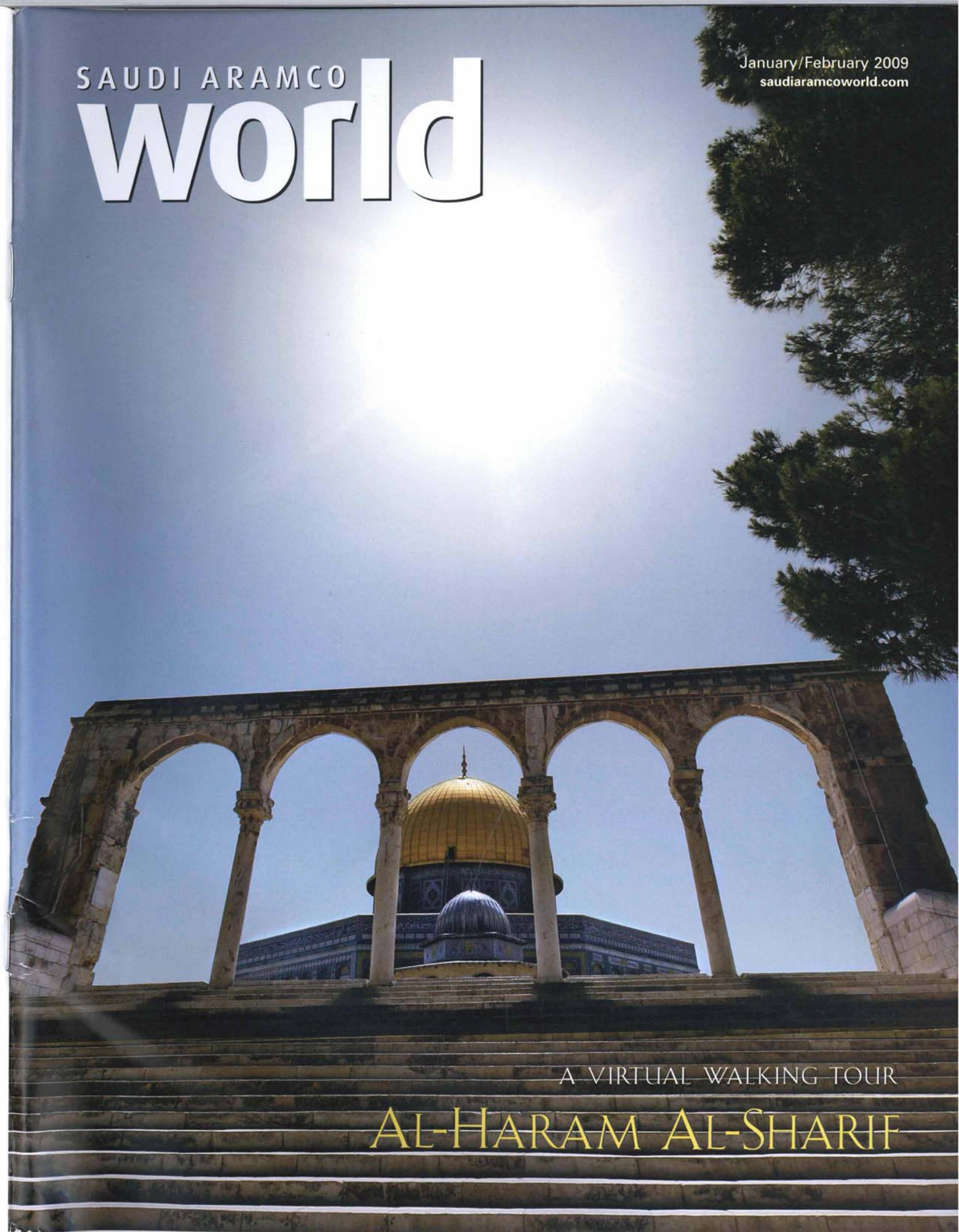
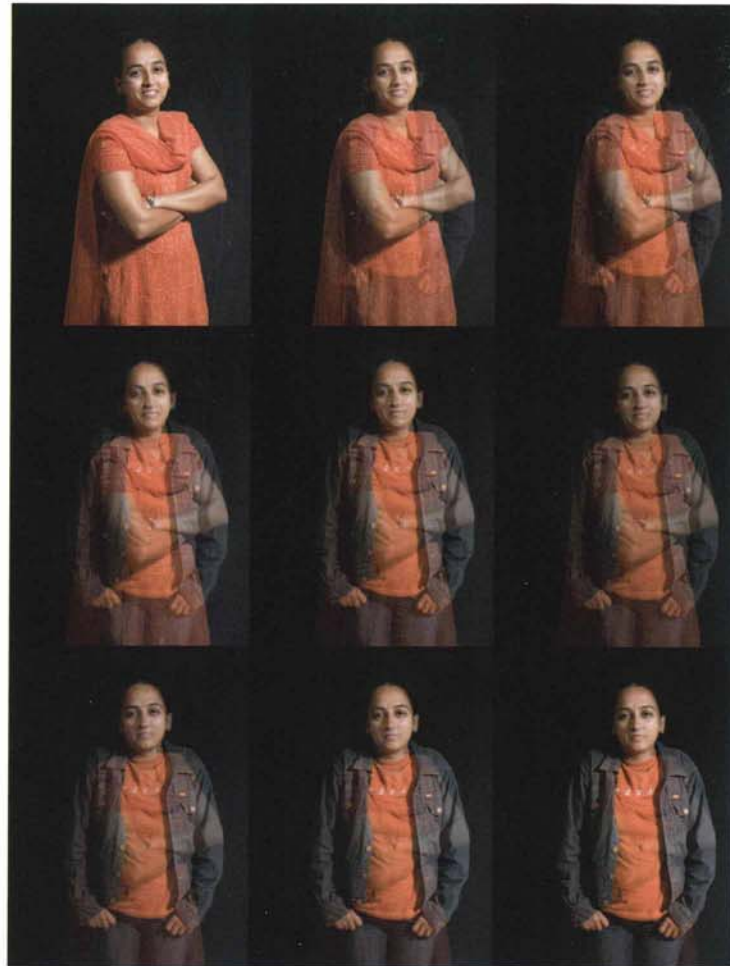
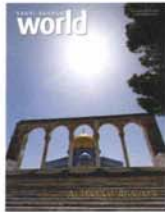


SAUDI ARAMCO  
**world**



A VIRTUAL WALKING TOUR  
**AL-HARAM AL-SHARIF**

Cover



From below the freestanding archway on the east side of the *Haram Al-Sharif*, the golden Dome of the Rock glistens above the smaller Dome of the Chain. They are among some 50 structures that dot the grounds of the sanctuary. Photo by Barry Gross and Michael Gross.

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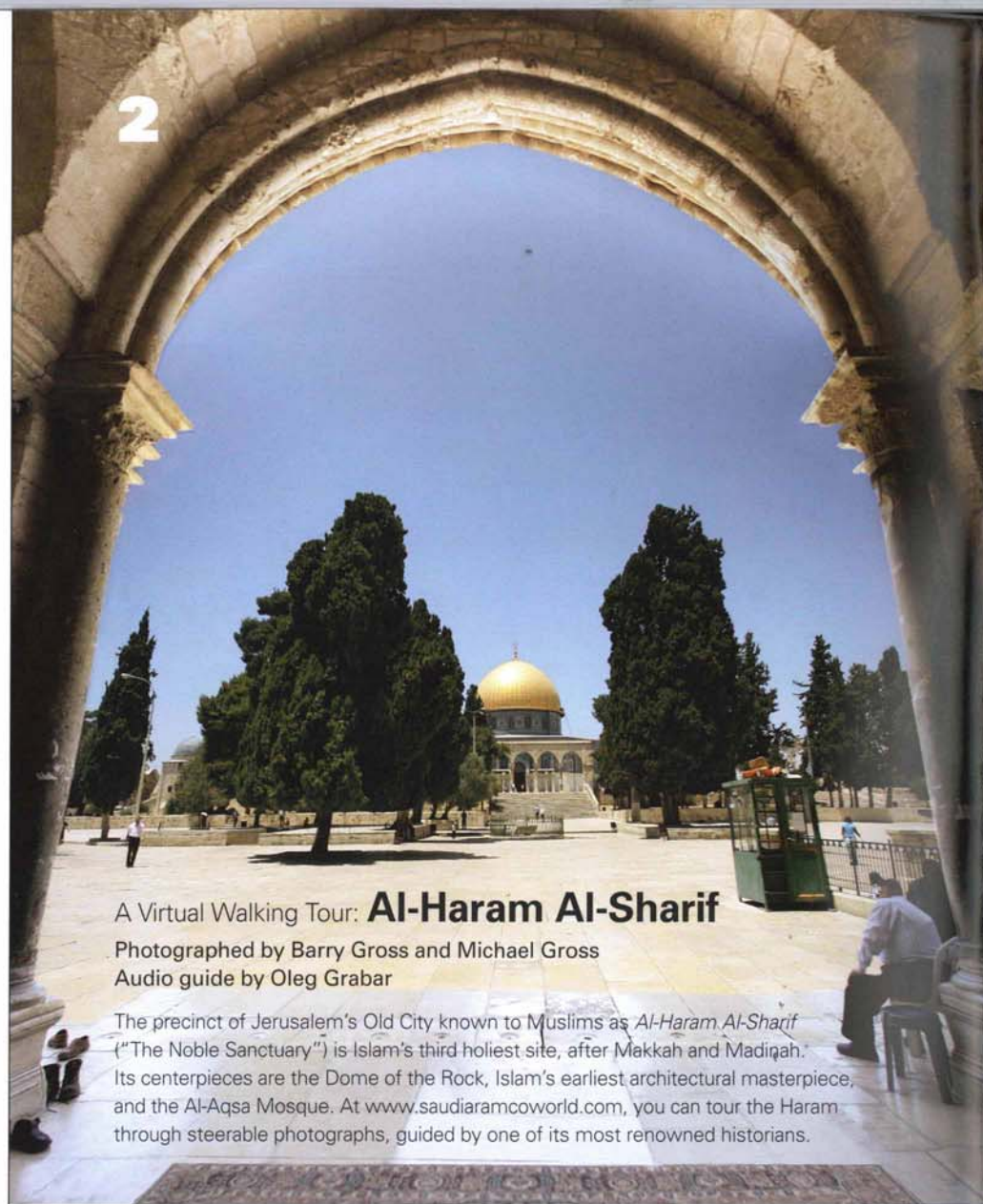
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Back Cover



In a Bangalore call center, Kirti assumes the name "Doreen" for her American customers. In the office, Kirti says, "Doreen is very dedicated to work and very jovial.... When I go back home as Kirti, I am one among my family members." Portraits by Annu Palakunnathu Matthew.

Saudi Aramco, the oil company born as an international enterprise seventy-five years ago, distributes *Saudi Aramco World* to increase cross-cultural understanding. The magazine's goal is to broaden knowledge of the cultures, history and geography of the Arab and Muslim worlds and their connections with the West. *Saudi Aramco World* is distributed without charge, upon request, to a limited number of interested readers.



2

A Virtual Walking Tour: **Al-Haram Al-Sharif**

Photographed by Barry Gross and Michael Gross  
Audio guide by Oleg Grabar

The precinct of Jerusalem's Old City known to Muslims as *Al-Haram Al-Sharif* ("The Noble Sanctuary") is Islam's third holiest site, after Makkah and Madiqah. Its centerpieces are the Dome of the Rock, Islam's earliest architectural masterpiece, and the Al-Aqsa Mosque. At [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com), you can tour the Haram through steerable photographs, guided by one of its most renowned historians.

**Uncovering Yenikapı**

Written by Richard Covington  
Photographed by Lynsey Addario

Excavations for what will be Turkey's largest mass-transit hub stumbled on an archeological treasure: much of Istanbul's lost Byzantine-era seaport, including more than 30 shipwrecks and their cargoes, the most ever found at one site.



8



**I**  
WITNESS  
HISTORY

**18 I, The Sea Tramp**

Written by Frank L. Holt  
Illustrated by Norman MacDonald

Child of the forests of Turkey and Syria, I was trained by shipwrights and sailors in the workaday ways of eastern Mediterranean commerce, until that fateful day near Cyprus when spears flew, and it all went quiet—and stayed quiet for 2300 years. Then the bubbling man-things appeared, and I began a new and entirely different life.

**24 The Virtual Immigrant**

Portraits and interviews by Annu Palakunnathu Matthew  
Photographed by David H. Wells  
Written by Archana Rai

*Lured by high wages to India's fast-growing network of call centers, young, upwardly-mobile workers are studying American culture.*



**32 A Global Guide to Islamic Art**

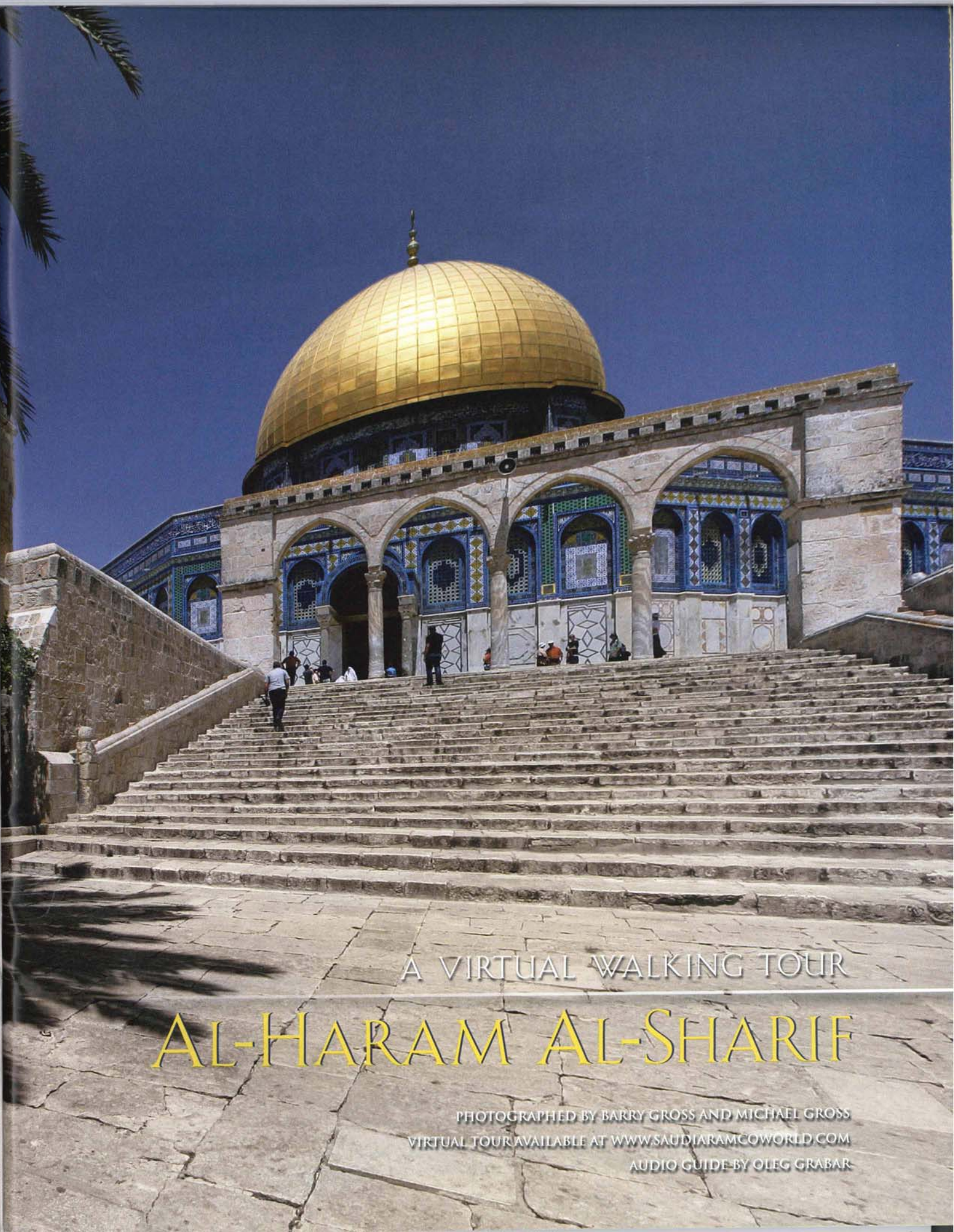
Written by Jonathan M. Bloom and Sheila S. Blair

From Los Angeles to Tehran, soaring public interest in the traditional arts of Islamic cultures is prompting construction of nearly a dozen new galleries and museums. Two leading art historians and curators review the most prominent collections and give tips on how to appreciate them.



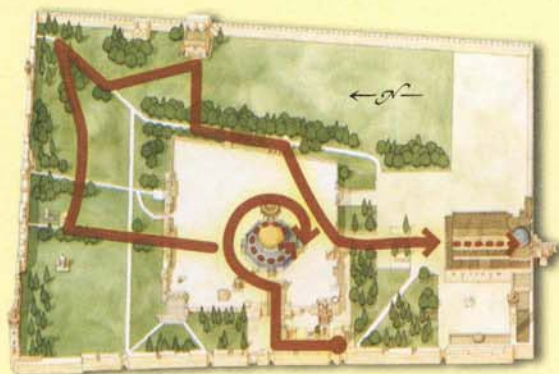
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**Annual Index 2008** Beginning with the 2008 edition, *Saudi Aramco World's* annual indexes will appear online only as part of the magazine's cumulative index.



A VIRTUAL WALKING TOUR  
**AL-HARAM AL-SHARIF**

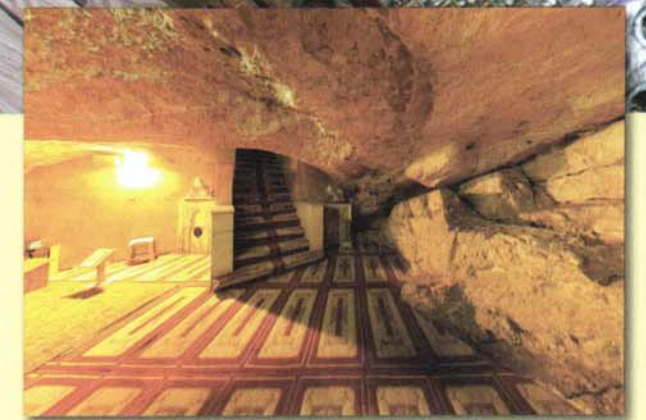
PHOTOGRAPHED BY BARRY GROSS AND MICHAEL GROSS  
VIRTUAL TOUR AVAILABLE AT [WWW.SAUDIARAMCOWORLD.COM](http://WWW.SAUDIARAMCOWORLD.COM)  
AUDIO GUIDE BY OLEG GRABAR



One hundred and fifty years ago, in 1859, M. J. Diness made the first known photographs inside Jerusalem's *Al-Haram Al-Sharif* ("Noble Sanctuary"). Ever since, photographers have sought to convey some of the rich spiritual, historical and esthetic meanings of the sanctuary complex and its more than 40 monuments. Digital panoramic imaging, which places the viewer inside a spherical photograph, now allows him or her to "explore" by panning, zooming and looking up and down at leisure, and then moving on to the next panorama. The route of this "Virtual Walking Tour" at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com), simplified on the diagram at left, enters the walled sanctuary precinct (the Haram) from the west to approach the platform of the Dome of the Rock from one of its eight stairways (previous page). After visiting inside the Dome of the Rock, it explores the northern end of the Haram, and from there takes you to Al-Masjid Al-Aqsa, the Al-Aqsa Mosque.

ILLUSTRATION: TOM McNEFF / HERRING DESIGN

Inside the Dome of the Rock, the tour offers seven panoramas, including details, above, of the decorated ceilings of the two concentric arcades that ring the Rock that lies at the center beneath the Dome. These coffered, gilded ceiling designs, made of wood and leather, highlight the building's history that is, like that of the entire Haram, both layered and, at times, uncertain: These are late-20th-century re-creations of Mamluk patterns dating from the 13th and 14th centuries that presumably replaced an original Umayyad ceiling from the late seventh century. Right: According to Islamic doctrine, the single, unhewn rock around which the Dome of the Rock is built marks the location of the Prophet Muhammad's *'isra* ("night journey"), in which he miraculously traveled in one night from Makkah to the Al-Aqsa Mosque and, after leading Abraham, Moses, Jesus and other prophets in prayer, ascended from this Rock into heaven, to within "two bowlengths" of the very throne of God. The Rock is also the spot where, according to tradition, Islam's second caliph, 'Umar, prayed in 637 following the largely uncontested Muslim conquest of the Byzantine-controlled city. Later, his successor, 'Abd al-Malik ibn Marwan, patronized the shrine's construction. Underneath the Rock lies this small cave, now used for prayer.





