



Caligula's Floating Palaces

Author(s): Deborah N. Carlson

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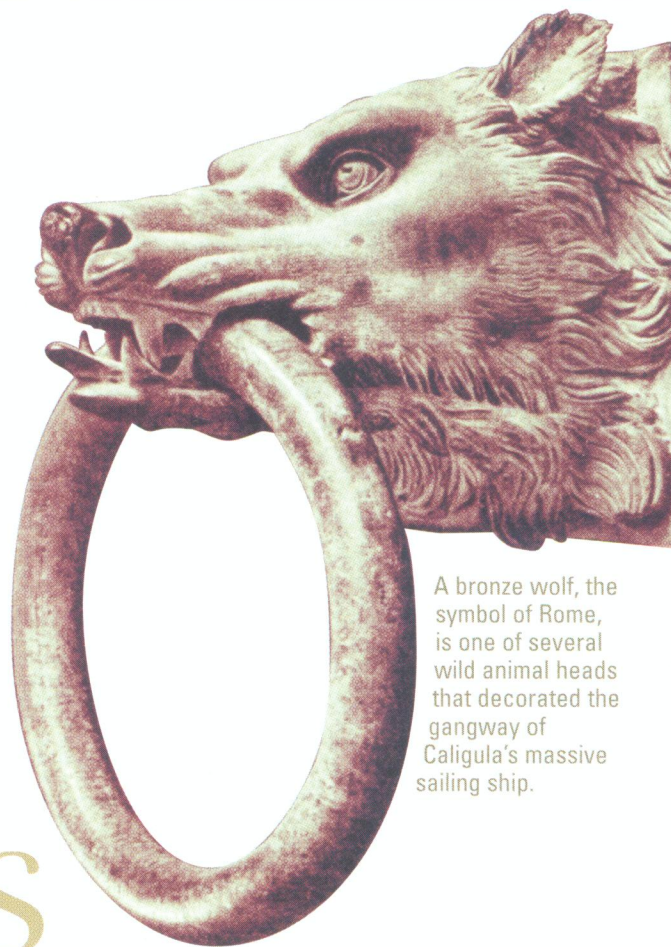


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JUST SOUTHEAST OF ROME lie the Alban Hills, a fertile, densely wooded landscape of undulating peaks and craters that are the work of volcanoes dormant for more than two millennia. One of these craters holds a small body of water called Lake Nemi, reachable by car via a narrow dirt road. For the past year, visitors have been able to admire an enormous ship's keel, 230 feet long and gracefully curved at either end, resting on wooden supports at the lake's northern shore. This keel is an early phase in the replication of a massive ship, built by the Roman emperor Caligula, that once floated majestically atop the waters of Lake Nemi.

Caligula was a man of many passions, and he indulged nearly all of them, including his passions for chariot racing, theatrical performances, gladiatorial games, and ships. During his brief rule from A.D. 37 to 41, he had two enormous ships—a sailing ship and an oared galley—built and anchored on Lake Nemi as pleasure craft. Pillaged and deliberately sunk later in the first century, they were recovered in a feat of engineering sponsored by Benito Mussolini in the late 1920s, and destroyed during a German retreat in 1944.



A bronze wolf, the symbol of Rome, is one of several wild animal heads that decorated the gangway of Caligula's massive sailing ship.

Caligula's Floating Palaces

Archaeologists and shipwrights resurrect one of the emperor's sumptuous pleasure boats.

by DEBORAH N. CARLSON

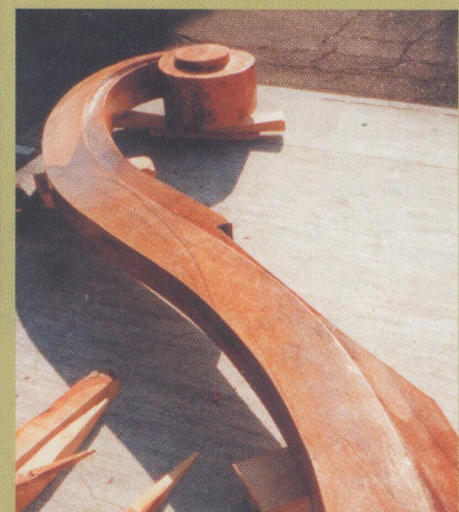
photography courtesy ASSOCIATION DIANAEE LACUS and UMBERTO UCELLI

