McDONALD INSTITUTE MONOGRAPHS

# Temple people

## Bioarchaeology, resilience and culture in prehistoric Malta

By Simon Stoddart, Ronika K. Power, Jess E. Thompson, Bernardette Mercieca-Spiteri, Rowan McLaughlin, Eóin W. Parkinson, Anthony Pace & Caroline Malone

Volume 3 of Fragility and Sustainability – Studies on Early Malta, the ERC-funded *FRAGSUS Project*

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Volume 3 of Fragility and Sustainability – Studies on Early Malta,
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## Figures

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# In memoriam George Mann

Caroline Malone

The re-discovery of the Xagħra Brochtorff Circle (1987–94) and the retrieval of prehistoric burials from the site represents the material that is the subject of this volume. Here we reassess and delve deeper into the detail of the excavated remains of a large prehistoric population and other prehistoric burials known from Malta and Gozo. The original Xagħra fieldwork was intense, hot and hard, and it took place mostly at the height of summer, during university vacations. Such work was not for the faint-hearted; early morning routines and 6-day weeks, crowded communal conditions – these were the standard experience for the young team of students and professional archaeologists who participated. It was an exciting learning experience for the 'young ones'. For two much older men, retired from their careers, to choose to participate in this frenetic and noisy environment was unexpected, but enormously significant and supportive to what was then a major and pioneering undertaking. These gentlemen, Dr George Mann (a retired ENT consultant from Addenbrookes Hospital in Cambridge with a Masters in biological anthropology), and Kenneth Stoddart (just retired from a life of city commuting and business), brought maturity, wisdom, humour, compassion and humanity, as well as a vital breath of civilization to each annual season of work. We dedicated the 2009 volume to the memory of Kenneth Stoddart. This volume appropriately is dedicated to the memory of George Mann.

**Dr George Edgar Mann (1923–2019)** participated in the Gozo Project between 1990 and the completion of osteological study in 1996. Initially George, fresh from a post-retirement study of bioanthropology at Cambridge, came to assist Corinne Duhig who prepared the initial rock-cut tomb report. Professionally he had been a specialist consultant in otolaryngology at Addenbrookes Hospital in Cambridge, and had done his retirement MPhil dissertation on bony exostoses in the outer meatus of the ear, caused by swim-

**Figure 0.1.** *George and Sheila Mann at work in the kitchen of the dig house, systematically recording a skeleton 1994.*


**Figure 0.2.** *George Mann at work on the roof-top of the dig house in Gozo in 1994.*

ming in cold water. The Gozo assemblage demanded a rapid revision of his knowledge of the post cranial skeleton, but soon up to speed, George then came every year to participate in each field season and post-excavation study season. He worked tirelessly with his wife Sheila, processing the excavated bones, separating out the animal bones for study by Geraldine Barber, and identifying the human remains himself with his team. He cheerfully accepted the spartan and crowded living conditions where he spent much time at the kitchen table or on the roof of rented holiday flats, sorting endless sacks of bone fragments into coherent identified catalogues. He measured, studied and quantified as he went and ensured every fragment was recorded. Towards the end of the fieldwork, some osteological material was transported to Britain, and George continued to log, measure, examine and interpret the human material in preparation for the 2009 report. His systematic and painstaking recording work of the entire assemblage was of great importance, as the following pages reveal. Even with the ERC *FRAGSUS Project* resources, which provided funding at a level unimagined in the earlier excavation years, it has been possible only to re-examine a sample of the vast osteological archive. George managed to ensure that we have the fundamental knowledge of the scope of the assemblage, and this is listed in the first report (see Malone *et al.* 2009d) and it forms the base for ongoing research of these remarkable ancient people and the Xagħra site. The record was written by hand, and the hundreds of sheets of record remain in the archives of the National Museum of Archaeology, ready for future studies, and whilst the original digital database of those handwritten records becomes ever more antiquated, George's immense work remains a vital archive even as technology advances. All the teams, past and present, are delighted to dedicate this volume to George's memory and his tremendous contribution to Maltese and osteological scholarship.

**Figure 0.3.** *Sheila Mann cleaning bones for George in the dig house 1994.*

Another key contributor to the work of the original Gozo Project was Ann Monsarrat, who lived on Gozo, and supported the project and its team with generosity and warmth over the many years of work and study.

# In memoriam Ann Monsarrat

Anthony Pace

**Ann Monsarrat (1937–2020)** made her home on Gozo, where she moved in 1968 with her husband Nicholas, the author of many novels about Malta and the sea. Gozo was a special place for Ann, a home with people that she truly loved, respected and admired. Ann was a remarkable person. She was welcomed and felt at home in the small village of San Lawrenz, where she lived for more than four decades. Her house was forever busy with people dropping in and sharing news, experiences, aspirations, the changing fortunes of Malta and Gozo and, of course, the difficulties of writing and the literary world. But beyond these and many other conversations, Ann was particularly interested in landscape – Gozo's in particular – where archaeology, history and legends carved meaning out of a small island full of hills, valleys, majestic cliffs and skylines marked by parish church cupolas rising above quiet village houses.

*FRAGSUS* owes a great deal to Ann. For, unbeknown to her, several good friends – all archaeologists – whom she supported and entertained annually during the excavation of the Xagħra Brochtorff Circle between 1987 and 1994, came together again to deliver another important project. Ann would have certainly been happy and excited with the results of *FRAGSUS*. A career journalist and a distinguished author in her own right, with works such as *And the Bride wore; Thackeray: An Uneasy Victorian*; *Gozo: island of oblivion, a graphic literary itinerary*, Ann was particularly interested in the archaeology of Malta and Gozo. She was always keen to follow research developments and new discoveries, and was eager to see young scholars, budding archaeologists, photographers, historians, artists, writers, journalists, and so many others making headway in areas that she understood to be important in promoting Maltese cultural identity. Ann was in fact a formidable advocate of Maltese arts, culture and cultural heritage. Her work on the governing board of Saint James Cavalier Centre for Creativity in Valletta, and her continuous presence in Gozitan cultural circles, as well as her various contributions to numerous publication projects reflected an enthusiasm and positiveness which was contagious and encouraging. Ann's enthusiasm shone every time she visited the Xagħra Brochtorff Circle excavations, during our long walks along the ta' Ċenċ promontory, during visits to the Cittadella, or when listening to the sounds rumbling from the depths of blocked shafts at the legendary clock-maker's salt-works on the north coast of Gozo. These were real places with real stories, some illustrated in prints, others silently waiting to be teased out from

**Figure 0.4.** *Anne Monsarrat (with kind permission of her family).*

stone monuments, field terraces and beautiful natural spots. Perhaps these were places whose biographies could best be understood by visiting and experiencing them in person.

One of the last places Ann and I visited together was the archaeological site at Ras il-Wardija on Gozo's western coast. The site is not an easy one to interpret, but from a spot rising several metres above the surrounding area, we shared an almost bird's-eye view of Dwejra with the distant Azur Window below us, and we chatted about the meaning of the site and its links to the sea: seascapes, ancient mariners, people lost at sea, shipwrecks; and also of builders who constructed beautiful places and made beautiful art, making the Maltese Islands their home for at least seven thousand years.

In these pages, the *FRAGSUS* team pays tribute to Ann Monsarrat.

# Acknowledgements

The *FRAGSUS Project* 2013–18 is indebted to numerous individuals and institutions and acknowledges support throughout the course of a long and energetic project. In particular, we thank the European Research Council which awarded an Advanced Research Grant (Advanced Grant no. 323727) to Caroline Malone, as the Principal Investigator of the Project and the extended team in late 2012, enabling the project to take place between May 2013 and April 2018. Without this funding and the trust placed in us by the ERC and the grant assessors, this project could never have taken place. We express our gratitude for this opportunity to expand knowledge of Malta and indeed much else connected with prehistoric societies and their world in the early Mediterranaean. The research team also wants to record our indebtedness to the administrators of the grant within our own institutions, since this work required detailed and dedicated attention. In particular we thank Rory Jordan in the Research Support Office (Queen's University Belfast – QUB), Laura Cousens (Cambridge University – UoC), Glen Farrugia and Cora Magri (University of Malta – UM), the Curatorial, Finance and Designs & Exhibitions Departments in Heritage Malta (HM) and Stephen Borg at the Superintendence of Cultural Heritage (SCH).

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For the preparation of this volume, we thank Dr Rob Barratt, Dr Rowan McLaughlin, Dr Eóin Parkinson, Dr Jess E. Thompson and Olivia Shelton for assisting in

the editing and assembly of this very substantial work. Prof. Simon Stoddart was the overall editor who undertook the major editing of the volume (including the index and glossary), the design of the opening and closing chapters and was in the grant application defined as responsible for the Human Population work group and the Landscape group in Cambridge. Prof. Caroline Malone undertook the preliminary assembly of the text, the checking and setting of tables and images, as well as much proofing and editing. We thank Emma Jarman in the McDonald Institute for her important role in coordinating the submission of material, and Dr James Barrett and Prof. Cyprian Broodbank (when James left Cambridge) for their oversight of the McDonald Monograph series. We thank Dr Matt Davies, the new Deputy Director and Editor of the Monograph Series, for guiding the volume into its final stages. In particular, we thank Ben Plumridge who undertook the task of production. Ben 'cut his teeth' in publication in 2007–9 when he was the principal assistant in the preparation of the 2009 *Mortuary Customs in Prehistoric Malta* (the original site report and the forerunner of the three companion volumes from *FRAGSUS*), making the work of the late Dora Kemp, his McDonald predecessor, as production editor so much easier. The archaeology of the island of Malta has thus continued to benefit from his support after his appointment as Production Editor of the McDonald series by Simon Stoddart when he was acting Deputy Director.

To all those involved, we thank you.

# Preface

Caroline Malone and Simon Stoddart

This volume is the third in the *FRAGSUS Project* series. Volume 1: *Temple Landscapes* (edited by Charles French, Chris O. Hunt, Reuben Grima, Rowan McLaughlin, Simon Stoddart & Caroline Malone, 2020) focuses on the changing landscapes of early Malta, and provides the background for the following two volumes. Volume 2: *Temple Places* (edited by Caroline Malone, Reuben Grima, Rowan McLaughlin, Eóin W. Parkinson, Simon Stoddart & Nicholas Vella, 2020), reports on the archaeological studies of six sites through an examination of their chronological sequence, material culture and economic role in the Neolithic world of Malta. These discoveries set the scene against which Volume 3: *Temple People* (edited by Simon Stoddart, Ronika K. Power, Jess E. Thompson, Bernardette Mercieca-Spiteri, Rowan McLaughlin, Eóin W. Parkinson, Anthony Pace and Caroline Malone, 2022) are reassessed. This volume also has an additional role since it follows on more directly from the 2009 publication: *Mortuary Customs in Prehistoric Malta* (edited by Caroline Malone, Simon Stoddart, Anthony Bonanno & David Trump, 2009). That volume revealed one of the largest prehistoric burial assemblages yet discovered in the Mediterranean, amounting to some 220,000 bones, with a rich assemblage of animal bone, figurative sculpture, symbolic artefacts and architectural remains. The new volume concentrates on the human remains, taking their evidence to a new level. In the light of better understanding of the changing environment and resources of a small island world, the early people of Malta emerge as a remarkable community telling an important tale of prehistoric resilience and survival.

