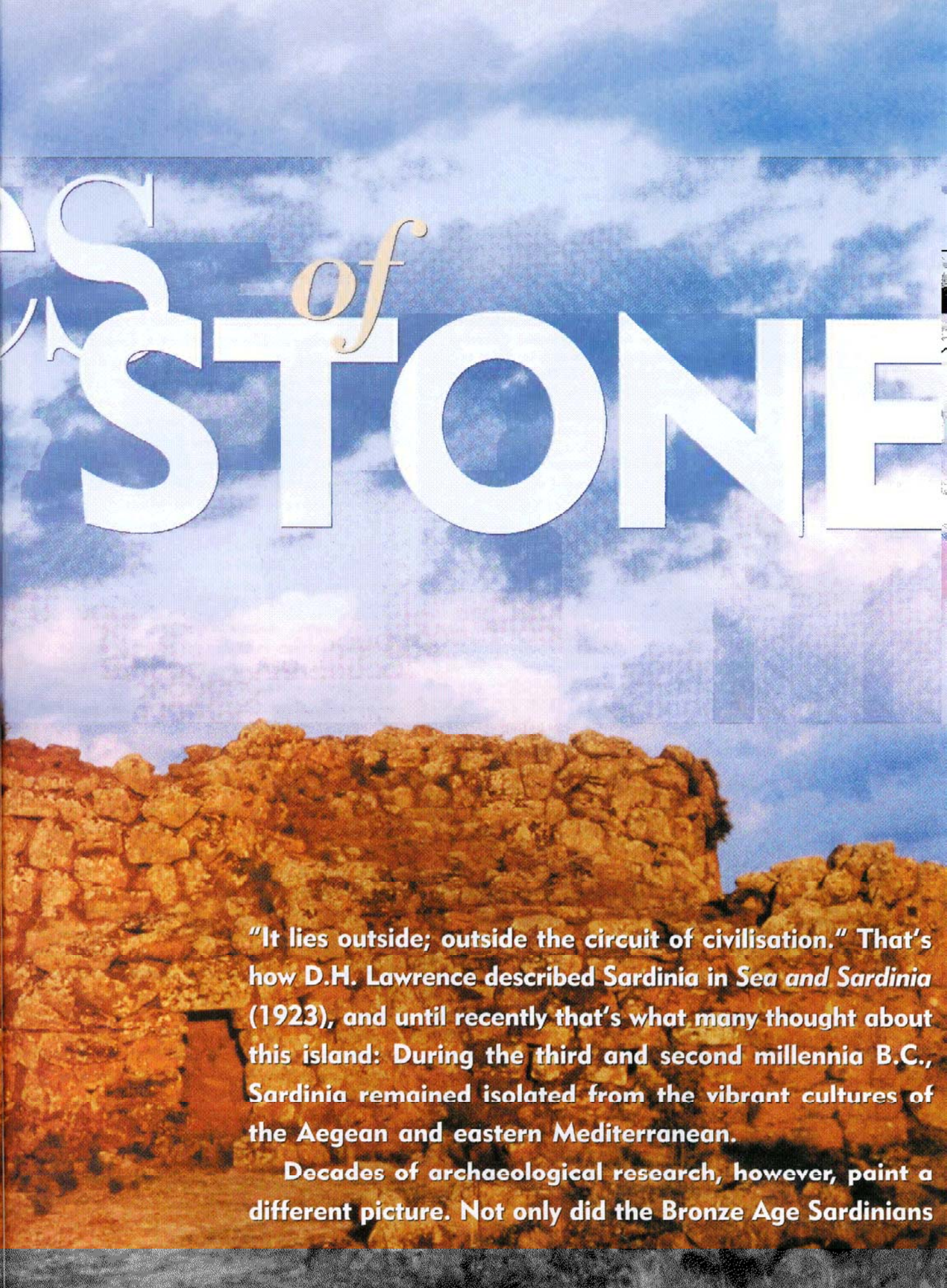


Village

**SARDINIA'S BRONZE
AGE NURAGHI**

ROBERT H. TYKOT





AS *of* STONE

"It lies outside; outside the circuit of civilisation." That's how D.H. Lawrence described Sardinia in *Sea and Sardinia* (1923), and until recently that's what many thought about this island: During the third and second millennia B.C., Sardinia remained isolated from the vibrant cultures of the Aegean and eastern Mediterranean.

Decades of archaeological research, however, paint a different picture. Not only did the Bronze Age Sardinians

Preceding pages: Burnished by the setting sun, the late-14th-century B.C. Red Nuraghe of Arrubiu—a cyclopean stone structure consisting of five linked towers clustered around a central tower—is one of the largest Bronze Age structures on the island of Sardinia. As many as 30,000 *nuraghi* (singular, *nuraghe*) once dotted the island, the earliest built around 1750 B.C. A number of *nuraghi*, like the Red Nuraghe, have been found in clusters, either connected by stone corridors or enclosed by walls. The ancient Sardinians probably constructed these structures as homes to protect themselves from hostile neighboring clans competing for arable land. Photo by Sandra Davis Lakeman: *The Graham Foundation for Advanced Studies in the Fine Arts, Comune di Barumini, Cal Poly.*

maintain contact with the Minoans and Mycenaeans, but they may also have migrated to the Near East. Many scholars identify a people called the Shardana, mentioned in a number of Egyptian texts, as Sardinians (see box, pp. 52-53). Pharaoh Ramesses II (1279-1212 B.C.) complained that the Shardana “came boldly in their warships from the midst of the sea, none being able to withstand them.”

Excavations in east-central Sardinia have shown that Sardinia was populated, although sparsely, by the latter half of the Upper Paleolithic period (c. 18,000-10,000 B.C.), when lower sea levels connected Sardinia with Corsica and only a narrow strait separated these islands from the Italian peninsula. At least eight archaeological sites in Sardinia and Corsica date to the early post-glacial or Mesolithic period (c. 10,000-6000 B.C.), though only with the spread of farming in the Neolithic period (c. 6000-3000 B.C.) did Sardinia, and many other Mediterranean islands, become widely settled.

The Neolithic period is characterized by the use of domesticated animals (sheep, goats, cattle, pigs) and plants (wheat, barley, legumes). Animal husbandry and agriculture spread from the Near East to southeastern Europe, the Danube River basin and the Mediterranean region. The Neolithic Sardinians also began making pottery, often decorated with shell impressions (a widespread practice in the western Mediterranean), and engaging in long-distance trade: Obsidian from Sardinia's Monte Arci has been found at Neolithic sites in Corsica, Italy and France.