The full-scale reconstruction of an ancient ship has long been the dream of Rosario D'Agata, former public relations director of an Italian petroleum company, and in 1999 he established the Association Dianae Lacus to replicate Caligula's huge sailing ship. Rosario had devised a similar project for a fifth-century B.C. Greek merchant vessel excavated a decade ago off the coast of Gela, Sicily, which was slated to ferry visitors from the port to the city's archaeological ruins. He retired before the project could be realized, but resurrected the idea, utilizing one of Caligula's ships, after he and his wife relocated to Nemi. Rosario expects that the replica, one day moored on the lake, will foster interest in this historically and culturally rich area.

The association is seeking out sponsors to finance one or more of the 18 outlined construction phases, at a total cost of nearly \$10 million. The undertaking, which will last at least two years, promises to be as monumental as the replica itself: the oak needed to construct the ship's 230-foot-long central keel, stem, and stern came with a price tag of almost \$50,000. When complete, the replica, like the original ship, will have five keels, 140 oak frames, and two decks. Marco Bonino, an expert in ancient naval architecture who is overseeing the construction, explains that, in order to build a ship with five keels, an ancient shipwright had to conceive of five separate ships. This is the task before Mattia Di Donato, the Italian shipwright who built



Rosario D'Agata (rear, in sunglasses) poses on a mock-up of the replica's stern with, from left: Enrico Del Fiacco, architect for the Soprintendenza Archeologia di Lazio; Giuseppina Ghini, curator of the Nemi Museum; Umberto Ucelli, son of hydraulic engineer Guido Ucelli; Marco Bonino, the naval architect overseeing the replica; and Mattia Di Donato, shipwright. The steering oar is so large that a hole was cut in the museum floor to accommodate it. The 230-foot-long central keel, left, greets visitors along Lake Nemi's northern shore. The graceful oak stem, below, was carved by craftsmen using methods employed by shipwrights 2,000 years ago.





the central keel in his Naples shipyard. As he stares at the hundreds of oak tenons, each about the size of a credit card, jutting out from the ship's keel like wooden teeth, Di Donato shakes his head in disbelief. Is this the response of someone humbled and perhaps a bit unnerved by the scope of the project that lies ahead? No, Di Donato is marvelling at the achievement of his ancient colleagues: success on such a massive scale required, in the shipwright's own words, "organizzazione perfetta."

Lake Nemi's unique beauty is most appreciable during the summer, when a full moon reflects both in the lake and on the distant Tyrrhenian Sea. It is for this reason that the Romans referred to Lake Nemi as the *speculum Dianae*, or mirror of Diana. The Roman goddess of hunting, Diana was also associated with woods, childbirth, and the moon. The ancient inhabitants of the Nemi area worshiped Diana Nemorensis, or "woodsy Diana," and the remains of her cult complex, including a temple, baths, and a small theater, are still being excavated along the northern shore of the lake. The magical atmosphere of Lake Nemi appealed to Caligula, perhaps because he was interested in the cult of Isis, another moon goddess. But the Diana cult also had a darker side: its high priest was an escaped slave who won his post by killing his predecessor. Caligula, who is said to have enjoyed watching tortures and executions, revived the custom by dispatching a stronger man to kill the priest.

