven by adverse climate and an increase in arid conditions (Weinelt et al. 2015: 472). One study placed a time of rapid change toward aridity in the west Mediterranean between 2200 and 2000 BC, and the 'sudden cessation of cereal pollen, perhaps signalling agricultural collapse' (Carroll 2012: 38). There are signs that the local communities carried out closure rituals for their massive lobed complexes. Tarxien was backfilled with clean sand after its shelves were stacked with animal bone. At Tas-Silġ, one statue seemed to have been damaged deliberately (Vella 1999: 228). Stone slab roofing material may have been removed intentionally from the Late Neolithic complexes (Sagona 2015a: 84). These processes do suggest that people remained on the islands, whatever forces were at play, though some argue for depopulation (Trump 2002; Evans 1971). Some buildings were abandoned, and others were re-used with a distinct shift in spatial organisation or function, like the cremation burials within the Tarxien complex (Sagona 2015a: 132, 356 ns 79–81).

The late Neolithic way of life petered out around 2500 BC, when there is clear indication that the island was infiltrated by newcomers who made Malta their home. The first signs of contact were examples of a pottery known as Thermi Ware, from finds in Lesbos, northern Aegean, that started to appear in isolated instances in late Neolithic contexts (Trump 2002: 249). Other pottery types point to contact with Lipari, Sicily, and lands east of the Adriatic Sea (Trump 2002: 248–49).

The new cultural horizon is referred to as the 'Tarxien Cemetery Period', heralding the beginning of the Early Bronze Age, Figure 5. It was marked by the introduction of cremation. Notable is the Bronze Age burial site within

the abandoned Late Neolithic complex at Tarxien, hence the origin of the cultural name, Tarxien Cemetery Period. Bundles of woven cloth, small beads including Egyptian faience, copper axes and knives, anthropomorphic figurines with disc-shaped bodies, and dolmen structures were introduced. Although metal weapons were among the grave goods left in cremation burials, there are no signs of violent occupation of Malta (Trump 2002: 262–63). They brought a new range of pottery, some intricately decorated. Tarxien Cemetery settlements are few, but the site of Borġ in-Nadur was one (Sagona 2015a: ch. 5).

In subsequent deposits at the site, the next group to appear in Malta is known as the 'Borġ in-Nadur Culture' because their pottery type was first recognised there. Their closest links suggest Sicily as an origin. They also built modest homes, and comparatively speaking, their sites were more prevalent across the islands, and there does seem to have been some mingling of the two traditions for a short time, judging by the stratigraphy at Borġ in-Nadur (Evans 1971: 225). By the Middle Bronze Age, the shape range of the local pottery is quite diverse, from small cups through to storage jars. Red slipped surfaces are common, and hand production is the norm. Later Borġ in-Nadur pottery was still handmade, but the quality is somewhat diminished, with eroding clays and drab surfaces.

An argument can be made that a significant point of entry into Malta during both Tarxien Cemetery and Borġ in-Nadur times was through Marsaxlokk Bay. A substantial Bronze Age fortification wall was built at Borġ in-Nadur and within it, the remains of very modest dwellings have been exposed through excavations in the 1880s and in 1959 by Antonio Caruana and by David Trump respectively. By contrast, the scale of the 'D-shaped' bastion makes the Neolithic structures to the south look small, Figure 14. In terms of a perceived threat, it could be asked if there is any significance that it faced inland?

The Bronze Age textile industry in Malta

In 1870, naturalist Andrew Leith Adams published a small sketch of a series of rock-cut pits at the very shore of St George's Bay, within the larger Marsaxlokk Bay, and only a few minutes' walk from the Borġ in-Nadur ruins (Adams 1870: 244, pl. 7). The site is partially preserved, with a small number of pits still exposed at the shore, Figure 15. In all, 73 pits were originally counted, Figure 16; 32 were destroyed or obscured when the coastal road was constructed, and 41 remained visible. Decades later, however, road widening obscured the bulk of the features (Grima 2011: 365–66, fig. 11: 8). Significantly, these rock cut pits are likely to have functioned as dye vats for the production of purple dye from the glands of the murex sea snail. Estimates suggest some 12,000 molluscs were needed to produce one gramme of dye. The earliest date of purple dye industry in the Mediterranean comes from Coppa Nevigata, in Apulia, Italy. Research has demonstrated that purple dye production started there