In this period, the Sardinians apparently developed distinctive religious and mortuary rituals. At Monte d'Accoddi in northwest Sardinia, for example, they built a 130-foot-long “altar” consisting of a ramp that leads up to a ziggurat-like platform with a red-

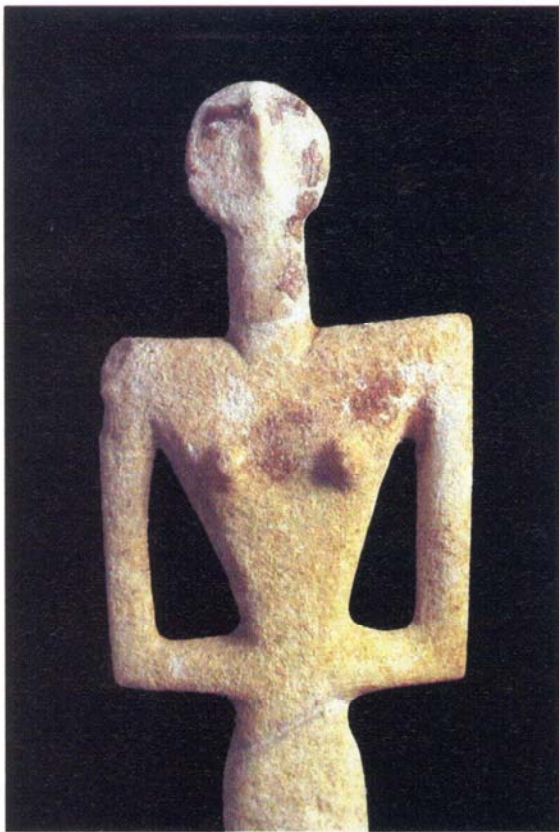
painted shrine at its center. Unfortunately, we have no texts to tell us what went on in this shrine.

The Neolithic Sardinians buried their dead in hypogean (subterranean) rock-cut tombs known as *domus de janas* (house of the witches) tombs, which were modeled after domestic structures, suggesting that they believed in an afterlife. These tombs contained decorative architectural details carved in the rock, including roof beams, columns, doorways, windows, benches, niches and hearths, along with relief carvings of horns, bulls and rams. These multi-chambered tombs are very similar to contemporaneous ones on Malta. The better-known Maltese structures of Hal Saffieni and Xaghra, however, are single complexes with many large rooms, whereas the Sardinian tombs tend to be clusters of tombs, each with ten or fewer small chambers.

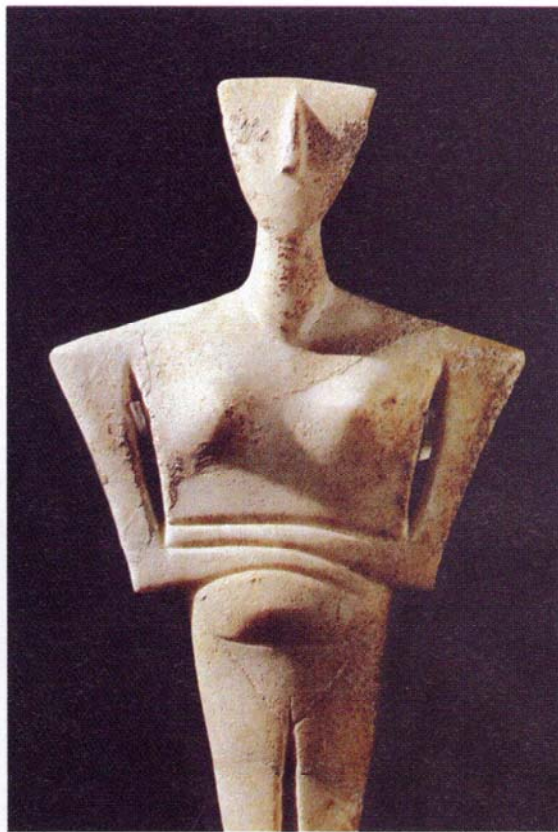
Our Neolithic Sardinians also carved small stone mother-goddess figurines, which they included in their burials. This perhaps reflects a common religious heritage with much of Mediterranean Europe, since fertility figurines have been found at Neolithic sites in Greece, Malta and elsewhere.

Other figurines from this period are schematic in form, with simple stylized features like those from the Cycladic islands—though Sardinian examples appear in the Late Neolithic Ozieri culture (c. 4000-3200 B.C.), centuries earlier than the Cycladic types. Some post-Neolithic Sardinian open-work figurines are extremely similar to, and contemporaneous with, Cycladic figurines—but this is probably best explained as a parallel evolution of similar prototypes, rather than as a result of cultural contact. That is, the Sardinians and Aegean islanders started from similar schematic designs and developed them in broadly similar ways.

Sardinian society of the third millennium B.C., roughly the Early Bronze Age, probably consisted of small chiefdoms. In this period, Sardinians began to build stone walls to protect their settlements, perhaps as a result of tribal rivalries. We also now find numerous individual burials—as opposed to communal burials, which would contain the bones of an extended family or a community. Some of these individual burials clearly belonged to important people, since their grave goods included copper daggers and axes, as well as carinated Bell Beaker jars (that is, clay jars with a sharp ridge on the outer surface caused by an abrupt change in the vessel's slope) that are related to pottery from central Europe.



MUSEO G.A. SANNA (SASSARI)



ERTCH LESSING

The Early Bronze Age Sardinians also carved large anthropomorphic menhirs (upright standing stones) with double-dagger motifs. Similar statues have been found in other regions of western Europe, especially Corsica.

What has immortalized the Bronze Age Sardinians, however, is their creation of cyclopean stone structures known as *nuraghi* (singular, *nuraghe*). Archaeologists have found the remains of some 7,000 *nuraghi*, and it is estimated that there may have been as many as 25,000 to 30,000 (or about three per square mile) over the entire island. Various ideas have been proposed for how these *nuraghi* were used—as fortresses, grain silos, tombs, residences or territorial markers—and about how they suddenly appeared in Sardinia in the second millennium B.C.