# *Chapter 1*

# Introduction: people of early Malta and the Circle

Caroline Malone, Simon Stoddart, Jess E. Thompson & Nicholas Vella

## 1.1. Introduction

This work is the third in a three-volume series that was planned from the outset of the *FRAGSUS Project* ('Fragility and sustainability in restricted island environments: Adaptation, cultural change and collapse in prehistory'), with the aim of addressing a number of key research questions about early Malta, its people, archaeology, environment, and landscape change. Volume 1 (French *et al*. 2020) examines the environment and landscape, Volume 2 (Malone *et al*. 2020) records the archaeological excavations that were undertaken during the project, and the present volume, Volume 3, revisits the Circle[1] on Gozo in a detailed re-assessment that builds on research published in 2009 (Malone *et al*. 2009d).

The award of an Advanced Research Grant (no. 323727) from the European Research Council (ERC) enabled an ambitious project that brought together both interdisciplinary approaches and a range of international scholars to focus on interrelated questions. The substantial funding revolutionized the manner of investigation by enabling the employment of numerous post-doctoral researchers to support specific scientific work. The funding enabled effective fieldwork, extended seasons of data collection, and importantly, the follow-up analysis. The outcome of this programme of remarkable, energetic work is recorded here and is a tribute to a small and skilled team of international researchers from three continents and eight nations who brought a variety of approaches and debates to the material.

## 1.2. The origins of work at the Circle: funerary archaeology in Malta

The study of ancient human remains and burials in Malta had, until the 1980s, not been a major subject of research or interest in comparison with the remarkable prehistoric megalithic temple structures. This was in spite of the recognition of many small rock-cut tombs (Zammit 1928) and the magnificent Ħal Saflieni Hypogeum that was discovered in the first years of the 20th century (Zammit 1910) where the main analysis was on the few recovered human skulls and crania (Zammit *et al.* 1912; Zammit 1912a). Bodies, bones and pathology had not been of much interest to anthropologists, other than for estimating burial population numbers (and their 'racial' characteristics) (Bradley 1912). The study of human bones to further understanding of their life course and the rituals of their interment was to be an interest for future scholars.

There was much excitement starting in the 1920s, and continuing into the post-war period, about the potential for the presence of Neanderthals in Malta, based on the interpretation of the morphology of teeth found by Despott (1918, 1923) allegedly at Għar Dalam (Keith 1924). However, Mangion (1962) showed that the morphology of these teeth was also present in modern populations. Although Malta was connected to Sicily until *c*. 12500 BC (Furlani *et al.* 2013), there is still no convincing evidence of a Palaeolithic presence in Malta in spite of claims to the contrary.

Themistocles Zammit, himself a medic, concentrated on other key scientific issues such as chronology, rather than the potential of the human remains. This is seen effectively in his important article on rock-cut tombs (Zammit 1928) where he saw distinct differences not only between the later Punic and the prehistoric tombs, but also within the prehistoric examples on the basis of differences in pottery. In this article, he reported on three tombs discovered at Buqana (Attard), Xagħra and Nadur Benjemma (alternative spelling: Binġemma) respectively. In the first, he noted that the bones were richly covered with red ochre:

> 'the workmen reported that they had broken into a grave in which human bones were lying in what they described as fresh blood.

> On inspecting the site, I found fragments of old human bones mixed with potsherds in a muddy pool deeply stained with red ochre.' (Zammit 1928, 481).

At the second location in Xagħra, on the same plateau as the main deposits studied in the rest of this volume, he noted articulation as well as disarticulation:

> 'Broken bones of at least four human skeletons were obtained, in addition to tiny fragments, mixed with stones and a sandy soil.' (Zammit 1928, 482)

At the final location of Nadur Benjemma, he was rather dismissive of the potential of the human remains, no doubt because they presented a challenge not often faced by the medical profession.

> 'Fragments of bones were found, but so minute that their examination could lead to no practical conclusion.' (Zammit 1928, 483).

These observations by the designated father of Maltese archaeology may explain why few intact tomb groups or skeletons were retained for study, when we now know that disarticulation was a major feature of the prehistoric ritual. Skulls were the main focus of interest (Zammit 1930, 121). Many tombs were emptied and barely reported to the museum authorities, although, as the Museum Annual Reports reveal, the Museum staff continued to record tomb discoveries almost every year until the present, reaching a total of some 480 tombs (Pace 2011).

Napoleone Tagliaferro (1843–1915), another scientist and rector of the University, was one of the few scholars who took a more positive view of the potential of human remains, but he remained frustrated by the disorder that we now know to have been the creative fruit of ritual process. This becomes clear in his comments on the discoveries at Ħal Saflieni:

> 'The mode of burial remained, however, doubtful, as there were no sufficient data to decide whether the hypogeum was a real burying place or an ossuary or both.' (Tagliaferro 1911, 147)

After initial disappointment that the human remains were not Palaeolithic, inferred from the presence of pottery, he was more positive and detailed in his description of the human remains in the cave at Bur Mgħez (Tagliaferro 1911; 1912), perhaps because there was a greater degree of articulation. In the tradition of the day, he also included in his description the fact that they were dolichocephalous (long-headed).

The Oxford anthropological expedition from December 1920 until January 1921, headed by Leonard Halford Dudley Buxton, the leading expert of his time on the nasal index, deserving of an obituary in *Nature* on his early death at 49, concentrated on the study of one hundred living females from Gozo, with the assistance of Miss Moss, Miss Russell and Miss Jenkinson. More broadly he was very keen to achieve what we might now call a representative stratified sample, excluding foreigners to produce meaningful statistics of the real Maltese population. In their more limited study of the restricted material from prehistoric times, Buxton noted the potential demographic interest of the human remains from Ħal Saflieni:

> 'It has been suggested that the large number of bones found in the Hypogaeum is evidence of a large population in Neolithic times' (Buxton 1922, 172).

Later in the report, Buxton goes on to discuss the difficulties of working with these bones and states that Bradley had already undertaken the then popular examination of crania.

> 'The Ħal Saflieni bones (whose antiquity we have already discussed) are in very bad condition; few long bones are complete. After sorting through several tons of fragments, measurements were taken on such bones as were sufficiently well preserved. A number of astragali were brought to England for more detailed examination later. The Ħal Saflieni crania, which had previously been examined by Bradley, were remeasured.' (Buxton 1922, 174).

The information on the results of these analyses for prehistoric times is limited, but he did note some details, particularly related to the physiology of respiration, specifically that:

> 'The basi-nasal length appears to be the same form Neolithic times onwards.' (Buxton 1922, 178)

and

> 'The upper facial height in Ħal Saflieni (Malta Local Neolithic) material is similar to that of the Romano-Maltese.' (Buxton 1922, 179)

and

> 'Turning to the respiratory apparatus proper, the nasal breadth of the Neolithic people is rather narrower than that of the Romano-Maltese, but only six Neolithic crania were available for measurement.' (Buxton 1922, 180).

Of great interest to the current report is the fact that he made a relatively detailed study of the 224 teeth he recovered from Ħal Saflieni, noting specifics such as 19 cases of caries (including the complete destruction of roots in 2 cases), perhaps slightly higher than the Circle populations (§4.5) although 'less' than modern populations, and canines with 'marked edge to edge bite' which might conceivably be the wear noted in the Circle populations. Much of this information was summarized in a useful table (Buxton 1922, 181–2).

He summarized his findings as follows:

> '… the general characters of the Maltese skulls at our disposal, the physical type conveniently termed "Malta first race" is associated culturally with the Malta Local Neolithic. Skulls of this type are long, narrow, and slightly built. They have low orbits, narrow zygomatic arches, and a jaw which, though often not absolutely large, has a low ascending ramus, a shallow sigmoid, and considerable breadth in the antero-posterior diameter. They appear to be representatives of the Mediterranean race.' (Buxton 1922: 182).

Later in his report, as part of the longitudinal study of Malta, he concludes in a section entitled 'Racial problems',

> 'The megalith builders, who may be conveniently termed "Malta's first race" (culturally "Local Neolithic"), are certainly akin to the early, and, indeed, present inhabitants of North Africa and to those of Sicily, Corsica, Sardinia, and Spain, and belong to what is usually known as the Mediterranean race, differing from many skulls of this type in having a shorter nasal aperture, and therefore a bigger nasal index.' (Buxton 1922, 189).

Later he remarks on the distinction from the so-called 'Malta's second race', which, in his opinion, cannot have come from 'anywhere but the Eastern Mediterranean ….' but had 'no affinities with the Carthiginians.' This change he nevertheless associated with the Phoenician period (Buxton 1922, 190). These outdated perspectives on the attribution of 'race' are typical of the research focus of the period.

Buxton was the most prominent and systematic of the relatively few scholars in the first half of the 20th century who employed biological anthropology methods, even though Zammit recorded skeletal information in the Museum Reports on Punic and Roman tombs, and some suggestions were raised by the active fieldworkers (Zammit 1930; Ashby *et al.* 1913). Others, namely Ugolini and Mayr, worked to collate and systematize knowledge (Pessina and Vella 2012; Mayr 1901) which linked Malta's early cultures with wider Mediterranean development, even though there was disagreement on where and how cultures emerged and 'diffused'. There were several reasonably well-recorded excavations between *c.* 1900 and 1930, but the great Hypogeum had largely missed any systematic work, with the consequence that human remains were little considered. Post World War II, John Evans' monumental study in the mid-late 1950s included the salvage of the Xemxija Tombs complex (Evans 1971, 112–6). There the human remains were collected and subjected to an initial study by Pike (1971, 236–8) and Rodgers (1971, 238–9). For many decades, the whereabouts of the assemblage was unknown, until located, together with other Malta related archives, in the Institute of Archaeology, University of London following the death of Evans in 2011. The human and animal bones had evidently been retained for further analysis which had not materialized (they have now been returned to the National Museum of Malta). Unfortunately, many field details of the context of this deposit have been lost. This rediscovery has nevertheless enabled additional study within this volume (Chapter 12).

Joseph L. Pace from the Anatomy department of the University of Malta summarized much of the available prehistoric information in an exhibition in the 1970s (Pace 1972) and worked on medieval material from St. Gregory's church at Zeitun (Ramaswamy & Pace 1979a; 1979b) and from the excavation of Ħal Millieri (Pace & Ramaswany 1990). David Trump, as curator of the Museum for five years, recorded tomb locations and grave goods from 1958–63, but his most significant contribution was in chronology building at the site of Skorba (Volume 2, Chapter 7), which opened a much wider debate about time, early colonization and cultural sequence (Volume 2, Chapters 1 & 2). Both Trump and Evans contributed to the ongoing systematization of material culture (Evans 1971; Trump 1966), but, in spite of their efforts, funerary archaeology remained a minor aspect of their relatively brief but intensive forays into Maltese


**Figure 1.1.** *Ġgantija's World Heritage status inscribed at the Visitor Centre (Photo reproduced by permission of Rene Rossignaud, Quality Assured Malta).*

prehistory. In short, the approach to tackle the complexity of funerary archaeology, was, as in much of the central Mediterranean, focused largely on artefact collection. By the 1960s, the National Museum of Archaeology displayed a reconstructed Żebbuġ-style rock-cut tomb, whilst a number of Punic burials in interesting containers and coffins were displayed in the Gozo Museum of Archaeology (Casa Bondi). By the 1980s, the megalithic monuments and the Hypogeum had become the principal focus of concern, especially their eroding and unstable state, and growing threats from rapid urban expansion and air pollution to their setting and integrity. The successful inscription of the temple monuments as a group and the Hypogeum as UNESCO World Heritage Sites was accomplished in 1980 (Fig. 1.1), and this action strengthened new interest and established the importance of the Neolithic in the heritage management of Malta. The inscription of the Hypogeum, in particular, revived questions about prehistoric burial ritual and the nature of the ancient Maltese people, making the work of the Cambridge Gozo Project particularly relevant in the late 1980s.

