
Malta's world-acclaimed sites include its sixteenth-century capital city and the temples of a mysterious Neolithic culture.

Malta has a surfeit of heritage. In 1980 UNESCO added to its list of World Heritage Sites the Neolithic temple of Ggantija and the Hal Saffieni Hypogeum burial complex, and even the capital city of Valletta, named for Jean de la Vallette, grand master of the Knights of St. John, who directed the defense of Malta when the Ottoman sultan Süleyman the Magnificent attacked in 1565. In 1992 the World Heritage Committee expanded the Ggantija listing to include other temples—Hagar Qim, Mnajdra, Tarxien, Ta' Hagra, and Skorba—under the heading “Megalithic Temples of Malta.” All this in a diminutive archipelago off Sicily’s southeastern coast, consisting of three primary islands—Malta, Gozo, and Comino—that together have an area only about twice the size of Washington, D.C.

In letters written from Malta in 1832 and 1833, John (later Cardinal) Newman described Valletta’s grandeur, charm, and opulence, which remain unchanged:

There is a bright sun upon the light-brown rock and fortresses. The sea is deep green; a number of little boats, some strangely rigged, others strangely rowed, pushing to and fro, painted bright colors.... I have seen St. John's Church, and most magnificent it is. It is in the same style as St. Peter's; in richness and exactness, minuteness and completeness of decoration, far exceeding anything I have seen.

Today’s visitors to the Maltese islands may find the imposing prehistoric monuments more awe-inspiring. For all their beauty Valletta’s buildings—the Palace of the Grand Masters begun in 1571, the Cathedral of St. John built between 1573 and 1577, the Manoel Theater constructed in 1731—are comprehensible. But what meaning can be drawn from megalithic temple complexes built more than 4,500 years ago?

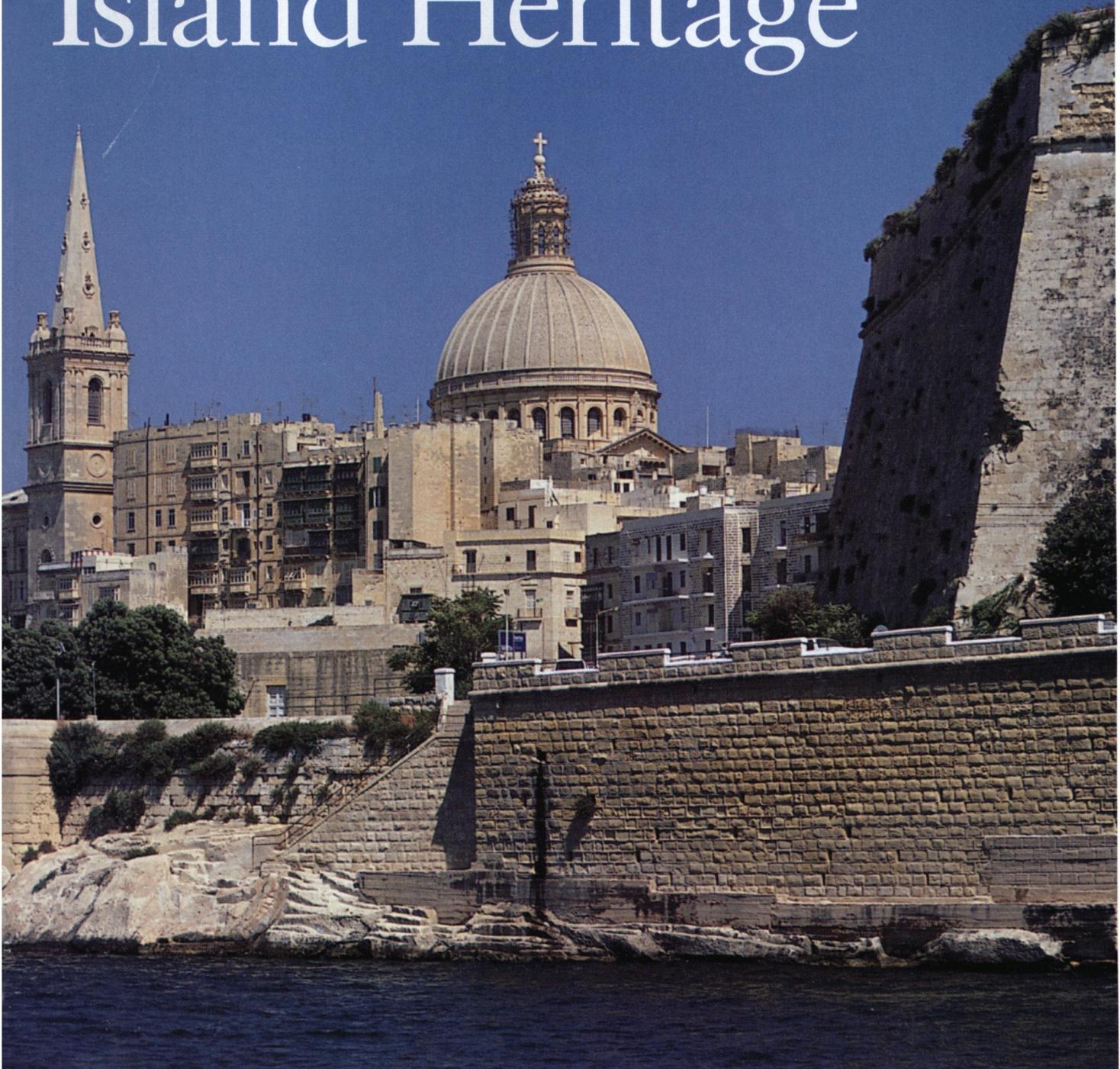
For English archaeologist John Evans, who excavated prehistoric Maltese sites during the late 1940s and 1950s, the Mediterranean islands were “laboratories for the study of culture processes.” On Malta these processes had taken an unusual turn. Its Neolithic inhabitants began, like other Neolithic peoples, as simple farmers and herders, but they later built immense stone temples and dug equally immense subterranean sepulchres. Why this happened and why such construction was abruptly halted after a millennium defy easy answers. An Anglo-Maltese project directed by David Trump of the University of Cambridge, Simon Stoddart and Caroline Malone (then of the University of Bristol), and the University of Malta’s Anthony Bonanno has done much to sort out the evidence. On Gozo, they excavated Neolithic huts at Ghajnsielem in 1987 and underground burials that yielded hundreds of thousands of human bones at Xaghra from 1987 to 1994. Using the new evidence and that from earlier studies, the Gozo Project archaeologists have devised a theory about how the temple-building culture arose and why it later collapsed. They point to a shift from an early, egalitarian society to a hierarchical one marked initially by competition among families trading with Sicily, followed by competition among chiefdoms in building temples for rit-