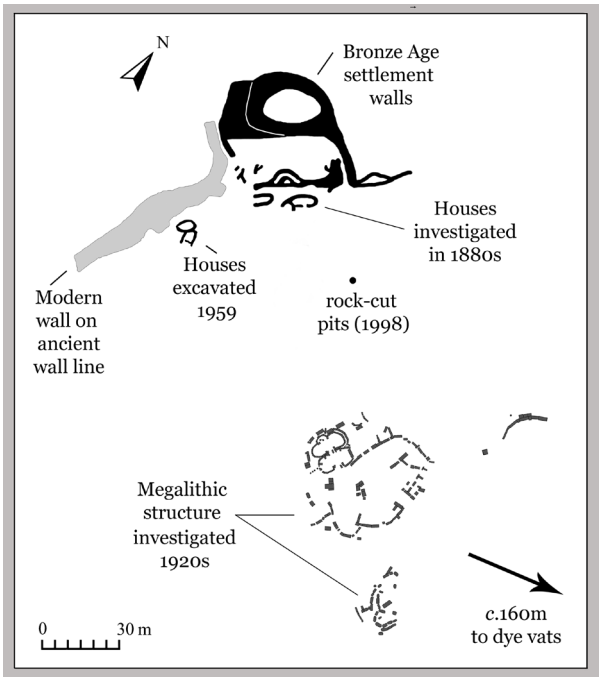

Figure 14: *Plan of the megalithic structures and Bronze Age fortifications, houses and other features at Borġ in-Nadur. Drawn: C. Sagona.*

sometime in the nineteenth to eighteenth centuries BC, becoming a significant industry in the Middle Bronze Age, spanning the fifteenth and fourteenth centuries BC (Minniti and Recchia 2018). Given the chronological overlap with the Tarxien Cemetery, and into the early Borġ in-Nadur periods, Figure 5, it is not inconceivable that Malta was drawn into this flourishing, central Mediterranean, textile industry. Certainly, the textile manufacturing tools from Bronze Age Malta strongly suggests this was the case, Figure 17.

Artefacts, notably 'T-shaped', hooked ceramic objects, were likely used to manage skeins of yarn, both generally and during the dying process (Trump 2002: 256). Such implements have been documented in the Early Bronze

Figure 15*: Surviving dye vats at the water's edge east of Borġ in-Nadur. Photo: C. Sagona.*

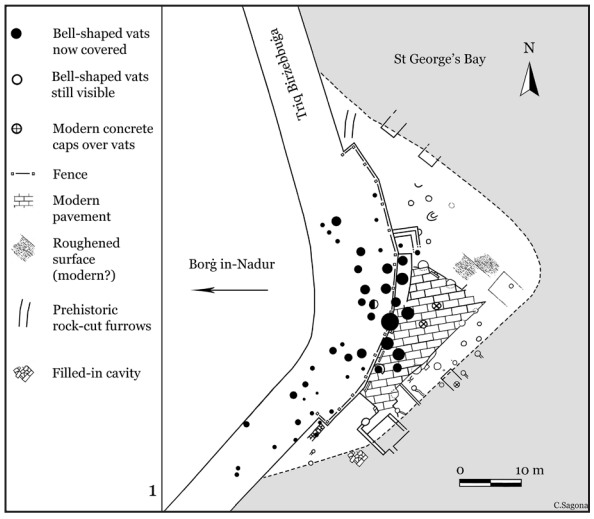

Figure 16: *Plan of the dye vats east of Borġ in-Nadur incorporating pits recorded in the archive 'Plan showing position of ancient pits and holes at San Giorgio, Birzebbugia', dated 9 May 1921 by J. Galizia. Plan: C. Sagona; after the archive plan in Grima (2011: fig. 11/ 8).*

Age Macedonian region, the Balkans, central Greece and Corinth (Carington Smith 1992: 692–94, pl. 11: 38, nos 2800, 2801). Conical loom weights and spindle whorls were found in most Middle Bronze Age contexts in Malta, Figure 17 (Evans 1971: 151; Zammit 1930: 72–73). This evidence alone points to textile production across the islands. The value placed in textiles, however, is also reflected in the bundles of cloth found in some of the Tarxien Cemetery cremation jars mentioned previously (Sagona 2015a: 151–152, 359 n. 52).

Illegal digging in AD 2000 around Borġ in-Nadur revealed archaeological deposits, and three vats were identified within the perimeter Bronze Age wall (Vella et al. 2011: 47, fig. 3: 2). Archaeological assessment of the damage reported that: 'a *thick ash layer* … was also revealed lying over bedrock (author's emphasis).' Without systematic archaeological excavations, one can only speculate that the ash, resting on bedrock and outside the Neolithic complex, dated to the Bronze Age, and it had accumulated during the dye production process that involved heating the dye solution.

Figure 17: *Spindle whorl (inv. no. 1923/5–9/57) and loom weight (inv. no.1923/5–9/54) from Borġ in-Nadur held in the British Museum. Images: C. Sagona, courtesy of the Trustees of the British Museum.*

Long distance maritime contact

Another particularly noteworthy find in regard to offshore contact is an agate fragment, which came to light in Tas-Silġ, a Phoenician-Punic temple precinct, during the Italian Archaeological Mission to Malta, excavated by Alberto Cazzella and Giulia Recchia in 2010. On the strength of the find, the excavators rightly considered that the Maltese islands 'were included in the trade networks that crossed the Mediterranean' (Recchia and Cazzella 2011: 577). A path can be suggested for the object, starting with the stone source in Afghanistan or Türkiye. It was worked into a crescent-shaped amulet, possibly in Georgia, where a parallel (manufactured in two halves and joined with gold fittings) was found in a Trialeti tomb in the 1930s, dated between 2000 and 1700 BC. Likely robbed from a Caucasian tomb, the fragment ended up in Mesopotamia, where it was inscribed in cuneiform around 1300 BC, left in a temple (likely to have been Nippur), robbed again, and carried to the Levantine coast. It was shipped to Malta sometime during the Borġ in-Nadur period around 1200 to 1000 BC. Through disturbance and remodelling of the temple precinct, it ended up in a fourth to third century BC context in Tas-Silġ. Notably, it still remains the westernmost example of cuneiform writing (Sagona and Sagona 2017; Sagona 2015a: 191–93, fig. 6.3: 4).