The imagined body was more favoured than the real body. Indeed, Zammit and Singer had written a remarkable paper on this subject already in the 1920s (Zammit & Singer 1924). One notable thrust of more speculative scholarship about prehistoric Malta by the late 1970s and early 1980s was focused on interpretations of megalithic architecture and temples, ancient imagery and notions of a Mother Goddess cult derived from Old (Balkan) Europe. Marija Gimbutas had pioneered, rather successfully, study of figurative art in Neolithic cultures in the Balkans (Gimbutas 1974; 1989; 1991). But as her ideas fermented and her feminist ideology expanded, the interpretations as applied to Malta (and probably elsewhere too) became extravagant debates, related to few observable facts. The Mother Goddess and her realm ruled absolutely across much of the scholarship, shading sensible and fact-led observation entirely, and was (and still is, see Rountree 2002, 38–40) revered by a large and enthusiastic following. Ironically it was this debate around prehistoric Mother Goddesses that indirectly gave birth to the Cambridge Gozo Project (1987–1994). In 1985, Anthony Bonanno organized a conference at the University of Malta around the theme of 'The Mother Goddess in the Mediterranean' (Bonanno 1986). The meeting attracted leading scholars including Colin

Renfrew and Marija Gimbutas. The latter expounded her extravagant theories on goddesses to such an extent and with such evident lack of archaeological detail, that Colin Renfrew determined it appropriate to suggest that new research in the field rather than the library might be timely. And thus, following an invitation to scholars in Cambridge for a programme of fieldwork, a new team and a new era of fieldwork on the prehistory of Malta were born, comprising David and Bridget Trump, Caroline Malone and Simon Stoddart, in collaboration with Anthony Bonanno and Patrick Schembri in the University of Malta and Tancred Gouder in the Museum. The goals, as set out below, were to explore the environment, landscape, settlement and burial aspects of prehistory in a modern and scientifically informed way. The invitation was broad and enabled the team to select almost anywhere as a focus of investigation (see below).

The moment for new work was timely, since Anthony Bonanno had just launched a new archaeology degree pathway at the University of Malta, giving a generation of enthusiastic young scholars the opportunity to participate in practical and scientifically focused field archaeology. For more than two decades, little teaching or research in the field of prehistoric archaeology had taken place in Malta, leaving a lack of expertise. Immediately following Independence, the main active 'research' project was undertaken at the site of Tas-Silġ by an Italian team, invited to excavate as a diplomatic concession to Malta's nearest neighbour in the central Mediterranean in 1963, just as relations were being severed with Great Britain (Vella & Anastasi 2019, 553). That work was focused initially on the Punic period, although in later years earlier prehistory emerged at the site in an exciting manner (Cazzella & Recchia 2012; 2015; Recchia & Cazzella 2011, Recchia 2004–5; Vella & Anastasi 2019). Under the later Labour administration of the new Republic of Malta (1971–87), cultural heritage was disregarded to the extent that field archaeology and international research collaboration had been almost extinguished and most Maltese scholars of archaeology studied abroad in Italy or Britain. Francis Mallia and Tancred Gouder performed miracles in keeping the Museums Department afloat in spite of the lack of resources.

When the Cambridge Gozo Project started, Malta's prehistory, perhaps the most iconic period of the islands' past, was almost entirely envisaged through the megalithic temples, the Hypogeum, pottery forms and figurative art which were presented through museum display and tourist material. In contrast, there was little interest in bioarchaeology or the nature of the early populations of Malta. Until the 1987–94 project, no prehistoric tomb in Malta had been excavated with the goal of recording human remains in context through a bone-by-bone analysis, dating and scientific study. This was not a unique situation, since few sites across the central Mediterranean could boast a systematic approach to the recovery of human remains from funerary sites (Borgognini Tarli 1992). The duration of the Cambridge Gozo Project and its immediate aftermath coincided with a changed view of the ancient cultural heritage, that was epitomized by new colourful and accessible books from the Midsea publishing house, notably those by David Trump (2002) and Anthony Bonanno (2005).

### 1.3. Dating early Malta and changing approaches to the past: scientific questions and approaches

The development of absolute dating and its adoption by David Trump at Skorba following his work on the temple site (1959–63) represented a major impetus to the study of Maltese prehistory (Trump 1966). The establishment of the antiquity of the Temple Culture and the early date of likely colonization of the Maltese Islands was particularly important in the growing understanding of the spread of farming and Neolithic culture in southern Europe. However, just as Malta's past emerged, access to examine it was reduced from 1964 onwards. Instead new debates and methods, led by Colin Renfrew in particular, focused on the scientific recognition of materials that connected Malta with the wider Mediterranean. Obsidian distributions and indicative chronological developments, for example, were proposed to demonstrate the indigenous nature of the Temple Culture, together with many other cultural developments in the central and western Mediterranean. Renfrew showed that the Temple Culture had nothing to do with the diffusion of Mycenaean culture that had dominated interpretative models and academic debate of cultural development for decades (Vella and Gilkes 2001). Instead, Maltese and European megaliths were explained through independent invention. David Trump had always championed that notion and recognized the absolute distinctiveness of early Malta against comparable phenomena in Sardinia, France and Spain (Trump 1981). Throughout the period after 1963, he presented a synthesis of Malta's archaeology (Trump 1976; 1999; 2002; 2004) supported more generally by his work in Sardinia (Trump 1983; 1990). But with the lack of ongoing activities, the field of interpretation lay wide open to ideas from far away.

### 1.4. Research goals of the Cambridge Gozo Project

The goals of the Cambridge Gozo Project were to address various questions about the prehistoric world of the Temple Culture that had hitherto escaped

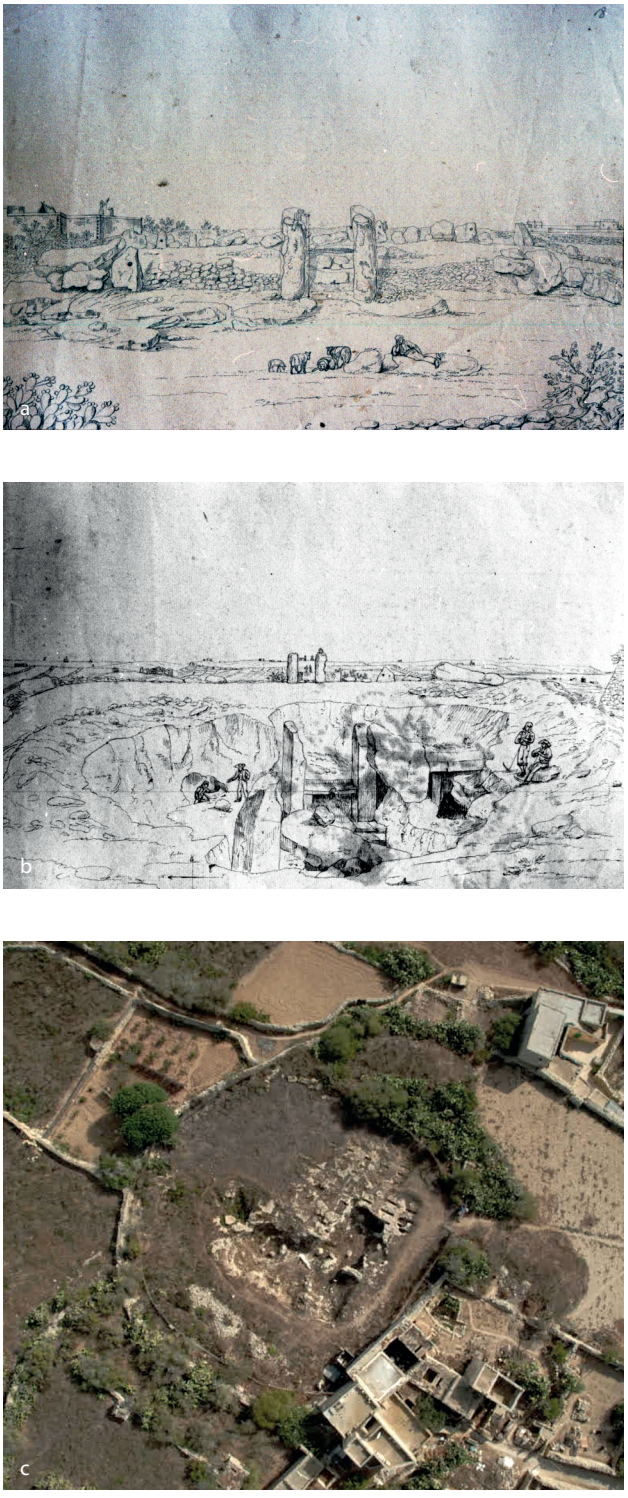


**Figure 1.2.** *a) Preliminary sketch of the entry to the Circle by Charles de Brocktorff,* c. *1822; b) preliminary sketch of John Otto Bayer's excavations within the Circle by Charles de Brocktorff; c) aerial view of the Circle after excavations in 2017 (Photo courtesy of Tile Films drone team).*

much study. Landscape and settlement archaeology were a priority, given the severe lack of known sites to counter the rich Temple Culture monuments (Volume 1, Introduction), Burial, too, was highlighted as a theme to explore alongside the emergence and decline of the Temple Culture and its chronology. A choice was presented to the three principal project fieldworkers (Malone, Stoddart, Trump), that simply invited suggestions for sites which might be examined. Gozo was rapidly identified as the lesser known of the islands, and in need of research at every level. The choice of Gozo immediately led to the request for an investigation of a recently exposed domestic structure half-sectioned by building works at Għaijnsielem, identified by Joseph Attard-Tabone (Malone *et al.* 1988; 2009d, Volume 1, Introduction).

But more was required if the many questions emerging were to be addressed effectively. The mysterious site of the Circle, portrayed in the mid-1820s de Brocktorff images (Evans 1971, Plate 29.3,4; Grima 2004) revealed a potentially deeply stratified site, albeit probably empty and badly damaged (Fig. 1.2). So, the choice was made to re-examine the unparalleled curious site as part of the Cambridge Gozo Project. Various stone circles were known (Ashby, 1911 BSR Archive: ta_XXVIII_001; Fig. 1.3a), including another on Gozo, but the one that survived and had been investigated was the Circle. The de Brocktorff images were crucial in reidentification, because they allowed a topographical fix of the site against surviving landmarks both on the skyline (towards Malta), in the neighbourhood of the site (the surviving farmhouse) and on the horizon in a sketch of Ġgantija. One of these images showed a large crater containing megalithic elements, buried several metres below ground level, emerging from the centre of the circle. Although one of the figures portrayed in the image appeared to be holding a skull, it was not clear what material was being extracted from the site and no reliable records survived from the original site clearance (Attard Tabone 1999; Ashley *et al.*, 2016). The team determined, however, that it was definitely worth investigation. The size and the depth of the site required assessment, and before any works began, a programme of geophysical survey (resistivity, magnetometer and geo-radar) were employed to try and establish the nature and scale of the site (Malone *et al.* 2009b), to identify the best location to commence excavation.