The Virtual Walking Tour ends at the southern terminus of the center aisle of the Al-Aqsa Mosque. Here is the ornate *qiblah* wall indicating the direction of prayer toward Makkah, with its marble *mihrab*, or prayer niche, at center. In the first years following the revelation of Islam to the Prophet Muhammad, Muslims actually prayed in the direction of Jerusalem until a later revelation changed the *qiblah* to Makkah, and to this day Jerusalem is known to Muslims as “the first of the two *qiblahs*.” Behind the glass railing stands the recently restored *minbar* (pulpit) brought to Jerusalem from Syria following the 1187 victory of Saladin over the Crusaders. Like the Dome of the Rock, the mosque reflects a complex history of renovations, restorations, additions and modifications by numerous ruling powers and patrons over more than 1300 years. Left: A view upward into the mosque’s dome. 🌐

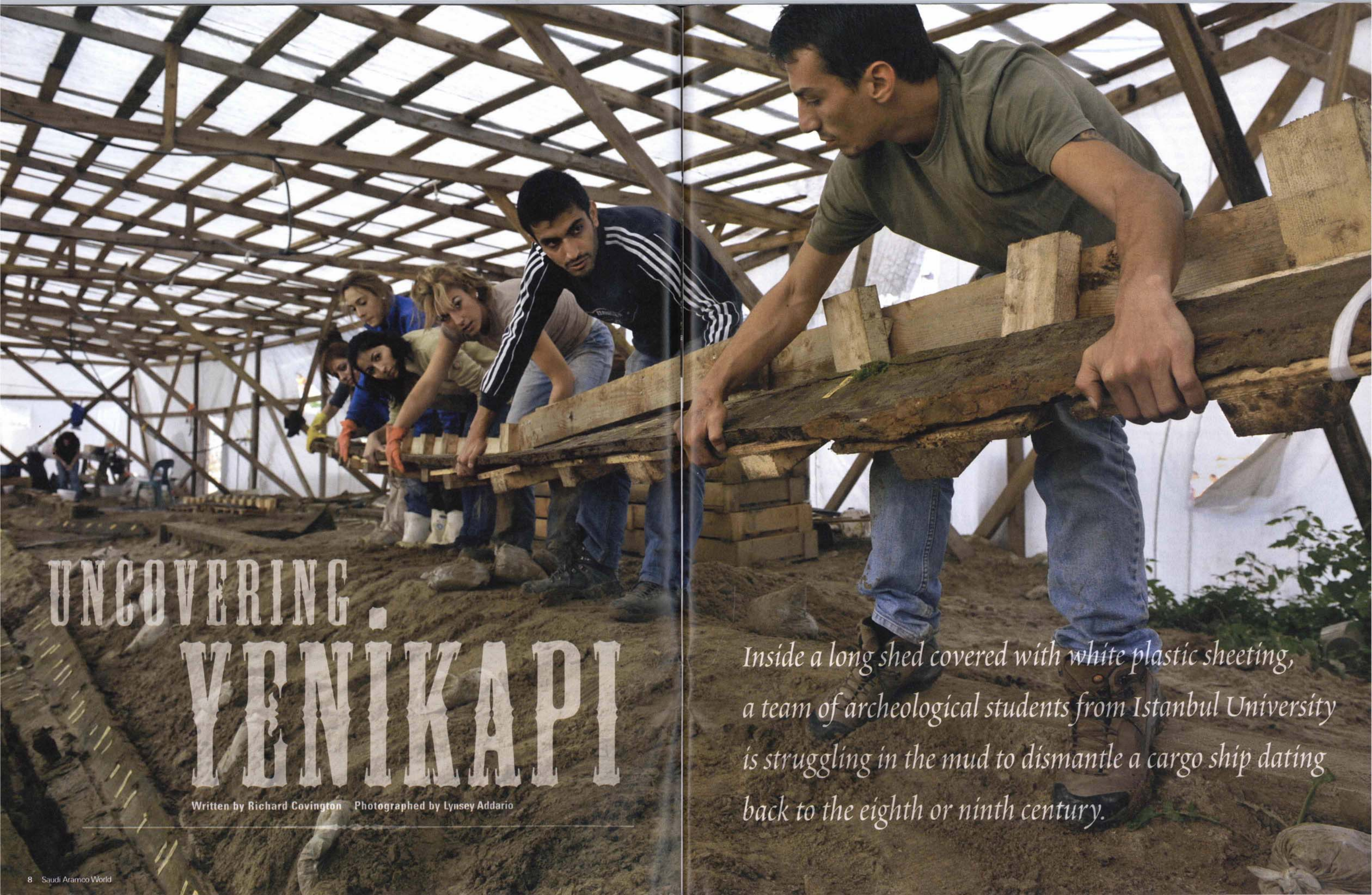


**Barry Gross** (bagross@gmail.com) and **Michael Gross** (mbgross@gmail.com) have produced virtual-reality projects for Williams College, the Williams College Museum of Art, the University of Virginia, the University of Southern California at Los Angeles and *Saudi Aramco World*. This year they were visiting fellows at the University of Virginia, where they coordinated the writing of a guide for digital panoramic photography of cultural-heritage sites. Barry lives in Boston; Michael lives in Portland, Oregon.

**Oleg Grabar** is Professor Emeritus of Islamic Art and Architecture at the Institute for Advanced Study at Princeton, New Jersey. He is the author of *The Dome of the Rock* (2006, Harvard) and *The Shape of the Holy: Early Islamic Jerusalem* (1996, Princeton).

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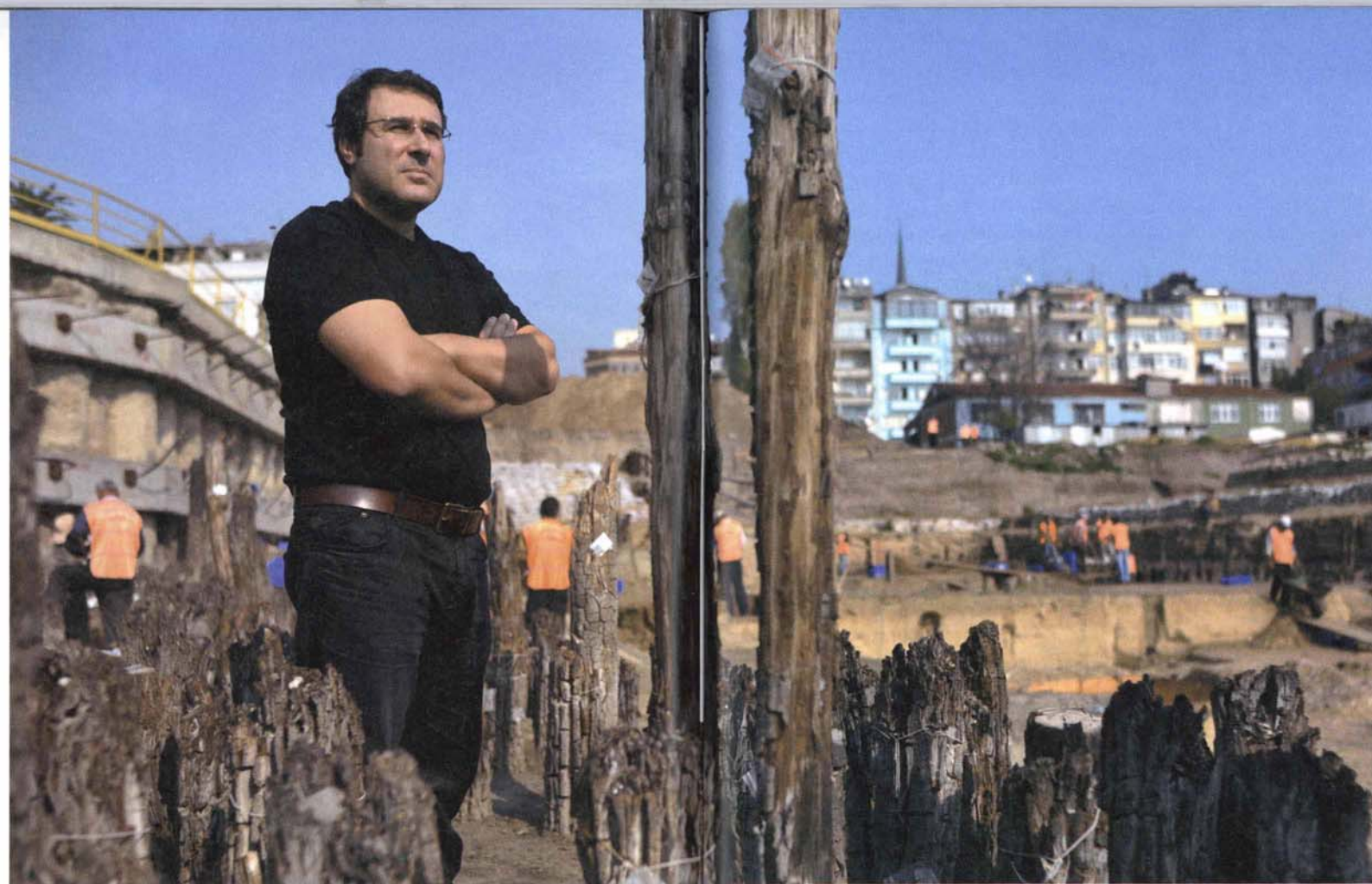


# UNCOVERING YENIKAPI

Written by Richard Covington Photographed by Lynsey Addario

*Inside a long shed covered with white plastic sheeting, a team of archeological students from Istanbul University is struggling in the mud to dismantle a cargo ship dating back to the eighth or ninth century.*

Standing among piers of what was for nearly 900 years a hub of international shipping, Ufuk Kocabaş is field director of the nautical archeology team from Istanbul University. Previous spread: Inside one of the site's temporary sheds, a splint helps a waterlogged plank keep its shape as archeologists and students dismantle one of Yenikapı's 32 shipwrecks found to date.



**O**utside, the brilliant June sunshine beats down mercilessly on Turkey's largest city. But the shed is kept cool by a fine mist sprayed from suspended hoses; the mist keeps the exposed wood moist and prevents it from shrinking. Ever so gently, the five women and four

men slide a three-meter (10'), L-shaped frame beneath a waterlogged plank too fragile to be lifted directly. One of them gives the go-ahead and they raise the plank in unison, then place it into a wooden case, where it rests on a pine support specially designed to ensure that the plank keeps its shape. Later, the case containing the plank and the support will be lowered into a concrete-lined pool of slowly circulating fresh water. Eventually, after conservation and reassembly, the ancient ship, one of 32 uncovered so far in the rundown Istanbul neighborhood of Yenikapı, will likely go on display in a new museum dedicated to what many experts are calling the greatest nautical archeological site ever discovered: a vast excavation covering more than 58,000 square meters (nearly 625,000 sq ft), the equivalent of 10 city blocks, on what was once the edge of medieval Constantinople.

"It's the most phenomenal ancient harbor in the world, and it's absolutely revolutionizing our knowledge of ship construction during Byzantine times," declares Sheila Matthews, who is unearthing and researching eight boats for the Institute of Nautical Archaeology at Texas A&M University. "There is no other place that has so many shipwrecks in context with one another." From brick-transport vessels to round-hulled cargo boats 19 meters (60') long and small lighters used to off-load larger ships, Yenikapı is

yielding up the full gamut of ships that once crowded one of the most active harbors of the Middle Ages. Among the site's astonishing prizes are the first Byzantine naval craft ever brought to light.

Lost for more than 800 years, Yenikapı's fourth-century port dates back to Theodosius I, the last emperor to rule over both the eastern and western portions of a unified Roman Empire, and it was active until around 1200. Trading ships converged here from the Mediterranean, the Danube River and the Black Sea. Spices, ivory and jewels came from India; silks from China; carpets, pearls, silk and woolen weaving from Persia; grains and cotton from Egypt; as well as gold, silver, fur, honey, beeswax and caviar from Russia. Marble, timber and brick were imported to build and furnish the booming Byzantine capital, while textiles, pottery, wine, fish, oil lamps and metal items were exported to finance the growth. Pilgrims passed through on their way to Makkah and Jerusalem. Transported in cargo ships, pirate captives and enemy prisoners from Africa, Central Europe and Russia arrived for sale in the lucrative local slave market. Among Yenikapı's artifacts discovered to date are plates from the Aegean, oil lamps from the Balkans and amphorae from North Africa, along with a profusion of glass, metal, ivory and leather—all evocative remnants of a far-flung mercantile empire that had Constantinople at its center.

The port was uncovered in November 2004 during excavations for a 78-kilometer (48-mi) rail and metro network that will ultimately link Europe and Asia via a tunnel under the Bosphorus. Constructed of submersible sections, the tunnel will run beneath 56 meters (180') of water and 4.5 meters (15') of seabed, making it the deepest tunnel in the world. The need is acute: The two bridges currently crossing the Bosphorus are jammed, and the

existing subway, consisting of one line and six stations, is inadequate for a city of more than 12 million inhabitants.

Amid this burgeoning megalopolis, Yenikapı is slated to become the biggest transportation hub in the entire country. Metro, light rail and passenger trains will converge here in a sprawling development of shopping malls, office towers and residential complexes rising next to an archeological park that contains the remains of a fifth- or sixth-century lighthouse and a 12th- or 13th-century Byzantine church.

But until then, the site is a hive of activity as more than 800 archeologists, engineers and laborers in bright orange vests race to finish excavations. Despite pressure from the transit authorities to wrap up the dig, however, archeologists refuse to set a deadline for completion of their work. "Every construction site, be it for a small building or a multi-billion dollar megaproject like this one, is a window on the past that is opened only briefly," explained Ismail Karamut, the head of the Istanbul Archaeological Museum, to *Archaeology* magazine. "A window of this size may not be open in Istanbul for many decades to come."

According to Ufuk Kocabaş, the archeologist directing the Istanbul University team, the excavations should be finished by

early 2010. Documentation, conservation and reconstruction of the ships will then continue for many years more, he predicts.

A developing country like Turkey deserves a great deal of credit for putting archeology ahead of the urgently needed transit project and sacrificing millions of dollars in delays, argues Cemal Pulak, a Turkish-American professor heading up the Texas A&M team. "Colleagues visiting from Europe and the US are amazed," he remarks. "They tell me that in their countries they are handed a deadline and told to simply do the best they can."

Despite his gratitude that Turkish cultural authorities are fighting hard to preserve the site, Pulak wishes that the operation—large as it is—had been expanded beyond the central part of the harbor to encompass more of the quays, granaries and storage buildings that he suspects lined its perimeter. Such an extension of the dig "would have required a lot of convincing and maneuvering," he admits, "but it would have helped enormously in understanding the huge harbor and its impact on the economy and life of Constantinople."

The Yenikapı dig has drawn academics from around the world. In addition to the team from Texas A&M, scholars from Cornell University, Istanbul University, Hacettepe University in Ankara and Tel Aviv University in Israel are contributing to the research and analysis of the finds. Turkish archeologists are consulting with ship museums in Denmark, Sweden, Germany, Holland, Spain and the UK about the creation of a new local museum. Next October, Istanbul will host an international symposium on nautical archeology and ancient ships.

By that time, the Yenikapı excavation should be nearing completion, and the city's new transit scheme will be moving into high gear. All told, the \$4-billion Marmaray (a name that joins the



The remains of the port were discovered in 2004 when excavation began for the \$4-billion Marmaray urban transit system's hub, which was then redesigned to accommodate the 10-square-block dig site. The ancient port today lies inland by about a kilometer—one of the reasons it lay undiscovered for so long.

Marmara Sea to *ray*, the Turkish word for “rail”) train and tunnel project and the coordinated metro lines will also rebuild 37 stations above ground and three new ones below ground. The network will be capable of transporting 75,000 passengers per hour. Engineers predict that when the system is completed in 2012—two years behind schedule—the percentage of trips by public transport will jump from an abysmal 3.6 percent at present to 27.7 percent, a figure that would put Istanbul at number three in the world in public transport, behind Tokyo (60 percent) and New York City (31 percent).

As if juggling the port excavations and the tunnel-transit project were not enough, engineers also have to contend with the near-certainty of a major earthquake from the 1200-kilometer-long



Near the excavated quays is a stone wall, above, that Kocabaş and others believe was part of the earliest city wall laid out by Constantinople's founder, the Roman emperor Constantine I, in the fourth century, more than 50 years before Theodosius I constructed the harbor. Right: Of the 32 shipwrecks found so far, 17 have been excavated, and some are as much as 40-percent intact.

(745-mi) North Anatolian Fault, which runs in an east-west direction only a few kilometers south of the city. Since the year 342, a dozen massive tremors have each left more than 10,000 dead. In 1999, two together killed 18,000 people. Seismologists calculate that there's a 77 percent probability of a quake of 7.0 magnitude or higher occurring in the next 30 years.

Engineers insist that the tunnels will be able to withstand a 7.5 quake, bigger than the one that destroyed much of Kobe, Japan in 1995. Nonetheless, Geoffrey King, director of the tectonics lab at the Institut de Physique du Globe in Paris, told *Wired* magazine, “I wouldn't like to be in such a tunnel during an earthquake.”

About 2400 meters (1.5 mi) northeast of Yenikapı, the new metro tunnel runs beneath the city's principal historic district, the Sultanahmet area, home to Topkapı

Palace, where sultans ruled the Ottoman Empire for four centuries, the sixth-century Hagia Sofia museum (formerly a church, then a mosque), the Blue Mosque and other landmarks. Karamut insists that the tunnel will lie deep enough to avoid risk to the ancient sites.

Like Rome and Athens, both ancient cities that have built subways in modern times despite frequent delays to explore buried antiquities, tunneling for the metro (and a parallel dig beneath the Four Seasons Hotel in Sultanahmet) in 2800-year-old Istanbul has unearthed numerous other treasures, including what is believed to have been the fifth-century main doorway of the Imperial Palace. This monumental bronze gate, some six meters (20') tall, was uncovered near the Blue Mosque, along with Byzantine mosaics, frescoes and portions of a 16-meter (52') street, sewer system and *hammam*, or Turkish bath. So far, the later discoveries have not caused engineers to alter the subway tunnel route, however, and it is uncertain what will happen to the ruins that have recently emerged in Sultanahmet.

Meanwhile, the gargantuan dig at Yenikapı continues to disgorge an eclectic mix of the marvelous and the mundane. Apart from the 32 watercraft dating from the seventh to the 11th centuries—including four naval galleys—archeologists have dug up more than 170 gold coins, hundreds of clay amphorae for wine and oil, ivory cosmetics cases, bronze weights and balance scales, finely wrought wooden combs and exquisite porcelain bowls. They've recovered bones of camels, bears, ostriches, elephants and lions—probably imported from Africa for entertainments at the Hippodrome,

suggests Kocabaş. Some 15 human skulls retrieved from a dry well may have belonged to executed criminals. Iron anchors have been recuperated, objects so highly prized in medieval Byzantium that they are noted in the dowry records of wealthy merchants' daughters. The oldest find is an 8000-year-old Late Neolithic hut containing stone tools and ceramics—the earliest settlement ever located on the city's historic peninsula. One particularly mind-boggling find, discovered aboard a ninth-century cargo ship, is a basket of 1200-year-old cherries nestled next to the ship's captain's ceramic kitchen



utensils—a cooking grill, hot pot, pitcher and drinking cup—as if waiting for the ancient mariner's imminent return.

“No, I didn't taste them,” laughs Kocabaş. “But I did think about planting a few pits to see if they would sprout.” (Kocabaş rejected the notion when he realized both the fruit and the pits had turned to carbon.) The site's ships, bones and artifacts (and cherries) are so unusually well preserved, he maintains, because silt from the Lykos River and sand from the Marmara Sea quickly covered over the wrecks.

After a fortifying lunch of stuffed grape leaves and meat-filled eggplant at a busy local eatery, Kocabaş and Metin Gökçay, site chief from the Istanbul Archaeological Museum, take me along to explore the first portion of the harbor brought to light. It is also the oldest part of the port, a flashpoint alerting local archeologists to the unique historical significance of a site that had nearly been bulldozed.

En route, we pass dozens of laborers pushing wheelbarrows of powdery, pale-brown dirt up wooden or earthen ramps crisscrossing the immense six-meter-deep (20') pit. Next to a cluster of modern-day shipping containers converted to field offices and conservation labs are hundreds of blue plastic milk crates stacked and loaded with amphorae, pottery fragments and animal bones. In the distance, several long white sheds shelter ships. Beyond tall metal fences enclosing the site stand rows of two-story shops backed by high-rise apartment blocks.

Arriving at a quiet, overgrown area on the western fringes of the site, we push aside branches of fig and bamboo to inspect massive limestone blocks. “These were the original quays,” says Kocabaş. “You can see the notched holes hewn out of the rock for tying up the boats.” Next to the quays is a stone wall that Kocabaş, Gökçay and others believe was part of the earliest city wall laid out by Constantinople's founder, the Roman Emperor Constantine I, in the fourth century, more than 50 years before Theodosius I constructed the harbor. Researchers at the dendrochronological laboratory at Cornell University have confirmed that wooden supports from the 53-meter (170') portion of the wall that has been dug out date from the fourth century, he explains. Even though the wall and quays lay only a meter (39") underground, they remained hidden and forgotten for centuries.



Archeology students mark planks before they are removed for conservation and eventual reassembly and museum display.

Initially, the area was to be part of the train and metro station, but when the ancient remains were found four years ago, they were declared off-limits and plans for the station were changed so as to leave the historic monuments intact.

In the broiling heat, a merciful breeze flutters laundry hanging from the tenement windows overlooking the site as we clamber over the wall to survey the remains of tannery pits and a late Byzantine charnel house. “Look there,” directs Gökçay, as he points to a vaulted stone tunnel leading straight to the sea. “That's a secret passageway so you could slip out of the harbor undetected.” The archeologist speculates that the tunnel led to a former palace on a hill behind the harbor and was also used in the other direction, to smuggle goods into the city to avoid customs duties. Later, Texas A&M researcher Matthews suggests, more prosaically, that the tunnel was used for sewage or drainage.

From here, you can picture how the harbor took shape. A stone breakwater, now gone, led from the quays out into the sea, then curved east to form a barrier protecting the harbor, Gökçay explains. Sediment from the Lykos, which emptied into the port, was also caught by the breakwater. But instead of flowing out to sea, the alluvial soil gradually backed up, silting up the harbor. By the 12th century, the port was so shallow it was only used by small fishing boats. Four centuries later,

the once bustling harbor was a memory. A 16th-century account by Pierre Gilles, a natural historian dispatched by the French king François I to acquire manuscripts in what had become the





According to Metin Gökçay of the Istanbul Archaeological Museum, the site has to date yielded more than 16,000 “quality objects.” Each is first cleaned and cataloged on-site.

Ottoman capital of Istanbul, describes the former Byzantine port as a garden spot covered with vegetable plots watered by water-wheels known as *norias*.

Leaving the western wall, we trudge across the kilometer-wide (1100-yd) site to the eastern edge of the port, to the lighthouse that dates to the fifth or sixth century—or rather to the five-meter (16’) marble and limestone base of the lighthouse. On the way, we pass the vestiges of stone walls outlining a 12th- or 13th-century church, one of two churches found close to the edge of the filled-in harbor.

All around the former lighthouse, earth has been scooped out to reveal its base and the ground beneath it, opening a cross-section of geological strata. Embedded in a lower zone is a thin black band running horizontally a foot or so above what had been the bottom of the ancient harbor.

“That’s a tsunami line,” Kocabaş explains. “It shows that a major earthquake occurred here, probably—based on the objects we dated in the strata—around the middle of the sixth century.” A jumble of potsherds, wood pieces and other artifacts are churned up by the cataclysm, he says, adding that entire camel and horse skeletons lay crushed in the debris.

According to geological evidence detected elsewhere, at least one more tsunami, or perhaps only a ragingly destructive tempest, occurred around the year 1000.

Judging from the violent way some of the boats appear to have been hurled into one another, Kocabaş concludes that several ships were sunk in that storm.

What was no doubt a tragedy at the time, however, has proven a boon to archeologists. Because the waves hit the port so quickly, anchors and cotton ropes sank in place and were quickly preserved beneath silt and sand. “It was an exceptional stroke of good fortune because it showed us for the first time exactly how Byzantine mariners rigged their anchors,” he observes.

After Gökçay leaves to return to his site office, Kocabaş leads me to a nearby excavation shed. “You’re in luck,” he announces, opening the flap to reveal a magnificent wreck, a Byzantine galley with most of its original 30-meter (95’) length and half its nine-meter (30’) width remaining. “Finding longboats like this is extremely rare, and in fact, we just finished opening the surface today. Yesterday, half the ship was covered with sand.” He bends down to point out where the oars had been placed.