Some argue that the *nuraghe*'s corbeled dome indicates that it was adapted from structures in the Aegean, particularly from the so-called Mycenaean tholos tombs (circular, corbeled-domed structures made of partially dressed stone).* However, the earliest *nuraghi* were already being built between 1750 and 1500 B.C., several centuries before the

With their squared shoulders, folded arms and schematic facial features, these figurines—a fourth-millennium B.C. statue from Sardinia at left, and a late-third-millennium B.C. Cycladic statue from the Greek island of Syros at right—might seem to represent a common cultural heritage.

However, most scholars believe that these early traditions developed independently of one another. Not until the Late Bronze Age (after 1300 B.C.) did the Sardinians establish trading relations with the eastern Mediterranean (though their relations with other central Mediterranean peoples went back as far as the Stone Age, as we know from remains of trade in obsidian). Late Bronze Age Aegean pottery and Cypriot copper *axhide* ingots (copper was alloyed with tin to make bronze) have been found at many Sardinian sites.

Mycenaean tholos tombs were constructed. Some of the so-called corridor *nuraghi*, of which 180 are known, may be older than the tholos *nuraghi*, though the evidence is slight. Corridor *nuraghi* are broad, flat-topped structures constructed of dry-laid stone blocks, with interior passageways and chambers. It is commonly believed that the tholos *nuraghi*, with their improved masonry and more efficient spatial design, developed from the corridor *nuraghi*.

The classic *nuraghi*, most of which were built after the 16th century B.C., are truncated conical towers, typically about 40 feet in diameter (from exterior to exterior) and 50 feet high, with a flat circular roof.

*In constructing a corbeled wall, each course of stones juts out slightly toward the center of the structure, eventually forming a partial interior dome.



The walls consist of several courses of large, minimally dressed, dry-laid stone masonry, usually with an interior stairwell that spirals up to the roof, or to a second or even a third story. Entrance to the structure is typically through a ground-level doorway spanned by a large lintel. The ground-level chamber is usually

less than 20 feet in diameter, with the vaulted ceiling rising 20 to 35 feet above the floor. Additional space, probably used for storage, was available in the one to three niches frequently left in the thick walls of the *nuraghe's* main chamber.

The American archaeologist Gary Webster has estimated that a typical *nuraghe*, consisting of about 3,000 large stone blocks, would have required some 3,600 days of labor for a single worker. Thus a *nuraghe* could have been built in four to six years by ten men from neighboring farmsteads who donated

two to three months of labor per year. This model, which is analogous to communal construction techniques used by the Amish in Pennsylvania, does not require a particularly hierarchical social structure. Indeed, the lack of standardization of architectural features and the use of minimally dressed local bedrock suggest that the Sardinians relied on volunteer labor to build the *nuraghi*.

The excavation of many *nuraghi* leaves no doubt that they, at least, were residences. These *nuraghi* contained the remains of hearths, ceramic vessels, butchered animal bones, grindstones, pestles, stone tools, spindle whorls and loom weights. Wells for drinking water are often located within several yards of these *nuraghi*.

Despite its massiveness, a *nuraghe* could not have accommodated more than a household of five or six people. Why, then, are they so large and formidable? Why would a hardworking Sardinian farming family spend so much energy and time to build a large stone house in which only a few people could live? And why would neighbors be willing to spend hundreds of hours putting up such a structure?

Possibly competition among communities for bet-

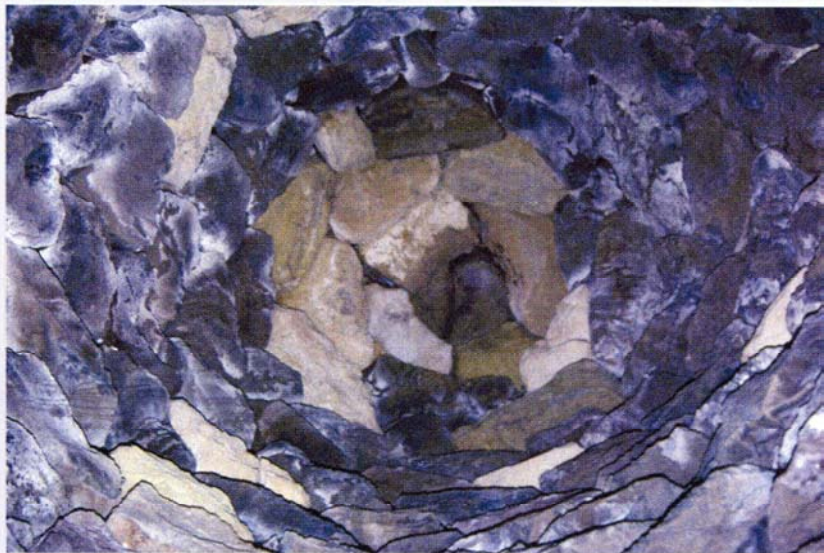


ROBERT H. TYKOT

Towering 50 feet in the air and consisting of about 3,000 large stones, the *nuraghe* of Succomis (above) probably housed a single family. Classic *nuraghi* were built with a corbeling technique, in which each course of stones juts slightly to the center of the structure to form a partial dome, which is then capped with a flat stone. (The corbelled dome at right forms the roof of a *nuraghe* at Su Nuraxi in Barumini.) These corbelled domes first appeared in Sardinia around the 16th century B.C., hundreds of years before the Mycenaeans began building similarly domed tholos tombs.

ter agricultural land and pastures led to sometimes violent rivalries. Did the Sardinians at this time begin a more intensive exploitation of secondary animal products—including wool, milk and cheese (you can still probably find *pecorino Sardo* in your supermarket, though it may be labeled simply “Romano”)—because farmland was becoming scarce?

In *The Prehistory of the Mediterranean* (Yale, 1980), the British archaeologist David Trump describes the population of Sardinia as “scattered in small units, clans perhaps, based on homesteads rather than villages, frequently at odds with neighboring groups.” It may not be entirely coincidental that “vendetta” is the only word to make its way into



ROBERT H. TYKOT

English from the Sardinian or Corsican language. An especially fierce competition for arable land may have created a vendetta culture, making fortress-like *nuraghi* desirable as homes.

The Nuragic people typically buried their dead



collectively in a *tomba di giganti* (giants' tomb), which may have been shared by several nearby *nuraghe* settlements. Over 500 giants' tombs are known; they typically consist of a narrow 60-foot-long burial chamber that leads through a huge, carved standing stone into a semi-circular forecourt of smaller (though still large) standing stones (see photo, p. 50). Very few skeletal remains, generally from secondary burials, have been found in the tombs. Most of the recovered ceramic, obsidian and shell artifacts have come from the forecourt, rather than from the tomb chamber, and probably were votive offerings.