BY MARK ROSE



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Celebrating an Island Heritage



Malta's capital city of Valletta, founded in the sixteenth century, was named a World Heritage Site by UNESCO in 1980. The dome of the Cathedral of St. John appears in the center of the photograph, fortifications are to the right, and the steeple of St. Paul's is to the left.



Maltese artist Charles de Brochtorff painted the explorations of the Ggantija Temple in the 1820s by Otto Bayer, the lieutenant governor of Gozo. When it was built in the fourth millennium B.C., the temple was the largest freestanding structure in the world. In 1980 Ggantija was named to UNESCO's list of World Heritage Sites.

ual use. Preoccupation with the shrines, increasing population, greater agricultural uncertainty stemming from erosion, and declining links to Sicily left the culture on the brink of collapse. In time, the temples were abandoned; the fate of their builders is unknown.

Malta's prehistory is divided into periods, which are in turn subdivided into phases named for particular sites where characteristic pottery has been found. Many site names are simply descriptive terms in Maltese. Ghar Dalam, for example, means "cave of darkness," and Hagar Qim means "erect stones" or "stones of worship." Others come from common words (Zebbug means "olives") or names of districts, like Skorba.

The earliest evidence for humans on Malta comes from Ghar Dalam, a large cave near the southeastern harbor of Marsaxlokk. The lowest deposit, dated to about 180,000 B.P. (before present), has remains of extinct pygmy hippo and elephant. Above this, a layer dated between 18,000 and 10,000 B.P. contains bones of red deer and small brown bear but no human remains or artifacts. The uppermost layer, dated to 5000 B.C., has the bones of domesticated animals and potsherds. This pottery, also known from the lowest levels at Skorba, is similar to that found in Sicily and southern Italy, whence the settlers probably came. The landscape today is rocky and largely treeless. Although the hippo and elephant, and probably the bear, were already extinct when people arrived, deer and wild boar were still present, indicating there was some forest cover. The colonists brought with them sheep, goats, cattle, and pigs, and wheat, barley, and lentils. They probably supplemented their diet with fish and shellfish as well as deer, wild boar, and migratory birds that use Malta as a stopover between Africa and Europe. Stone foundations at

Skorba indicate that the people lived in simple one-room huts.