“This ship had 50 oarsmen,” explains Kocabaş, “so it was incredibly fast and light.” Despite its length, the narrow craft was nonetheless too small to engage in battle, so the archeologist speculates it was probably used to reconnoiter enemy ships. No *dromons*—Byzantine warships generally twice as long and with as many as 100 oarsmen—have so far been located at Yenikapı, according to Kocabaş.



“Just feel how hard and well-preserved the wood is,” he continues, allowing me a brief touch. That nemesis of nautical archeologists, the rapacious *Teredo navalis* mollusk, bores holes into wrecks in the open sea, ultimately turning their planks and beams into crumbly sponge. Yet *Teredo* did little damage at Yenikapı because the freshwater inflow from the Lykos river kept them away. Apart from the four galleys, archeologists have so far excavated only about 17 of the 32 ships that have been found. Some six ships, each shorter than 11 meters (35’), were used for fishing and moving goods locally. Around 10 boats between 11 and 19 meters (62’) long ranged greater distances, trading around the Sea of Marmara and the Black Sea. The larger of these boats also sailed the Mediter-

ranean, bringing grain back from Egypt. The biggest ship that has appeared so far is 40 meters (130’) long and dates from the sixth or seventh century. “We nicknamed it *Titanic*,” quips Kocabaş.

Most of the vessels were hewn of oak, chestnut and pine from the Marmara region,

and constructed with iron nails and wooden dowels, he says. Galleys were rigged with triangular lateen sails made of cotton, linen and hemp; cargo ships had square sails of similar material. To make the crafts seaworthy and stop leaks, their planks were caulked with a glue-like substance made of pine resin and oakum. None of the longboats and only a few of the longer cargo ships had decks, according to Kocabaş.

Back in the shipping container that serves as Gökçay’s office, the pair run me through a computer presentation of some of Yenikapı’s greatest archeological hits. Apart from literally millions of ceramic shards, there are, notes Gökçay, some 16,000 “quality objects,” artifacts that illuminate Byzantine life and the expansive trade that made the harbor a thriving entrepôt for a good part of eight centuries.

There’s a fourth-century marble statue of Apollo; a Roman copy of an original work by the Greek sculptor Praxiteles; a gold coin bearing the image of Aelia Pulcheria, sister and regent of fifth-century emperor Theodosius II; a seventh-century ceramic oil lamp with a cross; an undated ivory carving of the Virgin

Mary; an undated marble statue similar to figures on the Pergamon altar, a Hellenistic masterpiece removed from that ancient Greek city in northwest Anatolia to Berlin in the late 19th century. There are board games, dice, ceramic toy ships, 11th-century ceramic cups decorated with bas-relief images of faces with Mongolian features, perhaps from Central Asia, and an enigmatic lead tablet with Hebrew writing that Kocabaş theorizes was used to cast out evil spirits.

The delicately fashioned sole of a wooden shoe bears a Greek inscription on the instep that, according to Gökçay, roughly translates: “Wear this shoe in health, lady, and step into your happiness.” Intrigued by the handiwork, the museum archeologist scoured some 20 villages in Central Anatolia to seek out cobblers and carpenters using similar traditional woodworking methods. Among the craftsmen he encountered was an 81-year-old carpenter still turning out wooden forks, spoons, plates—and shoe soles—employing techniques that have changed little since Byzantine times. None of the modern shoes, however, bore inscriptions.

Among the tools unearthed are peculiar drills with iron bits set into wooden cylinders. Kocabaş explains that a horse-hair bowstring was looped around the cylinder and the bow was moved rapidly side to side to turn the iron bit—another woodworking technique that can be seen in Turkey today.

Once the documentation, conservation and reconstruction process is well under way, the archeologist plans on fabricating a replica of one of the Byzantine ships. “Building a replica, using saws, axes and other tools similar to the ones the Byzantines used, is the best way to get an authentic, hands-on notion of boat construction,” he says. How to make the ship symmetrical and correct mistakes; how to fit the frame and planks together; how to shape a keel that steadies the craft but doesn’t slow it down; how to seal the hull against leaks—all of these technologies will be revealed, he hopes.

Then the ultimate payoff will be actually taking the replica out on the water. Visiting the waterfront Viking Ship Museum in Roskilde, Denmark in June 2007, Kocabaş accompanied a curator on a late-afternoon spin aboard a replica of a Viking ship, taking an exhilarating turn rowing beneath the billowing canvas sail.

“It was fantastic,” he recalls. “A total dream.”

Texas A&M’s Sheila Matthews similarly dreams of piecing together a functioning replica, a spanking new double of one of the waterlogged hulks she confronts daily at the dig site. But first, she says, comes the less glamorous reality.



Top: Recording the team’s finds, Texas A&M graduate student Rebecca Ingram draws a life-size sketch of an oil lamp on a plastic sheet while a colleague photographs another artifact. Above: Ingram and nautical archeologist Sheila Matthews work on planks that are covered in plastic to prevent evaporation, which can crack the wood. Yenikapı, says Matthews, is “revolutionizing our knowledge of ship construction during Byzantine times.”

When I meet her in one of the site’s preservation sheds, the red-haired archeologist is ankle-deep in mud, carefully lifting a 120-centimeter (4’) plank from a seventh-century cargo ship with the help of a pair of student assistants. The boat lies alongside a small pond of opaque water that has formed from the mist sprayed by the overhead hoses.



A ceramic shard's two-tone glaze remains almost entirely intact. Aegean plates, Balkan oil lamps, North African amphorae, glass, metal, ivory and leather—all evoke a widespread, long-lived mercantile empire centered on Constantinople.

"Gently, gently," Matthews coaxes, as the trio presses a board-and-foam support to the plank to ease it from the muck. "If this wood slips into the water, I won't be the one to fish it out, I can promise you that!" Fortunately, they've all had ample practice in this sort of maneuver and shift the plank without incident to a nearby table for cataloging.

Later, seated on wooden steps descending from the shed entrance down to the boat, Matthews, who has been toiling over ships at Yenikapı for the past three years, reflects on why the finds here are so revealing.

"It's the amazing details," she observes. "Just from examining the tool marks, we can tell if the planks were fitted first—the style of boatbuilding used in the seventh century—or if the frame came first, then the planks, a technique that didn't become widespread

Right: Among the finds have been baskets of 1200-year-old fruit seeds, olives and even cherries nestled next to the ship's captain's ceramic kitchen utensils. Far right: This delicately fashioned sole of a wooden shoe bears a Greek inscription on the instep that roughly translates: "Wear this shoe in health, lady, and step into your happiness."



until around the ninth century." If the planks are joined by wooden tabs called tenons slotted into mortise notches, the ship was constructed around the seventh century, Matthews explains. If they're joined by wooden dowels, it was built after the ninth century. "Exotic stuff, no?" she says with a smile and a shrug. "It's what we nautical archeologists live for."

Even seemingly insignificant minutiae give clues to the extraordinary sophistication of Byzantine shipwrights. Analyzing the dowels used on different categories of vessels, archeobotanist Nili Liphshitz from Tel Aviv University determined that the pegs connecting planks on the cargo ships were hewn from the trunks of trees, whose rigidity kept the hulls from bending. She ascertained that similar dowels on lighter galleys were made from more supple tree

branches to impart the flexibility needed to prevent the longer boats from snapping in two.

According to Matthews, such principles of ship design were handed down from father to son or from master to apprentice. "You didn't find the design written down anywhere," she explains. "You just built with what you recalled."

As ships are dug up, the painstaking process of documentation and conservation begins. First, each one is meticulously photographed in close-ups, which are then arranged in a computer photomontage of 100 to 150 images to depict the boat in its entirety. By zooming in on the photomontage, researchers can even detect cuts left in the wood from the various tools used to build the ship.

Next, a three-dimensional computer model of each ship is created using a laser-like instrument called "total station" to map its contours. Essentially, the device records as many as 10,000 separate points on the boat's surface and connects the dots to replicate its shape. This technological marvel is so accurate "it can copy the head of an ant," quips Matthews.

Among the "millions" of ceramic sherds recovered, says Gökçay, not all are worth cataloging and conserving. Although digging will end in 2010, conservation and study will continue for years afterward.

Once the computerized representation is complete, archeologists trace the vessel in detail on large sheets of clear plastic acetate, dismantle it piece by piece, make further acetate drawings and write exhaustive descriptions of the separate elements, then transport the planks to holding pools.

Because the fragile cell walls of the wood are supported by water, the ship timbers cannot be allowed to dry out. Instead, they are immersed in stainless steel tanks of polyethylene glycol (PEG), a wax-like ingredient used in such products as skin creams, lubricants, toothpaste and eye drops. Over a period of 18 months to two years (for soft tree species like pine) or up to three years (for harder varieties such as oak and chestnut), the water inside the cell walls is replaced by PEG, which solidifies and stabilizes the wood.

Once the pieces are preserved with PEG, archeologists reassemble them to study how the boat is put together, then disassemble everything for storage. Eventually, some of the planks, frames and entire reassembled ships will be displayed in a museum while preservation continues on other pieces. It's an ongoing process that is likely to take decades, says Matthews.

"There's a rule of thumb for underwater archeology," she opines drily. "For every day of excavation, count on months in the laboratory."

But instead of waiting years to put the ships on display, she suggests, why not turn the laboratory into a living museum? "You could have big rooms with glass windows, and people could watch the researchers at work, examine the design plans on the walls and witness the boats taking shape," Matthews enthuses. "It would be fabulous."

Wouldn't the archeologists get distracted, I ask. "You get used to it," she replies. "Our lab at Bodrum [on Turkey's Aegean coast] was outside and people would talk to us all the time. Here, visitors wouldn't get in the way if they were behind glass windows." Such open labs exist at the Portsmouth (UK) museum dedicated to the 16th-century Tudor warship *Mary Rose*, she adds, so why not here in Istanbul?

So far, local authorities have not decided what ships and artifacts will be in the museum or even where the museum will be located. One proposal is to incorporate some of the nautical relics into exhibition spaces inside the train and metro station complex.

Kocabaş would prefer the main museum to be situated directly on the water, like the *Vasa* Museum in Stockholm, Roskilde's Viking ships and others. "People could see the wrecks in a proper nautical context, rather than a kilometer away from the sea, as at Yenikapı," he points out. The ideal location, he proposes, would be on the site of the former shipyards along the Golden Horn, closer to the historic district and thus likely to attract more visitors.



But first, Kocabaş, Gökçay, Matthews, other archeologists, researchers, engineers and work crews have at least two more winters to contend with before the monster dig winds down.

"Most of the time I'm glad not to have a desk job," Matthews muses as we emerge from the cool shed into the late afternoon sunlight. "But in the winter here, standing in the mud as the ice-cold water starts rising and your feet and fingers start freezing, as snow flies through a hole in the plastic sheeting and you struggle to hold onto your pencil to record readings from the 'total station' mapping, the one thing that pops into my masochist's mind is that I actually chose this job."

And is it all worth it, I ask.

"Oh, yes," she replies, without a moment's hesitation. ☺



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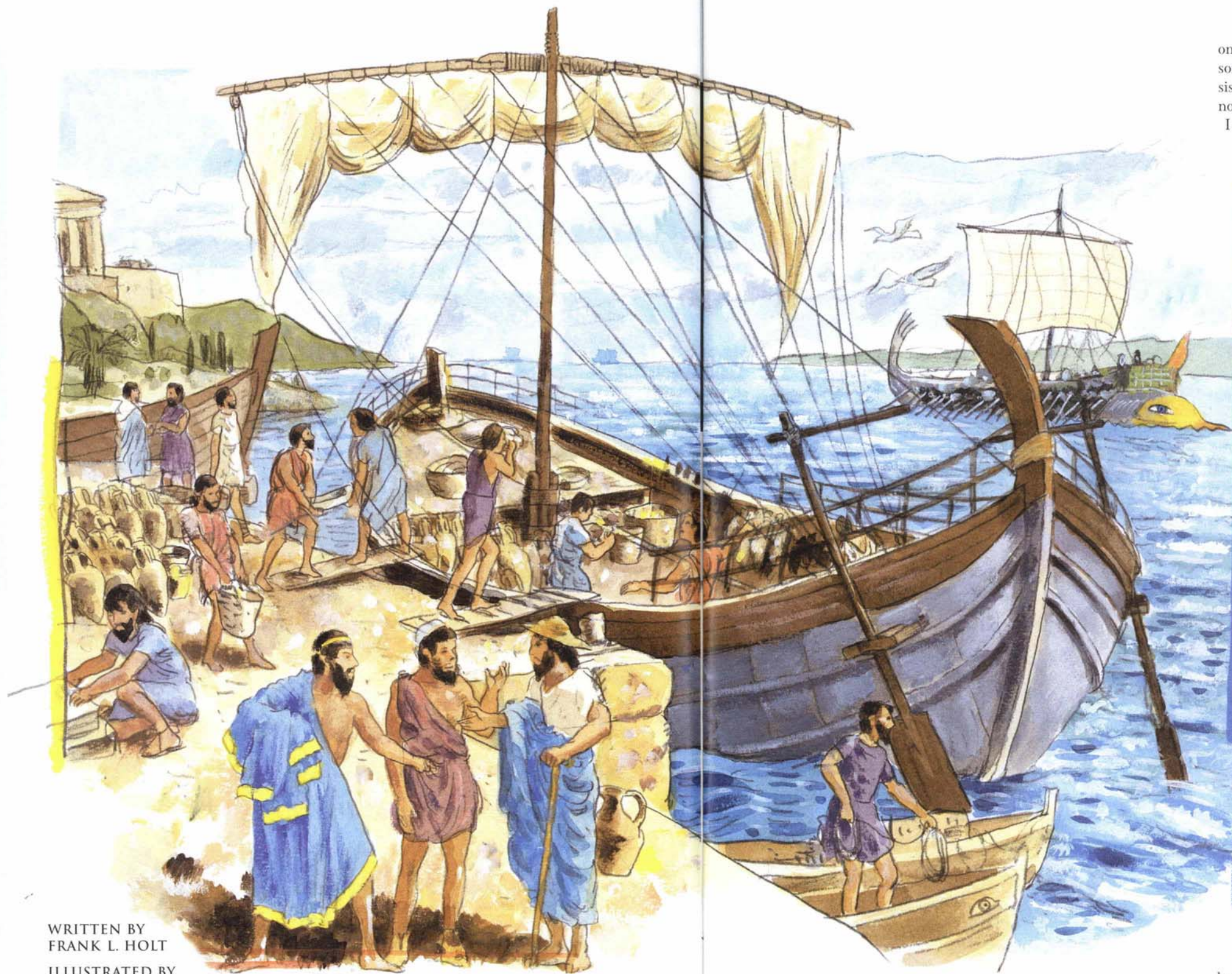


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Turkey: M/J 98, M/J 93  
Sicily: N/D 86

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WITNESS  
HISTORYI,  
THE  
SEA  
A  
TRAMPWRITTEN BY  
FRANK L. HOLTILLUSTRATED BY  
NORMAN MACDONALD

## SHIP'S LOG:

*Maiden voyage, Month of Agrianios in the Second Year of the 98th Olympiad [Late Spring, 387 BC]*

I GASP AT THE BURST OF WIND IN MY SAIL, LIKE A CHILD CHOKING FOR BREATH IN A TEMPEST. TRY AS I MAY, I CANNOT FIND THE FAMILIAR RHYTHMS OF HEART AND LUNG THAT BRING A TERRIFIED BODY UNDER CONTROL, THAT CALM THE NERVES AND ORIENT THE SENSES IN THE FACE OF IMMINENT DEATH.

Making all of three knots [5.6 kph, 3.5 mph] along the idyllic coast of Little Asia, I am in a desperate panic to slow down. My Greek crew of four does not share my misgivings about such alarming speeds, but their cool confidence affords me no comfort. Always in a hurry, they are aptly called the human race. Lumber, on the other hand, should do just that.

It is not easy for a thing of the forest to become a thing of the sea. My timbers of Turkey oak and Aleppo pine never imagined they would give shape someday to the world's most advanced machine—a merchant ship under sail. Fast, to a tree, means solidly rooted to the soil, immovably fixed. To a cargo vessel with its slippery footing

on the foamy waters of Poseidon's realm, fast apparently means something else. Wood, I decide, should make the acquaintance of sister Water without the unwelcome company of uncle Wind. Right now, one of us needs to leave. As I struggle for composure, I fear that I cannot manage my new assignment. I feel too unsteady, unsure, unworthy of the task. I hate to admit it, but I doubt I will survive another day out here on the Mediterranean Sea.

## SHIP'S LOG:

*Nearing Athens, Month of Karneios in the Third Year of the 113th Olympiad [Summer, 326 BC]*

I have come a long way since that first daunting voyage some 60 years ago. No longer a jittery debutante afraid of a little water and wind, I am now a workaholic woman of the world with more sailing experience than any of the men aboard. For 15 quadrennial olympiads, as the game-crazed Greeks like to reckon time, I have scudded from port to port, stitching together the ragged coastlines of three continents. My thickening logbook reads like an atlas of historic places—some majestic with age (Thera), some recently devastated by war (Tyre), and others too new yet to know if they will ever be remembered (Alexandria in Egypt). I know well every island in the Aegean, every harbor on the mainlands of Greece and Little Asia and even the many sea-port cities of Cyprus, Syria and beyond. I have careened through howling gales above 30 knots, shedding no more than a rudder or two, and I have long outlasted my first fine crew, and the sons of their sons as well.

I love my life as a sea tramp—but don't you dare take that word the wrong way. I have integrity and respect, earned every day from dotting crewmen willing to defend my honor. I notice how they hush their bar-room boasting whenever they come aboard, as if I were their watchful mother. I keep them at their prayers on stormy evenings; I also show them how to have good fun. At sea, no matter how laden with cargo or late with delivery, we take pleasure in the play of dolphins near my bow. I offer a happy roost for relays of interesting shore birds, and tickle at the squirm of octopi and fish pulled aboard to feed my hungry crew. When my lads go ashore, I try not to worry. Instead, I amuse myself in many ways: the babble of languages at every port, the merciless haggling of dockside merchants, the strutting of customs officials and tax assessors among the money tables, the exotic products and occasional passengers waiting at every shore for a tramp like me to ferry them a little farther along from Egypt or Lebanon or Crete.

Each sailing season from late spring to early autumn, I blissfully bargain between wind and waves for the salaries of the men who depend on me. My skipper and his three mates must cram into close quarters, since I am mostly undecked and only 14 meters (45' 6") long, with a beam just one-third of that. To provide for both their livelihood and their living quarters, there is scarcely a place to stand on me except the bow and stern. At each port, the skipper takes on consignments of one kind or another, hauling whatever can be safely stowed aboard. At the moment, my cargo is 20 metric tons of African grain headed for the hungry citizens of Athens; they, like many other Greeks, are suffering a dire food shortage following several years of crop failure. Fortunately, that boy from Macedonia has just conquered the Persian Empire and thus opened up rich areas like Egypt as a ready source for our daily bread. Many

frustrated Greeks naturally blame the gods for creating this food crisis, but I say, give the gods credit for creating Alexander.

Normally I carry burdens of wine and small luxury items rather than grain, but most anything will do. Empty ships fill no purses. I keep fairly close to land and leave the big loads and open waters to vessels that carry 165 tons or so and are specially designed for long hauls. No one my size likes to tie up next to one of those floating monsters in port, but they will never put me out of business: Few investors envy the risks they pose. Since about a third of all cargoes sink, my loss could be tolerated, whereas the wreck of a single super-ship can instantly bankrupt a lot of unfortunate people. By dividing a major shipment into small consignments distributed among several modest coast-huggers like me, bankers and wholesalers can stay afloat even if one of their rented ships does not. So far, I have made everybody happy by keeping my hull off the bottom of the sea.

**SHIP'S LOG:**  
*Port of Rhodes, Month of Bodromios in the Second Year of the 118th Olympiad [Winter, 307 BC]*

Moored among so many fresh faces, I try vainly to recall the names of the many ships with whom I have shared the sea. I just don't have the rigging for it, as they say of us tired and forgetful tramps. I seem to remember lots of *Apollo*s and *Aphrodite*s, since sailors can suddenly get religious when about to christen a new boat, and plenty of nostalgic home-port monikers like *Syracusia* or *Alexandria*. Here and there I've met vessels longingly named *Eirene* [Peace] or *Thalia* [Wealth], but men forget that Poseidon covets those things, too. He has dragged them down one by one to his undersea collection. Someday, soon I suspect, these new-berthed ships bobbing beside me will be wondering what I was called. None will recollect rightly, of course—then some young wag will make up a name like *Rhapte* [Patched Together] to set the whole dock giggling.

In fairness, I suppose I do look about as *rhapte* as a ship can get. Extensive repairs have kept me in service these 80 years. Besides a few bumps, most of my damage results from a lifelong battle against the dreaded *Teredo navalis*, an insatiable mollusk that bores into a wooden ship *en masse* like underwater termites. These so-called shipworms riddle every vital organ, from keel to staves. Occasional scrapings and fresh coats of pitch have helped a little, but twice I have been hauled out for major surgery. Lately, like a leaky pot, I have been patched inside and out with sheets of lead. In fact, my entire hull has been sheathed with metal laid over a matting of agave leaves and pitch. Held in place by thousands of copper tacks, this stopgap shields my aging timbers from *Teredo*.



### AT THE MOMENT MY CARGO IS 20 TONS OF AFRICAN GRAIN FOR ATHENS, WHERE CROP FAILURES HAVE CAUSED A DIRE FOOD SHORTAGE.

My worried crew keeps a mallet and two rolls of lead sheeting stowed on board for further emergencies. I am an old lady on life support, but I am not ready to retire.

**SHIP'S LOG:**  
*Near Kos, Month of Paramos in the Fourth Year of the 118th Olympiad [Summer, 305 BC]*

I labor in seas frothed by the ambi-

tions of very powerful men. Almost 20 years ago the boy-king who conquered Persia suddenly died and left his empire sprawled like a meaty carcass among carnivores. Alexander's salivating generals immediately set upon each other for the prize: the fighting and feasting continue still. The only difference these days is that the wars have spilled into my waters. You see, Alexander had been a lad with no real navy and a novel idea—to win the sea by land. His great victories, all gained on solid ground, rendered the Mediterranean useless to the Persian fleet. Now some of his successors have taken the opposite tack: Win the land by sea. Demetrius, the son of Alexander's general Antigonos, has just parlayed a naval triumph into a claim of kingship for both himself and his father, even though they have no actual territories to rule. Demetrius thinks his kingdom might come when his will be done at sea. We shall know soon enough if he is right.