Sardinian society changed significantly during the Late Bronze Age (c. 1300-900 B.C. in Sardinia and Italy)—a time when the production of metals inten-

Some Nuragic settlements evolved into multi-towered complexes housing several families. At Su Nuraxi in Barumini, the settlement's central tower was surrounded by four outer towers connected by massive walls, creating a formidable bastion with small courtyards (left). Dozens of huts clustered outside the walls of the Su Nuraxi bastion (below). The building just beyond and to the right of the large circular hut (center foreground) was probably a community meeting house with low stone benches along its interior wall.

sified and new contacts were made with the Aegean world. Many *nuraghi* were enlarged with the addition of towers up to three stories, some embellished with overhanging stone parapets and terraces. The outer towers were often connected by massive walls, creating a formidable bastion that enclosed a small courtyard and a well—though dozens, and sometimes hundreds, of huts remained outside the walls, forming a small village. One large complex, Santu Antine in Torralba, had a three-story central tower (almost 70 feet high) surrounded by a two-story bastion with interior connecting galleries.

A few *nuraghe* complexes, including Su Nuraxi (meaning "The Nuraghe") at Barumini,* had multi-towered walls built in an extra layer around the bastions. These large complexes were heavily fortified domestic compounds for large elite households supported by outlying villages. They typically show abundant evidence for the production of bronze tools and weapons, as well as decorated pottery. Most of the complexes contain a large hut with wall benches and

*Su Nuraxi was excavated in the 1940s and 1950s by the so-called father of Sardinian archaeology, Giovanni Lilliu.





ROBERT H. TYKOT

The huge rounded stone above marks the entrance to a *tomba di giganti* (giants' tomb) at Arzachena. About 500 of these 60-foot-long communal burial chambers, built in the second millennium B.C., have been uncovered in Sardinia. In earlier periods, Sardinians tended to bury their dead in individual subterranean tombs, sometimes decorated with architectural details reminiscent of domestic structures.

a carved model of a *nuraghe* on a raised base in its center; this structure is thought to have served as a meeting house for civic-ritual gatherings by the community's leadership.

The complex *nuraghe* settlements are evidence of a more organized labor force and a more hierarchical society than existed in the earlier period, when the *nuraghi* were single-family homes. Nuragic chieftains probably controlled significant agricultural lands, livestock and luxury goods. It is also likely that the largest complexes reigned over a regional territory made up of *nuraghe* farmsteads (of the earlier type) and intermediate-sized settlements. Nevertheless, there is no evidence of centralized production or trade, which was characteristic of Mycenaean and other eastern Mediterranean societies. Most settlements of at least modest size seem to have produced their own bronze tools and objects, judging from the wide distribution of stone molds, ceramic crucibles, smithing tools and waste products. Ceramic molds used in the lost-wax method of casting ornamental objects,* such

*In the lost-wax method, a model of the object to be cast is made in wax and then covered with clay. When baked, the wax runs out, leaving a clay mold for molten metal.

as the famous Sardinian *bronzzetti* (small votive figurines of humans and animals), have been found at Nuraghe Santa Barbara in Bauladu, where a small workshop has been excavated in a village that surrounded a multi-towered *nuraghe* complex.

In Late Bronze Age Sardinia, most cult shrines were located outside the Nuragic villages. One exception was the so-called megaron temple, a rectangular stone structure about 55 feet long with a stone slab roof. Megaron temples were built only in the larger settlements, such as Barumini and Serra Orrios, where they were kept isolated within a stone-walled temenos, or sacred precinct.

Much more common are the "sacred wells" (*pozzi sacri*), or water temples, which are rarely situated near Nuragic settlements. In these temples, a stone cupola covers a well shaft or spring, which is reached by a staircase from a paved forecourt. Veneration of water in Sardinia continues even today, as shown by the thousands of visitors at the modern spa at Sardara, not far from the Nuragic *pozzo sacro* of Sant'Anastasia. Here, recent excavations indicate that in ancient times, Sardinians made offerings at the sacred wells, sacrificing animals and presenting decorated pottery and bronze figurines to the gods.

There is abundant evidence that Nuragic Sardinians had contact with the eastern Mediterranean, as well as with Spain, Italy and Sicily. Late Helladic IIIB and IIIC (1300-1100 B.C.) pottery from Greece, Crete and Cyprus has been found in at least a dozen sites in Sardinia, most notably at Nuraghe Antigori, where

Bronze vative figurines once filled the triangular niches of the domestic ritual basin at right, in a village at Monte Tiscali. Water once flowed through the mouths of sculpted bulls projecting above the niches, filling the sandstone vat below. The Nuragic Sardinians, dependent on water from natural springs, also developed water cult rituals; their sacred springs were often enclosed by stone cupulas and entered via staircases descending from paved forecourts. Photo by Sandra Davis Lakeman: The Graham Foundation for Advanced Studies in the Fine Arts, Comune di Barumini, Cal Poly.

hundreds of sherds of imported bowls and storage jars were found along with local copies of Aegean vases, kylikes (shallow drinking bowls with handles) and craters.

At 26 sites archaeologists have found copper ox-hide ingots—so-called because they resemble the stretched-out hide of an ox. From shipwrecks at Cape Gelidonya and Uluburun,* both on the Mediterranean coast of southern Anatolia, we know that copper and tin ingots (used to make bronze) were traded around the Mediterranean in the Late Bronze Age. The Sardinian ox-hide ingots generally have Cypro-Minoan markings, suggesting that they were imported from Cyprus or the Aegean. Although the origin of the copper ore used to make the ingots is still a matter of debate, lead-isotope analyses by Noël and Zofia Gale of Oxford University have shown that the copper ox-hide ingots match Cypriot ore whereas Sardinian copper bun ingots and bronze artifacts match local Sardinian ore.** Transporting Cypriot copper to an island rich in copper resources was not like bringing coal to Newcastle; once the metal was mined and purified, it would have had significantly enhanced value, even for a people with access to raw copper ore.

Although few identifiable Late Bronze Age Sardinian pottery sherds have been found outside of Sardinia, some have turned up on the island of Lipari, off the north coast of Sicily, and on Crete. It appears that the Sardinians did not export their pottery for its own sake—which makes them like other peoples around the Aegean and eastern Mediterranean. But this does not mean that the Sardinians had few or no commercial contacts with their Mediterranean



neighbors. Rather than trading the ceramic vessels themselves, the Sardinians probably traded the commodities contained *within* the vessels, such as scrap metal.