Gozo Project surveys suggest that villages in the succeeding Skorba phase (4500–4200 B.C.) were larger. If the population was growing, increased forest clearance for agricultural fields and grazing by sheep and goat flocks may have led to erosion. There is, however, no evidence of any change from the egalitarian social structure presumed to have existed in the preceding phase. One large oval room at Skorba yielded fragments of female figurines, goat skulls with attached horns, and cattle tarsal bones ground smooth at one end. The room's size and unusual artifacts, not found elsewhere, led Trump to consider it a votive shrine. Links to the outside world are attested in the Ghar Dalam and Skorba phases by the presence of obsidian from the islands of Lipari, north of Sicily, and Pantelleria, between Malta and Tunisia.

The first evidence of collective burials on the islands comes from the following Zebbug phase (4200–3800 B.C.). In 1988 British and Maltese archaeologists working at Xaghra discovered one such tomb. Consisting of two burial chambers with a shared entrance shaft cut into hard limestone bedrock, the tomb held an abundance of imported materials: red ocher and flint from Sicily, obsidian from Lipari and Pantelleria, greenstone axes and ax-shaped pendants from southern Italy, and fine-grained volcanic stone from Sicily or Pantelleria.

At the back of one chamber was a cache of artifacts—an ax, miniature axes, pendants, and miniature pots—apparently placed there when the tomb was first used. Stacks of skulls and long bones at the rear of this chamber suggest old burials were pushed to the back to make room for new ones. A jar containing red ocher and a large



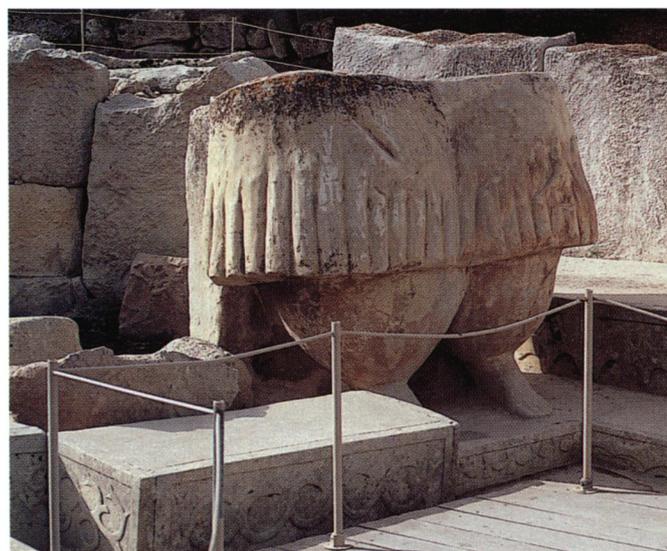
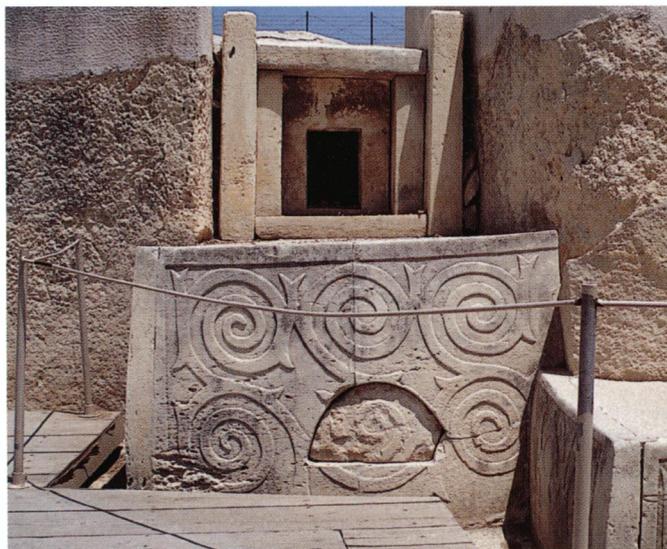
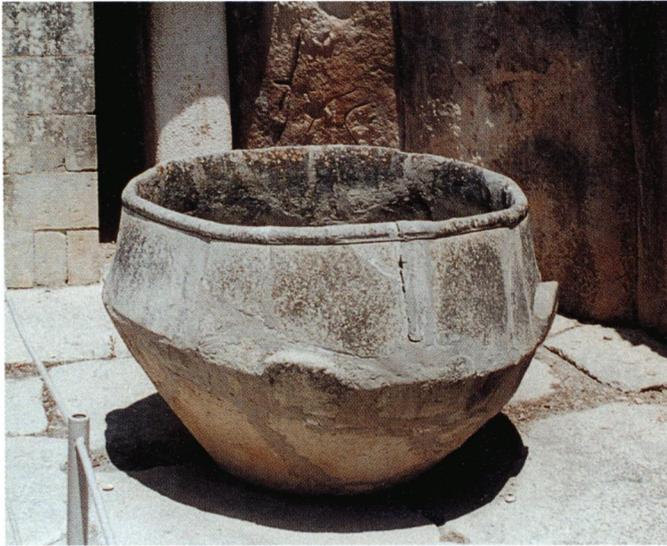
Satellite image shows the Maltese archipelago—Gozo, Comino, and Malta (left to right), 50 miles southeast of Sicily. The Hal Saflieni Hypogeum, below, was discovered in 1902. The Neolithic burial complex is estimated to have held the remains of as many as 7,000 people in its 32 chambers. Although the Hypogeum differs in layout from the megalithic temples, architectural details such as door jambs and lintels carved into the rock resemble the massive blocks used in temple construction.