The proposed date for the agate's arrival in Malta between 1200 and 1000 BC is significant. It is important for the debate concerning when Malta was contacted by Levantine mariners and traders. With a dearth of radiocarbon dates for the Phoenician tomb evidence, the issue of when Phoenicians arrived in Malta hinges on finds such as this, because the traditional lower date posed for the Phoenician appearance in Malta is set around 700 BC. The agate reinforces that Malta figured in the east-west contact across the Mediterranean at an earlier date, and the knowledge that must have travelled with the ships' crews paved the way for growing Levantine interests in the west. In any case, a Bronze Age date for the dye works in this location is likely, and it may have functioned as a textile production site through both the Tarxien Cemetery and early Borġ in-Nadur periods.

Phoenician interests in southeast Malta

During the late Borġ in-Nadur Bronze Age, Phoenician traders and mariners were targeting coastal locations around the Mediterranean rim in search of resources, such as copper, gold, ivory, and so on. Significantly. the ancient sources pointed to their earliest colonies at Cadiz

or Gadir in Spain at 1110 BC (Strabo, *Geography* 1: 3.2), Lixus in Morrocco in 1180 BC (Pliny the Elder, *Natural History* 19: 63) and Utica in Tunisia in 1101 BC (Pliny the Elder, *Natural History* 16: 216). Logically, Malta would have been a valuable early staging point in their westward journey, Figure 18.

Considering Phoenician involvement in the trade and procurement of purple dyed cloth, their knowledge of the established purple dye centres in the central Mediterranean may have been one of the lures for them to colonise Malta. Purple cloth production may have been advanced through the Mediterranean by other communities, but it was well recognised in antiquity that the Phoenician traders established a strong grip on the commodity.

There are indications that the Phoenician interest in Malta was focused initially in the southeast. As mentioned previously, Marsaxlokk Bay offered safe harbour, vital for maritime trade, and there is no evidence of a hostile reception shown toward Levantine traders. Anthony Bonanno at the University of Malta made the observation that, within Marsaxlokk Bay, a rock-cut mooring point called Il-Magħluq, still in use, was likely to be a Phoenician constructed harbour or 'cothon' (Bonanno 2011: 53). Over the ensuing centuries, the archipelago was completely settled by Phoenicians. It was never a Greek colony, although Greek wares circulating the Mediterranean found their way to Malta. The local inhabitants were eventually integrated culturally and commercially into the Levantine way of life.

We know that the strategy Phoenicians employed when settling new lands was to quickly build a temple; Carthage, Lixus and Gadir are examples. In the case of

PHOENICIAN-PUNIC PHASES IN MALTA

Phase	*Date Range*	*Broad Cultural Developments*
I	*c.* 1000?–750 BC	Archaic Phase I: Period of trading contact and sporadic settlement (Orientalising period)
	750–620 BC	Established Phase I: fully fledged Phoenician colonisation
	620–600 BC	Late Phase I to Early II
II	600–500 BC	Period of introversion: minimal foreign influence; down-turn in wider Mediterranean economy
III	500–410 BC	'Classic' Punic: Early Phase III
	410–300 BC	'Classic' Punic: Late Phase III to Early IV
IV	300–100 BC	Incipient 'Romanisation': includes the Roman conquest of Malta in 218 BC
V	100 BC– *c.* 50 AD	'Romanisation' of the local repertoire

Figure 18: *Phoenician-Punic sequence for Malta based on the tomb evidence. Drawn: C. Sagona.*