Caligula's fondness for ships was only part of his greater obsession with flamboyant and grandiose displays. The biographer Suetonius describes how the emperor used to greet the day by cruising along the coast of Naples in a gal-

Nestled in a volcanic crater, tiny Lake Nemi was a popular setting for the worship of Diana, the Roman goddess of hunting. Archaeologists are excavating the remains of her cult complex on the shores of the lake. Elaborate mosaics recovered from Nemi's depths once decorated Caligula's luxurious vessels.



ley with ten banks of oars, jewels on the stern, and brightly colored sails. Guests on board could enjoy a bath, dine with the emperor in one of several banquet halls, or mingle among flowering fruit trees. On one occasion, the emperor fabricated a bridge out of ships that spanned the Bay of Baiae—a distance of more than three miles. By anchoring merchant ships in pairs and covering them with dirt, he was able to cross the bay on horseback, reenacting Xerxes' legendary bridging of the Hellespont, which allowed the Persian king's land forces

to invade Greece more than 500 years earlier.

Some scholars distrust historical accounts of Caligula's luxurious lifestyle, rejecting them as inflated by-products of the public's resentment of imperial excess. Even today, archaeologists can point to relatively few monuments that substantiate the ancient reports of Caligulan extravagance. Two such monuments are the palatial houseboats excavated in the 1930s.

In 1895, when antiquities dealer Eliseo Borghi established the presence of the Nemi ships in the lake (see sidebar), an Italian Navy colonel enlisted the help of an expert diver to ascertain their exact position and depth. They determined that the ships lay more than 200 yards apart, at a depth of between 40 and 65 feet. With this information came the realization that any recovery attempt would be extremely challenging. Because the hulls were buried in a sloping bed of mud, burdened by tons of marble, mosaics, bricks, and tile, it was ultimately decided that the only practical way to recover them was to lower the lake's water level. An archaeological project as audacious as this required qualified engineers and substantial, long-term

resources, both of which were available to Mussolini.

The Italian dictator was eager to associate his facist regime with the glory of the ancient Roman Empire, and archaeology provided a means to that end. During his rule he sponsored excavations in Rome and Ostia, in Sicily, and at the Libyan sites of Leptis Magna and Sabratha. The Nemi ships may have interested Mussolini on a more personal level, for they promised a glimpse of a Roman emperor's private life. In October 1928, in the presence of *Il Duce*, four electric turbines began drawing water out of Lake Nemi at the rate of about an inch per day via an ancient Roman conduit that stretches from the edge of the lake through the rim of the crater and into a nearby valley. By September 1929, the first ship, the one closest to the

shore, was completely exposed. Naval architects flocked to Nemi to study it. What was exceptional was its size—230 feet long and 65 feet in beam—the equivalent of two tennis courts placed end to end.

Though damaged by repeated attempts at salvage, the remains of the first vessel were substantial enough to indicate that it had been modeled after a sailing ship. This massive vessel had probably been towed by a pilot boat to its anchorage on the lake. In and around the ship were small objects such as coins, keys, and fishhooks, as well as tantalizing indications of the ship's former splendor: wall and floor mosaics in *opus tessellatum* (cubes in mortar) and *opus sectile* (cut marble inlay), a wooden door, and gilded copper roof tiles. Bronze faucets and hundreds of terra-

THE SEARCH FOR CALIGULA'S SHIPS

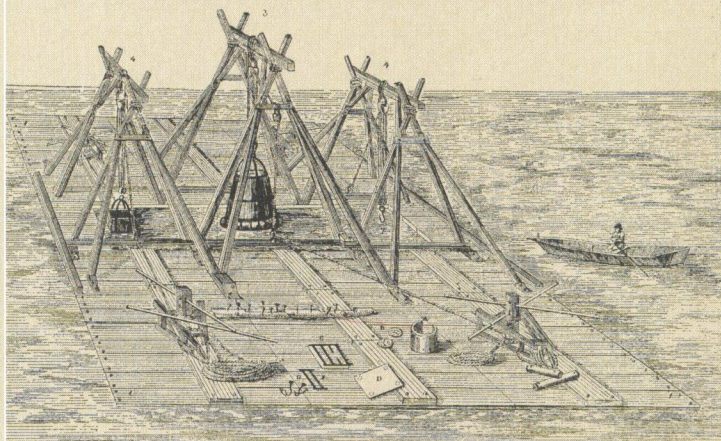
AS EARLY AS THE FIFTEENTH CENTURY, local Italians suspected that an ancient ship lay in the depths of Lake Nemi; fishermen working the lake reported that their nets occasionally became snagged on the bottom, and when hauled up contained fragments of wood. In 1446, Cardinal Prospero Colonna, intrigued by the legend of the Nemi ships, enlisted the help of renowned architect and humanist Leon Battista Alberti. The pair recruited divers to raise the submerged vessel using iron hooks and winches. The attempt succeeded only in tearing away large pieces of the hull, which fascinated local spectators but discouraged the duo from further recovery attempts.