seashell, perhaps used as a musical instrument, was found at the entrance to the other chamber, which had been sealed with a circular limestone slab. The dead had been buried wearing necklaces of large and small clam shells, small snail shells, and many shell beads, as well as some of bone, stone, and fossil shell. The tomb also yielded 27 unusual anthropomorphic bone pendants with bud-like appendages representing limbs.

Corinne Duhig of the University of Cambridge is supervising the analysis of the human remains from the tomb, 10,500 bones and fragments representing at least 54 adults and 11 children of both sexes. There are few instances of pathology, and enamel hypoplasia, a reflection of nutritional stress, is uncommon. Whole bodies or complete skeletons were deposited in the tomb, but the bones are mixed up, indicating that they were moved about after the flesh had decayed, either after primary burial elsewhere or within the chambers when room was made for later interments.

The Ggantija phase (3600–3000 B.C.) saw the construction of the first megalithic temples. The individual shrines—some 20 have been found—consist of a court or plaza in front of a monumental, curved stone facade with a doorway that leads into a corridor with lobes or apses off the sides and at the end. Early temples had a simple three-lobed, clover-leaf design; later ones had as many as seven lobes. Subterranean tombs also grew in complexity. Some of the Hal Saflieni Hypogeum's 32 chambers were carved to simulate the megalithic construction of the temples, but the structure was enlarged by tunneling into soft limestone without the addition of regular lobes or apses. At Xaghra, natural caverns in hard limestone were expanded and megalithic architectural elements added.



Ritual furnishings and equipment at the temple of Tarxien included, from top, large stone bowl, altar with hidden recess that contained bones of sacrificed animals, and statue of an obese person wearing a pleated skirt.

Cambridge archaeologist Colin Renfrew first explored the social implications of the temples in his 1972 book *Before Civilization*. Renfrew felt the size of the temples indicated that they could not have been the work of small local groups of people. He was also intrigued by the placement of the temple complexes in the Maltese landscape:

When the temples are plotted on the map, in relation to modern arable land, we see at once that they fall into clusters or pairs.... We can define six of these pairs or clusters, each of which can be seen to command a major area of arable land in the archipelago, which may be termed a territory.

Using population density data for traditional farmers in semiarid regions, Renfrew estimated that the Maltese islands might have supported a population of 11,000, or somewhat less than 2,000 people for each of the six territories defined by temple clusters. Given the population size and the organization required to erect the temples, Renfrew suggested that each of the six territories represented a chiefdom, in which one individual with enormous prestige had a lead social and economic role. According to Renfrew, the ability of such chiefs to control resources and labor made possible such undertakings as the construction of temples. The Maltese monuments suggest, by their very size, that by this time there had been a shift from an egalitarian society with a low population density following colonization to a hierarchical society with a higher population density.

The Tarxien phase (3000–2500 B.C.) is marked by the culmination and collapse of the temple culture. Recent Anglo-Maltese excavations indicate how elaborate mortuary rituals on the islands had become. The Brochtorff Circle at Xaghra, named for a local artist who painted the site in the nineteenth century, was a 150-foot ring of standing stones with an entrance, marked by two monoliths, facing toward the Ggantija Temple to the east. Probably erected in the Tarxien phase, it encircled a mortuary cave complex with a threshold of massive recumbent stones flanked by small burial pits containing human bones.