Only a few miles from here, Demetrius's armada has invested my home port of Rhodes, the largest base for merchant vessels in this part of the Mediterranean. Like good businessmen, we Rhodians have tried to remain neutral throughout the wars for Alexander's empire, but our robust economy has become the envy of all and the objective of King Demetrius's 200 warships. Built for bone-crushing battles using ship-to-ship battering rams and powered by the synchronized muscle of at least 170 oarsmen each, these galleys give me nightmares. Over my years I have watched warships grow bigger and bigger, from the old "threes" throttled by a triple stack of rowers to the "fours," "fives," "sixes" and more of a mindless maritime arms race in this post-Alexander world. Any one of those ships could crash right through me without knowing I was there.

Densely crewed battleships require lots of logistical support, so Demetrius brought along 170 auxiliary vessels to fortify his attack on Rhodes. Civilian tramps like me normally stay clear of such operations, but about a thousand private merchant ships have also signed on to help supply Demetrius's forces. I refuse to join them, of course; I cannot betray my country. Anyway, I'm too old for that sort of thing. With everybody—even the pirates—answering Demetrius's call, I have plenty of work to do. Maybe, in a way, the battle for Rhodes is keeping me in business beyond my years. Someone has to haul everyday loads like the pile of millstones waiting for me at Kos. At present speed, I should dock there in about an hour.

**SHIP'S LOG:**  
*North coast of Cyprus, Month of Dalios in the Fourth Year of the 118th Olympiad [Autumn, 305 BC]*

The lovely little harbor of Kyrenia just drifted out of sight to starboard, and I am creaking along comfortably just one kilometer [0.6 mi] offshore. A few more stops and then my crew will strike northward again for Little Asia to see if it is safe yet to return home.

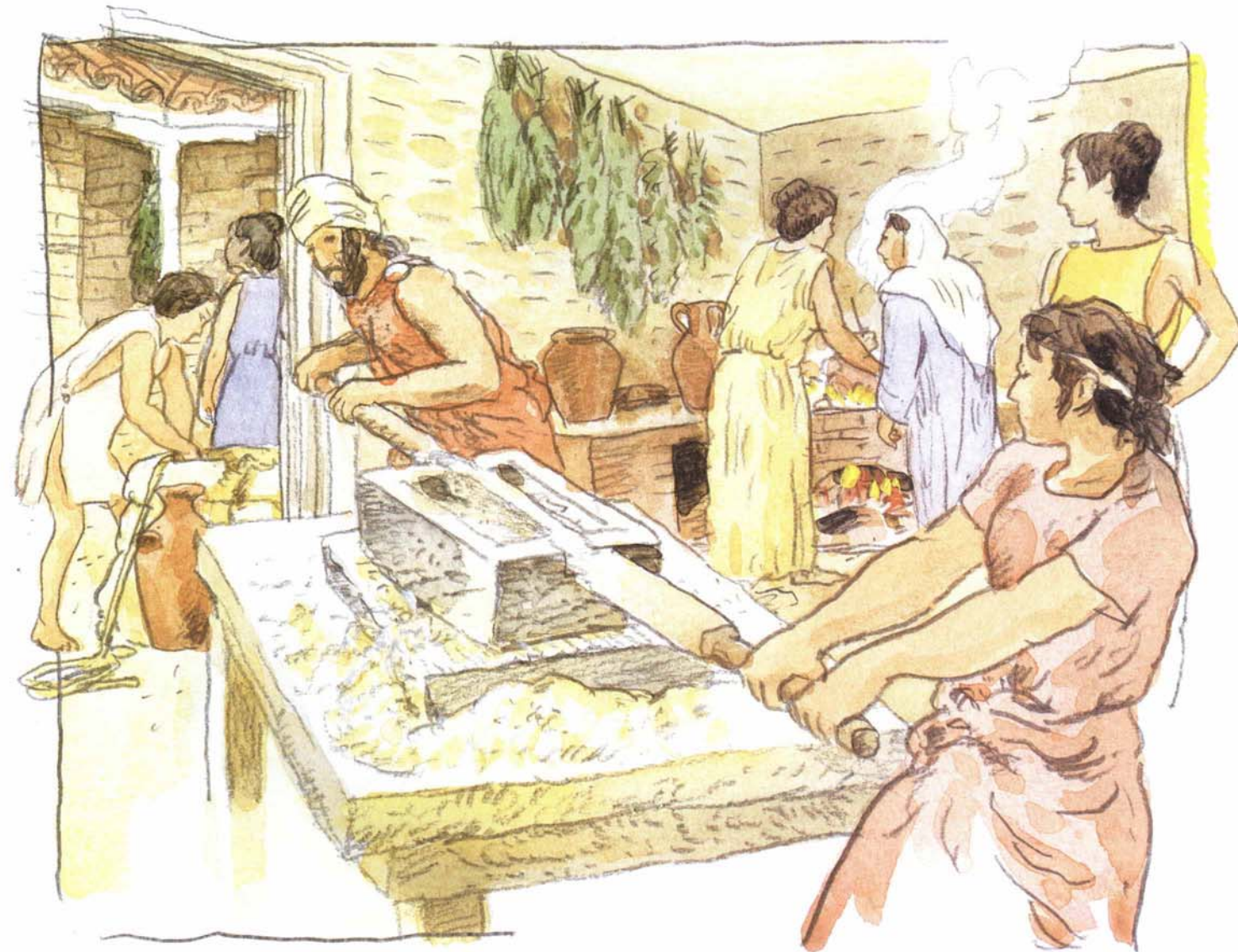
The crisis at Rhodes has worried my crew while they're away from those troubled waters. Last we heard, the siege still had our city in its deadly grip, but maybe the situation will improve as winter approaches.

After departing Kos eight weeks ago, the skipper and his lads coaxed my old timbers safely through the Sea of Icarus to offload my cargo of millstones at Samos Island. Those heavy grinders were hopper types, made from matching blocks of volcanic stone, that crush the grain between their fitted surfaces. Mismatched millstones function poorly, so the 29 odd-lot blocks that were part of the consignment could not be sold. The skipper simply kept them as ballast, lining the bottom of my cargo bay with them in long, neat rows among the stones and gravel already there.

### MAYBE THE BATTLE FOR RHODES IS KEEPING ME IN BUSINESS BEYOND MY YEARS. SOMEONE HAS TO HAUL THE MILLSTONES WAITING FOR ME AT KOS.

Atop this ballast ride layers of tall, two-handled amphorae, the ubiquitous shipping crates of Mediterranean commerce. These heavy clay vessels with their one pointed foot are like the ships that carry them—too ungainly to stand upright on land but perfect for traveling the seas. Their special shape allows the amphorae to nestle on board in secure stacks; they are virtually indestructible and hold about 26 liters (7 gal) each. My current freight of 404 amphorae contains marketable wines picked up at various ports. To this potable tonnage, the skipper has just added a shipment of 10,000 Cypriot almonds, tied in sacks wedged tight among the amphorae. Besides the crew and their belongings, I could not possibly hold anything more. Maybe that ship rowing out to meet us wants to see if we have any trade goods to unload for the villagers nearby. I hope so; my sore ribs could sure use a little lightening of this cargo...

**SHIP'S LOG:**  
*Seabed off Cyprus, Month of Dalios in the Fourth Year of the 118th Olympiad [Autumn, 305 BC]*  
Pirates! The scoundrels swarmed us before I realized the danger,



not that I could ever have outrun them so heavily laden. I suppose they spotted us riding deep with cargo so close ashore, and couldn't resist the opportunity for a bit of "commerce," as they choose to call it. Truth is, not much separates legitimate trade from piracy these days: Often the same ship will be engaged in both, conducting normal business unless a smaller undermanned vessel offers an easy target in some secluded spot. After 80-odd years of sailing, I finally became their victim. The skipper and I assumed such villains would all be away on Demetrius's payroll at Rhodes, not hiding among the coves of Cyprus to prey upon tramps like me. Fatal mistake.

I remember the fast approach of their ship and the volley of spears that struck us before we could even surrender. The four men aboard me had nowhere to hide, and I took eight hits myself. Several iron spear-points from the bloody assault remain lodged in my wrinkling skin, a painful reminder of my last frantic moments afloat. The pirates took captive the wounded survivors, to be ransomed or sold into slavery, then they quickly ransacked me for what little I had to offer: the personal valuables of my unfortunate crew, the season's accumulated purse and a slosh of wine to celebrate. I was judged unworthy of towing just a few hundred

## ONE MOMENT I HAD 30 METERS OF SEAWATER BELOW ME, AND THE NEXT I HAD 30 METERS OVERHEAD.

meters to shore for a more thorough pillaging, so my assailants simply hacked a hole in my hull to scuttle me forever.

One moment I had 30 meters (100') of seawater below me, and the next I had 30 meters overhead: That's the small but essential difference between a ship and a shipwreck. My heavy cargo sped my final plunge downward, breaking my back when I struck bottom. I listed to port in the roiling sand and swirling Poseidon grass, my bow facing north, as if I might yet attempt the next leg of my long journey home to Rhodes.

### SHIP'S LOG:

*Seabed off Cyprus, Month unknown, in perhaps the First Year of the 245th Olympiad [AD 201]*

Time plays tricks down here, but I figure that I've been waiting at least 500 years for a salvage crew to find me. I may just give up soon. Most of my amphorae have leaked out their well-aged wines (I like to think that Homer's famous description of the "wine-dark sea" represents the spillage from old tubs like me) and I don't hold out much hope that my briny almonds are worth eating now that the sacks have rotted away. The same is probably true of the other



consumables my crew had stashed in the sail locker on board: olives, figs, grapes, garlic, lentils, pistachios, hazelnuts and sprigs of (once) dried herbs. Of course, I have taken good care of the cookware and such that the lads used for food preparation. I get sentimental every time I count through their eating utensils (plates, spoons, cups, jars, jugs) all neatly preserved in multiples of four. I guess their families never knew what happened to these poor fellows, or where to come to gather up their things.

What's left of me lies safely under a protective blanket of soil, sand, and sea-grasses, not to mention the tons of cargo pinning me here. Guess I'm fast again, in the arboreal sense of the word. For a while the teredo worms feasted on my exposed timbers, especially my upraised starboard hull, until silt and sediments from the nearby coast covered my rotting bones. With nowhere to go, I spend lots of time recording in this logbook the exciting news of another manta ray, squirrelfish or grouper passing overhead.

### SHIP'S LOG:

*Seabed off Cyprus, Month unknown in perhaps the Second Year of the 686th Olympiad [1967]*

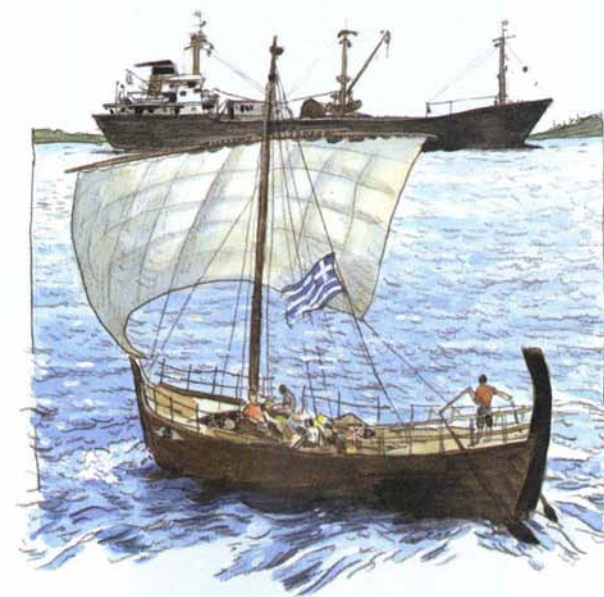
The bubbling man-thing reappeared today, bringing with it for the first time others of its species. These creatures, half human and half fish, seem excited to see me lying here; I'm awfully curious about them as well. They all have bulbous backs, finned feet, huge glassy eyes, and mouths perpetually clogged by the coils of some eely parasite. If these beasts could communicate, I wonder if I would hear anything like the sonorous languages of my youth, or the grunts and squeaks of some new life-form. Have survivors from Plato's sunken Atlantis finally found me? Do Greeks as handsome as their gods still walk on dry land? Are there any forests left? Or ships?

The bubblers do not linger to provide any answers. As they swim away, I suddenly feel the suffocating loneliness of my centuries undersea. Maybe I have imagined it all.

### SHIP'S LOG:

*Kyrenia, Month of Hyakinthios in the Fourth Year of the 686th Olympiad [Summer, 1969]*

Schools of the creatures have swarmed back for the past two years, slowly revealing themselves to be real-life men and women on a mission to free me from Poseidon's grasp. Wearing something called SCUBA in their odd but very human language, they are making a new science of me that they call "nautical archeology." I must say, I like the attention. Turns out, these folks had been looking for me—well, maybe not for me personally, but for a well-preserved ancient ship like me that could be excavated scientifically. A Cypriot sponge diver, that first bubbler I saw, showed excited archeologists where he had discovered my grave. Since then, SCUBA-scholars have excavated me piece by piece from the ocean floor, recognizing in my misfortunes a rare opportunity to fill a



## TODAY, I LIVE IN A CASTLE, AS I DESERVE, AND I HAVE TWO REPLICAS TO BE PROUD OF.

huge gap in maritime history. Experts tell me that I'm the oldest Greek ship to be raised from the sea, with an astonishing 75 percent of my wooden hull still intact. I am like a waterlogged encyclopedia of ancient seafaring, waiting to be read.

As shipwrecks go, I'm about as rare as an unlooted royal tomb in Mesopotamia or Egypt—though I suppose there was a little pilfering in my case: For a while a greedy grave robber kept spoiling the excavations in sector 6A of my underwater sepulcher, until the SCUBA-scholars nabbed him red-tentacled. The culprit was an octopus living in one of my amphorae. "Octo," as they christened the rascal, liked to prowl my cargo and stash whatever loot he could carry (dishes, a wooden spoon, an iron chisel, almonds) in the neck of a broken pot. Thanks to the excavators, Octo has moved on—and I am moving too, plank by plank, to the shores of sunny Cyprus.

### SHIP'S LOG:

*Kyrenia Castle, Month of Sminthios in the Third Year of the 696th Olympiad [Spring, 2008]*

Today I live in a castle, as I deserve. Modern visitors flock to my side in this cozy museum at Kyrenia, Cyprus yearning to glimpse my now-glamorous curves. I have starred in several television shows, appeared in books and magazines, put my face on a new Euro coin, and dazzled surfers on some ocean called the Internet. In my honor, two full-scale replicas have taken sail, assuring my legacy as though this old lady of the sea had given birth at last. And best of all, I finally heard the good news that Demetrius never did capture my home port of Rhodes. I suppose it's fitting that instead of his great warships, the envy of the age, a little Rhodian tramp like me is the one survivor to be seen today. Poor Demetrius never won a kingdom on land by conquering the sea, but I sure did—castle and all. 🌐



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(www.macdonaldart.net) is a Canadian free-lance artist, living in Amsterdam, who specializes in history and portraiture. This is the fifth article he has illustrated in the series.



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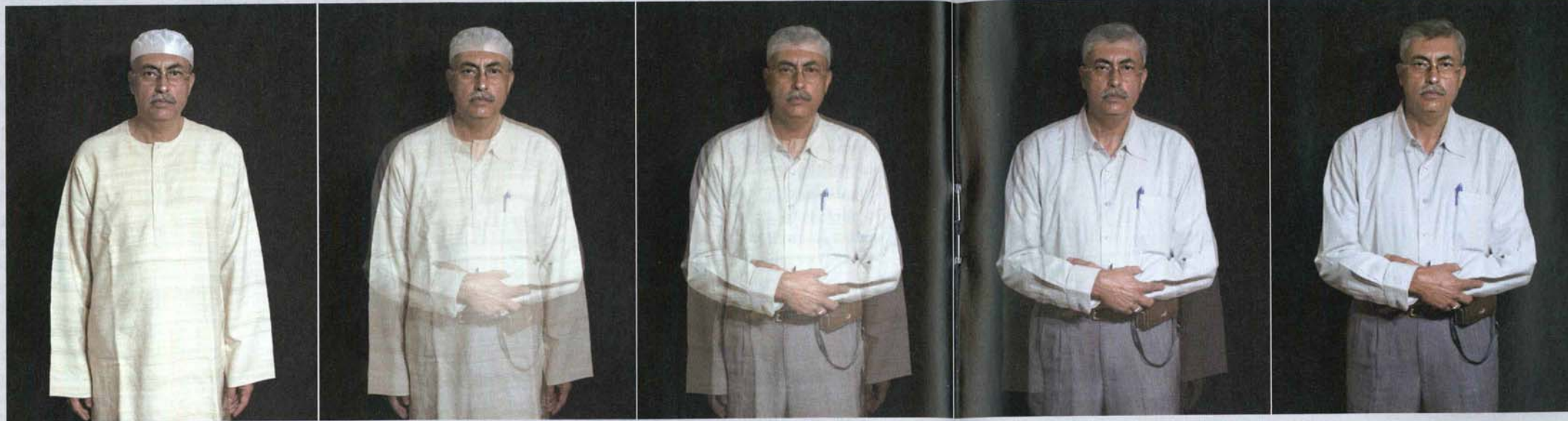
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Ostrakon: J/A 08

"Priam's Treasure": S/O 08

Parthenon: N/D 08

Coin: S/O 97



ADIL

*"During my nine hours of shift, I speak to Americans and then I even think like an American. When we are done, we are done; we are back in Bangalore. And when we are in Bangalore we do the things that most Bangaloreans do."*

# THE VIRTUAL Immigrant

WRITTEN BY ARCHANA RAI  
PHOTOGRAPHED BY DAVID H. WELLS

**IN 1997** a unit of General Electric—an international company engaged in manufacturing, healthcare, finance and energy—set up a series of help desks that its customers in the US and Canada could phone for queries about their bill payments. It was a routine business decision—except that the help desks were not in the United States but in Gurgaon, a sprawling suburb outside India's national capital, New Delhi.

To staff the desks in India, the subsidiary, GE Capital International Services Ltd. (GECIS), recruited recent Indian college graduates who were proficient in English. The average starting salary they offered was equivalent to \$160 to \$180 a month—about as much as an engineer might earn in India, and thus an attractive salary for recruits with basic degrees in arts, commerce or sciences.

GE was hardly alone in its move. American Express, British Airways, Scope International and dozens of other companies began what became a virtual migration of customer care, invoice processing and other administrative functions to India. It

was the beginning of the global business now known as "business process outsourcing," or BPO, whose 28-percent growth rate makes it "one of the fastest growing sectors in the country," says Ganesh Natarajan, deputy chairman and managing director of Zensar Technologies Limited, a BPO firm in Pune, in the western state of Maharashtra.

More than any other industry, BPO, which now employs more than 700,000 people, has placed India's services sector on the global map, and it has quickly become symbolic of India's upward mobility as an economic power of the 21st century. Its growth, over less than a decade, has also powered the "second wave" expansion of Indian BPOs to more than 25 different foreign countries, including Guatemala, Mexico, Finland, Philippines, Ireland, Malaysia, China and Middle Eastern nations. Shashi

Ravichandran, head of corporate affairs for Scope International & Standard Chartered Bank's branch in Mauritius, explains that this ensures that offshore centers are as close to customers as possible.

According to one industry study, at the end of March 2008 India's BPO operations booked \$10.9 billion in revenue and accounted for approximately 40 percent of the global BPO industry.

Another study named India's leading competitors: China, Canada, Russia and Eastern European nations such as Romania.

The impetus to outsource business operations to India has roots both in the Indian education system and in the nation's 1994 privatization of formerly state-owned telecommunications industries. Proficiency in English is widespread in India's major urban

From Bangalore, right, employees at CL13L, a "business process outsource" (BPO) center, help their company's client customers in North America around the clock.





KIRTI

*"In the office Doreen is very dedicated to work and she is very jovial with all the colleagues; she is entirely different. When I go back home as Kirti, I think I am one among my family members."*

*"I feel more independent. I can make my decisions now. But, um ... not entirely independent, because still I have to consult my parents also if I take any decisions."*

THE VIRTUAL Immigrant

centers, and the country's strong college-level education system produces a steady stream of job-hungry graduates. Then, in 1999, when further deregulation allowed international calls to be routed through the Internet, competition cut rates enough to make it attractive for transnational businesses to subcontract ("outsource") labor-intensive office functions to India, where payrolls were 14 to 25 percent of those in western countries—despite the increase of Indian BPO salaries to between \$400 and \$700 by 2003.

"A young and skilled workforce, adept at learning new technology, and supportive government policies together led to the growth of this industry," said Natarajan in an e-mail interview. In early 2008, Natarajan was elected chairman of the industry body, the National Association of Software and Services Companies (NASSCOM).