More than a century later, in 1535, engineer Francesco De Marchi explored Lake Nemi using what could be called the first diving suit, which De Marchi referred to simply as the *istrumento*. It was essentially a wooden drum bound with iron bands and fitted with a glass observation port. The drum covered only the diver's torso, leaving his legs and arms exposed from the elbow down. On one dive, in order to avoid entanglement, De Marchi descended without pants. Having brought with him a modest quantity of bread and cheese, he was soon accosted by a school of small fish who began nibbling on both the bread crumbs and himself. De Marchi claimed to have been able to saw, cut, hammer, and tie lines from within the *istrumento*, his chief complaint being the absence of light underwater, which required one to work *a tentone*—or by feel. While we do not know how (or if) the device provided for the supply and circulation of air, it was apparently airtight, for upon returning from his first dive, De Marchi observed that portions of the interior were still dry, though soaked with blood from his nose and mouth. The hemorrhage suffered by De Marchi probably resulted from a sudden increase in pressure owing to a rapid descent. In the end, he managed to attach a rope to one part of the ship, recovering as much wood as could be loaded on two mules, on which it was hauled off to Rome.

In 1827, nobleman Annesio Fusconi became the third individual to explore Lake Nemi. Fusconi constructed a diving bell based on the prototype designed by English

astronomer Edmund Halley in 1690. The Halley diving bell enabled divers to exhaust used air and replace it with fresh air supplied via leather hoses. Fusconi retrieved fragments of marble, porphyry, and serpentine, mosaic tesserae, bricks, nails, and terra-cotta pipes. Most of the finds were sold to the noble Romans on hand to witness Fusconi's discoveries.

Finally, in 1895, antiquities dealer Eliseo Borghi demonstrated that the submerged structure that had eluded salvors for 450 years was in fact a ship. On that day, the diver employed by Borghi brought to the surface a circular bronze object adorned with the head of a lion—a handsome piece that had once capped the head of an ancient

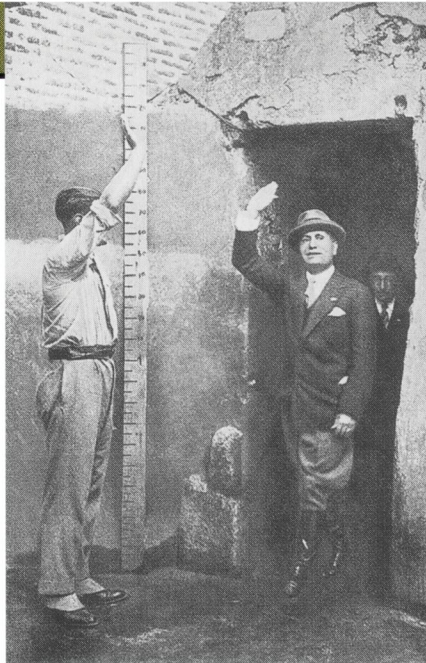


A diving bell was used to recover artifacts, including fragments of mosaic and terra-cotta pipes, from Lake Nemi in 1827.

steering oar. Borghi continued to survey Lake Nemi, and six weeks later, he located a second ship. Ultimately, his discoveries included mosaic pavements, sculpted bronze animal heads, lead pipes, bricks, nails, and more than 1,300 feet of planking and hull timbers. Most of the artifacts were acquired by the National Museum at the Terme in Rome in 1906, but the wood was measured and abandoned on the lakeshore. The artifacts housed in Rome were virtually the only items that escaped the inferno at Nemi in March, 1944 —DNC



Mussolini's fascist government provided the resources that enabled excavators to drain Lake Nemi at the rate of about an inch per day. By June 1931, a little less than three years after the pumping began, an estimated 1.4 billion cubic feet of water had been removed from the lake. *Il Duce* visits pumping operations at Nemi, right



ed through the sides of the hull to form an outrigger, which would have supported a bank of rowing oars. The second vessel had been patterned after a Roman warship; an oared galley.