Whilst the original goals of the Project were to range across landscape, economy and funerary archaeology, the scale of the Circle soon eclipsed aspirations of multiple lines of investigation, except for some field survey. Instead, the team refocused on funerary archaeology and the data that could be extracted from the funerary site to inform on wider

**Figure 1.3** *(above). a) L-Mrejsbiet stone circle on Gozo (ta_XXVIII_001); b) Borġ l-Ġharib stone structure on Gozo (ta_XXVII_098); c) L-Mrejsbiet megalithic structure on Gozo (ta_XXVII_100) (all from the Thomas Ashby Archive, All Rights Reserved, The British School at Rome).*

aspects of the Temple Culture. Environmental concerns were addressed through study of molluscs, microfauna, geology, human diet and disease, whilst the socio-cultural aspects were investigated through funerary practices, artefacts, art and symbolism. The outcomes of this work are recorded in the 2009 monograph (Malone *et al.* 2009d).

### 1.5. Excavation of the Circle

The excavation strategy focused initially on determining the extent of the cavity revealed by the geophysical survey. This had shown reasonably clearly the edges of the outer parts of what later became evident as an extensive collapsed cave system. The plots were tested in 1987 with a series of narrow trial trenches across the key areas. The trenches (Figs 1.4, 1.6), mainly cut through ploughsoil that was up to half a metre deep in places, revealed a complex of vine trenches aligned over the entire field. They had been excavated through soil and deep into the underlying bedrock. (Mikiel Bartolo, pictured in Figure 1.5, related that his father the tenant on the land had dug them in the first decades of the 20th century). The heavily worked soil of both the ploughsoil and vine-trenches contained mixed modern and prehistoric pottery and occasional bone fragments. The field was known to have been reclaimed by local farmers soon after the original excavations in the 1820s, and refilled with rubble, some of which soon became apparent in the excavation trenches.

**Figure 1.4** *(above). The 'Circle' field before excavation in 1987 (Photo David Dunlop).*

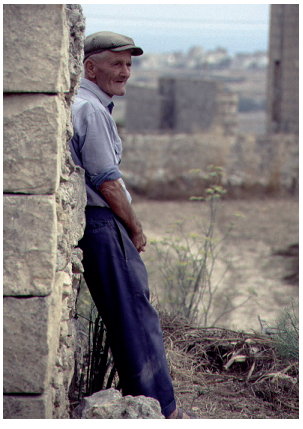


**Figure 1.5** *(left). Mikiel Bartolo, the elderly tenant of the field, in 1987 (Photo David Dunlop).*





**Figure 1.6.** *First trenches in 1987–88. a) Trenches in 1987, looking south; b) semi-aerial view looking north east; c) evidence of modern vine trenches in the excavations; d) expanded trenches in 1988 revealing the edges of the large cave cavity (brown). (Photos Caroline Malone).*

The annual excavation programme initially began with a June season in 1987, but from 1988 September was chosen to take advantage of university vacations. The years 1987–1990 were 4–5 weeks in length, increased to 6 in 1991, the fifth year of work, which at that stage was intended as the final year of fieldwork before a programme of writing up. However, not only were intact burial deposits revealed for the first time over an extensive area of the base of the opened caves, but the 1991 season also produced important artefacts (the twin seated figurine and the cache of stick figures) (Stoddart *et al*. 1993; Malone *et al*. 2009a, 289–305). Discussions with


**Figure 1.7.** *Excavation of rock-cut tomb. a.) Location of the tomb; b) the tomb shaft under excavation; c) the excavated shaft revealing the partly blocked entry to the west chamber (broken roof behind) and sealing slab over east chamber in foreground; d) the sealed east chamber entrance; e) interior of west chamber under excavation in 1988; f & g)* in situ *human remains in west chamber. (Photos Simon Stoddart & Caroline Malone).*

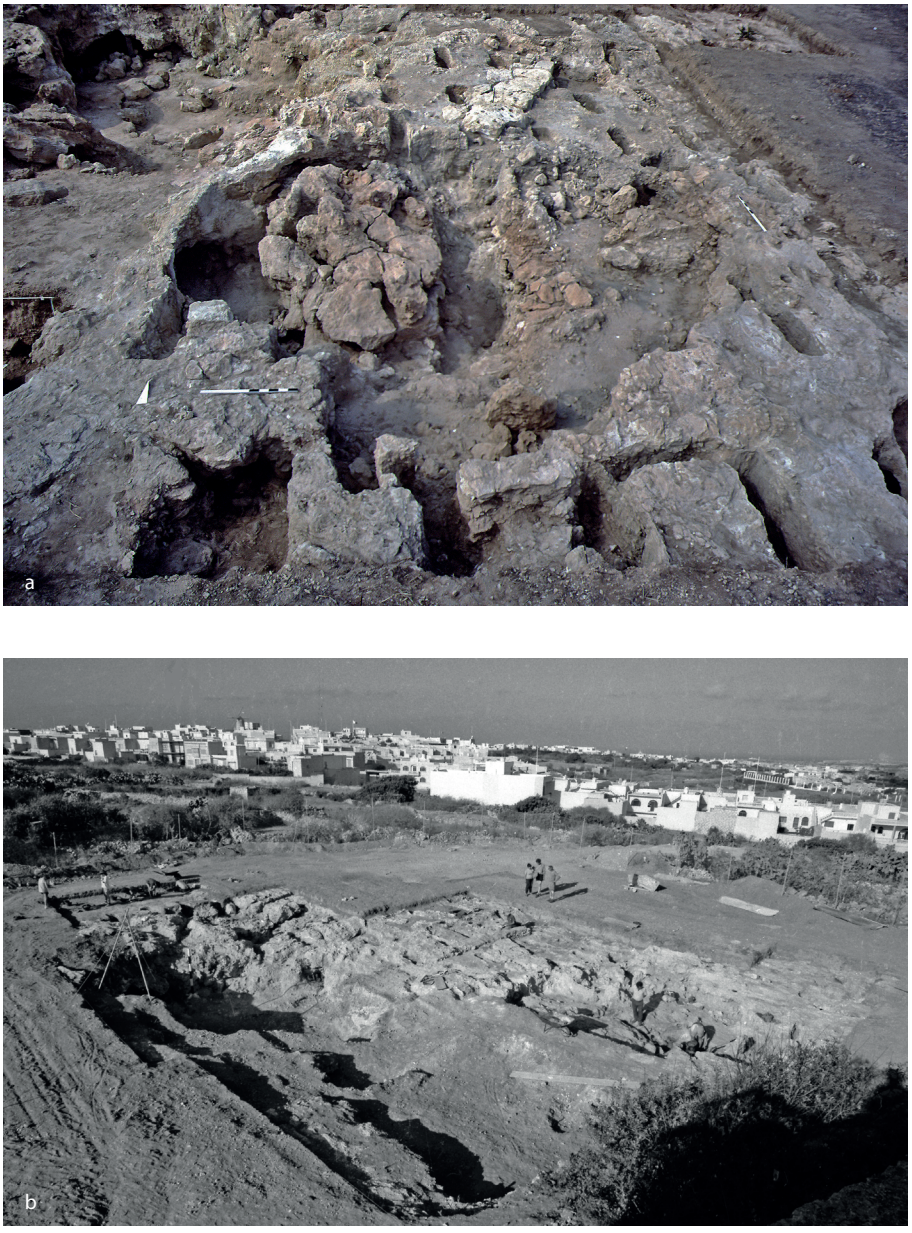



**Figure 1.8.** *Site in 1989–90. a) East Cave cavity under excavation showing remaining cave roof* in situ*; b) general view of opened site in 1989. (Photos Cambridge Gozo Project).*

the Museums Department and University staff determined that 1992 would be a season of post-excavation work, recording and field survey, followed by a final two-year excavation programme to resolve the opened parts of the site to a satisfactory level. The last two seasons were extended from July to September, typically 8–9 weeks in length, through the hottest weather and the most trying conditions for excavators.

The initial work in 1987 was split between two excavation sites, the Għajnsielem Road 'house' (Malone *et al.* 1988; 2009b) and the preparatory explorations of the Circle. Year 2, in 1988, saw focus almost entirely placed on the Circle, with some work on the landscape survey also undertaken (Volume 1, Chapter 6). That second year was directed to the careful clearance of the vine trenches and clarification of the site edges and areas of major early 19th century disturbance.

Fortuitously, clearance of two vine trenches in the SE corner of the site revealed a cavity beneath (Fig. 1.7). Between the two vine trenches, a curious red-stained circular deposit was recorded and carefully excavated to reveal a cylindrical shaft about a metre

deep that divided at its base into two small openings. One was largely loose and broken, but the other was sealed by a circular slab, made to fit exactly across the opening, and concreted into position by millennia of calcrete formation. A small but distinctive carved stone 'statue menhir' was found fallen at the base of the shaft, probably once a grave marker on the ground surface (Malone *et al.* 2009a, Fig. 10.46). This was the 'Żebbuġ' rock-cut tomb (Malone *et al.* 1995) and presented the first opportunity for the project, and indeed in the Maltese Islands, to explore what appeared to be an intact burial context. Two oval chambers, each about 2 m in diameter, but barely more than a metre high formed the paired tomb, entered by a central vertical shaft (Malone *et al.* 2009f). The chambers, East and West, were significantly different, since the latter had been re-opened for the insertion of later burials with Ġgantija pottery and dates associated. Immediately facing the team was the question of a suitable field recording system that could extract the osteological material that lay below. There was no methodology that promoted the precise recording of dense commingled burial deposits. An approach was developed that ensured 3-dimensional spatial recording and precision (§1.6)

The Circle also comprised the major subterranean cave system which had been opened up by Bayer, the edges of which were clear in the geophysical plots. The West Cave (as represented in de Brocktorff's 1820s image) had been fully exposed, whilst the East Cave was still intact beneath a fallen rock roof. The roof of that cave had evidently collapsed in later prehistory, but was shown later to have always been unstable, since large worked megaliths from another site (perhaps Santa Verna, see Volume 2, Chapter 4) were used to prop up the fragile and thin rock roof in Neolithic times. Beneath the rock fall, various megalithic structures survived together with burials comprising both disarticulated and articulated remains, the latter especially in the deeper recesses of the cave. Only limited areas of the East Cave were explored by the Project, whilst the West Cave offered opportunity to salvage already damaged and disturbed areas.

Once open, the main (West) cave of the site was evidently the area revealed in the de Brocktorff image, showing a deep cavity with megalithic elements. As noted above, it had been indiscriminately refilled with rubble, rubbish and soil around 1830 (since according to letters written by Richard Colt Hoare on his travels in Gozo, he could find no trace of the site (Attard-Tabone 1999; 2010). The removal of the fill was extremely arduous and difficult, since it was not known what lay underneath, or what depth it extended to. Excavation methods were almost all by hand, other than an annual visit by a crane or JCB machine to remove especially large rocks and to remodel spoil dumps. A simple winch and pulley system lifted hand-filled buckets from the increasing depths of the site (at least 4 m); wheelbarrows and sheer human strength undertook the majority of clearance work, and it was slow, hot and quite hazardous. The directors took a strict line on site safety, whilst also ensuring all archaeological features and skeletal material was recorded in detail.