Inside the cave, to the left of the entrance, was a semi-circular shrine of limestone slabs arranged in at least two sets of three uprights with a capstone, probably a Tarxien phase addition. Within it was a large stone bowl with a ceramic strainer, which the excavators suggest may have been for straining liquids or sprinkling them onto bodies. Also found in this area was a limestone figurine of two obese people, probably female, wearing pleated skirts and seated on an intricately carved bed. One figure holds a small figurine or tiny child, and the other holds a cup. The figurine may have been placed where mourners could see and venerate it, then fallen to the floor when the cave roof collapsed. Also near the stone bowl were nine carved stone figures, found lying in a cluster as if they had originally been bundled together. Six are humans with flat triangular bodies, one is a human head on two legs, another



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is a human head on a phallus, and one is a boar's head. With them was a miniature Tarxien bowl filled with red ocher. These, the excavators say, may have been used by a ritual specialist or shaman. Although the figurine of the obese people seated on the bed has parallels from both temple (Hagar Qim and Tarxien) and mortuary (Hal Saffieni Hypogeum) contexts, the group of nine figures is unmatched outside the Brochtorff burial complex and may have been related specifically to mortuary rituals.

A large cavity in the cavern floor adjacent to the shrine was filled with human bones and fragments of more than 20 small terra-cotta figurines of obese women, possibly intended as gifts to the dead rather than objects of public veneration. A shattered stone statue of a person wearing a pleated skirt was found near the burial pit. The bones in this pit were mostly disordered, although lower levels had articulated limbs and extremities and some partial skeletons of children and infants. The people represented in the lower levels may have practiced primary inhumation here, their burials being disturbed during a Tarxien renovation of the site. Secondary burial seems more likely for the disarticulated remains of the upper, Tarxien levels. Beyond the shrine and burial pit, reached through a bedrock arch, was a deeper burial chamber with a tapering stone monolith. Bones were packed into small hollows in the chamber's floor and in a wall alcove.

The Hal Saffieni Hypogeum, found by construction workers in 1902, offers parallels to the Brochtorff Circle burial cavern. Maltese archaeologist Themistocles Zammit, who conducted a cleanup excavation at the site soon after, recovered pots, flint and obsidian tools, beads and stone pendants, and clay and stone figurines of people and animals, including one depicting a rotund female wearing a



PETER BARTOLO PARNIS/NATIONAL MUSEUM OF ARCHAEOLOGY, MALTA/
FONDAZIONI PATRIMONIOU

Facades like that at Hagar Qim, above, would have limited the view of worshipers outside the temples. Neolithic model shows how shrines might have appeared when roofed.

pleated skirt and lying on her side on an elaborate woven bed. Zammit estimated that the Hypogeum originally held the remains of 6,000 to 7,000 people.

Zammit's 1915–1919 excavations at Tarxien give us an idea of the arrangement of ritual furniture and equipment in the temples. Two facing apses provide a good example. One had an elaborate plinth with a stone statue, originally more than nine feet tall, of a female wearing a pleated skirt and an altar decorated with carved spirals. A hidden recess in the front of the altar, opened in 1915, held burnt sheep and cow bones, a flint knife, a bone spatula, marine shells, land snails, and flint chips. The facing apse had an altar supported by a frieze of a ram leading a pig and four horned sheep or goats, a second frieze depicting 21 sheep or goats, and domestic animal bones in wall recesses. The

Gozo Project archaeologists suggest that the contents of one apse at Tarxien—a large bowl, two bowls with feet, a miniature amphora, what is probably a ladle, a limestone statuette head, at least four terra-cotta figures in pleated skirts, and a stone basin—may have been the equipment of a ritual specialist like the artifacts they found in the Brochtorff Circle shrine. Other apses at Tarxien contained fragments of stone statuettes, a human head carved from a stalactite, a large carved stone bowl, phallic figures, and several small temple models.

The link between the temple and mortuary complexes

Cambridge, and Frank Ventura of the University of Malta determined that 14 of 15 temples face southeast to southwest. Mnajdra temple I, facing almost due east, is the sole exception. Admitting that the southerly orientation of the temples may have been motivated by something as simple as the avoidance of a north wind, they considered the possible astronomical alignments. Except for Mnajdra I, the temples face too far south to catch the rising or setting sun, and perhaps 13 face too far south to catch the rising or setting moon. The bright stars Sirius and Canopus would have risen too far to the north and south, respec-



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Charles de Brochtorff's watercolor shows the megalithic circle at Xaghra being excavated in 1825, with a man emerging from a burial chamber at left. In the distance, to left of the upright stones marking the entrance to the circle, is the temple of Ggantija.

goes beyond shared cultic equipment. In some cases temple complexes appear to have been paired with subterranean sepulchres, as with Ggantija and Brochtorff on Gozo and with Tarxien and the Hal Saflieni Hypogeum on Malta. Other temple complexes, such as Mnajdra and Hagar Qim, may have included catacombs that are as yet undiscovered or have been destroyed.