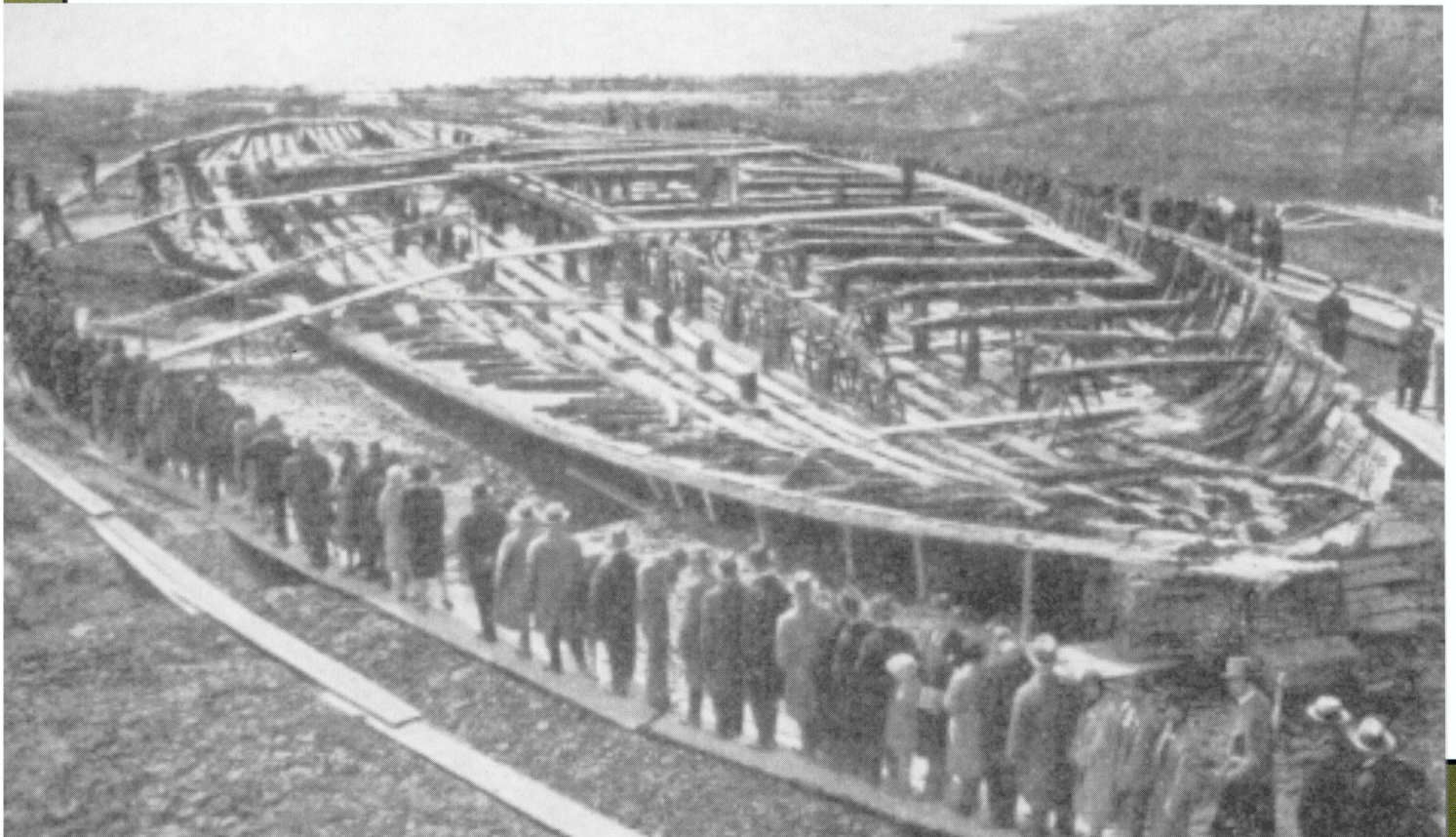
Neither of Caligula's two ships could ever have been effectively maneuvered on Lake Nemi. No matter what their appearance, these were ancient houseboats of the most decadent sort. Excavation of the second ship revealed the remains of an elegant superstructure, perhaps a temple: fluted columns; terra-cotta roof