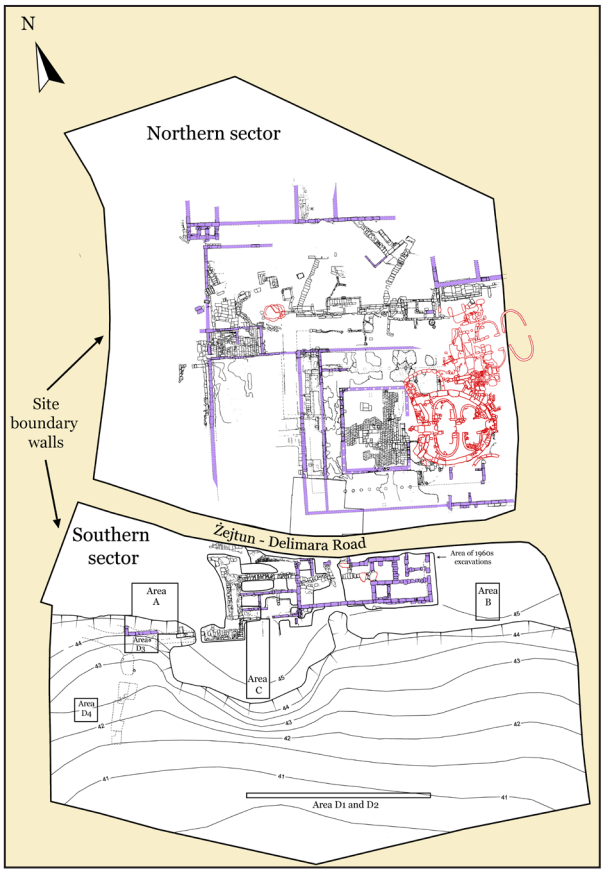

Figure 19: *Tas-Silġ northern and southern sectors; prehistoric architectural elements (in red) are concentrated in the east of the northern sector and a roughly ovoid rock basin in the centre and some isolated blocks in the southern sector plan by C. Sagona, after Bonanno and Vella (2015, Vol. 1: fig. 1: 3; Cazzella and Recchia 2014: 571).*

Malta, they built two, one at Tas-Silġ dedicated to the Phoenician goddess Astarte, later assimilated with Juno, and the other to Melqart, assimilated with Hercules (Ptolemy *Geography* VIIIc.3). Only the location of Astarte's temple is known situated at Tas-Silġ, Figure 19. A temple was vital in their colonisation plan as a permanent link to the homeland, especially to Tyre, but a temple was not just a place of worship. It was a centre of administration, a repository for accumulated wealth, and a focal point that likely played a role in commercial negotiations with indigenous communities. Certainly, the substantial, permanent and quite foreign form of architecture on high ground overlooking the region must have played a role in the psychology of gaining acceptance and a dominant influence, whether grudging or welcomed among the local people.

Astarte was the Phoenician goddess of love, sex, war, and hunting and, like Melqart, her temples were connected with seaports in the Mediterranean. Her temple at Tas-Silġ is only a ten-minute walk uphill to the northeast of the cothon. The most intriguing aspect of the site is that the Phoenicians chose to build their temple around the

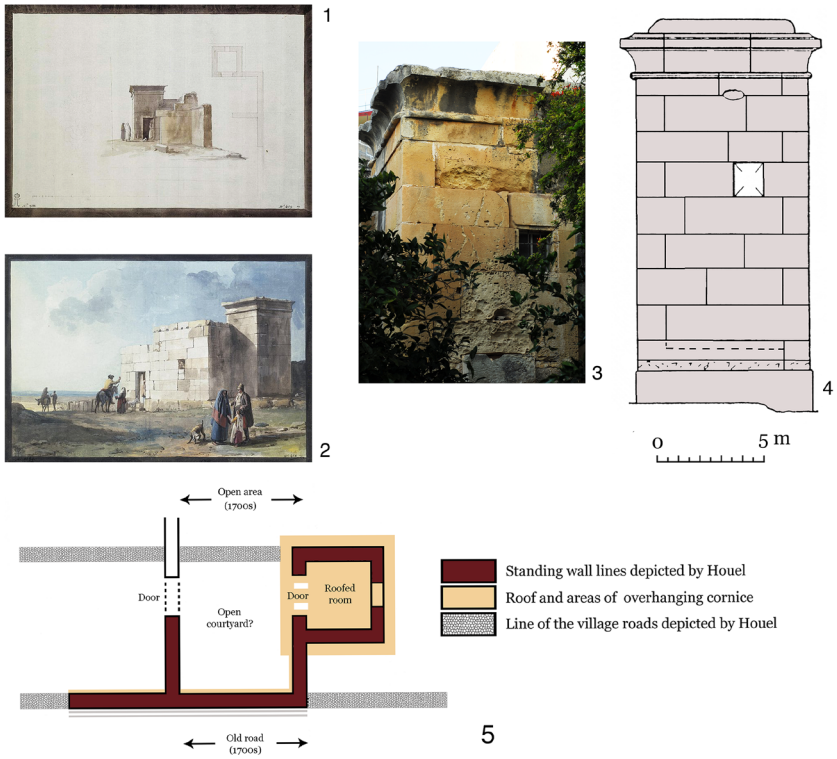

Figure 20: *1–2. Extant Phoenician building and additional walls as they appeared to the artist Jean-Pierre-Laurent Houel in the late 1770s (two images by Houel: 'Greek House in Casal Zurico on Malta' and 'Plan and Cross-Section of a Greek House', acquired by Catherine II from the artist courtesy of the Hermitage, in the public domain), http://www.arthermitage.org/acquired-for-Catherine-II-from-the-artist.html; 3. photo of the building with gorge cornice in Żurrieq, . Images: C. Sagona; 4. drawing of the southeast side, after Bonanno and Vella (2000: fig. 3); 5. plan of the building, after Houel (1782: pl. CCLIX, fig. 2).*

remaining stones of a Neolithic lobed temple; it became virtually an inner sanctum of the Phoenician, and later Punic, complex (Bonanno and Vella eds 2014; 2015; Bonello et al. 1964; Bozzi et al. 1968; Busuttil et al. 1969; Cagiano de Azevedo 1965; 1966; 1967; 1972; 1973; Sagona 2015b). In a way, this mirrors the approach to settlement seen with the previous Tarxien Cemetery; Bronze Age settlers from the east Mediterranean at Borġ in-Nadur who wrapped their settlement around the late Neolithic ruins, Figure 14. Perhaps both groups chose locations among ancient ruins as a means of legitimising their claim on lands they infiltrated.