Another possible “export” may have been Sardinians themselves. Mercenary warriors identified as “Shardana” (probably Sardinians) are mentioned in the Amarna letters—a group of clay tablets found at Tell el-Amarna, Egypt, forming the diplomatic correspondence of the Egyptian pharaohs Amenophis III (1390-1352 B.C.) and his son Akhenaten (1332-1336 B.C.) with other Near Eastern potentates. In the Amarna letters, Shardana warriors

*See Cemal Pulak, “Shipwreck! Recovering 3,000-Year-Old Cargo,” *Archaeology Odyssey*, September/October 1999.

**Scholars do not know for certain the source of the tin used in Sardinia and the eastern Mediterranean. Although tin deposits in Sardinia have been exploited in modern times, we have no evidence that they were used in antiquity. One possible source is Iberia, from which the Sardinians imported some metal objects.

Sardinians in Israel?

One of the Sea Peoples mentioned in late-second-millennium B.C. Egyptian texts (as well as others) is called the Shardana. Like the Philistines, the Shardana settled in the Levant during a time of great instability, when numerous powerful Bronze Age civilizations were collapsing.*

But where did they come from?

Scholars have long recognized the similarity in the names "Shardana" and "Sardinia." Were

*See the following articles in *Archaeology Odyssey*, September/October 2001: William H. Stiebing, Jr., "When Civilization Collapsed: Death of the Bronze Age"; and Amos Nur and Eric H. Cline, "What Triggered the Collapse? Earthquake Storms."

the Shardana, then, displaced Sardinians who made their way to the Levantine coast? Although this is an intriguing possibility, there simply has been no evidence to support the claim—until our excavations at el-Ahwat in north-central Israel.

In 1992, soon after beginning excavations, we made some perplexing discoveries. We uncovered a 2,000-foot-long perimeter wall consisting of about 200,000 cubic feet of stone. Building this wall required an extraordinary investment of time and energy, yet the 8-acre settlement enclosed by the wall had only been inhabited a short time, from about 1220 B.C.

to 1170 B.C. The wall was also different from other Canaanite walls: It tended to meander, changing directions for no apparent reason; and the northern road into the city descended as it approached the city gate, whereas all other walled cities in the region required visitors to mount a ramp to gain entrance.

We also unearthed a surprising number of small high-quality artifacts from the ruins of a 75-by-36-foot structure dubbed the Governor's House. These included several 13th-century B.C. Egyptian scarabs, one inscribed with the name of Ramesses III (1182-1151 B.C.); a black stone seal carved with an image of a soldier on one side and a horse on the other; a bronze head (of a goddess?); carnelian beads; gold and silver jewelry; and an exquisite ivory ibex head (shown above). It seems that a high-ranking person lived in this house before el-Ahwat was abandoned.

We found no imported Mycenaean or Cypriot pottery or Canaanite painted vessels at the site, which is extremely unusual for a late-second-millennium B.C. Levantine settlement. Nor did the houses at el-Ahwat—labyrinthine structures with unusual built-in storage spaces—follow the plans of Israelite hill-country houses or Canaanite domestic architecture.

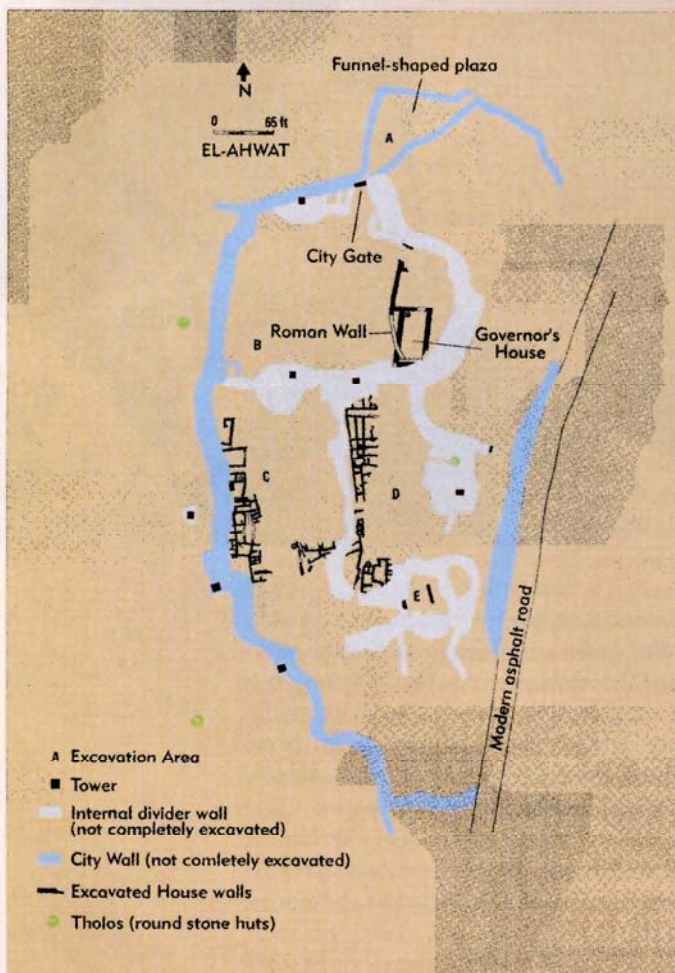
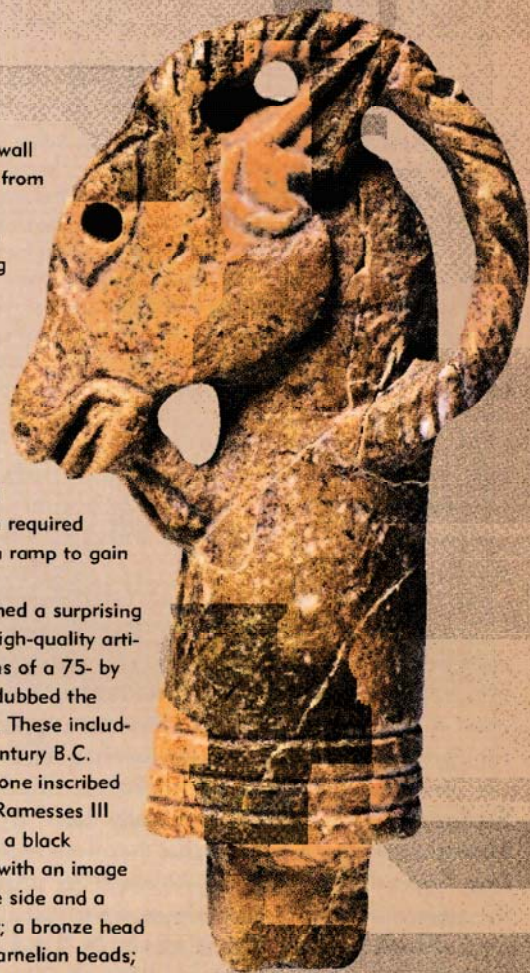
Perhaps our most perplexing find was a series of well-built stone corridors about 3 feet wide and up to 6 feet high. Some of these corridors led from houses into the city's circuit wall, while others led into round stone structures with corbeled (or false dome) roofs. These round struc-