cotta pipes and tiles pointed to the existence not merely of running water, but of heated water, in conjunction with a Roman bath. Several lead pipes from the ship, stamped CoCAESARIS AUG GERMANIC, were the only evidence that the ship was the property of Caius Caesar Augustus Germanicus, or Caligula.

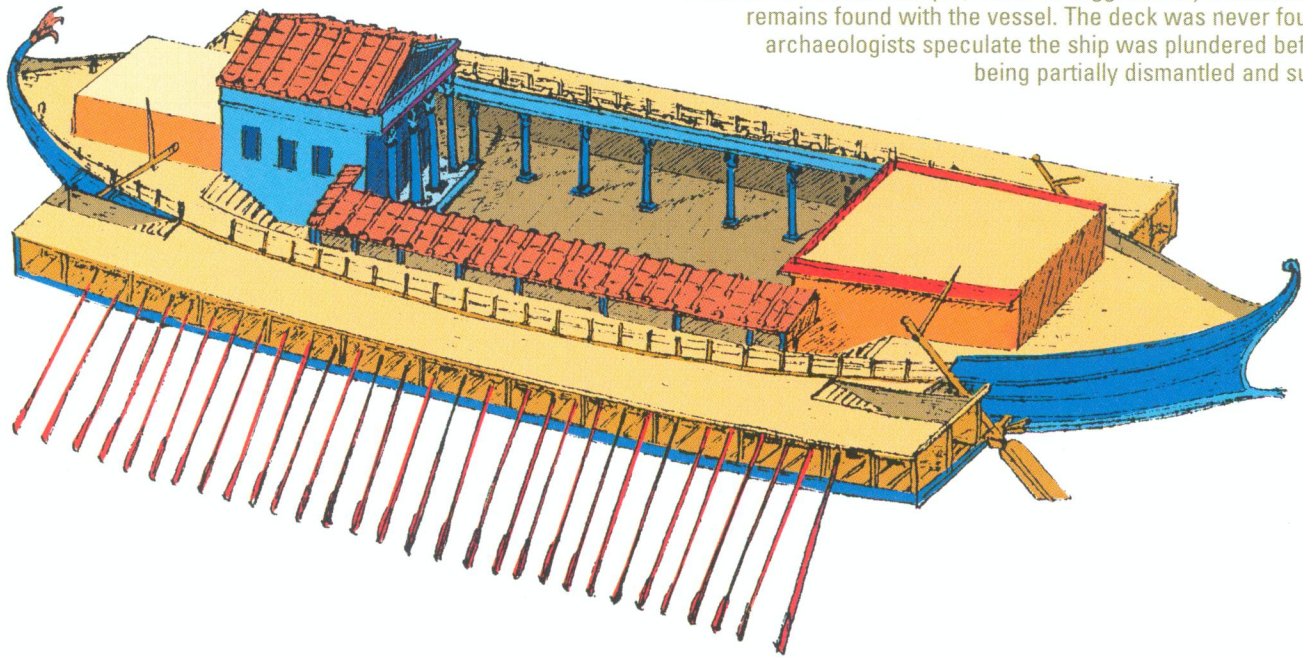
It took more than a year to excavate the first ship from Lake Nemi's muddy bottom. She left the lake cradled on wooden supports, atop an iron platform that traveled on tracks. The pumping effort continued. It is estimated that 1.4 billion cubic feet of water had been removed from the lake by June 1931, when the second ship emerged from her watery grave. This vessel was slightly larger and, because it lay in deeper water, had been less accessible and had consequently suffered less damage. Its most distinctive feature was the way in which some of the beams protrud-

ornaments; portions of a sculpted terra-cotta frieze with vestiges of blue, green, and yellow paint; more gilded copper roof tiles and many small marble and ivory fragments. Excavators found no trace of the deck on which this lovely little building stood, suggesting that the ship was plundered before being partly dismantled and sunk. Exactly when these events took place is difficult to say. While it may seem logical to tie the destruction of the ships to the assassination of Caligula in A.D. 41, the style of the mosaics