In essence, it took 4 months (over 4 years) to remove the nearly 4.5 m depth of deposit in places of heavily consolidated material. The teams initially comprised UK and international university student volunteers, some professional volunteers from the major archaeological units in the UK, and a growing number of Maltese students from the new degree course in Archaeology learning the field skills of archaeology for the first time. They were trained and organized by the direction team: David Trump, Caroline Malone, Simon Stoddart and Simon Mason, assisted by Anthony Bonanno. Logistics were supported by Bridget Trump and Kenneth Stoddart, whilst experts (Corinne Duhig, Sue Yealland, George and Sheila Mann, Cristina Sampedro and Mick Wysocki) recorded the human remains. Carol Brown undertook conservation over several years, consolidating artefacts and bones. By the final years of the project, a good number of local volunteers had become proficient fieldworkers, and indeed, the practical experience proved to be instrumental in directing many to permanent roles in heritage, museums and university teaching in Malta, Britain and beyond. For details, see the full team reported in the 2009 volume.

### 1.6. Development of methodologies and progress of excavation (1987–94)

In the 1980s, computerization of catalogues and the development of software to plot densities and distributions became possible, using portable personal computers and laptops in Archaeology for the first time in the field. GIS was in its infancy, but the field directors predicted the future opportunities and began to employ techniques in the recording system, especially for the osteological archaeological data, that would be applicable in the future. There was no ready access to digital recording technology at the time of excavation so conventional photography, instant photography (Polaroid) or video were the means to capture imagery, whilst traditional survey using theodolite and dumpy level was employed to ensure the spatial record until the final year of work in 1994 when an EDM was used.

#### *1.6.1. The rock-cut tomb methodology*

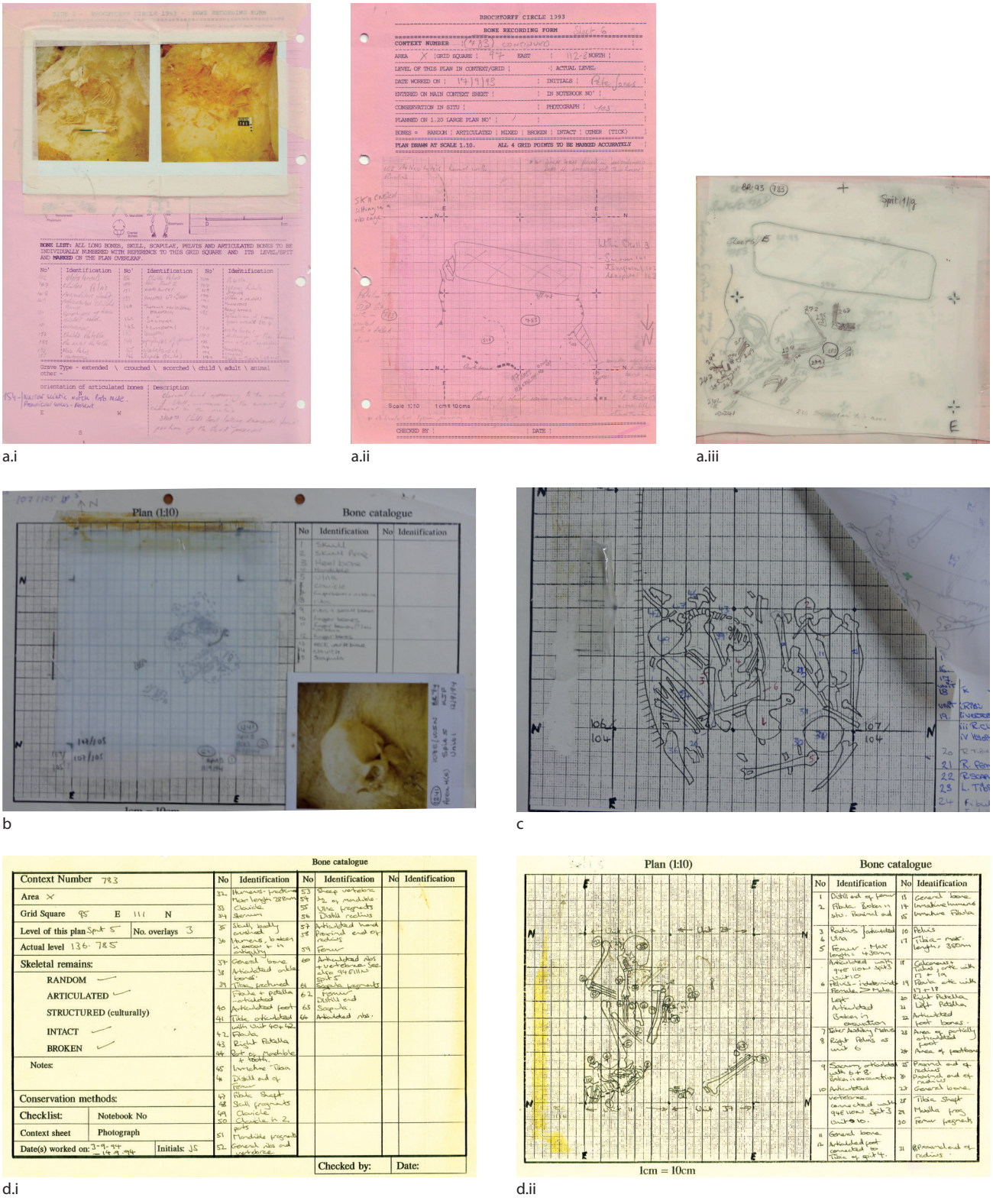
The removal of the upper disturbed deposits of the Circle in the first year of work revealed largely random




**Figure 1.9.** *Site in 1990–92. a) Site clearance of backfill and 19th-century rubble from West Cave; b) rubble and backfill from the 19th-century excavations removed to reveal earlier surfaces and deposits; c) field recording of the site in 1992 following removal of rubble and remaining cave roof fragments.*

bone deposits, and by the second year, the discovery of the intact deposits in the rock-cut tomb demanded a standardized and effective recording system. The excavation teams were comprised mainly of students of varied levels of experience, so there was a need for a fool-proof method to record the human remains, alongside the more standardized archaeological recording of context features and finds. Fresh from completing a PhD dissertation of central Mediterranean prehistoric artefacts and burials which invariably had little detailed contextual record, Malone developed a protocol for recording commingled burials and bones. This was based on piece-plotting of material within 3-dimensionally measured areas (1 m square areas in the case of the Circle) recorded as 'spits' or levels in each stratigraphic context, in this case about 10 cm depth. The method replicated that typically used for lithic scatters and Palaeolithic cave sites, and enabled refitting of fragments across levels and parts of the grid as well as accurate GIS realization in the present project, that has allowed deeper understanding of the taphonomy and placement of skeletal material. Another influence on method and interpretation was study of the Huron Younge site in Michigan by Stoddart,


**Figure 1.10.** *a) Excavation of 'Display Area' 783 in 1993; b) view of cleared West Cave and 783 together with Deep Zone and 951 at end of season 1994; c) the 'Shrine' area showing David Trump (in blue) excavating around the base of the screen slabs, with revealed primary burials under excavation in foreground. (Photos Cambridge Gozo Project).*




a.i a.ii a.iii

b c

d.i d.ii

**Figure 1.11.** *a.i-iii) Page from notebook showing recording methods for a 'spit' in a context (783) metre square with overlays for individual bone plotting (grid 112E/112–113N); b) Context (1241) recording sheet (grid 107E/105N); c) detailed recording of numbered bones in Context (1241), showing transparent overlay (grid 106E/104N); d.i-ii) Context 783 recording sheet showing lists of bones and related spatial plot.*

where ritual process had similarly led to distinctive disarticulation (*for more details see* Malone *et al.* 2018).

The recording system was practised and tested in the very restricted space of the West chamber, where the oval-shaped tomb was divided across the diameter with a permanent tape reference line. Material culture (bones and artefacts) were then measured and drawn/plotted at scale on grid paper in relation to the reference line, layer by layer and context by context. A graph paper notebook was employed to plot the material spatially at a scale of 1:10, with each level or spit recorded separately. Initially the bones at the surface were infrequent and badly decayed where they had been vulnerable to rock fall, soil creep, rodent activity and humidity. But as the upper layers were cleaned away, better preservation was soon encountered, and so plentiful were the dense and commingled bone deposits that it was clear that individual skeletons were unlikely to be easily identified. So, to ensure that bones in groups and as individual fragments, together with decayed material, loose teeth, beads and small objects were recorded precisely, the recording process sub-divided the tomb floor into measured squares/zones. These enabled very fragile bones to be bagged with an individual code separately packed into marked paper bags for later cleaning and study. Photography was attempted, but the conditions proved difficult for effective photographs in low light and insufficient space (Fig. 1.7 f & g). In addition, all the soil extracted from the tomb was systematically sieved over a wheelbarrow immediately set beside the tomb entrance which captured small bones, teeth, beads and objects. Soon after commencing the West chamber excavation, the East chamber was also opened, and found to be more intact, but containing a smaller assemblage of osteological material. The last elements were lifted in 1989, when the final layers of the tomb were excavated.

*1.6.2. Methodology for the main caves and deposits*

The rock-cut tomb provided a testing ground for the development of the recording methodology, which was then adapted and streamlined for dealing with the larger, deep cave site. The entire site was surveyed and laid out in a 1 m square grid, and systematically planned and levelled as the excavations proceeded. Intact deposits of significant burial material were not encountered until removal of at least 3–4 m of overburden in the East and West Caves, but did occur in surface pits and crevices, where the recording approach was also applied. This is related in detail in the site report (Malone *et al.* 2009b). The damage and disturbance caused by the 19th-century exploration by Otto Bayer and the crude backfilling which followed his work had exposed, damaged and destroyed an unknown quantity of features and burials, but fortuitously the work had stopped soon after 1824, and the site was backfilled, as recorded by Attard-Tabone (1999) in the years following. The upper levels of fill removed by the Cambridge Gozo Project in the early years of fieldwork (1987–90) demanded enormous physical effort, and at the time, there was little notion of discovering intact levels beneath (see below).

The mass of bone material from the site comprised some 220,000 bones/fragments/teeth, representing perhaps as many as 800–1000 individuals, depending on which element is counted and how they were combined (Stoddart *et al.* 2009a, 319–21). The exact number of individuals buried was not, and probably cannot be, firmly established (given the previous history of damage, the still incomplete removal of burial deposit remaining *in situ*, and the difficulties of estimating the *original* number of burials in the absence of pair-matching long bones). The data show a complex process of multiple burial/deposition episodes involving constant removal, replacement, reorganization and ritual activity in the movement of skeletal elements around the site. From 1989 onwards, once the rich osteological nature of the site was identified, a succession of excellent bioanthropologists/medics assisted on the site, providing vital guidance and insight into the questions that might be posed in subsequent research. They compiled reports and guided the development of the methods described below and also processed and recorded the material (the Project is indebted to Sue Yealland†, Corinne Duhig, George Mann†, Sheila Mann, Cristina Sampedro, Mick Wysocki, Caroline Barker for leading this work).