The location of Melqart's temple remains unknown. For a time, antiquarian scholars thought it was the ruins at Borġ in-Nadur, but as a Neolithic and later Bronze Age site with virtually no Phoenician or Punic remains, this can be dismissed (Murray and Caton Thompson 1923, pl. 12: 95; Bugeja 2011). Reused architectural blocks in the ruins at Tas-Silġ were encountered, notably gorge cornice stones (or cavetto cornice), which came from an earlier Phoenician temple building on the site. This has relevance to another truly remarkable survival on the island. In Żurrieq, a major urban area to the west of Marsaxlokk Bay is an extant Phoenician building, Figure 20. It has in situ gorge cornice identical to that reused in later walls at the temple of Tas-Silġ, Figure 20: 3 & 4. The Żurrieq building indicates what these early temples might have looked like in Malta. Water colour paintings by the artist Jean-Pierre-Laurent Houel in 1782 clearly show that the building was standing within a rural landscape on a road, Figure 20: 1 & 2. The paintings were acquired by Catherine the Great, Empress of Russia, and they are now held in the Hermitage. Investigations were conducted in the garden around the building in 1938 and 1964, but very little additional evidence came from them.

The structure is located beside the street, Triq il-Karmnu, very close to St Catherine Church in Żurrieq. It is tempting to link the building to the sacred precinct of Melqart. The church was under construction between 1632 and 1659, about the time that a famous Maltese antiquarian collector and historian, Gian Francesco Abela, acquired a pair of identical pillared monuments, sometime between 1647 to 1655. Their plinths carry bi-lingual inscriptions in Phoenician-Punic and in Greek. One of the monuments was gifted to Louise XVIth in 1780 by Emanuel de Rohan, Grand Master of the Order of St John, and it is now held in the Louvre. The inscription was instrumental in the decipherment of Phoenician by Jean-Jacque Barthélemy. The tops of the monuments are broken away, but they probably supported bowls that served as incense burners. Acanthus leaves around the lower pillar symbolised resurrection and renewal, especially linked to the later assimilated god, Hercules, and the inscription, made by two brothers, was to 'Melqart

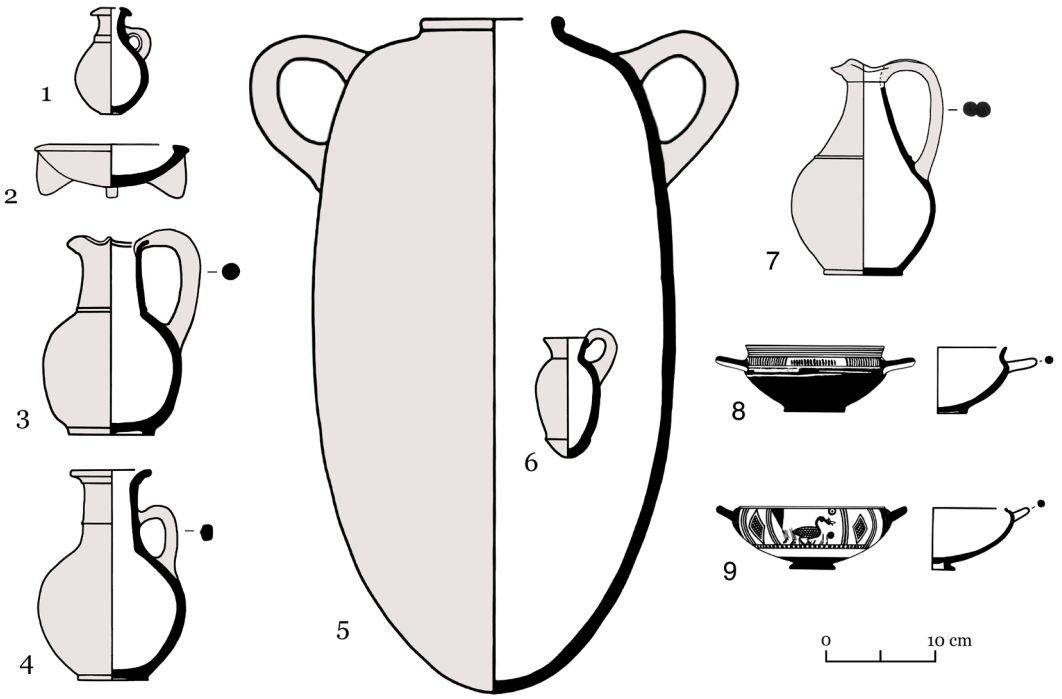

Figure 21: *1–9. Pottery wine drinking kit from Ghajn Qajjied tomb, after Baldacchino (1953: figs 34–38).*

Lord of Tyre' for hearing their pleas. Melqart was a god of the underworld, connected with the Levantine notions of a dying and rising god.