By 2003, there were almost 110,000 young Indians working in BPO companies. Roughly a quarter of them were employed by multinational corporations operating "captive units"—centers dedicated to serving a single firm—or in independent BPOs that also served a single firm, and the rest

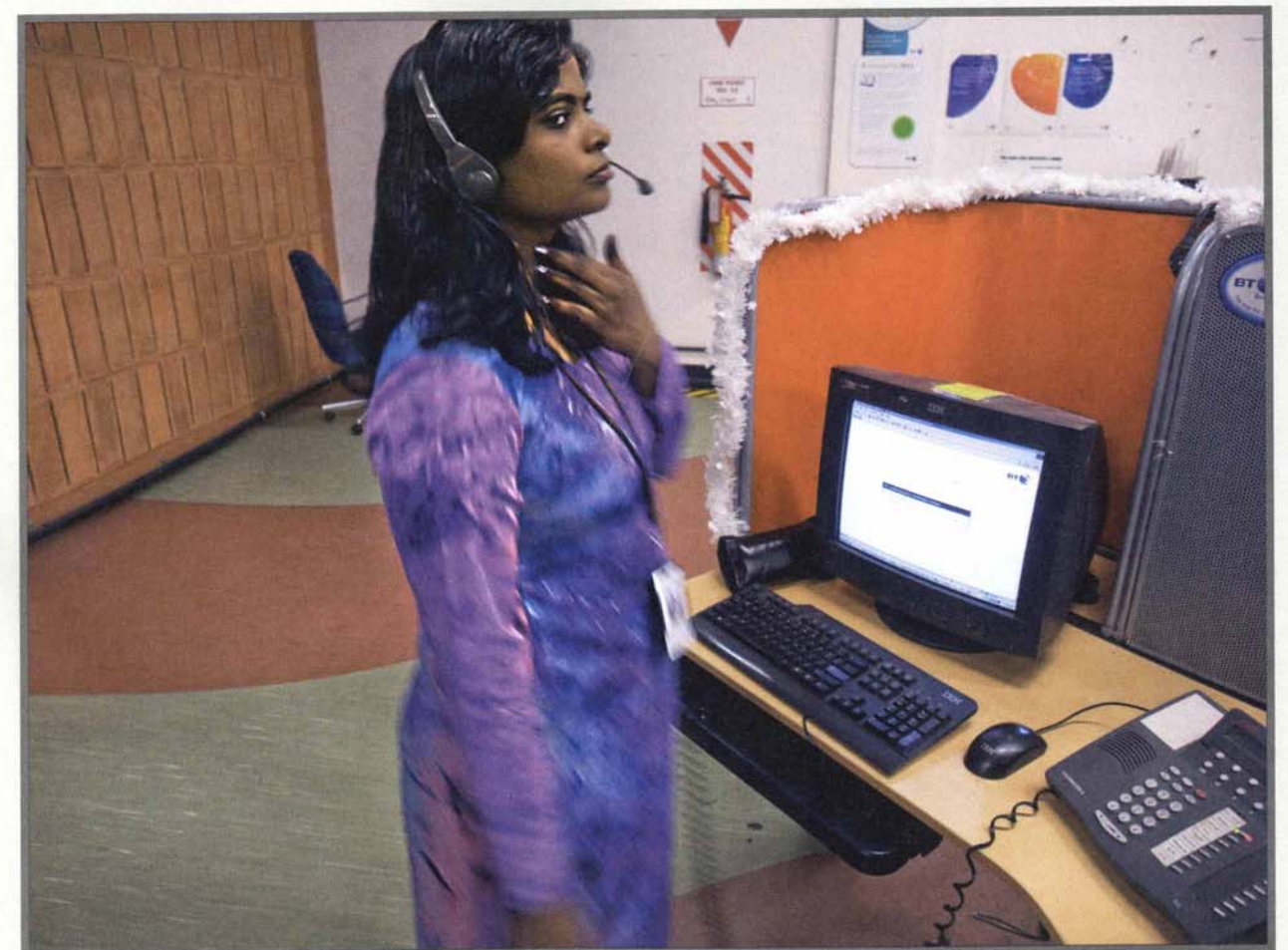


worked for contractors who served multiple clients. Widely referred to in industry parlance as "associates," BPO workers transcribed medical data, processed bills and credit-card payments and offered voice-based customer support, primarily to customers in the US and UK, 24 hours a day, seven days a week.

Further change came quickly as companies expanded their agendas to include higher-value tasks in accounting, engineering, publishing, sales and marketing, transaction handling, management and research in sciences and mathematics, many of which required advanced degrees—qualifications which companies found in abundance. "India became a destination that offered an advantage in skills and not just in cost," says Ravichandran. Animation studios like Walt Disney, MGM and Warner Brothers began to outsource cleanups and modeling. In response, some BPOs began to morph into "knowledge process outsourcers," or KPOS. "Organizations across the world now realize the value that India offers and are moving complex, analytical and mature processes to the country," says Natarajan.

With that move, some multinational corporations shed their captive units to

**Bangalore's BPO and electronic technology boom has made the city synonymous with India's economic rise and ubiquitous construction sites, left. Opposite: At CL13L, Angeline George stands and listens to a caller.**



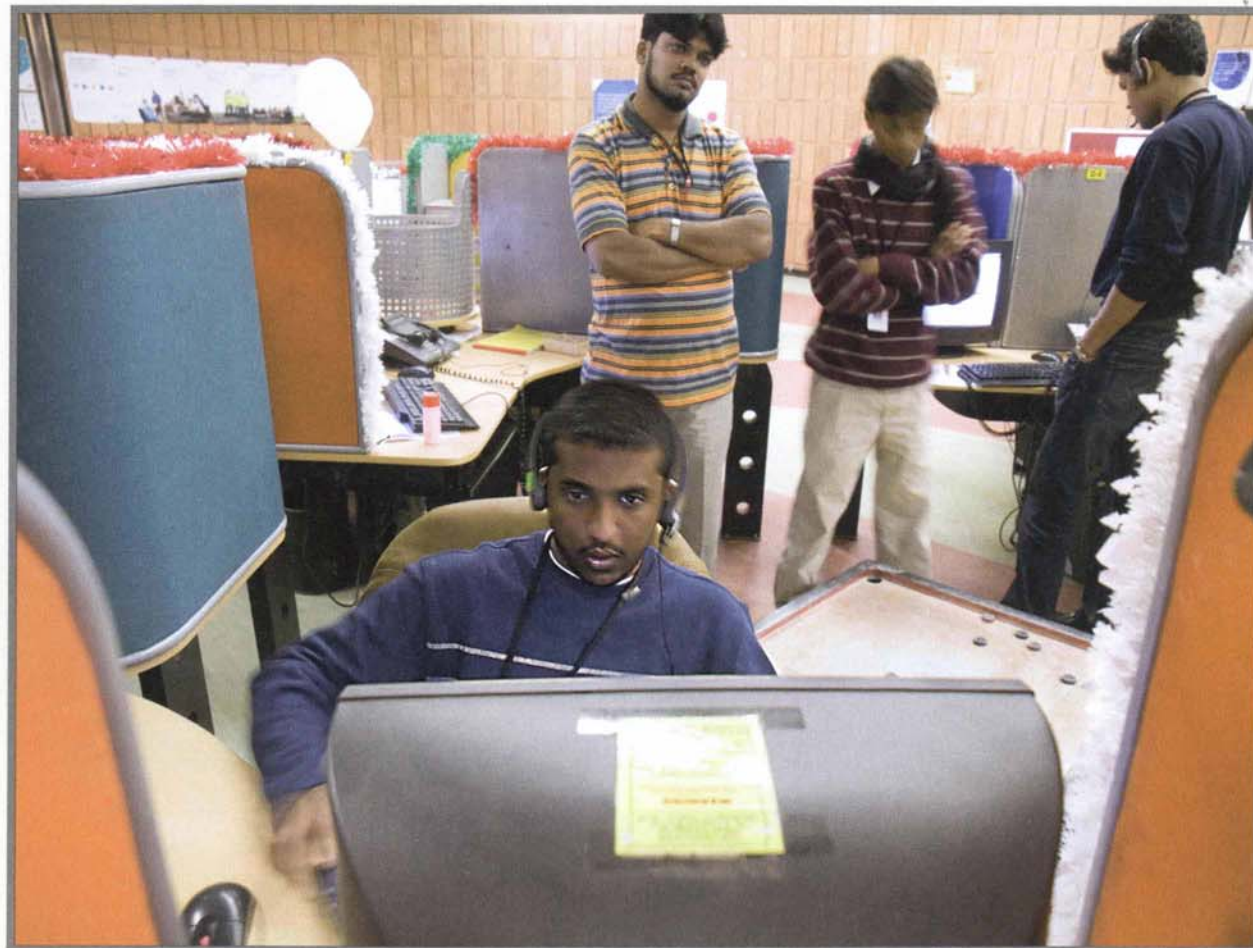


## DATTATRI

## THE VIRTUAL Immigrant

*"When I get back home and when I speak with that same accent, my wife, she thinks I am trying to act very smart. She will sometimes say, 'Come on, you are at home, come on, behave yourself.' But my children really like the way I speak in an American accent. Because they*

*find it is very stylish and so even they try to imitate me, and they're trying to speak in an American accent because they know that will be the future of India."*



create independent BPO units that could compete for business from multiple clients against the profusion of independent, India-based firms. Seven years after founding its first help desks, GECIS divested 60 percent of its holdings to form Genpact, which is now India's largest BPO company, with more than 34,300 employees and annual revenues at the end of March 2008 of \$823 million. (India's fiscal year begins in April.)

As the industry matures, still more services arise: "Legal process outsourcing," or LPO—legal and copyright research and drafting of such documents as patent applications—is now the second-fastest growing segment of the global BPO industry, rising from about \$80 million worth of business in 2006 to approximately \$4 billion by 2010, according to the 2007 Black Book Survey by the Brown-Wilson Group. India, which produces over 200,000 lawyers every year and employs more than 12,000 of them in its nascent LPO sector, is expected to slice off a large piece of that pie. Elsewhere, in

downtown Bangalore, math majors crunch data at Mu-Sigma, an analytics firm that counts pharmaceutical giant Pfizer among its clients.

Indian BPO firms now have the base for their own global footprint. Companies such as Zensar have sales and operations centers in China, the Asia-Pacific region and Japan, the US, UK, Europe and the Middle East. Such global operations also allow the companies to serve non-English-speaking clients. For example, when Scope International bagged a BPO contract from Taiwan, its center in Chennai (India) hired Chinese-speaking employees locally to carry out the work. "In Chennai, the only place we could look for such people were Chinese-run restaurants and beauty parlors," says Ravichandran.

By 2012, the global market for all types of BPO services is expected to multiply by a factor of seven to \$220 billion, and the Indian slice will keep pace, says Natara-

jan, rising to more than \$50 billion and

employing, he expects, more than triple the current number of employees. However, the spectacular growth has slowed this year. Addressing the World Economic Forum's India Economic Summit in November, the deputy chairman of the country's Planning Commission, Montek Singh Ahluwalia, predicted that "the Indian economy will grow between seven and seven and a half percent in the current fiscal year—down from the 9.2% growth of 2007 but higher than the growth rate in 2004."

NASSCOM, the industry body, expects growth of the BPO sector to decrease to 22



Right: "Old" and "new" technologies run side by side—sometimes literally—in Bangalore. Opposite: Rakesh Sadandanda helps a customer online.





"Let us remain as Indians. Work for them, that's okay, because you get to learn so much. But why transform yourself to western? I don't believe in that."

## RASHMI

The Virtual Immigrant exhibition was shown at the Fine Arts Center Main Gallery, University of Rhode Island, October 20 through December 6, 2006. All photographs are interpretations of lenticular prints, original size 114 x 152 cm (45 x 60"). © 2006 Annu Palakunnathu Matthew. Reprinted with permission.

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to 23 percent, down from the 28 percent posted in 2007.

In response to this softening, salary hikes across the BPO industry are expected to drop into the nine- to ten-percent range over the next four years, down from an average growth rate of 14 to 15 percent annually since 2003, according to Hewitt Associates. This, says Ravichandran, was to be expected, as "it is not unusual for a sunrise sector to initially pay more than other industries, but as the BPO sector stabilizes, which it is doing now, I expect that salaries will also stabilize."

In addition to managing a breakneck pace of change, a top challenge for BPOs is controlling increasing costs. There is high employee turnover, largely because everyone has to put in time on the graveyard shift. Some of the solutions are uniquely Indian: For example, weak public transport services often make it necessary for BPO companies to offer workers free, private commuting, and at many firms they have access to free meals at the workplace. At Scope International, perks include flexible hours for housewives and new mothers, yoga programs and aerobics and health camps, yet industry-wide, three out of 10 BPO employees quit each year.



Industry watchers believe the next growth opportunity for BPOs in India will take place close to home with the emergence of domestic business process outsourcing. "In areas like telecom and insurance and financial services, this is already happening," says Sanjay Anadaram, managing director of Jumpstartup, a venture-capital fund that invests in technology. As the

Indian economy grows, more domestic companies will hive off routine processes, increasing today's domestic business process value of about \$1.6 billion to some \$15 billion or more in the next five years, according to the Everest-NASSCOM report.

Abroad and at home, it appears that the economic role of outsourced business functions in India will only grow stronger. 🌐

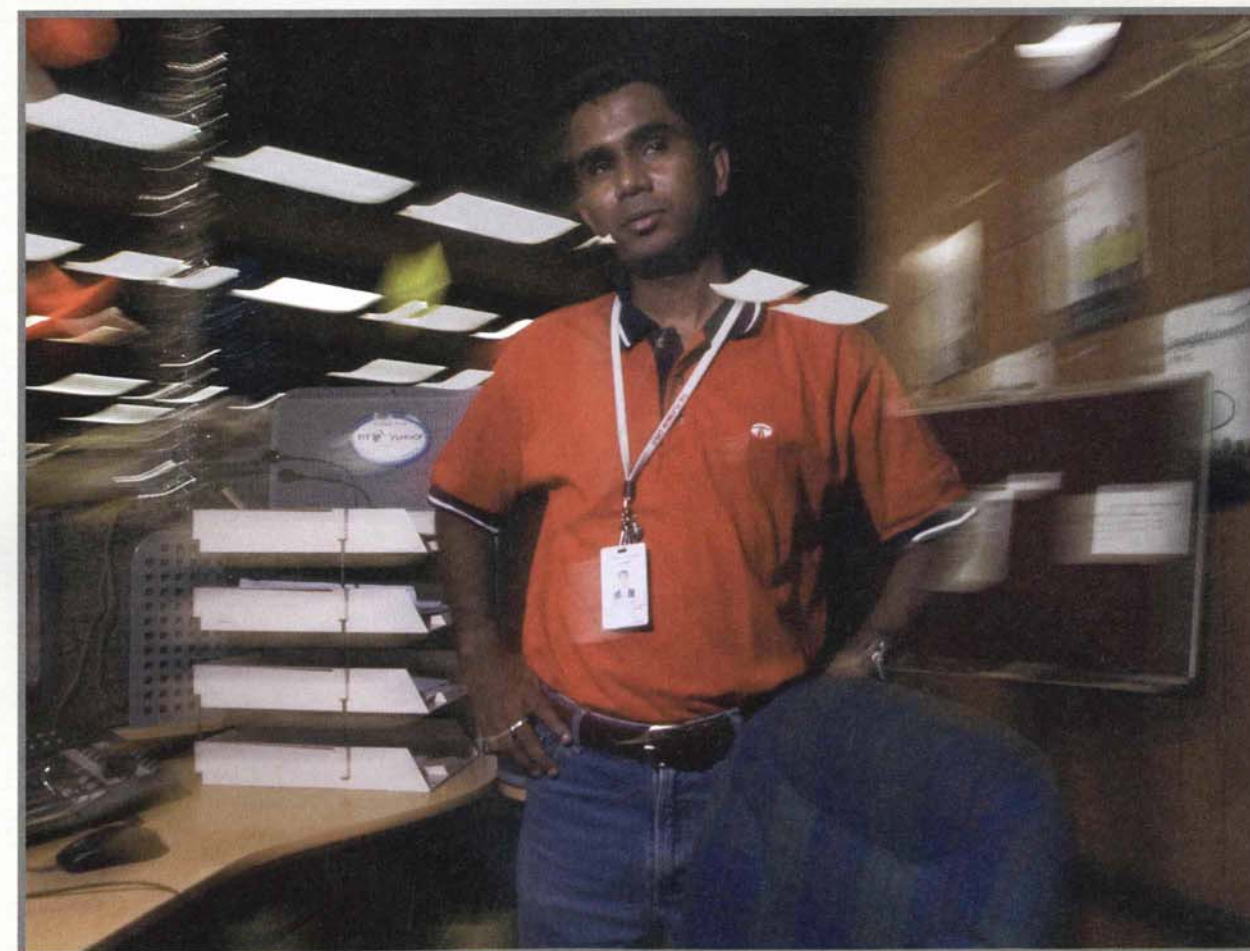


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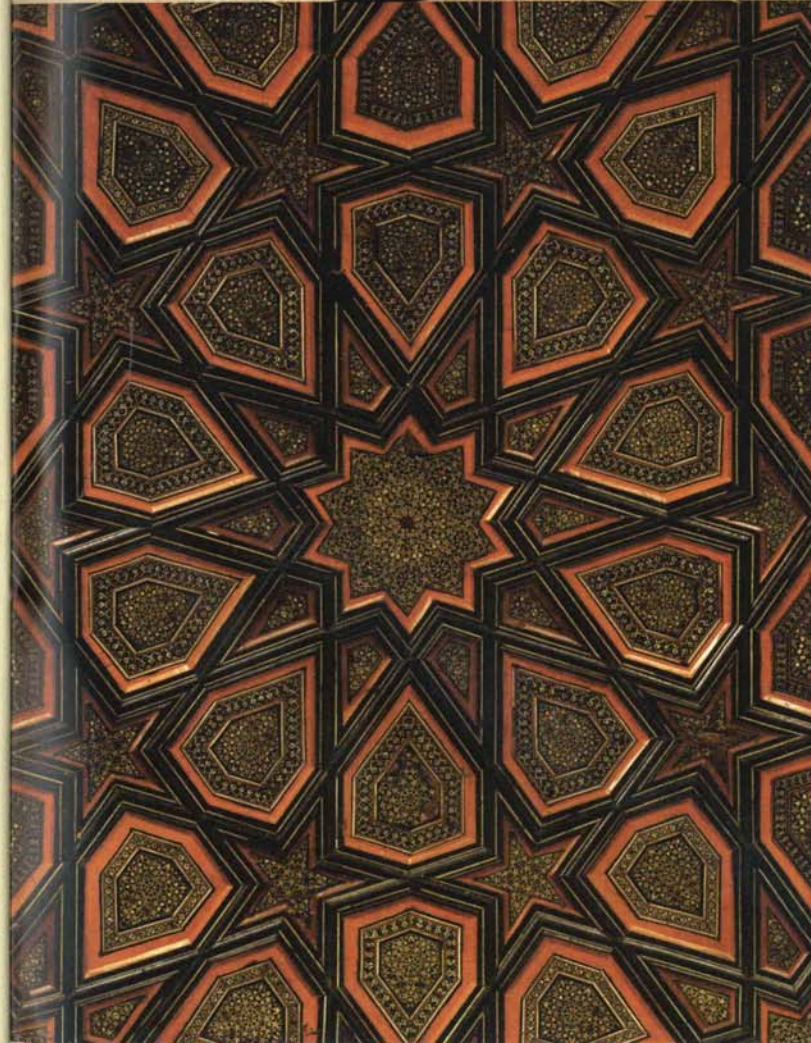
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MAP: GLOBAL SERVICES, CYBERMEDIA GLOBAL SERVICES AND THOLONS ADVISORY, OCTOBER 2008

# A GLOBAL GUIDE TO ISLAMIC ART

Written by Jonathan M. Bloom and Sheila S. Blair



PERNILLI KEMP / DAVID COLLECTION (5)

Visiting an exhibition of Islamic art for the first time? Viewers familiar with western art traditions should be prepared for a mild case of culture shock: Don't expect ornately framed oil paintings; portraits of religious, historical and mythical figures; landscapes; still-lives; nor a distinct sense of personal expression by artists with familiar names. Don't expect to see knickknacks produced to adorn the houses of the wealthy and powerful. Instead, expect glass cases displaying objects that are, as often as not, small and useful—carpets; books; bowls, pitchers and jugs; plates made of ceramic, glass, metal and wood—nearly all made by unnamed and unknown craftsmen and all used by the middle and upper classes in their daily lives. At this point, some confusion is understandable: Since most of it isn't particularly religious, and it wasn't made "for art's sake," then you're entitled to ask just what, then, "Islamic art" is?

Even experts agree that the term "Islamic art" is insufficient, misleading or just plain bad—until one considers the alternatives. While some types of Islamic art, such as Qur'an manuscripts, mosque lamps or carved wooden *minbars* (pulpits), are directly concerned with the faith and practice of Islam, the majority of objects considered to be "Islamic art" are called so simply because they were made in societies where Islam was the dominant religion. A few, like the Freer Gallery's famous canteen decorated with saints and scenes of the life of Christ, were clearly made in a Muslim

context (in that case, 13th-century Syria) for use by non-Muslims, while others, such as the Dome of the Rock in Jerusalem, were probably made for Muslims by non-Muslims, because few craftsmen in Jerusalem had converted to Islam by the end of the seventh century, when it was built. In many cases, we simply don't know the craftsmen's faith, because the vast majority of objects are unsigned and many communities were religiously diverse. In medieval Cairo, for example, Muslims, Christians and Jews lived and worked side by side. Their taste in art was similar, but not exactly the same.

Previous spread, clockwise from far left: Gilding a base of colorless glass with yellow, light green, blue and red enamel, Indian artisans decorated this 28-centimeter (11") dish in about 1700 with a radial, trellis floral design that integrates both vegetal and geometric motifs. A calligraphic detail, 45 centimeters (17½") tall and inscribed with a nib about a centimeter (3/8") wide, comes from a fragment of the largest known Qur'an manuscript, penned in Samarkand in 1400, when paper was almost as precious as the gold that ornamented the script. Filling the width of an early-17th-century loom, this intricate, nearly life-sized silk velvet was woven in either Persia or India. A classic example of "arabesque," in which vegetal motifs follow the rules of geometry rather than nature, this pair of tiles would have topped a *mihrab*, or prayer niche, in a mosque of the early 14th century near Kashan, Iran. Scarcity of wood in many Islamic lands spurred artisans toward the intricate assembly of smaller pieces, as they did to produce this detail of a door from 17th-century Iran that stands 2.4 meters (8') high.

Sometimes the language of the inscription gives us a clue about the identity of a patron, and sometimes the nature of the decoration is informative, but other times we just don't know. In short, "Islamic art" encompasses much more than religious art for Islam.

For most Muslims, the highest form of visual art—and for some, the only spiritually meaningful one—is calligraphy, the art of beautiful writing. Calligraphy gained its preeminence from the Qur'an. God's revelation to the Prophet Muhammad in the seventh century of our era. Delivered orally in Arabic and received aurally, its verses were written in the Arabic script, first by the Prophet's associates and later by professional scribes who tried to give reverent physical form to the immutable beauty of God's word. Over the centuries, calligraphers developed many scripts and styles, but all Islamic cultures continue to accord great importance to beautiful writing, principally and primarily of Qur'anic scripture, but also of other literary genres. This great appreciation of writing has permeated all forms of Islamic visual culture, and thus calligraphy can be found on everything from mosques, schools and palaces to humble bowls, beakers and dishes. Sentiments expressed range from verses from the Qur'an and blessings upon the owner of the object to quotations from popular poetry. The choice of text depended on the function of the object: Qur'anic texts are appropriate only on things used in the practice of the faith, whereas poetry might appear on jugs and dishes used in daily life.

Another point of frequent confusion in Islamic art is that it's often said—quite incorrectly—that Islam forbids figural representation. This is simply untrue: The Qur'an itself has little to say about the subject, except that people should not worship idols. Over time, however, this aversion to religious images spilled over to the secular world, and so at some times in some places, some Muslims have disapproved of *all* images, while at other times and in other places, other Muslims use them frequently, although never in purely religious settings. For example, many examples of Islamic pottery are decorated with scenes of people and animals engaged in a variety of activities, like hunting, feasting, fighting, riding and so on. Sometimes the scenes illustrate well-known stories, but in the vast majority of cases, we don't know what specifically the scenes are meant to represent. They might be symbolic or emblematic, but they might also be just decorative, in much the same way that tableware today

is often decorated with birds or flowers that have no meaning beyond adornment.