## 1.7. The research methodologies of the Cambridge Gozo Project (1987–94)

As described above, the recording system was based on the Harris Matrix system (Harris 1979) employed widely across British commercial archaeology, which accompanies single context recording by identifying and recording individual deposits, features, structures through the allocation of separate numbers to each component. This enables a stratigraphic hierarchy that can be readily computerized. The 2009 volume demonstrates this approach in graphic form. Instead of the notebooks employed in the rock-cut tomb, the extended site and its numerous excavators demanded a streamlined system to enable mass recording. With the gridded site set out, the skeletal remains in each metre square were separately recorded on a pre-printed form that enabled piece plotting and numbering of each fragment and group of bones. The recording


**Figure 1.12.** *Clearance of the Circle in 1989. a) Megalithic screen structure emerging from rubble overburden; b) removal of precarious cave roof fragments after recording; c) general view of excavations in 1992; d) semi-aerial view of site in 1993 at start of excavation season, showing the east and west caves with remnant dislodged megaliths from the 19th-century backfilling* in situ *around the cavity. (Photos Cambridge Gozo Project).*

enabled each bone group to be accurately located in 3 dimensions, supported graphically by scaled plans and Polaroid photographs that instantly captured the image of the bones and could be annotated and attached to the drawn plan, and listed as numbered items for each square and level.

The bones were then lifted and placed in numbered bags or boxes that recorded the bone number, square, level, date and excavator. Some contexts such as (783) covered over 12 m$^2$, so effective precision recording was particularly important for larger commingled burial areas. Such deposits varied from *c*. 20 to 80 cm depth and required successive sheets/plans to record a single metre quadrant. Such deeper stratigraphic deposits of similar sediment were excavated by spit to record otherwise unrecognized stratigraphy. The

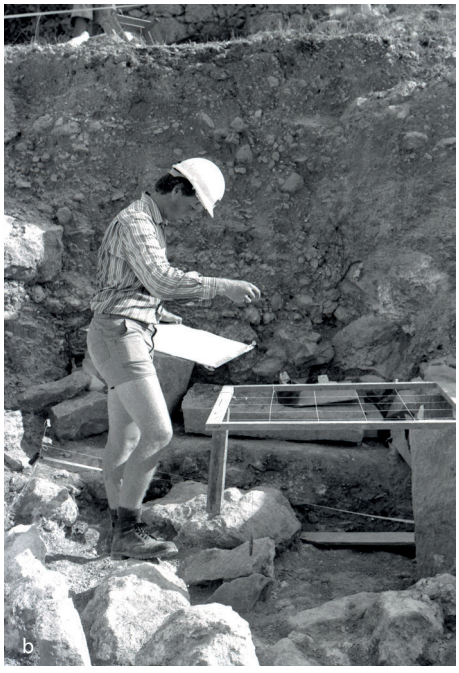


**Figure 1.13.** *Bone recording in the field. a) Recording 783; b) planning bones and structures, showing Andrew Townsend; c) sampled metre squares in the deep east cave. (Photos Cambridge Gozo Project).*

drawn record was later traced onto amalgamated plans, layer by layer (e.g. Figures 8.60 and 8.61 in Stoddart *et al.* 2009c), which revealed the density of burial material in certain areas of the site. This work exposed the changing pattern of bone distribution as the burial niches and spaces and access to them evolved over some centuries. On completion of excavation of each context, the combined levels provided a view of the burial material spread over areas covering, in the case of Context (783), as much as 12 square metres and over a depth of nearly 50 cm. Such bone plotting and recording seems to be surprisingly rare in our subsequent review of prehistoric burial sites where commingled bone was encountered. The data have subsequently enabled a GIS exercise that has plotted and analysed the arrangement of skeletal remains (Chapters 3 & 12).


**Figure 1.14.** *Amalgamated bone plan for (783) (s = stone).*

In reviewing the methodology of the 1980s–90s from the vantage point of the present, many things might have been done differently and better. But then with restricted funding and access to Polaroids rather than digital photography, the conventional methods nevertheless proved effective. Investment in an overhead photographic rig could have been very useful, which today would be replaced by digital scanning technology. But well over 6000 photographic colour and black and white images of the entire excavation were made, which provide a substantial record. A permanent cover over the site could have enabled longer seasons of work by professional archaeologists, and a much larger budget could also have enabled different excavation approaches. But the record has been proven to be accurate and adequate, and the data has been readily extracted, enabling the present re-assessment to be undertaken. During fieldwork, the process of cleaning, recording and lifting bones became a useful training tool for students new to field

archaeology. With little prior experience, they could grasp the simplicity of the grid, the spit and the scale drawing at 1:10 on grid paper. Individual elements could be referenced across the entire, extensive site, through the survey grid, and it worked because it was simple to use, with few risks of data loss. The systematic process also enabled supervisory control whilst also giving some degree of autonomy to the excavator.

The significance of the method and the reason for revisiting it here, is that two decades later we were able to identify individual bones or teeth which contain significant pathology or features because the recording system worked effectively. A substantial proportion of the material is thus capable of precise 3D location and association with other skeletal and cultural material, and individual bones associated with particular contexts and artefacts can be accurately dated (Malone *et al.* 2019). At the level of detail now demanded from the osteological material, we were also able to turn the static plan drawings, layer by layer, into a complex and accurate GIS to display and interrogate the burial complex. By plotting each significant bone in position, a full digital reconstruction has become possible including the implementation of virtual reality suitable for both research and museum display (Malone *et al.* 2018; Thompson *et al.* 2020; Chapter 3), supplemented by digital scans of the remnant cave site by John Meneely, and the extensive photographic record.

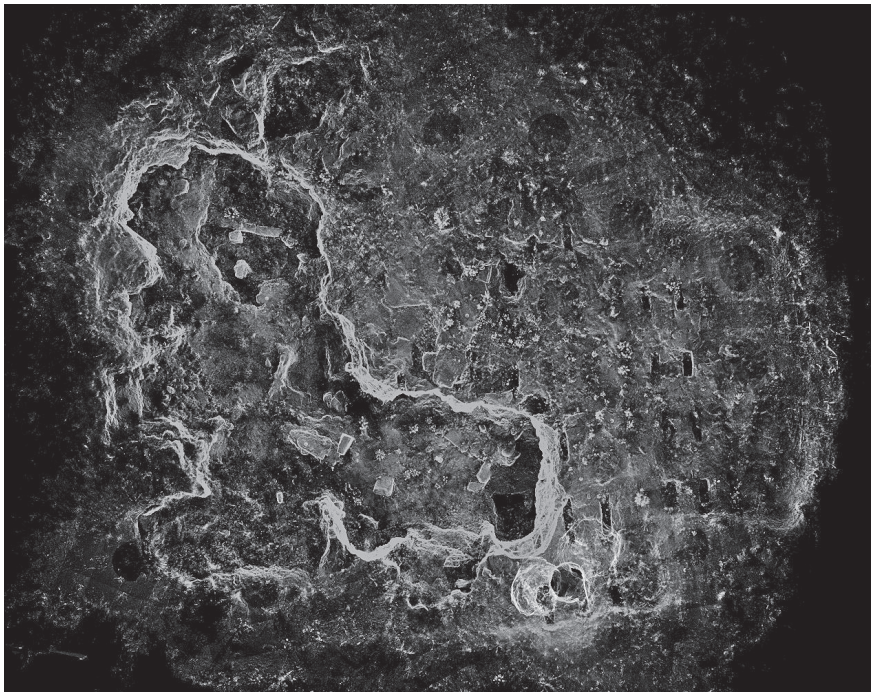


**Figure 1.15.** *Digital scan of the Circle cavity in 2015 (John Meneely).*

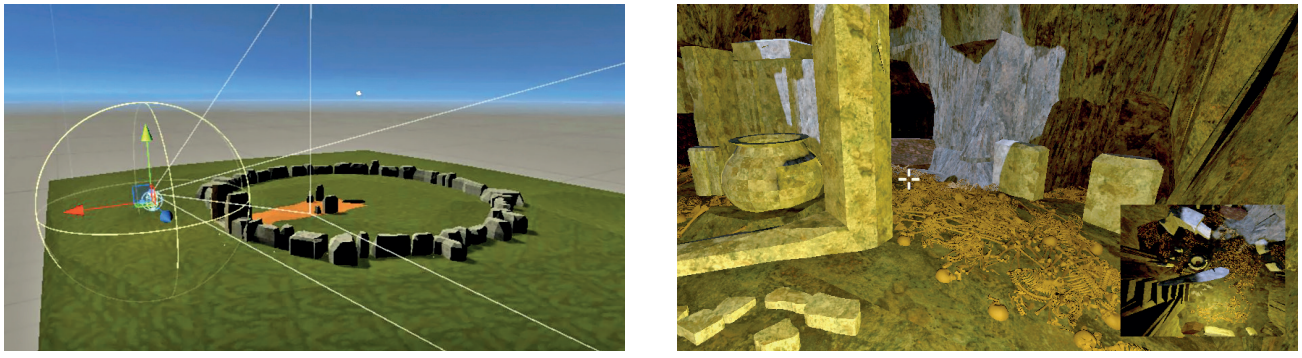


**Figure 1.16.** *Virtual reality study of the Circle caves (Robert Barratt).*


**Figure 1.17.** *GIS study of the excavated bones in (783) (Eóin Parkinson).*

*1.7.1. Methodologies for bioarchaeological analysis*

The Circle produced an astonishing quantity of bone, mostly highly fragmented, but all the bone was carefully excavated and retained for study, while the larger and more recognisable elements were recorded in detail. The next stage of work involved drying the damp material, and carefully brushing the chalky dusty deposit from it. Much of this work was undertaken within hours or days after excavation. For some contexts, lifted towards the end of a season, this had to wait until later. Some bone was heavily concreted with limey deposits, harder than the bone itself, and these posed a problem for cleaning. Most, though, were prepared for the ongoing study. Where crania or entire long bones were lifted, some conservation treatment was sometimes required to stabilize or glue elements in place, but intervention was rare, since the aim was to retain un-treated bone for future chemical/isotopic analysis. Storage of the material was in the original paper bags within purpose made cardboard boxes.

The recording process was undertaken only by experienced biological anthropologists and involved a laborious sorting through each bag/context and listing all elements, making relevant measurements,

checking for pathologies and special features and the information was recorded on purpose made sheets. This was the lengthiest process of the entire project and it proved impossible to complete it all within the field and post-excavation study seasons in Malta. Fortuitously, an opportunity to transport unstudied and particularly significant contexts presented itself. This was in part thanks to a generous invitation from the British High Commission to a cocktail party to celebrate the final voyage of the Royal Yacht *Britannia*, which was harboured in Valletta in September 1995. An introduction made by Ann Monsarratt† (1937–2020) (a keen supporter of the project over many years) between Simon Stoddart and the Chief Engineer of the ship enabled a conversation that resulted in the offer to transport the large bone consignment to Portsmouth (Fig. 1.18). It was readily accepted and paperwork prepared for the export of the material. Additional boxes were transported to Bristol University where the Cambridge Gozo Project was then based. A small team of keen post-graduates assisted in the final preparation and recording of the material, which by the late autumn of 1995 was joined by the Britannia consignment. Caroline Barker, Cristina Sampedro, George Mann and Gary Burgess variously worked on the material and data-log. In 1996 the Project moved to Cambridge, where the McDonald Institute kindly provided a basement lab for continuing research on the project. The database required formatting, and David Redhouse at Cambridge developed a relational Access database.