Visitors line up to view the remains of the emperor's mammoth five-keeled sailing ship in 1929. Fifteen years later, the ships and the museum that housed them were burned to the ground, allegedly by German soldiers, during a Nazi retreat.



An artist's reconstruction of Caligula's magnificent oared galley features an onboard temple, which is suggested by architectural remains found with the vessel. The deck was never found; archaeologists speculate the ship was plundered before being partially dismantled and sunk.



and various coin finds indicate that the ships were still in use during the reign of Nero (A.D. 54–68). Nero, however, was equally despised by the Roman people, so it is conceivable that the Nemi ships were sunk not long after the Senate declared Nero a public enemy and he committed suicide.

In October 1932, the second ship was hauled ashore. Scientists at the time knew relatively little about the conservation of waterlogged wood, but to the credit of those involved, the ships were covered with damp canvas to prevent rapid desiccation and, on the advice of Norwegian researchers who had successfully conserved several Viking ships excavated at the turn of the century, coated with a resin solution. Though the Nemi ships were given modest cover, it became clear within a year that exposure to the elements and changes in temperature were causing rapid deterioration. Local suppliers donated tons of cement, bricks, iron, and lumber to aid in the construction of the Museo delle Navi Romane, which opened in 1936 on the lake's north shore. Visitors who were able to experience the Nemi ships in their new setting were truly fortunate, for on the night of May 31, 1944, the ships were set ablaze and destroyed.

At that time, Allied forces were pursuing the retreating German army northward through the Alban Hills toward Rome. On May 28, a German artillery post was established within 400 feet of the museum. According to museum guards, several marble columns within it were moved or broken in the days leading up to the fire. An official report filed in Rome later that year described the tragedy as a willful act on the part of the German soldiers. A German editorial blamed the destruction on American artillery fire. The true story of what happened that night will probably never be known.

The only material untouched by the flames at Nemi were the bronzes stored in Rome, the archaeological site plans,

and technical drawings of the ships done by the Italian Navy. These documents were collected and published in 1940 by Guido Ucelli, a hydraulic engineer involved with the draining of Lake Nemi. Ucelli's interest in naval architecture and his commitment to accurate and thorough publication distinguish him as a pioneer of nautical archaeology.

Working from the drawings in Ucelli's book, Marco Bonino has drafted new lines for the replica ship. Even on paper, the ship is awesome, and even more so when one considers that the ancient shipwright had no such blueprint from which to build. In the same sense, the replica project has nothing like the Imperial resources that were available to Caligula's shipwrights. The Association Dianae Lacus relies on the benevolence of interested supporters, who have seen the project into its next phase, the planking. Recently, the mayor of a nearby town donated a large number of oak trees to be used for planking the ship on either side of the central keel. As the replica Nemi ship comes to life, her dimensions astound even the draftsman himself: "When Bonino came down to the yard, he looked stunned!" relates Di Donato, "He turned to me and said 'I gave you those dimensions, didn't I?!' And I said 'Yes, you did.' It's one thing working off drawings and plans but when you see the real thing in front of you, it's a different matter altogether." ■

DEBORAH N. CARLSON is a doctoral student in classical archaeology at the University of Texas at Austin. She served as the assistant director of the Institute of Nautical Archaeology's recently completed classical Greek shipwreck excavation at Tekas Burnu, Turkey. For further information on the Association Dianae Lacus' activities, visit its website at www.nemi-ship.org. Thanks to John Purtell and Rosario D'Agata, whose guidance has been instrumental to the article and the reconstruction project itself.