As noted, Borġ in-Nadur was not settled by the Phoenicians, perhaps because it was still occupied by the late Middle Bronze Borġ in-Nadur community within the fortified area. However, Phoenicians did claim lands to the east and west, indicated by their distinctive architecture associated with the temple at Tas-Silġ and the building in Żurreiq. Only one Phoenician cup (or kylix) fragment was documented from the site, now held in Murray's collection in the British Museum, Figure 9, dated around 600 to 500 BC (well after colonisation), and a Punic coin was also found (Sagona 2002: 24, 197–98, kylix form II:1). In any case, temple or not, during early Phoenician settlement, both areas were developed utilising identical architectural cornice features.

Along with the purple dye industry, the Phoenicians became one of the main distributors of wine and the wine-drinking culture around the Mediterranean (Sagona 2015a: 206, 211–213, fig. 6: 8). Malta was no exception. The Phoenician tombs clearly have a wine-drinking kit, which included fine, imported Greek cups, Figure 21: 8–9. Rectangular, rock-cut, grape crushing floors, which fed into rounded and deeper collection pits, can be found in Malta and Gozo, Figure 22: left. A damaged example was cut into the flat rocky pathway above the Wied Ħas-Saptan valley west of Borġ in-Nadur, Figure 22: right.

The most prevalent artefact left by the Phoenicians and their Punic descendants are hundreds of rock-cut burial chambers. Tomb finds are made every year in Malta, but large numbers were documented in field notes left by Zammit and others. The contents of the burials, predominantly ceramic vessels, have been preserved in

Figure 22: *Left, grape pressing pan and catchment pit at the Misqa tanks north of Mnajdra. Right, damaged grape pressing pans west of the Borġ in-Nadur ruins. Photos: C. Sagona.*

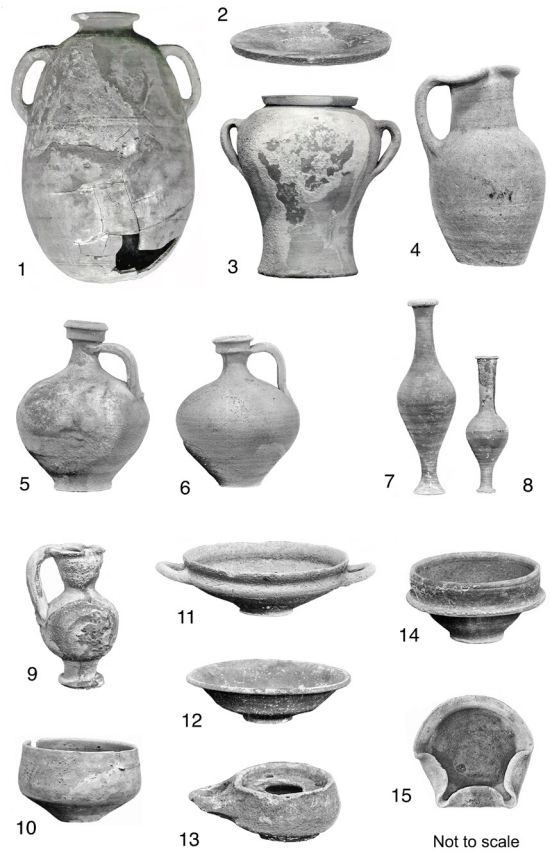

Figure 23: *Typical Phoenician-Punic pottery from tomb contexts in Malta, held by the Australian Institute of Archaeology. Images: C. Sagona.*

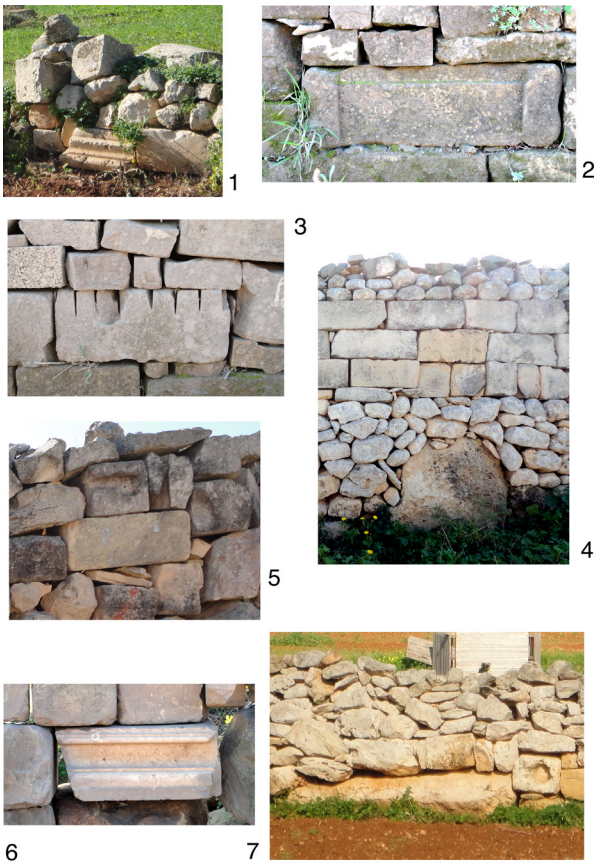

Figure 25: *Reused architectural elements in field walls east of Safi and Żurrieq. Photos: C. Sagona.*