The hundreds of recording sheets were logged over many months, funded on small and rather irregular grants. Indeed, the entire Cambridge Gozo Project was funded on what today would be impossibly small grants and relied on unpaid volunteer assistance. Eventually the mammoth task was completed in late 1998, just as the demands of the editorship of the *Antiquity* journal by the lead researchers (Malone and Stoddart) delayed opportunity to concentrate on writing and completion. On relinquishing the editorship in 2003, research again focused on the analysis and interpretation of the database. Time was pressing, money was very scarce, and the database was exported to Excel, to enable information to be extracted more easily. Simon Stoddart undertook that work and brought the complete data list to publication in the 2009 volume. But that work of archaeological reporting, in the first instance, could not explore as deeply into the complex patterns and significance of the remarkable osteological assemblage. Indeed, the volume in 2009 was over 500 pages, and its publication relied entirely on the acquisition of a number of small publication grants. It was not practical to plan to publish in even greater detail at that stage. Significant funding, much more time, and a dedicated team of scholars would be needed, and there was no opportunity in the early 2000s to find that. Applications had been made to key funding bodies in Britain to support particular aspects of the population study. Surprisingly, these applications were turned down, usually on the pretext that 'osteological and population study was not original or cutting-edge science…'!

**Figure 1.18.** *Collecting the bones transported in the Royal Yacht* Britannia *in 1995, showing senior crew, Toby Parker, Simon Stoddart, Louise Loe and Karen Barker.*

Fortunately, since then, attitudes have changed, however it was not British- or Maltese-based funding that enabled further study, but instead, European Research Council funding on a much greater scale than could have been provided by other sources. As these collective *FRAGSUS Project* volumes report, a number of probing and difficult, yet simple, questions arose over the decade of writing up the Cambridge Gozo Project. The story of the prehistoric population remains a key element in all the questions – who were these enigmatic and creative early people of Malta? What was the role of the population in changing the landscape and exploiting resources? How did they respond to unpredictable food supplies? What was the role of ritual and symbolism in their lives? Were they fit, healthy and well nourished? Why was half the population dead before they reached maturity? These and many other questions then laid the base for Caroline Malone's application to the European Research Council.

### 1.8. Recent work

Since the completion of the first phase of the work at the Circle, another key site of the same Tarxien phase has been discovered in Malta, the Kerċem burial site also on Gozo (Pace 2011, 277), where the proportion

of intact skeletons (three) to considerable quantities of structured, yet commingled, human remains appears to be similar, placed in an extended chamber. Full assessment is widely anticipated. Unlike the Circle, little symbolic material was identified, and it appears to be a continuation of the much more modest 'individual' tomb tradition of particular families, rather than an extended community (Chapter 14). The opportunity to reassess the Xemxija Tomb assemblage in terms of chronological, isotopic and taphonomic aspects has also advanced research. Thompson *et al.* (2018), as one of a number of significant published contributions, has noted dermestid beetle burrowing in bone that could explain funerary practices, such as wrapping bodies in animal skins prior to deposition. New dates have also been achieved for this significant site.

### 1.9. Reflection

Over the last two decades, much has changed in the approaches to field archaeology and recording. In the 1990s, a video camera seemed exceptionally modern, and a small primitive computer with a tiny screen of green letters/numbers against a black ground, the height of sophistication. Indeed, sponsorship via Olivetti was extended early in the project and equipment loaned from a local dealer to enable continuous data logging and reporting. The computers were useful for data entry in dbaseIII to make lists of material and allow simple reports to be prepared. Photography was undertaken using high quality 35 mm film in conventional cameras, supplemented by expensive Polaroid instant print film for site shots requiring immediate annotation.

Today, such approaches seem antiquated when every aspect of modern fieldwork is a digital process, tied into survey, statistical graphics, photos, spreadsheets and much more. Indeed, the evolution of the Cambridge Gozo Project into the *FRAGSUS Project* is intimately related to the changing technologies and capacities available to scholars, on their own desks. The capacity to collect, process and then interpret through statistical examination, the sheer volume of archaeological information is one of the transformative aspects of current work. *FRAGSUS* has recorded incredible quantities of information, at every level of detail. In the hands of a skilled researcher, using Bayesian modelling, for example, patterns and trends invisible to the uninitiated, become clear. This volume, as in Volumes 1 and 2 (French *et al.* 2020; Malone *et al.* 2020) is the outcome of numerous varied bioarchaeological studies. Whether it is individual bones, entire population structure, aDNA, chronology, isotopic study of carbon or nitrogen elements in the diet, understanding becomes clear through the use of effective mathematic interrogation. It is a far cry from the initial work of over 30 years ago, when such precision was not even dreamt of!

### 1.10. Impact of the project work, past and present

The Cambridge Gozo Project study of the prehistoric population represents one of the most thoroughly studied assemblages in Europe, for its date and context. However, the *FRAGSUS Project* contribution, including a battery of new, accurate AMS dates, isotopic analyses, aDNA, assessment of disease and pathology, the population becomes clearer and ever more interesting. What are missing now are the comparative data from other sites in the Mediterranean region to provide a wider context. For Malta, the Xagħra people remain the principal informants of a lost world that otherwise could have emerged a century ago, when Ħal Saflieni was discovered. We understand that new work is proposed on the remaining crania from the Museum collection and other residual bones. We wait to see what this work brings.

Meanwhile, it is interesting to step back and review how the Xagħra people and the bioarchaeological studies of their remains has impacted local identity, as well as Maltese and wider European scholarship on understanding of prehistoric Malta and its Temple Culture. Such projects build up a momentum of their own – forming intellectual teams who remain in touch for the remainder of their careers, and who impact in turn on their associates, students and institutions as well. Here we make a brief analysis of that impact.

For these reasons, it is worth tracing the historiography of the Circle (Fig. 1.19). The first period, prior to 1986, has been reported in the 2009 volume and by the rediscoverer, Joe Attard Tabone. It covers the original discovery of the Circle, its early part clearance and its reabsorption back into the agricultural landscape. A new phase started in 1986 when the Circle was visited by the Cambridge Gozo Project team leading to four cycles of intense activity that have led up to the present day. The first phase was associated with the scientific excavation of the Circle (1988–96) and produced a burst of output that culminated in travelling exhibitions around Europe. The second phase (1997–2004) comprised numerous articles and lectures on death that digested the importance of the sheer quantity of data and their significance. Up to this point more than one hundred outputs and a data structure report had already been created (*pace* Pace 2004, 189). The third phase (2005–08) culminated in the publication of the Circle and coincided with a first serious injection of funding into related studies

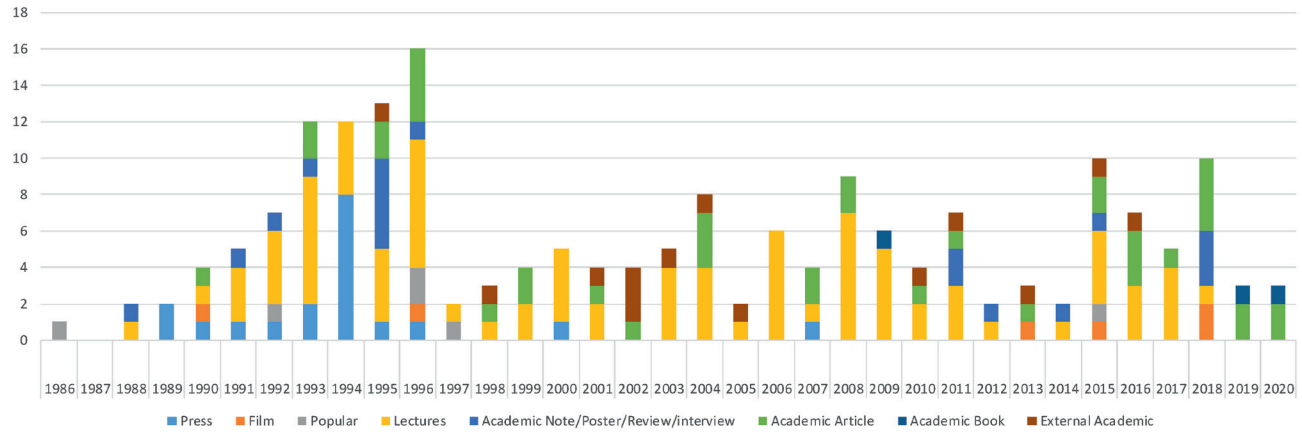



**Figure 1.19.** *Graph showing the output arising from the Circle research.*

by the Templeton Foundation, with further support from Leverhulme. The fourth phase (2013–present) was initiated by a British Academy grant to rejuvenate the stores of human remains and the creation of the site visitor centre, leading onto the *FRAGSUS Project.* At the present time, it is estimated that a further one hundred outputs have been generated (once the full press impact has been added) and the Circle shows every sign of being one of those sites which will be a mine for generating new interpretations and ideas into future decades and even centuries.

It is worth relating how the important data extracted from the Circle equally stimulated and generated new ideas on the theme of death over the three decades since the richness of the deposits was first grasped. The 1990 contribution to *World Archaeology* (Bonanno *et al.* 1990) drafted by Simon Stoddart, inspired by the ethnographic work of Boissevain, posited the presence of intense intra-group and personal rivalry rather than hierarchy (Renfrew 1973) as the social configuration of the populations who were buried in the Circle. This social configuration was linked to monuments, including the funerary monuments, noting the increase in complexity and the accretional size of such monuments over time.

The 1993 contribution to the *Cambridge Archaeological Journal* (Stoddart *et al.* 1993) pointed to the potential relationship between the relative physical isolation of the Maltese Islands (compared with other Mediterranean islands) and cyclical cultural isolation, and how these trends might be paralleled in the rituals of life and death in the Maltese monuments. The authors were struck by the difference between the exchange products in the Żebbuġ rock tomb within the Circle and those found in the Tarxien phases of the Circle, the first securely dated material from the Maltese Islands. The Żebbuġ tomb contained a cache of large local and smaller imported greenstone axes. The Tarxien phases of the Circle had relatively few and smaller sized imports accompanied by a substantial emphasis on the elaboration of local materials. The proposed model was that navigation to the outside world was increasingly in the hands of relatively few skilled navigators who extracted material and symbolic power for themselves, through knowledge of external lands (cf. Helms 1988), and used that power to support increasingly rich, structured and celestially/geographically orientated ritual in both the temples and mortuary complexes. The liturgical art of the Circle was substantially created from local materials deployed to great effect in support of the richness of the ritual. For the first time, Ħal Saflieni and the newly excavated Circle were placed within the same hypogeum category, since by this stage the extent of the burials had been proven. The 1993 article in the *Scientific American* (Malone *et al.* 1993) addressed the funerary ritual, as well as the liturgical art, more explicitly for the first time, and raised questions about why such an elaborate ritualization should have come to an end. In the same year, the fact that a natural biological community appeared to have been buried in the Circle was emphasized for the first time in a contribution to the *History of Humankind* (Trump *et al.* 1993).