Why the temples and mortuary complexes were constructed and how the ritual equipment found there was employed remain open questions. The temple builders' interest in the sky is attested by a fragmentary slab of limestone, probably circular when complete, found at the Tal-Qadi temple. Inscribed radial lines divide the surviving fragment into five segments, four of which are incised with stars and the fifth with what is probably a crescent moon. A systematic study in 1992 by Georgia Foderà Serio of the Palermo Observatory, Michael Hoskin of the University of

tively. Alpha Centauri, however, would have been prominent. It would have been preceded by the bright star Beta Centauri and the constellation we know as the Southern Cross, forming an impressive procession across the sky. But the Gozo Project archaeologists believe the majority worshiped outside the temple, facing toward its facade and entrance. Thus the critical direction of sight was into, not out of, the temples. Using the 1992 data and that from four additional temples, they concluded that the orientations were west to northeast, primarily northwest, toward Sicily, the ancestral homeland of the temple builders, and toward Pantellaria, Sicily, and Lipari, sources of exotic trade goods.

Comparing the temples and burial complexes, particularly Tarxien and Brochtorff, the archaeologists have tried to reconstruct how the temples functioned. For most of the population, the rituals within the temple would have been

concealed by the facade. Worshipers might only have glimpsed sacrificial animals, figurines and statues of corpulent people, and objects made of exotic goods—examples, perhaps, of the wealth of past times rather than their own.

The Gozo Project archaeologists believe such a reconstruction may explain both the rise of temple building and the ultimate collapse of the society. The abundance of imported goods in the Zebbug phase suggests that families competed with one another in external trade. In the Ggantija phase some evidence suggests that fewer imports reached Malta—less obsidian at Skorba, for example, and the reuse of greenstone axes brought in during earlier phases at Brochtorff. A decline in trade, they say, was accompanied by a shift from competition between families in trading to competition between chiefdoms in temple construction. In time the focus shifted further, from actual trade to reverence of past links to the outside, the ancestral home and source of exotic goods. As time passed, the temple and mortuary cults became more and more elaborate. The obese figures found in the temples and mortuary complexes suggest a reverence of past fertility and agricultural abundance, made increasingly uncertain as erosion depleted the island's arable soil.

A number of causes have been suggested for the collapse of the culture, most having to do with Maltese geography: limited space and lack of varied environments that would allow economic diversification; deforestation and soil exhaustion; and declining external contacts that might have provided a safety net. If agriculture failed there was no recovery. These factors placed the society under stress, leading to the construction of the temples with rituals that looked back to the wealth of earlier times, perhaps in a plea for their return. Eventually the stress became too great and the society collapsed.

Is this what happened? Study of the human remains from the Zebbug tomb and Brochtorff Circle mortuary complex may clarify how much stress, in physical terms, the temple builders faced. Their immediate predecessors of

the Zebbug phase appear to have been healthy. Will the human remains from Ggantija and Tarxien phase populations show more indications of disease or malnutrition? There are some problems with the explanation of the collapse suggested by the Gozo Project archaeologists. There is evidence, for example, that trade continued, even if on a reduced level. Flint and red ochre were still coming in from Sicily. Obsidian was also imported, but possibly in smaller quantities than in earlier phases. Even the number and size of the temples, interpreted as an indication of a society obsessed with a more abundant past, point to that society's success over more than a millennium in coordinating the labor and food surpluses needed to support the temple builders.

By about 2500 B.C., the temples were no longer in use. What happened to their builders remains uncertain. In his excavations of the temple complex at Tarxien, Zammit found dark, ashy soil containing urns and cremated bones overlying the temple floors. In one area the cremation cemetery was separated from the temple debris by a sandy deposit. Zammit believed winds had blown the sand into the deserted temple, indicating it had been abandoned for decades if not centuries. It seems more likely that the sand was laid down by those who used the cremation cemetery.

Were these people newcomers? A break seems likely: the temples were abandoned; cremation burials replaced communal interments; anthropomorphic figurines changed radically; painted and carved decoration of architecture dis-

appeared; ceramic shapes, fabrics, and firing methods changed; and copper and bronze were introduced. These changes appear in material culture, artistic expression, and religious beliefs, indicating a profound cultural shift if not an actual replacement of the temple builders by outsiders, probably from Sicily or southern Italy. Only their temples, the hallmark of their culture and possibly a cause of its ruin, remain. ■

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New finds from the Brochtorff Circle include figurines, top, that may have been used by a mortuary ritual specialist and seated figures, above, that may have been placed in a shrine so that mourners could venerate them.