the Valletta Museum and smaller ecclesiastic museums. Large numbers are also held in the private collections of antiquities in Malta and overseas, such as those held by the Australian Institute of Archaeology, Figure 23 (Sagona 2002; 2003; 2011; Sagona et al. 2006).

Overall, the southeast region of Malta still has potential for archaeological exploration. Antonio Caruana indicated the great significance of the southeast, stating that: 'That whole coast… is full of ruins … indicating that the place was once a very populous centre' (Caruana 1896: 38). Remnant archaeological features can be observed in drystone walls, flanking the roads and lanes meandering through agricultural fields, due east of the towns of Safi and Żurrieq, as far as the southern end of the airport runway precinct, and beyond, Figures 24–26. A sculptured head placed on top of a house in the area is of uncertain age, Figure 26: 1, but it does bear strong similarities

Figure 24*: Satellite image of the area around the Punic-Roman Ta' Ġawhar tower; the possible stepped foundation of a Punic monument is north of the Triq it-Torrita Ġawhar road. Image: Google Earth (1985), accessed 7/9/2023.*

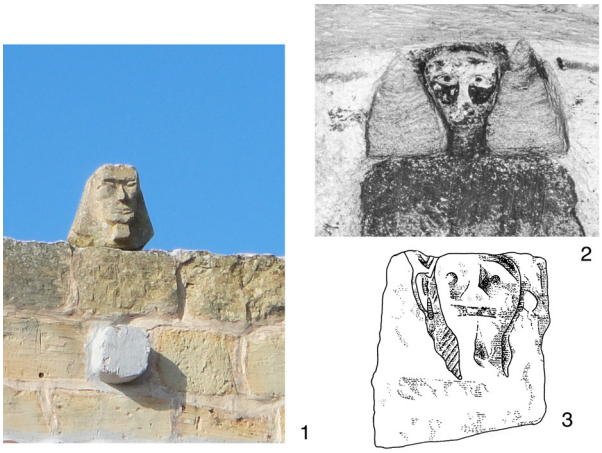

Figure 26: *1. Sculptured head of unknown age on a roof top in the area east of Safi and Żurrieq, resembling rare examples of carved heads from Punic tombs. Photo: C. Sagona; 2. Rabat, Ferris Street tomb, sculptured and painted features (Sagona, 2002: 538–39, fig. 218); 3. Qrendi tomb [399] 1961, face with raised hand on the left cut into the chamber wall, from Sagona (2002: fig. 133: 1).*

with examples found in Phoenician-Punic tombs in Ferris Street, Rabat, the exact location of which is now unknown, and another in a Qrendi tomb, Figure 26: 2–3 (Sagona 2002: figs 133: 1 & 218).

One ruined feature strongly suggests a monument with stepped foundations, Figure 24 centre top and Figure 27. Such stepped architectural platforms have been well documented, supporting Punic monuments such as the Pozo Muro monument in Chincilla de Monte-Aragón, Albacete province, Spain, and the Dougga or Thugga Libyco-Punic mausoleum in north Tunisia, Figure 28 (Guerrero Ayuso and Lopez Pardo 2006: fig. 5). Plans of burial grounds documented in Malta, based on Zammit's measurements, indicated 'open' areas that were not cut by tombs shafts, yet tomb shafts were clustered together as if to avoid above ground features that have not survived, Figure 29 (Sagona 2002: figs 170, 171, 172, 176, 183). Some zones were clearly pathways, others were likely

Figure 27: *Stepped foundation of a possible Punic monument east of Safi (35° 50.019'N, 14° 29.905'E. Photo: C. Sagona.*

Figure 28: *Restored Libyco-Punic Mausoleum of Dougga in Tunisia with stepped foundation (aka Mausoleum of Atban), 2nd century BC. Image: c. 1900, Wiki Commons, unknown author.*

to be where monuments once stood. That stepped monuments were associated with burial grounds is further indicated by a monument and an altar painted in tomb 8, in Kerkouane (Gebel Mlezza), near Cape Bon in Tunisia, dated to the fourth to third century BC (Guerrero Ayuso and Lopez Pardo 2006: 227, fig. 3: 1; Moscati 1972: 449). The area around the possible stepped monument in Malta is not devoid of other sites, Figure 24. A round Punic tower known as Ta' Ġawhar lies southeast of the stepped ruin. Furthermore, the location of three towers, including Ta' Ġawhar in the southern sector of Malta, gives the impression that they defended the interior, perhaps protecting the Punic urban centre in Żurrieq with the possible Temple of Melqart at its heart (Sagona 2015a: 239–242). Overall, significant sites have been officially recorded, but it is clear that more are yet to be recognised.