The 1995 article in the *Proceedings of the Prehistoric Society* (Malone *et al.* 1995) provided the first systematic and comprehensive account of funerary practice based on human remains. The rock-cut tomb was originally considered to be Żebbuġ in date. The early date thus suggested, at the time, the precocious development of collective burial in the Maltese Islands compared with neighbouring areas, but a greater quantity of more recent dates and reconsideration of the old dates seem

to suggest that the human depositions were principally Ġgantija in phase and that the Żebbuġ and Ġgantija phases were very closely related, so this initial interpretation needs to be revised, bringing collective burial back into line with the rest of the southern central Mediterranean. What endures as a valid interpretation is that the two chambers of this tomb continued to be used over a reasonably long period of time, where the prehistoric inhabitants removed some more substantial bones and pushed others to the back of the chamber, at least in one case leaving the most recent inhumation relatively intact in a central position. What was also noted at the time was the contrast between the size of the imported axes in this chambered tomb and the whittling down in size and piercing of so–called 'axe amulets' in the later phases of the Circle, and in other Tarxien deposits within the islands, suggesting that such imports were a differently treated resource in the later phases of Temple period ritual, including mortuary dimensions. Skeates (1995), in an article published in the same volume, also pointed to the fact that Malta was at the end of an exchange system where imported greenstones were reduced in size and perforated, and thus sacralized, reinforcing the exotic power of these exchange products, as suggested in Stoddart *et al.* (1993).

During this period, increasing attention was drawn to the diversity of the burial patterns (Malone & Stoddart 1995a) that were very different from the articulated deposits supposedly present in most cemeteries, ancient and modern. It was also noted that the Maltese government had chosen the symbols of identity recovered from the Circle as the leitmotifs of modern Maltese identity coinciding with the exhibition in Malta House in Piccadilly and accompanying lectures at the Society of Antiquaries (Malone & Stoddart 1995b; 1995c). Further publication described in detail the extraordinary prehistoric art discovered from within the Circle (Malone & Stoddart 1995d; 1996a; 1996b) and the spatial layout of the monument (Malone & Stoddart 1996c). It is significant that these publications occurred in the inaugural publication of the Malta archaeological society (Malone & Stoddart 1996b) as well as the second edition of the Magazine of the Fondazzjoni Patrimonju Malti (Malone & Stoddart 1995d).

Further work was presented shortly afterwards that focused on refinements of the funerary ritual and the art. Duhig (1996) gave her considered and definitive account of the funerary ritual of the rock-cut tomb and Stoddart *et al.* 1999 placed this within the greater complexity and diversity of the subsequent Tarxien period. The former article gave the first provisional statistics not just for the rock-cut tomb but for other Tarxien areas of the site. The latter article drew attention to other cases of structured, disarticulated human remains from Greece and North America. The analysis stressed the scale of the human remains, the necessary length of the post excavation process, and, in spite of the provisional nature of the discussion, the extraordinary diversity of practice. The cultural practice was also carefully mediated by the consideration of natural processes. Furthermore, some considerable detail of the spatial pattern of the human remains was given, providing a structure which continues to hold broadly true, although more recently, and in this volume, given statistical detail and further levels of variation. The article concluded by indicating the wealth of information available in Malta for comparing different dimensions of life and death, rarely available in early societies. In the same year 1999, further work (Stoddart 1999) introduced the idea of sensory perceptions of death, particularly sound, and placed the Circle in the broader context of the few other contemporary funerary sites identified in the Evans (1971) survey: Xemxija, Bur Mgħeż and Busbisija. A contrast was explicitly made between the focal points of Ħal Saflieni and the Circle and these smaller funerary deposits.

Robb (2001) investigated the issue of the elaborate ritualization of Malta, of which funerary activity is but one part. For the purposes of this volume, the key matter is a shared concept of 'ritual hierarchy' and just as Stoddart *et al.* (1993) cited Helms (1988), so did Robb, so despite the differences debated elsewhere (Malone & Stoddart 2004; other volumes), there is a point of convergence in the belief that ritual knowledge and differential access to materials from outside the islands endowed some members of society with increased power. In fact, Stoddart (2002) investigated the nature of that ritual power through a focus on the clustering of ritual objects found in the Circle. These finds were inserted into a wide-ranging cosmological landscape that was as much vertical as horizontal, and where the funerary landscape resided in the lowest tier, and since this tier was often physically enclosed below ground, where resonant sound would have had a profound effect. The article also raised the question of whether the whole community could have been buried in the Circle, and that this might in itself be another indicator of differential access to power. It also added action to the repeated burial ceremony, envisaging the funerary procession travelling from Ġgantija through the uprights of the enclosure, across the threshold above distinctive ancestors into the inner parts of the complex. Another ritual theme, nested cycles of life, was taken further (Stoddart 2004), inspired by his duties of teaching at Cambridge in the same subject. This approach suggested that the redolent ritual objects

contained within them symbolic representations and that the short-term cycles of life were nested within longer term kinship lineages.

Malone & Stoddart (2004), in part in response to Robb (2001), pointed out that the main foci of ritualization (including funerary) in the Maltese Islands, of both monumental and portable form, were constructed substantially out of local materials. Quantitative data were employed from funerary contexts, the only ones then currently available, to assess the degree of interaction in two key periods. As a general trend, when corrected for length of time and numbers of participants, the foundation phases had larger objects and greater quantity, whereas the peak of ritualization had smaller sacralized objects, spread over a longer period. The 1993 *Scientific American* article was republished in 2005 in a collected edition (Malone *et al.* 2005). This gave the opportunity to comment on debates that had arisen in the interim. A series of questions were posed about the level of knowledge of the outside world and the degree to which this was in the hands of a few. Some of these questions are best answered in the other two volumes, but there is also a relevance vested in the level of participation in mortuary ritual and the degree to which local materials were prominently used to develop that ritual.

An important development was the funding by Templeton to look at the spirituality of prehistoric Malta. The main focus was on the temples (buildings we now designate club houses) and their art. Death rituals thus formed a relatively small part of the Templeton funded project, but two outcomes of the conference did deal with such matters. Stoddart (2007) applied some broad statistics to the evidence: a) to show how a potentially small living population might have contributed to the buried population; to illustrate the flow of bones through the site with a ternary diagram of crania, long bones and residual bones; to point out that men were deeply placed within the funerary stratigraphy. Many of these ideas anticipated deeper treatment in the final publication (Malone *et al.* 2009d). In the same conference publication, a number of the ideas of deep access originally outlined for funerary monuments, were given a quantitative computerized dimension (Anderson & Stoddart 2007).

As part of a Leverhulme funded project 'Changing Beliefs of the Human Body' (2005–2010) (PI: John Robb), one paper (Malone & Stoddart 2008) was prepared on this theme, which traced the interrelationship between the depiction, disposal and direction of the body across the various periods of prehistory. Much of the article focused on the size and context of art, showing that smaller mobiliary art was prominent in funerary ritual. It also introduced the idea of shrouds over some of the bodies, because of the presence of buttons in the parts of the funerary deposit and their probable attachment to such covers. As part of a festschrift to honour Ruth Whitehouse, Malone (2008) systematically categorized the same corpus of figurative art within a cosmological setting that expanded on Stoddart (2002) and Stoddart & Malone (2008).

A major watershed was marked by the publication of the Circle, charting the principal results of the Cambridge Gozo Project work as a detailed site report (Malone *et al.* 2009d). This volume assembled the full range of funerary data from the Circle with a comprehensive study of the stratigraphy, spatial layout, material culture and human remains. The volume concluded with a thematic account of mortuary ritual within the context of wider issues of the Maltese Islands and posed a number of questions which led to the *FRAGSUS Project.*

A number of publications continued to take analysis of the funerary ritual further in the wake of the comprehensive publication and ahead of the *FRAGSUS Project* results. Stoddart & Malone (2010) dwelt on the definition of hypogea and its particular significance historically in the Maltese Islands. The originality lay in trying to trace some of the trends of anatomically intact individuals predominantly placed on their right side in a flexed or contracted position, perhaps originally accompanied by an offering bowl, and sometimes shrouded. A further contribution looked at the cave concept in all its dimensions (Stoddart & Malone 2013), exploring materialized metaphors of history, materials, construction, physical constraint and stratigraphy.

Further articles have since investigated the implications of who contributed to the buried population (Stoddart & Malone 2015), considered the conditions of death in the light of ethnographic comparison (Stoddart 2015) and set the mortuary ritual in a broader context of religion (Malone & Stoddart 2011) and the full figurine corpus (Malone & Stoddart 2016) found in Malta. More recent articles have summarized the *FRAGSUS* experience (Malone *et al.* 2018) with a strong biographical element, starting in Michigan and ending in Malta, or reported on the wider ritual setting (Barratt *et al.* 2018; Stoddart *et al.* 2020), specific details of chronology (Malone *et al.* 2019), funerary taphonomy (Thompson *et al.* 2018; Thompson 2020) and spatial organization (Thompson *et al.* 2020). Knowledge of the Circle has had a major impact on the study of death in prehistoric Malta, and this will continue to have an effect long after the demise of the current generation of scholars.

This volume builds on these achievements by delving deeper into particular elements of the osteological sample, most notably the teeth (further detailed in §4.1). Very substantial improvements have been

made to the chronology of the burial practices and the inferences that can be made from the chemistry of the human remains, especially from the perspective of diet, mobility and genetics. It is, however, on the teeth and long bones that most effort has been directed, drawing out new cultural patterns and understanding of the biology of the prehistoric inhabitants of Gozo. A more detailed investigation was also made on palaeopathology of the human remains, building on the groundwork already undertaken by George Mann to whom this volume is dedicated. From these studies, we have a deeper sense of the health and lifestyle of these communities. The broader patterns of age and sex profiles are still broadly those of the 2009 volume which also hinted at many of the greater details that will be found here. As will be frequently noted much remains to be done, drawing on the questions raised about the biological and cultural connections of these populations, as well as the state of their health and welfare. The volume ends with two chapters that situate the discoveries from the Circle within broader patterns of understanding of the funerary practices within the Maltese Islands, giving the latest interpretations of the evidence.

**Note**

1. We use this shortened nomenclature throughout this volume to refer to what has variously been known as the Gozo Stone Circle, the Xagħra Circle, the Xagħra hypogeum and the Brochtorff Circle (hence the BR code on all artefacts, since this was the nomenclature employed during the 1980s and 1990s excavation). Later in this chapter (§1.4) we illustrate one of the other Xagħra and Gozo Circles, photographed by Thomas Ashby, which no longer appears to be extant, and has no known associated artefacts or bones).

# Temple people

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 has focused on the unique Temple Culture of Neolithic Malta and its antecedents. This third volume builds on the achievements of *Mortuary customs in prehistoric Malta*, published by the McDonald Institute in 2009. It seeks to answer many questions posed, but left unanswered, of the more than 200,000 fragments of mainly commingled human remains from the Xagħra Brochtorff Circle on Gozo. The focus is on the interpretation of a substantial, representative subsample of the assemblage, exploring dentition, disease, diet and lifestyle, together with detailed understanding of chronology and the affinity of the ancient population associated with the 'Temple Culture' of prehistoric Malta. The first studies of genetic profiling of this population, as well as the results of intra-site GIS and visualization, taphonomy, health and mobility, offer important insights into this complex mortuary site and its ritual.

Remarkable evidence on the bioanthropology of care practised by these populations, together with a relatively low level of interpersonal violence, and examples of longevity, reveal new aspects about the Neolithic Maltese. Detailed case studies employing computerized tomography describe disease such as =scurvy and explore dietary issues, whilst physical activity and body size have been assessed through biomechanical analysis, supported by taphonomic study, isotopic analyses, a review of mortuary practices during prehistory and a robust new chronology. The results form a rich contextualized body of material that advances understanding of cultural change within the context of small island insularity, and provides biological comparisons for the graphic figurative art of early Malta. These data and the original assemblage are conserved in the National Museum of Archaeology in Valletta as a resource for future study.

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