Many examples of Islamic art are decorated with plants, leaves, stems and flowers. This vegetal decoration often grows according to the laws of geometry rather than the laws of nature: Stems scroll symmetrically and regularly around evenly spaced leaves and flowers. This kind of decoration is usually called *arabesque*, a term coined by 15th- or 16th-century Europeans who admired it and associated it with the Arab lands. Arabesque is often combined with geometric ornament, whether strapwork patterns that appear to interlace across a flat surface or mesmerizing tiles that subdivide a surface into interlocking segments. Again, experts are unsure whether these kinds of vegetal and geometric decoration have specific meaning. For some, vegetation can

**To appreciate the objects, we suggest the curious viewer confront them with practical questions.**

evoke themes of paradise, described in the Qur'an as a verdant garden, while geometry can evoke the diversity in the unity of God's creation; for others, the plants and flowers evoke the abundance of the earth and a sense of well-being, and the geometry, the sophistication of mathematics in the Islamic lands. It is perfectly possible that the artists and designers were deliberately ambiguous, allowing the individual viewer to interpret the decoration in the way that he or she saw fit.

Islamic art has been produced over 14 centuries, from the shores of the Atlantic to the Indian Ocean and the South China Sea, from the steppes of Central Asia to the savannas of Africa, in lands where people spoke a myriad of languages but shared a common belief in the tenets of Islam and a common—if sometimes limited—knowledge of Arabic, the language of the Qur'an. The resources available to the artists, and the preexisting cultural traditions, all differed so widely from one part of this vast region to another that no single style or technique or medium prevailed. For example, whereas wood was relatively common in Morocco and also in Anatolia, it was rare in Egypt, so craftsmen there developed special techniques—like the *mashrabiyyah*, or spoolwork grilles, made of hundreds of small pieces of turned wood—to make the most of a scarce resource. Good stone for

building was available around the Mediterranean and also in India, but not in Iraq, Iran and Central Asia, where builders developed extraordinary ways of constructing and decorating with mud and clay, whether used raw as pisé and plaster or baked into bricks and gleaming tiles.

So how should the interested person approach Islamic art, especially when he or she is most likely to encounter it in a museum gallery, far removed from its original contexts and installed, uprooted, under gleaming spotlights? Museum labels, despite their good intent, often tell us everything except what we most want to know. Many of the dynastic tags so beloved of curators—from Umayyad, Fatimid, Ghaznavid, Timurid and Safavid to Mamluk and Ottoman—are helpful if you want to use art to illustrate history, but their unfamiliarity

(not to mention their variant spellings) often tends to confuse the visitor.

Instead, we suggest that the curious viewer temporarily ignore the label and confront the object directly with practical questions: What is it? What is it made of? Where did the materials come from, and how were they transformed into their present state? Who—and how many people—made it? How long did it take to make? What is the decoration? Is it complete, or are we seeing only a part of something bigger? Is it unique, or were many other pieces made just like it? Does it say something? (Here the label can be useful in translating

an inscription, if it has one.) For whom was it made? How did he or she use it? How was it preserved, and how and when did it arrive at this particular museum? Why did the curator put it here, next to the other objects in the case? How are the cases arranged? What messages is the gallery installation trying to convey?

In all societies and at all times, human beings have expressed themselves in different ways. Although art can be used to illustrate history, its primary function is to communicate messages that cannot be said in words. The sheer physical beauty of much Islamic art invites us to stop and contemplate what we see before us. Take the time to stop, look and ask some of these questions. The art—by whatever name it may be called—will amply repay the effort.

Here is our list of major museums of Islamic art in the United States, Europe, and the Islamic lands. It is by no means exhaustive: One survey conducted in the 1990s found more than 300 collections worldwide, and the number has increased dramatically since then. Instead, we point to some of the world's best, most accessible collections, and guide you to what you might expect to find in each.

## London

The **Victoria and Albert Museum**, now known as the V&A, grew out of the Great Exhibition of 1851 as a showcase for the

Protected by glass, the Ardabil carpet is the centerpiece of the V&A's Jameel Gallery of Islamic Art.



applied and decorative arts. Its collections were organized by medium: All ceramics, for example, were originally displayed together. Although the museum's primary focus was European decorative art, from its inception it also collected the applied arts of the Islamic lands, as they were seen as

### A family-friendly atmosphere makes the V&A a great place to learn about Islamic art.

key sources for improving design in mid-19th-century Great Britain. By 1876, Robert Murdoch Smith, an officer in the Royal Engineers who served in Iran as director of the Indo-European Telegraph, had acquired some 2000 objects for the museum, and in 1893 William Morris, champion of the Arts and Crafts movement, urged the museum to buy the great Ardabil carpet. Since the 1950s the museum has devoted a gallery to the Islamic Middle East, and in 2006 that was redesigned and renamed the Jameel Gallery of Islamic Art. The designers were instructed to make the space evoke the Islamic Middle East, and the vast hall, with its arcades of massive columns, is now "reminiscent of the Mosque of Damascus," according to the late Patricia Baker, an associate of the museum who gave frequent guided tours of the exhibition. Its centerpiece is the room-sized Ardabil carpet, which was made in 1539 for the Safavid dynastic shrine at Ardabil in northwestern Iran. For many years it hung in a dark case on the gallery's north wall, but in the new installation it is laid on the floor, as it was originally meant to be seen, and protected by a walk-around glass case beneath a suspended canopy containing a multitude of tiny lights that control illumination on this priceless work of art. It is surrounded by approximately 400 of the finest works in the collection, arranged thematically.

The strengths of the V&A collection of Islamic art reflect its particular history. Absent are the museum's many works from India (once the "jewel in the crown" of the British Empire), which are displayed in the adjacent South Asian galleries; similarly absent are the arts of the Islamic book, for which visitors will have to go across London to the British Library. The Islamic collection, which in full comprises more than 10,000 objects, is strong in ceramics, glass, metalwares, ivories and textiles, with an emphasis on works from Iran, Turkey and Egypt. Since one of the briefs given to the designers of the new installation was to

encourage learning, space in some cases is devoted to well-developed texts on such topics as the transition from antiquity to Islam, art for religion, art for the court and so on. One of the most successful texts treats artistic exchanges between the Islamic world and Europe. Although there are choice objects from virtually all major periods, the collection is far from encyclopedic; however, its richness effectively compensates for its gaps, and its family-friendly atmosphere makes it a great place not only to see one of the world's great collections but also to learn about Islamic art. (For an encyclopedic collection in London, try the Addis Gallery at the British Museum, where displays range from early archeological material to modern art in a sober but attractive chronological sequence.)

## Athens

The **Benaki Museum** was established in 1931 by Antonis Benakis (1873–1954), a Greek cotton merchant living in Alexandria, Egypt.

Inspired by strong nationalist feelings, he amassed a large collection of art focused on the Greek heritage in the Mediterranean world. His taste for Islamic art was formed in part at the 1903 Paris *Exposition des Arts Musulmans*. He donated his collection to the Greek nation, and the museum, originally housed in the Benaki family mansion in Athens, opened with Islamic material—principally ceramics and textiles from Egypt and the Ottoman Empire along with gold jewelry—spread over two rooms on the first floor and one on the second. Benakis's daughter, Irini Kalliga (1912–2000), president of the museum's board of trustees, had long envisioned creating a separate museum for Islamic art, and her vision was realized when Lambros Eftaxias (1905–1996), president of the Benakis Foundation, gave the museum two late neoclassical buildings in

the historic area of Kerameikos, below the Acropolis. The discovery of a large section of ancient ruins delayed the opening of the Islamic museum for several years, but the remains—as at the Louvre in Paris—were eventually incorporated into the building, which opened to the public a few days before the Summer Olympic Games in 2004.

Today, the Museum of Islamic Art in Athens covers 13 centuries, with focuses on Islam's role in the Mediterranean world, its links with Greco-Roman traditions and its regular contacts with Byzantium. Benakis did not collect either manuscripts or miniatures, but only woodcarvings, metalwork, ceramics, glass and textiles. His personal collection was supplemented over the years by gifts from other donors, and in order for the new museum to present an unbroken historical sequence, the curators have borrowed from other collections, notably 17th-century Iranian ceramics from the V&A and Ottoman tiles from the Calouste Gulbenkian Museum in Lisbon.

The strength of this collection is in the material from early Islamic times,



tastefully displayed in the first of four galleries. Particularly notable are the luster ceramics from Iraq and Egypt, and the inscribed textiles from Egypt and Yemen, although extraordinary examples of metalwork, jewelry and woodcarving can be seen there as well. Highlights in the second gallery, from the 12th to the 16th centuries, include several extraordinary—and large—examples of inlaid metalware. The third gallery (above) features an inlaid marble floor from a 17th-century Cairo mansion, flanked by contemporary windows and

plaster screens inset with colored glass, as well as textiles and ceramics from the Ottoman Empire that evoke the cosmopolitan Mediterranean of the 16th and 17th centuries. A final gallery is devoted to the arts (particularly enamels) of 19th-century Iran and Mughal India. The steadfast visitor who completes the tour will be rewarded at the café on the museum's roof terrace, which serves delightful refreshments with a spectacular view of the Acropolis.

## Copenhagen

Christian Ludvig David (1878–1960) is much less known than such other private collectors as Charles Lang Freer and Antonis Benakis, who founded museums that came to bear their names. A successful Danish lawyer, David initially collected Danish painting and sculpture, but early in the 20th century he took an interest in 18th-century European decorative arts as well as Islamic carpets and ceramics. David always wanted his collection displayed in a domestic setting, and in 1945 he set up the C. L. David Foundation and Collection in his family's ancestral three-story townhouse overlooking Copenhagen's Rosenborg Gardens (above). After his death, the directors realized that if the small institution were to have a place in the museum world, it needed to fill a cultural gap: The one they identified was Islamic art, and under subsequent directors the David Collection of Islamic art expanded tenfold to more than 2500 objects today. In 1986 the Foundation purchased the adjacent 19th-century townhouse, and in May 2006 the museum closed for expansion and renovation. When it reopens in May 2009, it will occupy both buildings. The display of European art will be more compact, while the area devoted to display of Islamic art will double, providing room for several pieces too large to show in the original townhouse—for example, a stunning arabesque carpet made in 17th-century Iran—as well as many objects previously kept in storage.

The emphasis at the David Collection is on the finest and best-preserved examples of classical Islamic art, whether ceramics, metalwares, ivory, glass or woodwork. The David Collection is thus very traditional in scope: It treats the history of Islamic art only up to 1850, and it excludes both sub-Saharan Africa and Southeast Asia. Its new galleries will present objects in a manner that combines chronology and geography,



with special galleries devoted to subjects such as religion and symbolism. Perhaps the most unusual will be the space devoted to restoration and techniques, revivals and forgeries. What sets the collection apart is the superb quality of the objects, chosen by a series of curators over a half a century. Most recently, Kjeld von Folsach, the current director, has shown not only an especially fine eye but also good detective skills that have rooted out such hidden treasures as the stunning ivory box, made in 10th-century Córdoba, that was acquired in 2002.

## Berlin

Many of the world's greatest art museums that attempt to be "universal" and survey art in all media, from all places and all times, have important collections of Islamic art. Unfortunately, because of the recent surge in interest in Islamic art, most of them are, like the David Collection, closed for renovation. One exception is the **Museum für Islamische Kunst**, which has already completed one renovation—though another may be in the works. Founded in 1905 by

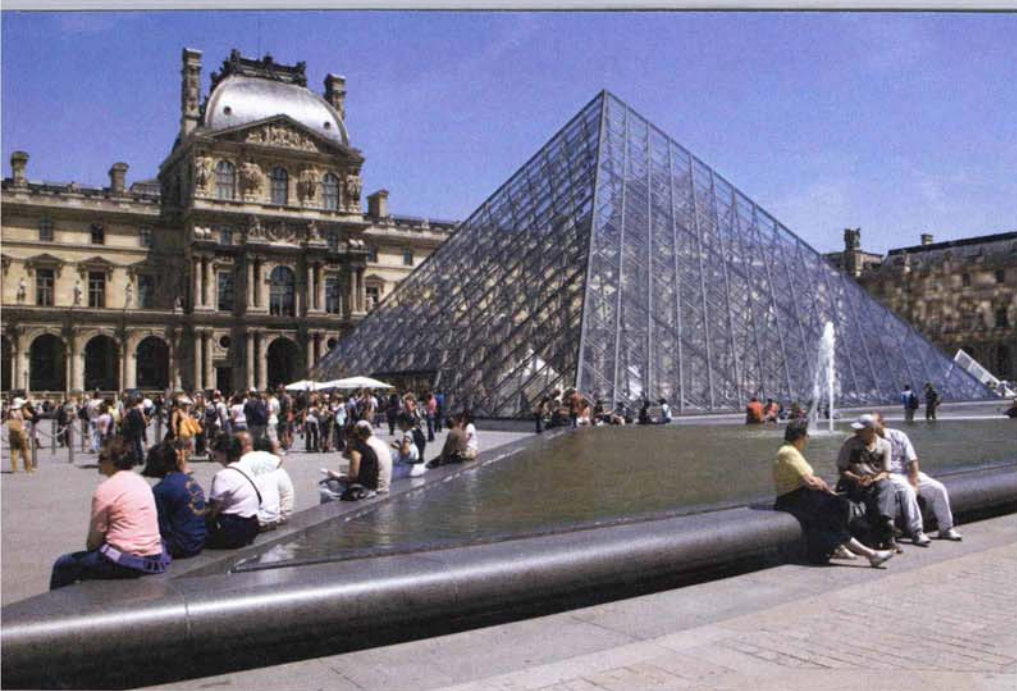
the legendary Wilhelm von Bode as part of the Royal Museums of Berlin (also known as the Pergamon Museum), it attempted to show how Islamic art continued artistic traditions of late antiquity. Among its most notable acquisitions are the 30-meter (100') carved stone façade from the palace of Mshatta in Jordan

(below), which the Ottoman sultan Abdül-hamid II offered as a gift to Wilhelm II, and the mammoth luster ceramic *mihrab* (prayer niche) from the Maydan Mosque at Kashan, in central Iran. Over the years the museum's encyclopedic holdings were enriched with special gifts such as von Bode's splendid personal collection of carpets, as well as thousands of artifacts from German excavations at the Abbasid capital at Samarra in Iraq and other sites. During World War II, the museum's smaller pieces were put in remote storage in mines, but the larger pieces, such as the Mshatta façade and many carpets, were damaged or destroyed. After the division of Germany, two museums emerged: one in the old building in East Berlin, and the other in a modern building in Dahlem, a leafy suburb of West Berlin. In 1992 the divided collection was reunited, and since 2001 the most important pieces of its 16,000 works are on display once again in the south wing of the Pergamon Museum. The collections have been enriched recently by the long-term loan of the encyclopedic Keir Collection, assembled by Edmund de Unger, a Hungarian-born British lawyer who made a fortune in London real estate.



TOP: DAVID COLLECTION; LOWER: BILDARCHIV PREUSSISCHER KULTURBESITZ / ART RESOURCE

BENAKI MUSEUM



## Paris

The oldest of the Islamic collections in a universal museum, but one that will re-open only in 2010, is the **Musée du Louvre**. Some of its 10,000 Islamic objects once belonged to the French kings, such as the 14th-century Egyptian basin known as the "Baptistère of Saint-Louis." Others, such as the 10th-century Central Asian silk known as the "Shroud of Saint-Josse" or the contemporary Córdoba ivory box known as the Mughira casket, came from European churches and monasteries where they were used to contain the relics of Christian saints. The collection is particularly strong in ceramics, metalwares, glass and woodwork, especially from Egypt and the Levant, areas with which France had long commercial and diplomatic interests. (Oddly, there is little from North Africa, a region France colonized from the 1830s to the early 1960s.)

The Louvre's new display will be ingenious: The neoclassical Cour Visconti will be covered with a sail-like roof of glass disks that change color with the sky. Architect Rudy Ricciotti, a staunch defender of natural lighting, described the roof as "floating like a flying carpet," while his colleague Mario Bellini called it "a floating, iridescent cloud." Prince Walid ibn Talal, nephew of Saudi Arabia's King Fahd, was so taken with the design that in 2005 he gave the Louvre \$20 million, the largest gift ever to the world's largest museum. The French government itself is contributing \$31 million, for official French policy sees Islamic art as an important bridge across cultural divides or, in the words of culture minister Renaud Donnedieu de Vabres, "an essential

The Louvre's glass pyramid, completed in 1988, will soon be a gateway to the museum's new galleries, which will display some 3000 pieces of Islamic art.

instrument for the dialogue of cultures and the preservation of their diversities."

The new design cleverly allows display of 3000 of the Louvre's finest works of Islamic art, though objects in media susceptible to damage by light will have to be displayed in the basement, where light levels can be controlled. In any event, the Louvre has very few works on paper, for most Islamic manuscripts in France are held by the Bibliothèque Nationale; nor does it hold many textiles, which are mostly in the Musée des Arts Décoratifs, the Louvre's sister institution, which will lend some of them to the Louvre for the new display. On the main floor, objects will be presented chronologically, but topical digressions on subjects such as the art of writing, geometry and the science of numbers, the arts of the book and the urban context all seem destined for the basement.

## New York

Plans for a new display of Islamic art at the **Metropolitan Museum of Art**, the broadest and finest collection in the United States, have been kept under tight wraps. The old galleries, which opened to great flourish in October 1975 under the curatorship of

A highlight of the Met's collection is the Nur al-Din room (1707), which was moved to New York from an upper-class home in Damascus, Syria.

Richard Ettinghausen (1906–1979), were modeled on the installation in the Pergamon Museum, where Ettinghausen had trained with Ernst Kühnel before World War II. The Met's sequence of galleries, somewhat dim and mysterious but arranged in rigorous chronological order, displayed the largest permanent exhibition of Islamic art ever seen in the US at the time and set the "gold standard" for museum exhibitions of Islamic art. Over nearly three decades, however, the galleries came to look dated, and in June 2003 they were closed as part of the Met's renovation of its south wing. The renovated galleries were originally scheduled to open in 2006, but the date has been repeatedly pushed back, and the most recent estimate is spring 2011. Neither details about the installation nor the names of prospective donors have been published. In the meantime, visitors can see a limited selection of highlights from the

TOP: PAUL SEHEULT / EYE UBUIJTOUS / CORBIS; LOWER: METROPOLITAN MUSEUM OF ART



## Washington, D.C.

The **Freer Gallery of Art** is the Smithsonian Institution's museum of Asian art. Founded by Detroit industrialist Charles Lang Freer (1854–1919), who became interested in Far Eastern and then Islamic art through his friendship with the American painter James McNeil Whistler, the Freer has collected choice masterpieces since its opening in 1923. Its austere galleries present these treasures as aesthetic objects that transcend space and time. Following the gift of some 1000 works of Asian art from the collection of Dr. Arthur M. Sackler (1913–1987),

TOP: FREER GALLERY OF ART; LOWER: LOS ANGELES COUNTY MUSEUM OF ART



the Freer was connected underground in 1987 to the new Sackler Gallery of Asian Art next door, which the year before had acquired a trove of largely Persian manuscript paintings, unseen since before World War II, from the collection of the Parisian jeweler Henri Vever. The combined collection of Islamic art now totals more than 2200 objects, of which manuscripts are particularly important. They range from folios from early Qur'ans to complete codices, such as the *Haft Awrang* (*Seven Thrones*) of the Persian poet Jami, made between 1556 and 1566. Also notable are the Freer Canteen and Basin, two of the finest examples of 13th-century Syrian metalwork, decorated with Christian scenes.

## Los Angeles

The newest major collection of Islamic art in the US is at the **Los Angeles County Museum of Art** (LACMA), which is also closed for renovation through 2011 or 2012. The museum began to collect Islamic art on a large scale in 1973, with the acquisition of the collection of Nasli M. Heeramanek (1902–1971), an Indian-born dealer based in New York, who specialized in Indian and Persian art. A 1983 gift by Edwin Binney III (1925–1986) added many examples of Ottoman art, notably arts of the book and ceramics, and the 2002 acquisition of the Madina collection enhanced the museum's holdings from the Arab world, especially Egypt



and Syria. LACMA now holds about 1700 works, with strengths in Persian and Turkish glazed pottery and tiles, glass and manuscripts. Like the British Museum, it has recently also moved into modern art, adding works by contemporary artists from the Middle East to counter the idea that Islamic art ended in the 19th century.