tures, reminiscent of Greek tholos tombs, were about 10 feet in diameter and 6 feet high.

In 1995 Haifa University historian Michael Heltzer pointed out that the structures uncovered at el-Ahwat (opposite, above) resemble huge stone structures called corridor *nuraghi*, built in Sardinia (opposite, below) during the early second millennium B.C. (We now know that corridors constructed in combination with false domes, like those at el-Ahwat, are found only on Sardinia, Corsica and the Balearic Islands east of Spain.)

The builders of el-Ahwat, it appears, were familiar with Sardinia's Bronze Age Nuragic culture. Here, then, we may have the Shardana described in Egyptian texts.

The Shardana were fierce mer-



ZAHARAH FRIEDMAN, HAIFA UNIVERSITY



Peoples, controlled all iron manufacture in the region.

Perhaps the rout of the Shardana forces led to the abandonment of their short-lived settlement at Harasheth-ha-goiim/el-Ahwat. The mercenaries may then have withdrawn to other Shardana settlements along the Mediterranean coast before eventually assimilating into Canaanite culture.

—Adam Zertal, director of excavations at el-Ahwat and professor of archaeology at Haifa University (all photos courtesy of Haifa University Department of Archaeology)

cenaries. In Egyptian reliefs, they are depicted wearing distinctive horned helmets (similar examples have been found on Crete and Sardinia); they are sometimes shown fighting alongside pharaoh's warriors and sometimes shown fighting against them.

As the evidence of the Amarna letters shows, the earliest bands of migrants probably left Sardinia around the 14th century B.C., stopping and settling at Crete, Egypt and the northern Levant before arriving at el-Ahwat. Possibly el-Ahwat was an Egyptian fort, built and staffed by Shardana soldiers but administered by an Egyptian governor, thus accounting for the luxurious objects in the Governor's House. Or perhaps el-Ahwat was a Shardana colony under Egypt's sway—one of many such settlements in the area.

I would like to suggest that el-Ahwat (an Arabic name meaning "the walls") was actually the biblical city of Harosheth-ha-goiim, the military base of Sisera, who was a general

under the Canaanite king Jabin (see Judges 4-5).* Sisera's troops were ambushed by an army of Israelites called to battle by the female judge Deborah. The fighting took place in the narrow mouth of the Aruna Pass, which winds through the Carmel mountain range towards the Jezreel Valley, about 15 miles northeast of el-Ahwat. Since the hilly terrain made it difficult for Sisera's chariots to maneuver, the Israelites decimated his army. As Sisera retreated to Harosheth-ha-goiim, many of his soldiers were slaughtered and he himself was killed.

Sisera could well have headed a coalition of Shardana living at the military base of Harasheth-ha-goiim/el-Ahwat. The name "Sisera" may derive from the Sardinian place-name "Sassari." (A tablet found in Kammas, a Nuragic settlement on Crete, was inscribed with the name "Seisara," which is almost identical to "Sisera.") Moreover, the biblical reference to Sisera's "nine hundred chariots of iron" (Judges 4:3) provides another link in the Sardinia-Shardana-Sisera chain of evidence: According to the Bible, the Philistines, another of the Sea



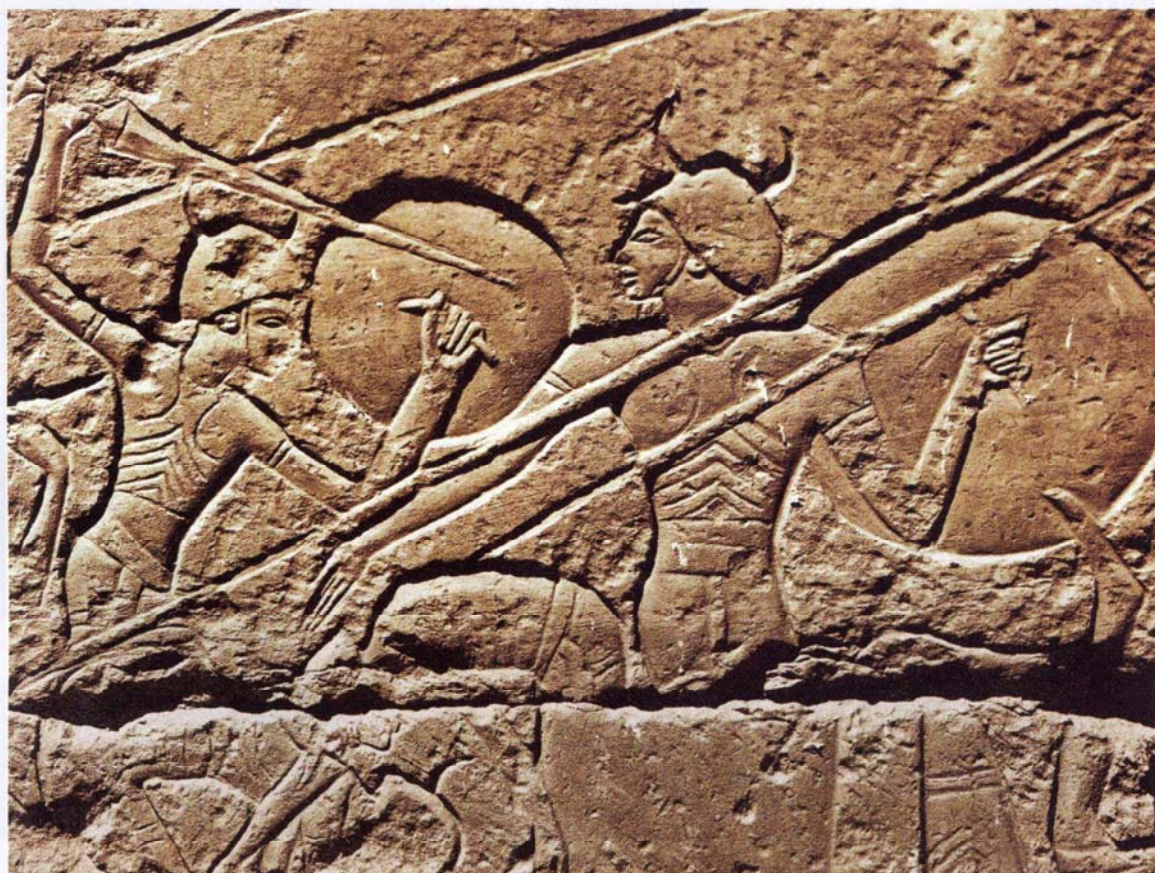
*For a more detailed discussion of the excavations at el-Ahwat and the connection between biblical Harosheth-ha-goiim and el-Ahwat, see Adam Zertal, "Philistine Kin Found in Early Israel," *Biblical Archaeology Review*, May/June 2002.