PETER BARTOLO PARNIS/NATIONAL MUSEUM OF ARCHAEOLOGY/FONDAZIONI PATRIMONIO

Managing a World Class Past

The seventeenth-century scholar and antiquarian Gian Francesco Abela, vice-chancellor of the Knights of St. John (the Knights of Malta), is known as the “father of Maltese historiography” for his *Descrittione di Malta* (1647) and the “founder of the Malta museum” for his antiquities collection, which he willed to the College of Jesuit Fathers in Valletta, stipulating that the objects be kept “*in perpetuo...a beneficio de curiosi antiquarii.*” A marble statue of Hercules in his collection, now believed to be a sixteenth- or seventeenth-century work, is in Malta’s Museum of Fine Arts. One of a pair of marble candelabras, with Punic and Greek inscriptions dedicating them to Melqart and his Greek counterpart Hercules, once in Abela’s collection, is still in the National Museum of Archaeology. The other, given to Louis XVI in 1780, is in the Louvre.

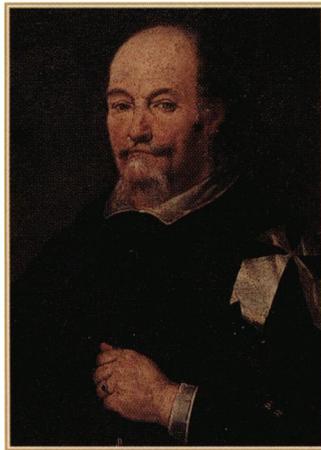
Several of Malta’s megalithic temples were investigated during the nineteenth century—Ggantija in 1820, Hagar Qim in 1839, and Mnajdra in 1840—but few records, if any, were kept of the excavations. In the 1820s, Otto Bayer, the lieutenant governor of Gozo, dug out much of the subterranean burial complex within a megalithic circle at Xaghra, the only record of his activities being paintings by Charles de Brochtorff, a local artist whose name the site now bears. Construction workers in the town of Pawla discovered a similar underground burial complex, the Hal Saffieni Hypogeum, in 1902 and emptied most of its 32 chambers of bones, dumping them in nearby fields. The Maltese archaeologist Themistocles Zammit conducted a cleanup excavation at the Hypogeum a few years later, and recovered pottery, stone tools, beads and pendants, and figurines of people and animals. Because of these efforts and his excavations at the Tarxien temples from 1915 to 1919, Zammit earned the epithet “father of Maltese prehistory.”

After Zammit, however, Maltese archaeology faltered, and work on the islands was dominated by British and Italian scholars. British efforts culminated in excavations from 1962 to 1964 at the Neolithic settlement and temple

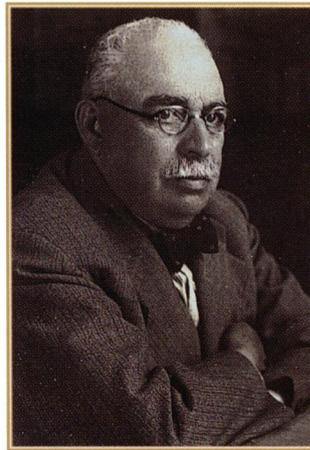
site of Skorba by David Trump of the University of Cambridge and in John Evans’ comprehensive survey *The Prehistoric Antiquities of the Maltese Islands* (1971). Investigations of the prehistoric site of Ras il-Pellegrin by Rita Virzi, an archaeologist from Palermo who taught at the University of Malta in the early 1970s, remain unpublished. Classical sites were investigated during this period by the University of Rome, which, from 1963 to 1970, excavated at Tas-Silg, site of a Punic sanctuary to the goddess Astarte and later a temple to Juno; a Roman villa at San Pawl Milqi; and a Punic sanctuary at Ras il-Wardija, Gozo.

A revival of Maltese archaeology began in 1985, with the formation of a joint Anglo-Maltese project involving the University of Malta, Bristol University, and the University of Cambridge. The project’s first undertaking was the excavation of two Neolithic huts at Ghajnsielem, Gozo,

in 1987, followed by excavations of burials within the Brochtorff Circle at Xaghra, from 1987 to 1994, and a large-scale survey and landscape archaeology project. Concurrent with this was the development of a robust archaeology program at the University of Malta. In 1987 archaeology became part of the the university’s B.A. program, but students had to pursue graduate work abroad until 1995, when it began offering advanced degrees. Maltese students learned field methods abroad or by participating in the Anglo-Maltese excavations at Brochtorff. Last year the University of Malta began its own training excavation, directed by Anthony Bonanno and Anthony Frendo, at Tas-Silg, clarifying and expanding the University of Rome’s investigation of the sanctuary’s courtyards, porticoes, and monumental gateways. Elsewhere traces of the classical city of Melite are being uncovered beneath the Cathedral Museum in Mdina at the center of Malta. Built between 1733 and 1740 as a seminary opposite the Mdina cathedral, the museum displays a numismatic collection, Albrecht Dürer woodcuts and engravings, sacred vestments, and paintings. Its vaulted cellars were used as a bomb shelter during World War II. Cleaning debris from that period in 1993 exposed deposits from the time