The new galleries will open in a much larger space with double the number of objects on view—around 250—including the LACMA Ardabil carpet, a companion to the V&A's centerpiece, presented to the museum in 1953 by oil baron J. Paul Getty. The galleries will be organized mainly along traditional chronological and geographical lines, though some will be thematic. Curator Linda Komaroff sees the installation of the permanent collection as a "work in progress," something she can "always improve on." She hopes to enlarge the collection in new areas, such as 19th-century photography, and to experiment with small installations, such as displays of canteens or other types of objects the museum holds in multiples.



quickly outgrew the space, and in 1903 a new Gallery of Arab Antiquities (*Dar al-Athar al-Arabiyyah*) opened in a neo-Mamluk building that also housed the National Library. The collection soon expanded with gifts and excavated material, and in 1952 the name was changed to the more comprehensive Museum of Islamic Art. The collection now numbers more than 100,000 items, but many are small objects like

coins, glass weights and shards. Nonetheless, the museum also has a substantial collection of metalwork (acquired from the Ralph Hariri collection in 1945) as well as woodwork, textiles, stone and glass, many of them Egyptian. Closed for renovation in 2003, the museum is expected to reopen within the next couple

## Cairo

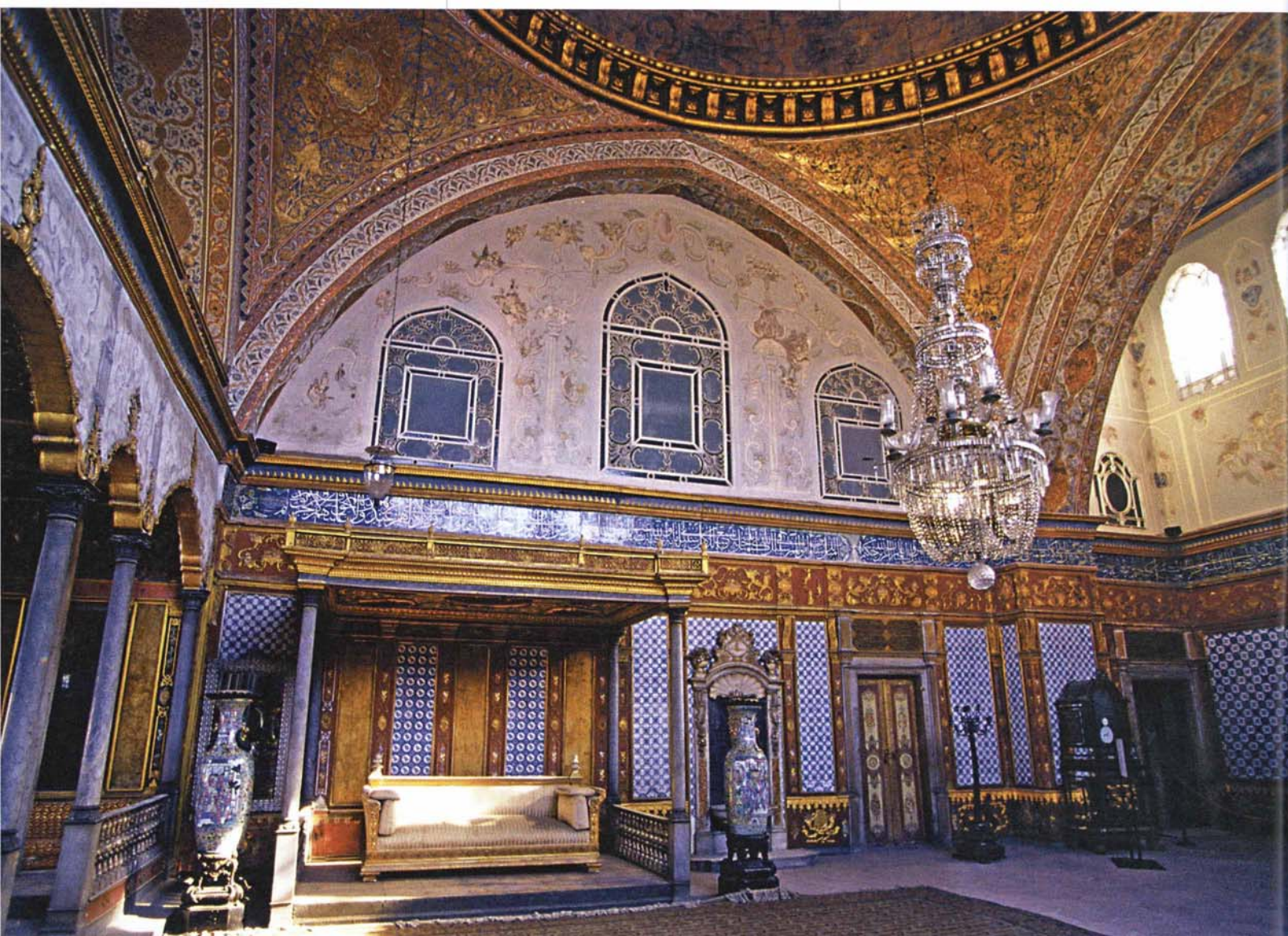
In the Muslim world, museums of Islamic art range widely in age, scope and presentation. Egypt's **Museum of Islamic Art** was set up in 1881 in the ruined mosque of al-Hakim in the old city of Cairo. It

of years. The adjacent National Library has already been renovated, and it houses an extraordinary collection of manuscripts, as well as computer workstations, an auditorium, and several galleries of masterworks. Not surprisingly, the library's collection includes numerous Qur'an manuscripts—in particular multivolume copies from the Mamluk period—but it also owns some superb Persian manuscripts, including the only one with illustrations indisputably by the hand of Behzad, the greatest of Persian painters.

## Istanbul

Of all the world's venues for Islamic art, the most picturesque is undoubtedly the **Topkapı Palace Museum**, housed in the sprawling buildings of the centuries-old

Today's Topkapı museum occupies part of the former sultan's residence, once the administrative heart of the Ottoman Empire.



TOP: MICHAEL NELSON; LOWER: NIK WHEELER / CORBIS

## Tehran

The **National Museum of Islamic Art**, a relatively new institution, is also closed for renovation. Until the Islamic Revolution in 1979, the Islamic collections were housed along with pre-Islamic material in the Iran Bastan (Ancient Iran) Museum, a building designed by André Godard, the French architect in charge of Iran's archeological service. In 1996 the Islamic material was moved to the adjacent building formerly used for temporary exhibitions. The large and varied collection is mostly Iranian, and it includes everything from excavated ceramics and silverware to woodwork, stucco and tiles from ruined mosques and palaces. The notable exceptions are the Chinese blue-and-white ceramics endowed to the shrine at

of the invasion, about 100 objects from the collection were out on international tour, but most of what remained in Kuwait was looted, taken to Baghdad and, luckily, eventually recovered undamaged. The museum building, however, was nearly destroyed by fire, and plans are well under way for the scheduled reopening in 2010, where the displays will be expanded to house the enlarged collection, which now numbers over 3000 objects. Meanwhile, visitors to Kuwait can visit two museums established by Tareq Rajab: Dar el-Cid houses a comprehensive display of Islamic art and handicraft, where a new discovery lurks around every corner, and Dar Jehan is devoted to Arabic calligraphy in all its forms.

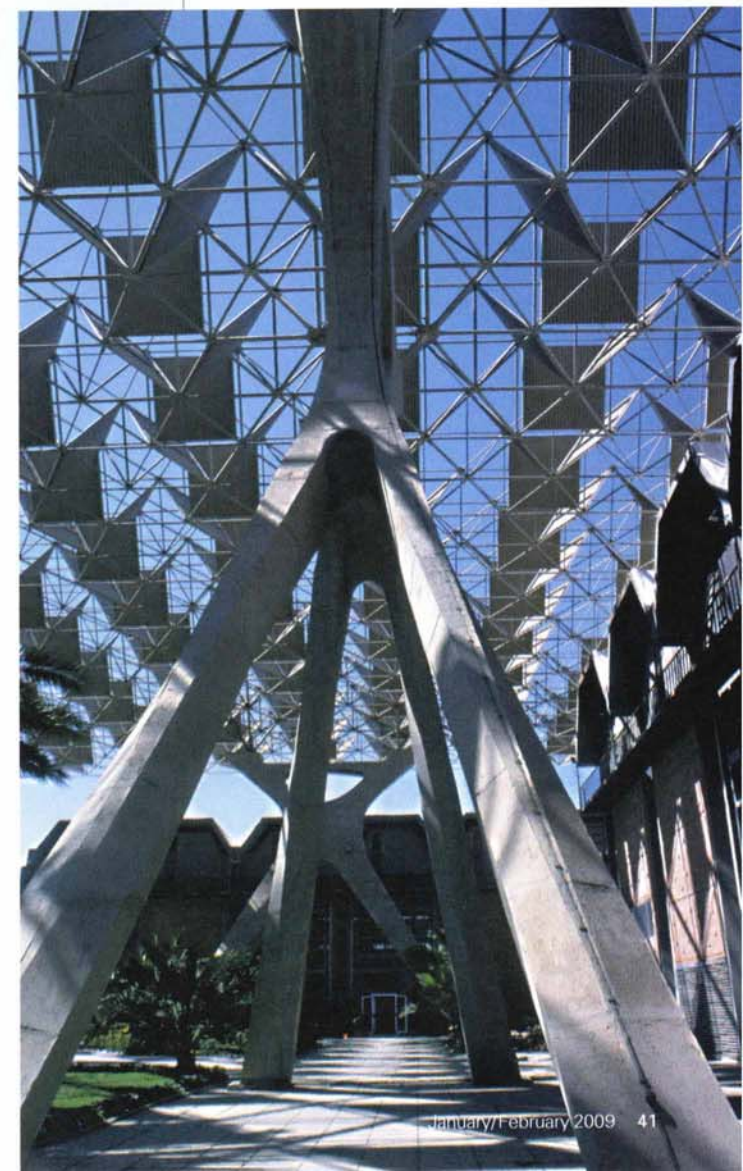
Ottoman palace amid leafy gardens overlooking the meeting of Europe and Asia. Most of its objects were once in the Ottoman imperial collection, and they include gifts, spoils of war and local production. In addition to its Turkish collections, the museum houses one of the finest collections of Persian manuscript painting anywhere, and any student of the subject needs to spend as much time here as in Iran. There are also splendid Iznik ceramics and extraordinary Ottoman velvets and kaftans. The fabulous jewels in the Treasury were a major tourist draw even before Peter Ustinov and Melina Mercouri starred in "Topkapı" in 1964, and still are. The Chamber of the Sacred Relics houses objects associated with the Prophet Muhammad that Sultan Selim I brought from Egypt in 1517. And then there are the 10,000 Chinese porcelains, one of the world's finest collections, that used to grace the sultan's tables. (Visitors to Istanbul should not miss three other important museums of Islamic art: the nearby Museum of Turkish and Islamic Art, and the relatively new Koç and Sabancı museums.)

Of all the world's venues for Islamic art, the most picturesque is undoubtedly the Topkapı Palace Museum.

Ardabil, for the Safavid shahs, like their Ottoman counterparts, preferred to dine off the world's finest porcelain. In addition to the National Museum, Tehran has special museums dedicated to manuscripts and painting, glass and ceramics, and carpets, as well as a lively Museum of Contemporary Art.

## Kuwait

The **Museum of Islamic Art** (*Dar al-Athar al-Islamiyyah*) in Kuwait City, open from 1983 to the Iraqi invasion in August 1990, was the first comprehensive museum of Islamic art in the Gulf region. The collection was assembled in the 1970's and 1980's by Shaykh Nasser Sabah al-Ahmad al-Sabah and his wife Shaykha Hussah Sabah al-Salem al-Sabah. At the time

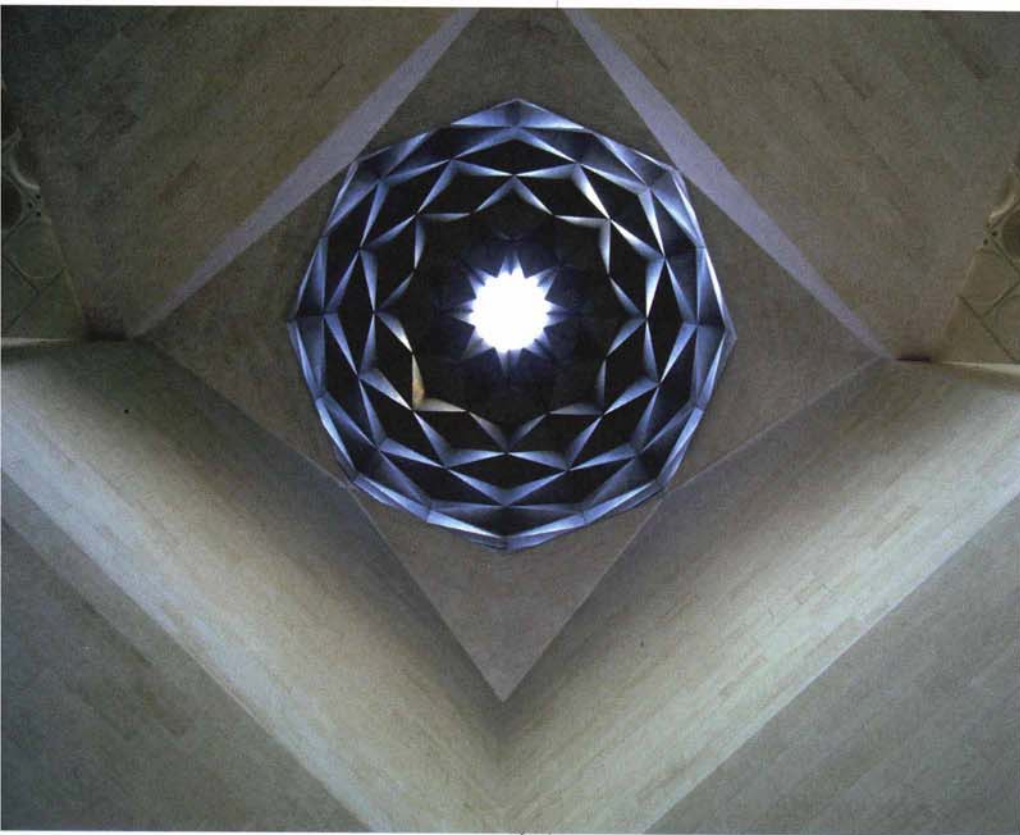


TOP: RAMIN DEHDASHTI / IRANPIX.COM; LOWER: ILENE PERLMAN / SAWDIA

## Doha

The most lavish new museum is the **Museum of Islamic Art** that opened with great fanfare in the Qatari capital in November. Sheikh Hamad bin Khalifa al-Thani, emir since 1995, cajoled the architect I. M. Pei, known for his distinctive additions to museums such as the National Gallery in Washington (1979) and the Louvre (1989), into designing the building: He has produced a pale limestone pyramid that rises dramatically from an artificial island just off Doha's Corniche. For inspiration, Pei looked to the traditional Islamic architectural form of the ablution fountain

of Cairo's eighth-century Mosque of Ibn Tulun, which provided him an "almost cubist expression of geometric progression from octagon to square and the square to the circle." While the exterior exploits the play of light and shadow, the interior evokes the great domed spaces of Islamic architecture. Pei lit the interior with a huge ring 30 meters (100') in diameter whose piercing recalls medieval Egyptian metalwork. The vast exhibit space is half again as large as the new installation in the Louvre and five times the floor space of the Benaki Museum. Some 500 objects are dramatically displayed in enormous glass cases on massive porphyry tables spotlight with the latest in fiber-optic lighting.



Above: At the top of the Doha museum's ceiling, a skylight with oculus glistens with geometry. Below: Artworks are carefully lit in tall cases set on bases of porphyry.



The Doha collection, which contains examples from most regions and periods, is one of the newest major collections, acquired over the last two decades. Many of the pieces were purchased by Sheikh Saud Mohammed al-Thani, the amir's cousin and a flamboyant personality on the art scene since the late 1990's, and they were chosen less for comprehensiveness than quality: They represent the finest works of Islamic art recently available on the market, and thus the collection includes a range of glittering ceramics, metalwork, jewelry, woodwork, glass and textiles. Some, like the Timurid silk carpet with a chess-board design knotted into the pattern, are unique. Others, like the inlaid brass candlestick made for the Inju ruler of Shiraz in the early 14th century, are the finest examples of their type. Still others, such as the bronze fountain in the shape of a doe, made in 10th-century Spain, are historically rare, and jewels, such as the 218-carat emerald amulet known as the Mogul-i Mughal and the white jade amulet worn by the Mughal emperor Shahjahan after the death of his beloved wife Mumtaz Mahal, were made for royalty. All are stunning, and they ensure that the museum, which will be joined by others devoted to Orientalist paintings, photography and other arts, will make Doha a major cultural center in the region.

### The Largest Collection You Cannot See in One Place

One of the most extensive collections of Islamic art is not regularly on public view. Over the last few decades, Nasser D. Khalili, a UK-based, Iranian-born entrepreneur, scholar and patron, has amassed a collection of more than 20,000 works of Islamic art, including illustrated and illuminated manuscripts, ceramics, textiles, glass, metalwork and lacquer. Given his background, it is no surprise that the collection is weighted toward Iran. Until the collection finds a permanent home, however, it can be seen only piecemeal, through traveling exhibitions and loans, and in the pages of a series of splendid, large-format catalogs with luxurious color plates. Seventeen of the planned 27 volumes are now in print, but such quality does not come cheap: each catalog costs about \$300, and the full set will exceed \$8000—a price to match the quality of many of the objects.

## Top World Collections of Islamic Art



## On the Web

For those who can't wait until all these splendid museums reopen, or don't have the time or the money to hop onto a plane, all is not lost: Web sites increasingly provide "virtual" viewing. Many museums now offer highlights from their collections online, and many have special features as well. The Metropolitan Museum of Art online ([www.metmuseum.org/Works\\_of\\_Art](http://www.metmuseum.org/Works_of_Art)), for example, has links to an archive of past exhibitions and to the museum's fine "Timeline of Art History." The site [www.lacma.org/islamic\\_art/islamic.htm](http://www.lacma.org/islamic_art/islamic.htm) provides a lengthy chronological survey of Islamic history and art, seen through the Los Angeles County Museum of Art's own collections. The Freer Gallery, at [www.asia.si.edu/exhibitions/online.htm](http://www.asia.si.edu/exhibitions/online.htm), features on-line versions of past exhibitions that allow you to zoom in on the individual pieces and learn the stories behind them. The Louvre describes its latest acquisitions at [www.louvre.fr/llv/oeuvres/liste\\_departements.jsp?bmLocale=en](http://www.louvre.fr/llv/oeuvres/liste_departements.jsp?bmLocale=en). (Click on "Arts of Islam.") The V&A's website ([www.vam.ac.uk/collections/asia/islamic\\_gall](http://www.vam.ac.uk/collections/asia/islamic_gall)) is aimed at education: It includes brief videos of palaces and mosques in the Middle East as well as

on-line jigsaw puzzles and other games based on Islamic art. And the Khalili Collection's site, at [www.khalili.org/islamic-collection.html](http://www.khalili.org/islamic-collection.html), shows an extensive sampling of its treasures.

Some Web sites transcend individual museums, and the best is the **Museum with No Frontiers**, a Belgium-based collaborative project of museums from 19 countries in Europe and the Mediterranean that links museum collections with buildings, archeological sites and even historically significant landscapes from the participating countries. Its Web site at [www.discoverislamicart.org](http://www.discoverislamicart.org) offers 18 virtual exhibitions in eight languages on a variety of dynasties and topics ranging from the Umayyads and the Normans in Sicily to women, water and the role of gardens and flowers in Islamic art. Accompanying print catalogs of some of the virtual exhibitions, written by experts in the individual fields, are also available. The site also has tours of the nearly 50 participating and associated museums and their collections, ranging from the British Museum and the V&A to specialized ones such as the Rabat Archeological Museum in Morocco and the Kairouan Museum of Islamic Art in Tunisia. Its database of 1200 objects also includes those from many smaller collections that are not available elsewhere.

The many ways to learn about and see Islamic art—however it is defined—continue to become more numerous and more accessible, wherever you are. 🌐

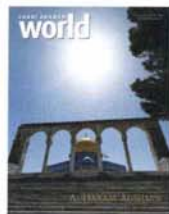


**Jonathan M. Bloom** and **Sheila S. Blair** share both the Norma Jean Calderwood University Professorship of Islamic and Asian Art at Boston College and the Hamad bin Khalifa Endowed Chair of Islamic Art at Virginia Commonwealth University. Together and separately they have written and edited several dozen books and hundreds of articles on all aspects of Islamic art. Their latest is the three-volume *Grove Encyclopedia of Islamic Art and Architecture* (2009).



**Related articles** from past issues can be found on our Web site, [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com). Click on "indexes," then on the cover of the issue indicated below.

Ardabil carpet: M/J 89, J/F 00, N/D 08  
Minbar: M/J 98  
Dome of the Rock: S/O 96  
Calligraphy: J/A 77, S/O 85, J/F 92, M/J 00  
Mashrabiyyah: J/A 93  
Sackler Gallery: J/F 88  
Vever collection: J/F 89  
Metropolitan Museum: J/A 03  
Kuwait National Museum: N/D 90, S/O 00



**FOR STUDENTS**

We hope this two-page guide will help sharpen your reading skills and deepen your understanding of this issue's articles.

**FOR TEACHERS**

We encourage reproduction and adaptation of these ideas, freely and without further permission from *Saudi Aramco World*, by teachers at any level, whether working in a classroom or through home study.

—THE EDITORS

**Julie Weiss** is an education consultant based in Eliot, Maine. She holds a Ph.D. in American studies. Her company, Unlimited Horizons, develops social studies, media literacy and English as a Second Language curricula, and produces textbook materials.

**Teachers' Workshops: Teaching About Islam.**

The Center for Muslim-Christian Understanding at Georgetown University is offering a new series of full- and half-day professional-development workshops for teachers from elementary through high school. Outreach centers, school districts, civic organizations and educational institutions may select from a variety of content modules correlated to national and state academic standards and curriculum frameworks for teaching about Islam and other world religions. These modules link to many broader subject areas such as math, literature and the arts; modules on Islamic Spain and Islam in the media are included. For further information or to schedule a workshop (25 participants minimum), visit [www1.georgetown.edu/sfs/acmcu/about/educational\\_outreach/](http://www1.georgetown.edu/sfs/acmcu/about/educational_outreach/), contact [susand@cmcuworkshops.net](mailto:susand@cmcuworkshops.net), or call 703-442-0638.

**CLASS ACTIVITIES**

*This issue's Classroom Guide is organized around two themes: Words and Images, and Old and New Media. Since both themes deal with visual images, there is no separate Visual Analysis.*

**Theme: Words and Images**

Words and images mingle in our day-to-day lives. Magazines, newspapers, Web sites, films—all have both words and images. Television news probably has the busiest mix: You see visual images of events and news presenters as you hear them tell you about a news story. At the same time, a stream of words crawls across the bottom of the screen that usually tells different stories from the ones you're hearing and seeing. You're taking in several messages at once. Try this experiment: With a classmate, watch a TV news channel for at least 15 minutes. Have one person be the "recorder," writing down what stories the anchor and reporters are telling, what the images are showing, and what stories are reported in the crawl at the bottom of the screen. Have the other person be the viewer, paying close attention to how the recorder is watching. Is he or she looking at the pictures? Reading the crawl? Which of the several stories is he or she paying most attention to? When the 15 minutes is over, have the viewer try telling the recorder what he or she just saw and heard. How much of it sank in? How much gets remembered?

In the activities that follow, you will have a chance to focus on the way words and images can work both together and separately. To do so, you'll be reading the magazine on two levels: First, you'll be reading as you usually do, to get the information in the articles, but second, you'll be watching yourself read. Not literally, of course, but the activities will ask you to pay close attention to how you read the magazine, just as you paid attention to how you watched the TV news. By doing so, you'll come to understand more about what you're reading, and more about how you learn.

**What different kinds of written texts appear in magazines?**

Before you can compare and contrast the written word with the visual images, you need to get a little clearer about the different kinds of written texts. With a partner, choose an article in this issue of *Saudi Aramco World*. Look at the different functions that the written words serve. For example, some of them comprise the article itself. There are also often quotations from the article—called "callouts"—that are set apart. Why do you think they're there? When do you read them—before you read the article? After you

look at the pictures? What other writing do you see? What does it do? When do you read it, and how does it affect your understanding of the article? Make a list of the different kinds of written words. When you are done, join up with another pair of students and share with each other what you've discovered.