Their double-horned helmets identify the *bronzetti* (bronze figurines) at left and the soldiers below (from a 12th-century B.C. relief in the temple of Medinet Habu in Thebes) as Shardana/Sardinian warriors. Described as fierce fighters in Egyptian texts, the Shardana/Sardinians acted both as mercenaries and as pirates. They were also possibly one of the Sea Peoples who migrated into the eastern Mediterranean towards the end of the second millennium B.C.

The 14-inch-tall, 12th-century B.C. bronze figurine shown at far left was found on the island of Cyprus—perhaps indicating that Sardinian/Shardana migrants stopped at Cyprus on their way east. The 7-inch-tall, eighth-century B.C. “praying archer” statue, found on Sardinia, is clearly from the same artistic tradition.

are said to be stationed in Egyptian garrisons in the Levant, for example at Beth-Shean and Lachish, both in modern Israel. A century later, Pharaoh Ramesses II observed that Shardana pirates were pillaging sites along Egypt’s coast. The Shardana are also cited several times in reliefs at Karnak and Medinet Habu as one of the Sea Peoples who raided Egypt during the



reigns of Merneptah (1213-1203 B.C.) and Ramesses III (1184-1153 B.C.).

In 13th-century B.C. Ugarit, modern Ras Shamra on Syria's Mediterranean coast, Shardana are included in administrative lists of persons mobilized for military service at the royal palace. According to a document from Ugarit, a Shardana man named Allan had fields in Ugarit that he received from the king, probably as a grant for military service.

The 11th-century B.C. *Onomasticon* of Amenope (an Egyptian priest who sailed up the Levantine coast) lists the Shardana as one of the peoples of Canaan, perhaps living in the region of present-day northern Israel and southern Lebanon. Indeed, in the May/June 2002 issue of *Archaeology Odyssey's* sister magazine *Biblical Archaeology Review*, Israeli archaeologist Adam Zertal argues that certain structures he has excavated in the region of Mt. Carmel, in Israel, are directly related to the Sardinian *nuraghi*—which, if corroborated, would strengthen the argument that “Shardana” is etymologically related to “Sardinia.”

The connection between Sardinia and Cyprus during the Late Bronze Age was particularly strong, as shown by the archaeological record. Especially after the collapse of Mycenaean and other centers around 1200 B.C.,* the Sardinians both imported bronze tripod-stands from Cyprus and made local imitations. Also, the similarity of Sardinian double-axes to Cypriot examples, as well as the similarity in such metalworking tools as fire tongs, hammers and shovels, suggests that there was frequent contact between the two islands. Even more striking is the resemblance between a famous bronze “god” from Enkomi, Cyprus, and some Sardinian warrior *bronzetti*.

But it was the Phoenicians—particularly those from Tyre, in modern Lebanon—who established actual colonies in Sardinia by the first half of the eighth century B.C. The Phoenicians also carried Sardinian pottery to Carthage and to Khaniala Tekke, Crete—where a Sardinian *askos* (a piriform, or “pear-shaped,” jug with a strap-handle) was found in the family tomb of a goldsmith who was probably from north Syria.

A fragmentary, early eighth-century B.C. Phoenician inscription found at Nora in Sardinia establishes that the name of the island was “Sardinia.”



MUSEO ARCHEOLOGICO NAZIONALE DI CAGLIARI, SARDEGNA

The Phoenician inscription on the eighth-century B.C. Nora Stone—found near the ancient Phoenician settlement of Nora, modern Pula in Sardinia—proves that the name “Sardinia” has been in use for 2,800 years. The third line from the top of the 3.5-foot-high stela reads, from right to left, *b sardn*, meaning “on the island of Sardinia.”

The inscription appears to commemorate the early eighth-century B.C. founding of the Phoenician colony of Nora and the building of a temple dedicated to one “Lpmy”—perhaps referring to the Phoenician king Pygmalion (820-774 B.C.) of Tyre.

* See William H. Stiebing, Jr., “When Civilization Collapsed: Death of the Bronze Age,” *Archaeology Odyssey*, September/October 2001.

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Denise Schmandt-Besserat ("Stone Age Death Masks," p. 18), a professor of Middle Eastern Studies at the University of Texas at Austin, is the author of *How Writing Came About* (The University of Texas, 1996). She has also written columns for *Archaeology Odyssey* on the origins of writing ("Signs of Life," Origins, January/February 2002) and counting ("One, Two ... Three," Origins, September/October 2002). We are happy to welcome Professor Schmandt-Besserat as a new member of *Archaeology Odyssey's* Editorial Advisory Board.

Looting Forum

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museums and other institutions to help fund exhibitions or to help construct or renovate new galleries. And when we die, we tend to donate our collections to museums, where all kinds of people can enjoy their common inheritance (not just the archaeologists). Just look at the names on the galleries in many American museums, or at the names of museums themselves (such as the Walters Art Museum in Baltimore, for example, or the Frick Collection in New York). If these generous benefactors are now to be labeled looters, will they continue to give financial support at a time when government funding is being reduced?

I am currently in the process of publishing my collection in a series of catalogues—not an inexpensive task. To this end, I employ independent researchers and scholars, specialists within their fields, who would otherwise be working in museums if the jobs were available. I try to encourage scholarship and discussion and have always made my collection available for study and publication by scholars from around the world. Indeed, pieces from it have been the basis for a number of Ph.D. theses, both in Europe and the Near East.