FONDAZZJONI PATRIMONJOU



NATIONAL MUSEUM OF ARCHAEOLOGY, MALTA

The antiquities collection of Gian Francesco Abela, left, vice-chancellor of the Knights of St. John in the early 1600s, formed the nucleus of Malta’s National Museum of Archaeology. Themistocles Zammit, right, became known as the father of Maltese prehistory for his excavations in the early twentieth century.

of the seminary's construction and earlier. So far the excavations, directed by the museum's curator Father John Azzopardi, have uncovered blocks with a Carolingian inscription, a white Roman floor mosaic, and a massive six-foot-thick Hellenistic wall.

Malta is also coming to grips with the management of its heritage. By the early 1990s, years of neglect had taken a toll on its World Heritage sites. At its December 1994 meeting, UNESCO's World Heritage Committee learned of serious problems at the sites, including the collapse of one of the walls of the Temple of Mnajdra as a result of storms in April 1994 and the risk of collapse of one part of the Ggantija Temple. At the same meeting, the committee was informed that the Hal Saflieni Hypogeum had been closed for three years and that installation of climate-control systems was two years behind schedule. The committee insisted that these problems be dealt with at governmental level and that all necessary technical, budgetary, manpower, and legal means be employed to correct them. These criticisms served as a wake-up call, and in September 1995 Malta's Museums Department submitted a detailed report to the committee on measures to ensure the long-term safeguarding of these sites.

Work has advanced at the Hypogeum. Environmental studies from 1986 to 1991 diagnosed the causes for the growth of algae on its walls, the fading of its paintings, and dripping water that forced the closure of the site to the public in 1991. The growth of algae was traced to the artificial lights used to illuminate the Hypogeum for tourists and to moisture from leaking water or sewer lines in the surrounding neighborhoods. Carbon dioxide exhaled by visitors combined with water to form a weak acid that attacked the limestone walls. Improved lighting has been installed, along with walkways to control the flow of visitors. Houses above the site were demolished, and replacement of water and sewage pipes serving the 200 houses around the site began last fall. The entrance to the Hypogeum has been enclosed in a glass box with an "air-lock" chamber that will create a buffer zone enabling control of the microclimate within the site. When the Hypogeum reopens this year, no more than 300 people per day will be admitted, in groups no larger than ten, to keep carbon dioxide levels low.

Elsewhere, progress is sketchier. Plans for a heritage park at Hagar Qim, including a visitors' center and landscaping of the entire area, have yet to be carried out, and the adjacent temple, Mnajdra, remains closed for restora-

tion work on megaliths that collapsed during the 1994 storms. A new visitors' center is also planned for Ggantija, where wooden walkways have been laid down to protect the temple's original floor. A 1994 study by the University of Florence and Malta's Museums Department analyzed the deterioration of the fabric of the temple in order to propose effective conservation methods; for now steel scaffolding helps support the walls.

One high point is a comprehensive five-year rebuilding program for the National Museum of Archaeology, directed by Anthony Pace, curator of the museum, and Jim Richerson, a consultant who helped develop the



Scaffolding at the Ggantija Temple supports blocks that were in danger of collapsing. Plans call for a visitors' center to be built at the site.

National Museum of Carthage in Tunisia. The museum was established at its present location in Valletta by British authorities in 1958, and most of its displays dated from this period. Artifacts were arranged chronologically with minimal labeling, in English only, and little attempt was made in the displays to assist visitors in understanding the significance of the collection, related archaeological sites, and Malta's strategic location in the central Mediterranean. Improvements will include supporting text, comprehensive graphics, information sheets, maps, and bilingual Maltese-English labeling (other languages will be available on audio). Modern fire and security systems have already been installed, and exhibition space will be increased threefold. In a fitting tribute to the revival of Maltese archaeology and heritage, the lobby reopened last year with a Themistocles Zammit display, including his 1915–1919 Tarxien temple excavation notebooks and photographs of his excavations there and at the Hal Saflieni Hypogeum. The museum's entire ground floor, with exhibitions on Maltese prehistory, is to be reopened by the end of this year.—M.R.