In summary

Archaeological investigations have come a long way since Margaret Murray worked in Malta. The building of fields, coupled with intensive farming practices in the Neolithic, was directly related to population growth. This practice may have pushed the islands to a fragile limit that could have seriously affected local communities with any negative environmental or other impact. When Malta was infiltrated by offshore settlers, ushering in the Bronze Age, the Tarxien Cemetery and subsequent Borġ in-Nadur periods, one of the incentives for settlement would seem to have been the establishment of a textile industry, including the development of a large, purple dye works at the shore of St George's Bay. In turn, Levantine

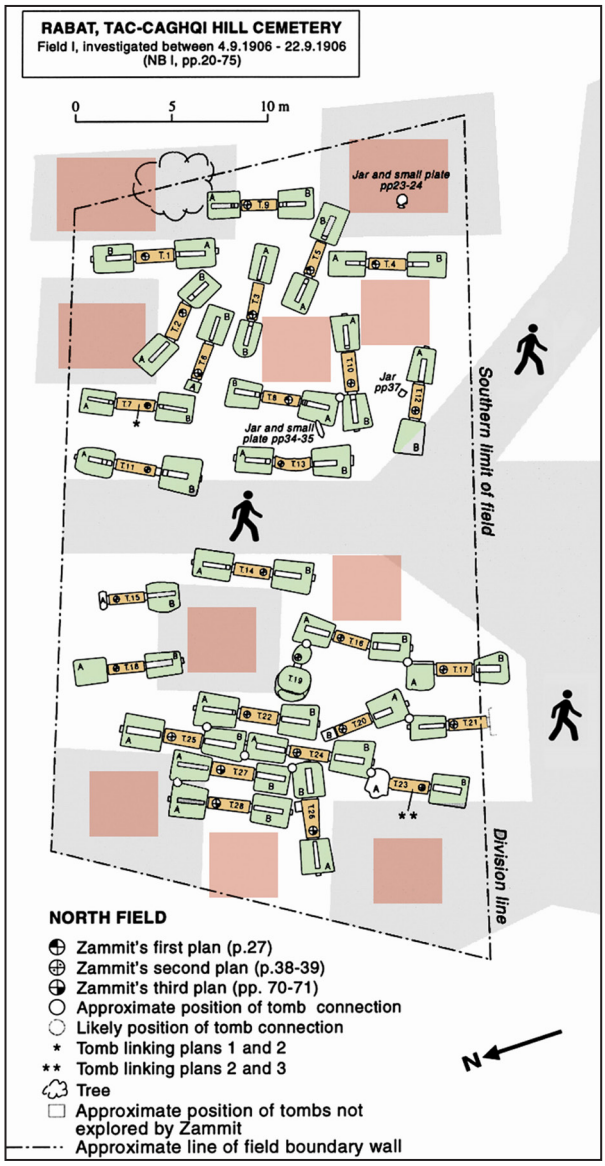

Figure 29: *Plan of Tac-Caghqi Hill Cemetery drawn from the records kept by T. Zammit NB I, 20–75, after Sagona (2002: 492, fig. 172).*

mariners and traders targeted Malta through Marsaxlokk Bay, possibly tapping into the existing textile industry, but equally seeking safe harbour for the ships in their westward journey to the mineral wealth of the Spain and the resources of the African interior. No doubt, at first, Malta offered the crews a vital staging point to renew water and food supplies, but the flow of immigrants from the Levant would continue to grow, until the cultural character of the island became distinctly Levantine.

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Abbreviations

MAR: 'Museum Annual Reports' 1904 to 2002, *Annual Report on the Working of the Museum Department* (title varies), compiled by the Curators and or Museum Directors, Malta: Government Printing Office. Superseded by 'Superintendence of Cultural Heritage's Annual Reports,' from 2003.

NB: abbreviation for Archaeological Field-Notes hand-written by Themistocles Zammit concerning excavations and inspections of sites in Malta; held in The National Museum of Archaeology, Valletta.

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Endnotes

1 I am grateful to the Australian Institute of Archaeology (AIA) for the invitation to present the prestigious Petrie Oration at the Institute on 24 October 2024.

2 I have argued elsewhere that a rock cut cave in the southwestern tip of Gozo was a Mithraeum, which could point to the possible function and identity of the non-Christian character of the Santa Maria tal Bakkari complex (Sagona 2009: 46–47, fig. 69).

3 Limitation of accommodation close to the excavation saw Murray residing in Valletta and commuting to the site in the south of the island, hence, finds had to be secured at the end of each day (Murray 1963: 129–134).

4 Other artefacts came to the MAA as loan or gifted items from various sites (some simply listed as coming from Malta) made by Caton-Thompson, T. Zammit, J.D. Evans, M.C. Burkitt, G.F. Rogers and D.H. Trump; see https://collections.maa.cam.ac.uk.