I would like to invite Professor Renfrew to meet with looters, dealers, collectors and academics to explore possibilities of cooperation. By trying to ostracize us, he is cutting off his nose to spite his face. His sentiments are very noble but they do not reflect reality: The antiquities trade will not stop, it will just go underground, and scholars will no longer be afforded access to private collections.

Shlomo Moussaieff

Dear Editors,

In addressing the controversies surrounding the antiquities market, why not cite parallels from the trade in ivory? Here the debate is split between those countries that try to protect the elephant by banning trade in ivory—notably Kenya—and those

countries that want to legalize such trade and use the profits to protect the elephant—notably South Africa.

In Kenya, the numbers of elephants are falling. In South Africa, on the other hand, elephant populations are increasing—so much so that they need to be culled. In South Africa, the natives "farm" their elephants; they are allowed to sell hunting licenses to foreign hunters and to sell the ivory and the hides—to say nothing of eating the meat! The elephant population is thus a cash crop that is very dear and carefully tended.

This has been so successful, in fact, that the United Nation's Convention on International Trade in Endangered Species has agreed to allow resumption of the sale of ivory.

The same is true of archaeological artifacts: If trade in antiquities were legal and local "farmers" could benefit from the sale, looting would cease. This is the knock-out argument: We can prove that trade works and banning trade doesn't!

Andrew Selkirk
Editor, *Current Archaeology*

Sardinia

CONTINUED FROM PAGE 55

at least for the Phoenicians, even in ancient times. The Nora Stone apparently commemorates the building of a temple to (or by) *lpm* on the island of *srdn* (Sardinia). Scholars translate *lpm* as Pygmalion, probably referring either to the Phoenician king Pygmalion of Tyre (c. 831-785 B.C.) or to a Cypriot god of the same name and of Tyrian origins.*

By the mid-seventh century B.C. Phoenician colonies existed all along the southern and western coasts of Sardinia, and Phoenician material has been found at many sites throughout the island. By the mid-sixth century B.C. Carthage had begun an active imperialist expansion in the western Mediterranean, in competition with the Greeks. A

*The Sardinians developed no writing of their own. In Greek texts, Sardinia is referred to as *Ichnusa* (footprint or stepping-stone), possibly a reference to the island's role as a stopover for ships sailing east and west in the Late Bronze Age and Iron Age Mediterranean.

As a writer of fiction, **Francine Prose**

("Ferocious Elegance: The Mosaics of Sicily's Villa Romana del Casale," p. 28) is the author of 10 novels—most recently

Blue Angel (1997), a National Book Award finalist—and two collections of short stories. Her essays have appeared in *The New York Times Magazine*, *Harper's* and *The New Yorker*.

An associate professor in the Department of Anthropology at the University of South Florida, **Robert H. Tylot** ("Villages of Stone: Sardinia's

Bronze Age *Nuraghi*," p. 42) is co-editor of *Social Dynamics of the Prehistoric Central Mediterranean* (Oxbow Books, 1999). He is currently researching sources of obsidian in the central Mediterranean.



HOWARD MICHELS



treaty between Carthage and Rome, signed about 509 B.C., gave Carthage control over all trade with Sardinia, and by about 450 B.C. Carthage controlled much of the island's arable land.

Even within Carthaginian-dominated territory, however, indigenous Sardinians continued to live at *nuraghe* sites, and there is no evidence of significant abandonment or flight to mountain refuges. Indeed, combined Carthaginian and Sardinian forces resisted the Romans during the Punic Wars. Although Sardinia became a Roman province in 227 B.C., aspects of both Nuragic Sardinian and Punic culture persisted into the medieval period. Even today, the pagan elements present in Christian holidays and rites attest to the strength of the Nuragic spirit.

In the last 80 years, then, archaeology has given the lie to D.H. Lawrence's description of Sardinia as having "no history, no date, no race, no offering." For Lawrence, that lack of history was a blessing: It made the Sardinians pure, free, mysterious. Science, however, makes them interesting.

Review

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remains to this day) a unique work: 10,000 manuscript pages with many never-before-published inscriptions.

This masterpiece was intended to serve as companion to a work Breasted had published a year earlier: the *History of Egypt* (1905). Breasted ambitiously intended the *History of Egypt* to provide a narrative synthesis of Egyptian history and *Ancient Records* to provide the actual data (primary historical documents) from which that history had been reconstructed. The past century, however, has treated these two works very differently. The *History of Egypt* has long been supplanted by an abundant and ever-growing number of general histories, which have benefited from the considerable advances made in the field over the course of the 20th century. Such is not the case with the still-impressive *Ancient Records*, which, in its scope and content, has never

been equaled. One reason is that Egyptology has become so specialized that scholars are not interested—or perhaps not prepared—to undertake so large a project as publishing an updated anthology of Egypt's known historical texts.

In many respects, Breasted's *Ancient Records* is a dated work—an issue considered in detail by Peter Piccione in his introduction to the University of Illinois's new five-volume paperback edition. Modern Egyptology is a more nuanced and circumspect discipline than the Egyptology of Breasted's generation. Ancient texts, particularly those of historical content (such as the great battle reliefs of Ramesses II and III), today tend to be analyzed as much in terms of their ideological and political motivations as for any historical facts that may be recorded. And a greater appreciation has emerged of the ways in which "the facts" were often selectively chosen and manipulated by the ancient authors of monumental and historical texts.

Also slightly out of date in Breasted's *Ancient Records* is his often colorful terminology. For example, he regularly translates terms for foreign enemies as "troglydites," a word that would not be selected by a modern scholar (even if it might accurately impart the disdain that Egyptians typically held for foreign enemies!).

In addition, a significant number of important texts have come to light since the writing of *Ancient Records*. One has to consult other sources, for example, to find the important inscriptions of the 16th-century B.C.E. king Kamose (excavated between 1908 and 1954), which detail the campaigns of the Theban kingdom against the Asian Hyksos kings, whose capital was in the Nile Delta. Nonetheless, Breasted's great work remains valuable in its scope, the accuracy of its translations and the usefulness of its commentary. It is a rare achievement in any scientific discipline to create a work that can weather a century.

Josef Wegner is an associate professor of Egyptology at the University of Pennsylvania and an assistant curator with the University of Pennsylvania Museum.

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