**How do written words and visual images combine to tell a story?**

Let's start with "The Virtual Immigrant" on page 24. Working with a group of four or five students, read it by following these steps:

1. Start with the photos and quotes that run across the top of each two-page spread. Keep in mind that the photo sequences were originally each a single lenticular print on an art-gallery wall. That is, they were the kind of images that change as you slightly shift your point of view. The only way to show that in a print magazine, however, is as a series of photos showing a process. Begin by describing the process in each spread. Then read the quotations that serve as captions for the photos. What do they tell you about the people in the photos? Write a sentence that summarizes the story you "read" in the photos and quotes. Based on what you have seen and read in the quotations, discuss with your group what you think the article will be about. Write down your predictions.
2. Now read the body of the article. As you read, or when you've finished, write down what you consider to be the most important points. Compare your notes with your group members' notes. Then discuss: What is the article about? What story does it tell? Write a sentence that summarizes what you read there. How does it compare to your prediction? How does it compare to the story you read and saw in the photo spreads? Now think about the two parts of the story together: What bigger story do they combine to tell?
3. Finally, look at the rest of the photographs that accompany the article. What do they add to that bigger story you have already pieced together?

When you've completed these activities, step back and reflect on what you've read and done. Write answers to these questions: What is the difference between the story the article tells and the story the photos tell? What would happen to your understanding if there was only one, or only the other?

Now let's turn to a different situation in which words and images work—or don't work—together. Have you ever gone to a museum or gallery? If you have, you know that each object or painting has a tag to

identify it and often some written text telling about it. Do you read the written text? Part of it? Sometimes? In "A Global Guide to Islamic Art," Jonathan Bloom and Sheila Blair write, "Museum labels, despite their good intent, often tell us everything except what we most want to know." Has that ever been your experience? Read the introductory section of "A Global Guide to Islamic Art." How do the authors suggest you approach works of art instead? Choose one of the photographs that accompany "A Global Guide to Islamic Art." Discuss it with a partner. What is your first impression of it? It can be as simple as "I like the colors." Then try to put into words what you specifically like about it and what you don't like about it. What would you like to know about it that would help you understand it better? Then read the caption that goes with it. Does it tell you what you "most want to know"? If it doesn't, go online and do a bit of research to answer your questions about the work of art. Then write your own caption. Keep in mind that you want your caption to somehow enhance the viewer's understanding and/or appreciation of the artwork.

**Theme: Old and New Media**

This theme builds on the work you have already done. You have thought about how different forms of text can tell different parts of a story. (Remember "text" can be either or both visual and verbal, either or both images and words.) Knowing that they tell different parts of a story makes you a better reader or viewer. In the next activities, you'll think about the different media in which visual and verbal texts are presented. Specifically, you'll think about the differences between "old media," like magazines, and "new media," like computers.

Look again at "The Virtual Immigrant." In the previous activities, you explored how the



photographs and written text presented different, complementary aspects of a larger story about call-center workers in India. Now think about how "The Virtual Immigrant" could be presented online, taking advantage of what the Internet can do that print media cannot.

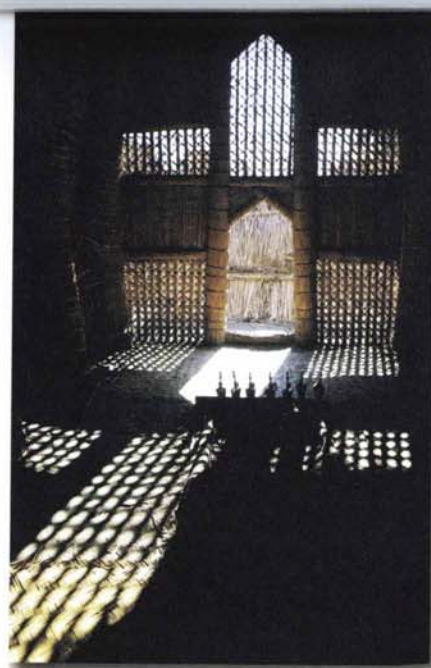
If you were going to post "The Virtual Immigrant" online, how would you do it? Think about it as a series of Web pages. What would the article's first page look like? What would you include in it? Would you include live links? If so, where and to what? Which visual images might you include? As you think about how to transfer "The Virtual Immigrant" to the Web, think about the different aspects of the story that the photos and the article tell. How might you divide—or not divide—those aspects of the piece on your Web site? Would you need to add anything that is not in the piece now? Are there pieces you would choose to omit? Why? And, since audio is available on the Web but not in print, what might you use it for? Make a storyboard of the screens of your "Virtual Immigrant" Web site. Post them around the room; visit each other's storyboard sets. Then visit the *Saudi Aramco World* Web site at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com) to see how it presents "The Virtual Immigrant." How is it similar to and different from your storyboard? As a class, discuss how the Web is

similar to and different from the magazine as a medium for the piece.

Now turn your attention to the Virtual Walking Tour, a piece that appears in very different ways in the pages of this magazine and on the Web site. Start by reading the brief text in the magazine. What does the article's text tell you about *Al-Haram Al-Sharif*? What do the photos show you? Do they make you want to see more on the Web site? Choose one of the photos and describe it to a partner as if he or she couldn't see it. In your description, include your perspective—whether you are looking up or down, from the edge of a room or from the center, and so on. Then switch roles, with your partner describing a different photo to you in the same way.

Before you visit the Virtual Walking Tour on the Web site, predict how it might compare to the magazine article and photographs. How do you think they will be similar? Knowing what you know about the Internet, how do you imagine they will be different? Then go to [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com) and take the tour with your partner. Navigate around the spaces, clicking on the "hot spots." Discuss with your partner what you can see online that you couldn't see in the magazine. If you were recommending this piece to someone, would you suggest they look at it in the magazine, online or both? Why? 🌐





The interior of a reed-built *mudhif*, or community center, in a Marsh Arab village. Bundled reeds are used to build substantial supporting arches as well as woven into wall panels, elegant screens and mats.

## Iraqi Marshlands Then and Now:

Photographs by Nik Wheeler. The marshes of southern Iraq, formed by the Tigris and Euphrates Rivers, once constituted the largest wetlands in western Eurasia, inhabited since at least Sumerian times in the late sixth millennium BC. As recently as the 1970's, they encompassed 15,500 square kilometers (6000 sq mi) and supported a thriving community of 250,000 to 400,000 indigenous inhabitants—the so-called Marsh Arabs. In that decade, photographer Nik Wheeler documented their way of life for *National Geographic* and *Aramco World*, and his remarkable photographs from that era are the focus of the exhibition. This herding and fishing people lived on islands made of mud and compacted reeds, and their slender watercraft and even their beautiful houses and community halls were made of reeds gathered from the marsh, all captured in Wheeler's photographs. Also on display are intimate scenes of everyday life in the area, along with majestic aerial images of the region. By 2003, however, thanks to the policies of Saddam Hussein, fewer than 80,000 people were left in the marshes, and water covered less than 20 percent of the original area. Efforts are now under way to rehabilitate a portion of the marshlands, and recent photographs by Mudhafar Salim of the Iraq Nature Conservation Society show some of the early results. Fowler Museum at UCLA, Los Angeles, December 14 through March 22.

### CURRENT January

**Homer: The Myth of Troy in Poetry and Art** presents the historical Homer and the extraordinary influence of his epics, *The Iliad* and *The Odyssey*, whose first appearance in written form marked the transition from the preservation of literature in human memory to its storage in ever newer extracorporeal forms. To show how the epics were received, the exhibition juxtaposes objects from antiquity with later works of art from the Renaissance to modern times: Odysseus's wanderings, the Trojan horse and the characteristics of the gods of antiquity are still common artistic references today. A highlight of the exhibition is the eighth-century "Nestor's Cup," whose three-line inscription is one of the earliest references to *The Iliad*. Reiss-Engelhorn Museums, Mannheim, Germany, through January 18.

**Evet: I Do!** German and Turkish Wedding Culture and Fashion from 1800 to Today juxtaposes the customs and clothing associated with what is, for most people, still a very important occasion, when a simple "I do!" changes lives. Special clothing for bride and groom emphasizes the importance of the transition. Exhibits from Turkish and German museums, from the 19th century to contemporary designers' products, help answer such questions as "Why are bridal gowns traditionally white? What happens on the henna night? What—and why—is a shivaree?" Museum für Kunst und Kultur-geschichte, Dortmund, Germany, through January 25.

**The Photographs of Lalla Essaydi** looks at the Moroccan-born artist's iconic depictions of family members in traditional attire and covered in calligraphic writing. The words break the expected silence, speaking of Essaydi's thoughts and experiences, caught between past and present. Frist Center for the Visual Arts, Nashville, Tennessee, through January 25.

**Afghanistan: Hidden Treasures from the National Museum, Kabul** explores the cultural heritage of ancient Afghanistan from the Bronze Age (2500 BC) through the rise of trade along the Silk Roads in the first century of our era. Among the nearly 230 works on view, all from the National Museum of Afghanistan in Kabul, are artifacts as old as 4000 years, as well as gold objects from the famed Bactrian Hoard, a 2000-year-old treasure of Bactrian grave goods excavated at Tilya Tepe in 1978 and long thought to have been stolen or destroyed, but rediscovered in 2003. The earliest objects in the exhibition, from Tepe Fullol in northern Afghanistan, are fragmentary gold vases dated between 2500 and 2200 BC. A second group, from the former Greek city Ai Khanum in a region conquered by Alexander the Great, reflects Mediterranean influence between the fourth and second centuries BC, and includes Corinthian capitals; bronze, ivory and stone sculptures representing Greek gods; and images of Central Asian figures carved in Hellenistic style. Trade goods from a third site, at Begram, date from the first century and include ivory statues

and elaborately carved Indian ivory reliefs, as well as vases, bronzes and painted glassware, many imported from Roman, Indian, Chinese and East Asian markets. The Tilya Tepe group consists of some 100 first-century gold objects, including an exquisite crown and necklaces, belts, rings and headdresses, most inset with semiprecious stones. Many of the Bactrian objects reflect the distinctive local blend of Greek, Roman, Indian and Chinese motifs. Asian Art Museum of San Francisco, through January 25; Museum of Fine Arts Houston, February 22 through May 17; Metropolitan Museum of Art, New York, June 23 through September 20.

**Monsieur Sipa, Photographe.** Born in 1926 in Izmir, Turkey, photojournalist Göksin Sipahioğlu's vocation dates to when he was just 12 years old. His obstinacy and strength of character have become legendary, and the founder and first president of Sipa Press photo agency has been one of the world's best photojournalists for the past half century. Maison européenne de la Photographie, Paris, through January 25.

**Battleground: War Rugs from Afghanistan** presents 118 carpets that tell the story of a world turned upside down. Beginning soon after the USSR invaded Afghanistan in 1979, Afghan rug weavers bore witness to disaster by weaving unprecedented images of battle and weaponry into their rugs: Kalashnikovs replaced flowers, jet fighters replaced birds. War rugs continued to be produced through three decades of international and civil war. Textile Museum of Canada, Toronto, through January 27.

**Salkhatchie: Sacred Space.** Christopher Kuhl documents and recreates the sense of sacredness that attaches itself to specific geographical areas, from the *sugs* and cemeteries of Tangiers to the shimmering mosques of Sharjah and the isolated mountain villages of Oman, as well as in the

southern American landscape. Atlanta-Fulton Public Library System Sandy Springs Branch, Atlanta, Georgia, through January 31.

### CURRENT February

**Hearst the Collector.** William Randolph Hearst (1860–1951), one of the most influential forces in the history of American journalism and a populist multimillionaire who crusaded against political corruption, may have single-handedly accounted for 25 percent of the world's art market during the 1920's and 1930's. This exhibition of approximately 170 works—including a mosque lamp, from 14th-century Syria or Egypt, and lusterware from Islamic Spain—provides a better understanding of Hearst by exploring what he owned and why, and by reassembling and contextualizing the best of what he collected. Los Angeles County Museum of Art, through February 1.

**Iraqi Artists in Exile** presents 15 artists, including Ali Talib Alkayali, Dia Azzawi, Nedim Kufi, Mohammed Al-Shammarey, Rafa Nasiri and Abdel Karim Khalil. Not only representative of modern Iraqi culture, their work makes a significant contribution to contemporary world culture because of its unique and timely esthetic and its recourse to referents and symbols that often date back thousands of years and thus bind the modern Iraqi esthetic to its past. Station Museum of Contemporary Art, Houston, Texas, through February 1.

**Akhenaten and Nefertiti: Sun and Shadows of the Pharaohs** examines in detail the connections among power, art and religion during the reign of Pharaoh Akhenaten and his wife Nefertiti. In the 14th century BC, Akhenaten proclaimed the existence of a single god, of whom the sun was the tangible manifestation, and threw off Egypt's millennia-old polytheistic traditions. To promote their belief and display their new faith, Akhenaten and Nefertiti discarded the ancient artistic and literary canons

and founded a city, Tell el-Amarna, conceived to serve the one god. But both proponents and adversaries of the new belief succumbed to intolerance, and all memories of the episode were erased by the couple's successors on the throne. The exhibition also shows how archeologists, using both artistic masterpieces and day-to-day objects, are able to discover the aspirations and accomplishments of the most original of all the reigns of ancient Egypt. Musée d'art et d'histoire, Geneva, through February 1.

**Ay e Erkmen: Weggefärten (Fellow Travelers)** is a comprehensive solo exhibition of the Turkish conceptual artist's works. First forging a path (*Weg*) from the building's outside to its interior, she links the various spaces leading to the actual exhibition site on the first floor of the east wing. Along with sculptures and a large installation dovetailing with earlier works, the exhibition includes her film oeuvre. Hamburger Bahnhof, Museum für Gegenwart, Berlin, through February 8.

**Elihu Vedder and the Rubaiyat of Omar Khayyám** features Vedder's Rubaiyat designs—54 drawings—from the Smithsonian American Art Museum. The complex drawings were made to accompany Edward FitzGerald's 1884 English version of Khayyám's classic 12th-century Persian poem, the *Rubaiyat*. Made with ink, chalk, pencil and watercolor, these works are highly imaginative, dream-like images made in the swirling, curvilinear style of *art nouveau*. The publication made Vedder (1836–1923) famous and set the standard for artist-designed books. There have been roughly 300 illustrated editions published since. Khayyám's *Rubaiyat*, which deals with philosophical issues of life, death and the hereafter, has been translated into more than 70 languages. Phoenix [Arizona] Art Museum, through February 8.

**Miquel Barceló: The African Work** presents works on paper, large- and small-scale paintings, sculptures, ceramics and sketchbooks derived from the Majorca-born artist's long association with West Africa, where he has had a home, in the Dogon area of Mali, since the early 1990's. The 90 works on exhibit show that Barceló's interest in the region is not a search for the exotic; instead, he depicts the daily life of its inhabitants in portraits, domestic scenes, landscapes and still lifes. Centro de Arte Contemporáneo de Málaga, Spain, through February 15.

**Divine Inspiration: Seven Principles of Islamic Architecture** aims to illustrate the intrinsic relationship between Muslims and their beliefs and the manifestation of those beliefs in everyday architecture. Since there is no essential difference between spiritual and secular art in Islam, Islamic architecture can transcend mere form and function. Seven key Islamic beliefs provide a cross section of Islamic life and practice and also inform corresponding architectural principles. They are *tawhid* (unity), *ihitiram* (respect), *ikhlas* (sincerity), *iqtisad* (moderation or humility), *haya'* (modesty), *'ilm* (pursuit of knowledge) and *dhikr* (remembrance). Islamic Arts Museum Malaysia, Kuala Lumpur, through February 28.

### CURRENT March

**Muraqqa': Imperial Mughal Albums From the Chester Beatty Library, Dublin.** Among the most remarkable of Mughal paintings and calligraphies are those commissioned by the Emperors Jahangir (1605–1627) and Shah Jahan (1627–1658) for display in lavish imperial albums. A window into the worldviews of the emperors, these exquisite images depict the rulers, the imperial family in relaxed private settings, Sufi teachers and mystics, allies and courtiers and natural-history subjects. Many folios are full-page paintings with superb figural borders; other are collages of European, Persian and Mughal works collected by the emperors. Produced by the atelier's leading artists, they reveal the conceptual and artistic sophistication of the arts of the book at their apex in the early 17th century. The exhibition brings together 86 masterpieces—many not previously exhibited in the United States—from the renowned Dublin collection. Catalog \$45. Honolulu Academy of the Arts, through March 1; Nelson-Atkins Museum of Art, Kansas City, Missouri, March 21 through June 14; Denver [Colorado] Art Museum, July 4 through September 27.

**The Middle East** presents the region's rich variety of cultural traditions with a display of clothing and other textiles, cooking utensils and Bedouin jewelry, and displays on early architecture and the role of the Arabian Gulf in the pearl industry. Aurora [Colorado] History Museum, through March 1.

**The Last Nomads: Photographs from Inner Mongolia** by A Yin offers a striking visual account of daily life in the Inner Mongolian highlands: from the labors of migration to the intimacies of kinship. The Wu Zhu Muqin are the last remaining nomadic tribe in China, and Mongolian photographer A Yin's images, captured over ten years, present the ancient lifestyle the nomads maintain in the face of rapid modernization. Rubin Museum of Art, New York, through March 2.

**Timbuktu to Tibet: Rugs and Textiles of the Hajji Babas** is organized not by country of origin but by function and means of production of the 70 non-western textiles on display, exploring their cultural contexts and functions and presenting the stories of the people who made them. The exhibition illuminates the central role of textiles in cultures worldwide and also chronicles how western understanding and appreciation of such pieces have changed over the course of the 20th century. All the objects exhibited are from the collections of members of the Hajji Baba Club, the oldest society of rug and textile collectors in the US. Textile Museum, Washington, D.C., through March 8.

**Shared Beauty: Eastern Rugs and Western Beaded Purses.** Beaded purses were extremely popular in the 1920's, and a wide variety of patterns was depicted on them, including flowers, landscapes and other motifs. Some of the most fashionable designs were copied from Persian, Turkish, Caucasian, Turkmen and Indian carpets and textiles, and this exhibition explores the juxtaposition of bags and rugs and, more generally, the influences of eastern art on western art and fashion.

**Indianapolis [Indiana] Museum of Art,** through March 8.

**Five Centuries of Indonesian Textiles: Selections from the Mary Hunt Kahlenberg Collection** highlights Indonesia's rich and diverse textile traditions with more than 90 works dating from the early 15th through the 20th century, including extremely rare pieces radiocarbon dated to as early as 1403. The cultural origins and influences of the varied ethnic, linguistic and religious groups inhabiting the many islands of Indonesia show a dazzling array of abstract, figurative and geometric design motifs. Los Angeles County Museum of Art, through March 15.

**Babylon: Myth and Reality.** For 2000 years the myth of Babylon has haunted the European imagination. The Tower of Babel and the Hanging Gardens, Belshazzar's Feast and the Fall of Babylon have inspired artists, writers, poets, philosophers and filmmakers. Over the past 200 years, archeologists have slowly pieced together the "real" Babylon—an imperial capital, a great center of science, art and commerce. And since 2003, our attention has been drawn to new threats to the archeology of Mesopotamia, modern-day Iraq. Drawing on the combined holdings of the British Museum London, the Musée du Louvre and the Réunion des musées nationaux, Paris, and the Vorderasiatisches Museum Berlin, the exhibition explores the continuing dialogue between the Babylon of our imagination and the historic evidence for one of the great cities of antiquity at the moment of its climax and eclipse. British Museum, London, through March 15.

**Beyond Babylon: Art, Trade, and Diplomacy in the Second Millennium BC** focuses on the extraordinary art created as a result of a sophisticated network of interaction that developed among kings, diplomats, merchants and others in the Near East during the second millennium BC. Approximately 350 objects of the highest artistry from royal palaces, temples and tombs—as well as from a unique shipwreck—provide the visitor with an overview of artistic exchange and international connections throughout the period. From Syria, Mesopotamia and Egypt in the south to Thrace, Anatolia and the Caucasus in the north, and from regions as far west as mainland Greece all the way east to Iran, the great royal houses forged intense international relationships through the exchange of traded raw materials and goods as well as letters and diplomatic gifts. This unprecedented movement of precious materials, luxury goods and people resulted in a total transformation of the visual arts throughout a vast territory that spanned the ancient Near East and the eastern Mediterranean. Many of these works have either only recently been excavated or have never been shown abroad. Metropolitan Museum of Art, New York, through March 15.

**Byzantium 330–1453** highlights the splendors of the Byzantine Empire, exhibiting around 300 objects including icons, detached wall paintings, micro-mosaics, ivories, enamels and gold and silver metalwork. Some of the works have never been displayed before. The exhibition begins with the foundation

of Constantinople in 330 by the Roman emperor Constantine the Great and concludes with the capture of the city by the Ottoman forces of Mehmet II in 1453. Along the way it explores the origins of Byzantium; the rise of Constantinople; the threat of iconoclasm, when emperors banned Christian figurative art; the post-iconoclast revival; the remarkable crescendo in the Middle Ages, and the close connections between Byzantine and early Renaissance art in Italy in the 13th and early 14th centuries. Royal Academy of Arts, London, through March 22.

**Bonaparte and Egypt** charts Napoleon's expedition to Egypt from the invasion through to the changed Egyptian identity after the French withdrawal, and also explores the birth of Egyptology, as the newly "discovered" culture swept the world and led to the rise of orientalism, a fascination with ancient Egypt and massive importation of Egyptian artifacts to Europe. Institut du Monde Arabe, Paris, through March 29.

**Utopian Visions** brings together four Arab female artists living and working in various locations around the globe. They explore the idea of a perfect world, each with her own unique vision and style, drawing on disparate sources of inspiration, from nature to poetry to spiritual belief. Works by Rima Al-Awar (North Carolina and Toronto), Rana Chalabi (Cairo), Roula Ayoub (Beirut) and Emna Zghal (Tunis and New York) will be on display. Arab American National Museum, Dearborn, Michigan, through March 29.

**The Olympic Stadium Project: Le Corbusier and Baghdad** examines one of the last projects by Le Corbusier, begun in 1957: his fascinating design for a sports stadium in Baghdad. With specially commissioned models, it gives a sense of what this marvelous structure would have looked like had the project come to fruition. The stadium was planned around a set of innovative radial ribs or "voiles," the designs for 20 of which feature in the display. Le Corbusier regarded athletes as metaphors for modern man, and with Pierre Jeanneret he created an experimental design for a huge stadium for 100,000 people for athletic and cultural use, calling it a "civic tool for a modern age." The stadium and other sports facilities were originally the basis of Baghdad's bid for the 1960 Olympics. Victoria and Albert Museum, London, through March 29.

### CURRENT April

**Islamic Fabrics in the Collection of the Musée d'Art et d'Histoire** uses a small, high-quality textile collection to explore the socio-political history of Islamic Egypt. Exceptional items on exhibit include a very fine Mamluk tunic and, from the same period, a baby tunic made from small salvaged scraps of embroidered linen. Often fragmentary, such textiles nonetheless provide essential information on the clothing, living conditions and funeral rites of Islamic Egypt. Musée d'art et d'histoire, Geneva, through April 1.

**Generations Under the Arabian Sun** commemorates Saudi Aramco's 75th anniversary and includes more than

