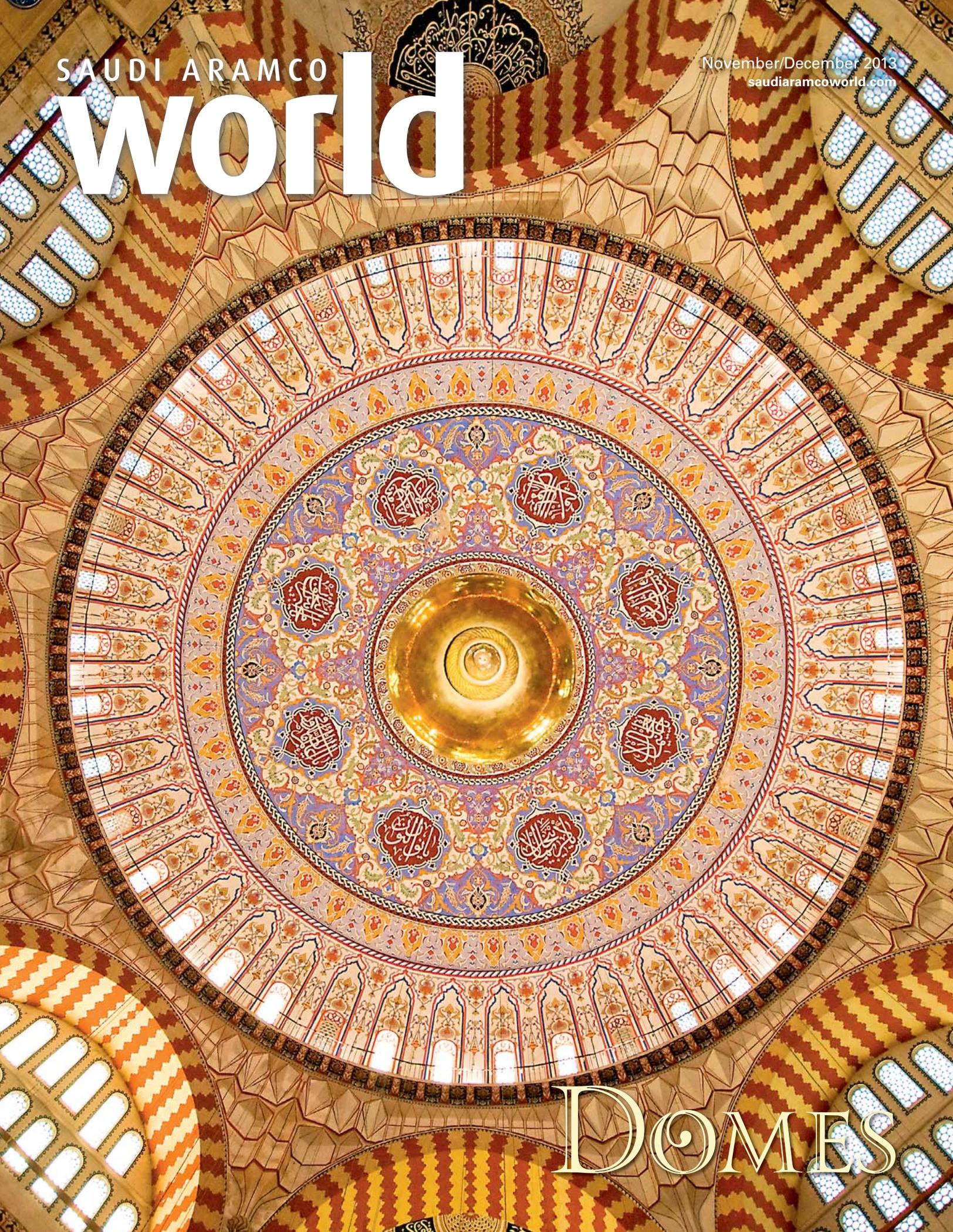


SAUDI ARAMCO

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November/December 2013
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DOMES





The Selimiye Mosque is the crowning achievement of the Ottoman master builder Sinan. Its dome is pierced with windows that flood the interior with light and create a breathtaking spaciousness and poetry of space. Photo by Images & Stories / Alamy.

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Back Cover



When California botanists were looking for the best commercial variety of pistachio tree, they settled on the Kerman, in part because its nuts grew larger and thus naturally split more of its shells—making pistachios easier to shell and eat than ever before. Photo by Eric Hansen.

Saudi Aramco, the oil company born as an international enterprise just eighty 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.



In Search of the Mother Tree **2**

Written and
photographed
by Eric Hansen

A single seed from Iran became a tree in 1929 that half a century later had spawned a billion-dollar California agribusiness. In the rush to turn an ancient delicacy into a modern snack, everyone, it seemed, had forgotten about that tree that bore California's first Kerman pistachios.

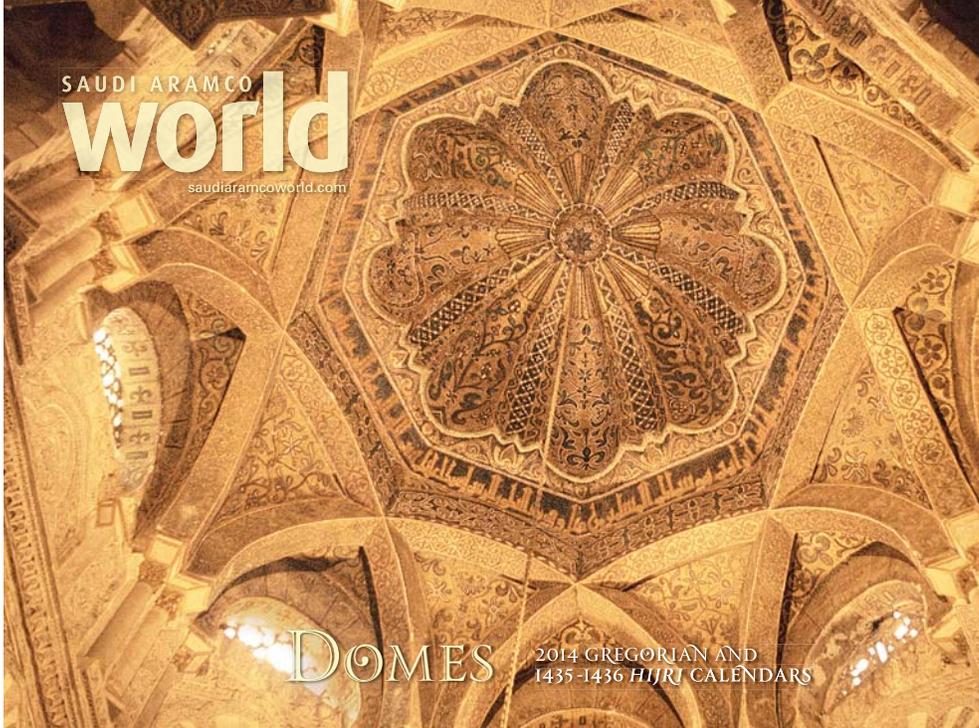


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Rock and Roll Ambassador

Written by Gerald Zarr

A son of Turkey's ambassador and head of Atlantic Records through six decades of R&B, soul, pop and rock, Ahmet Ertegun gave stardom to countless musicians—that's Ray Charles above—and laid down soundtracks for the lives of millions of fans, few of whom ever knew his name.



DOMES

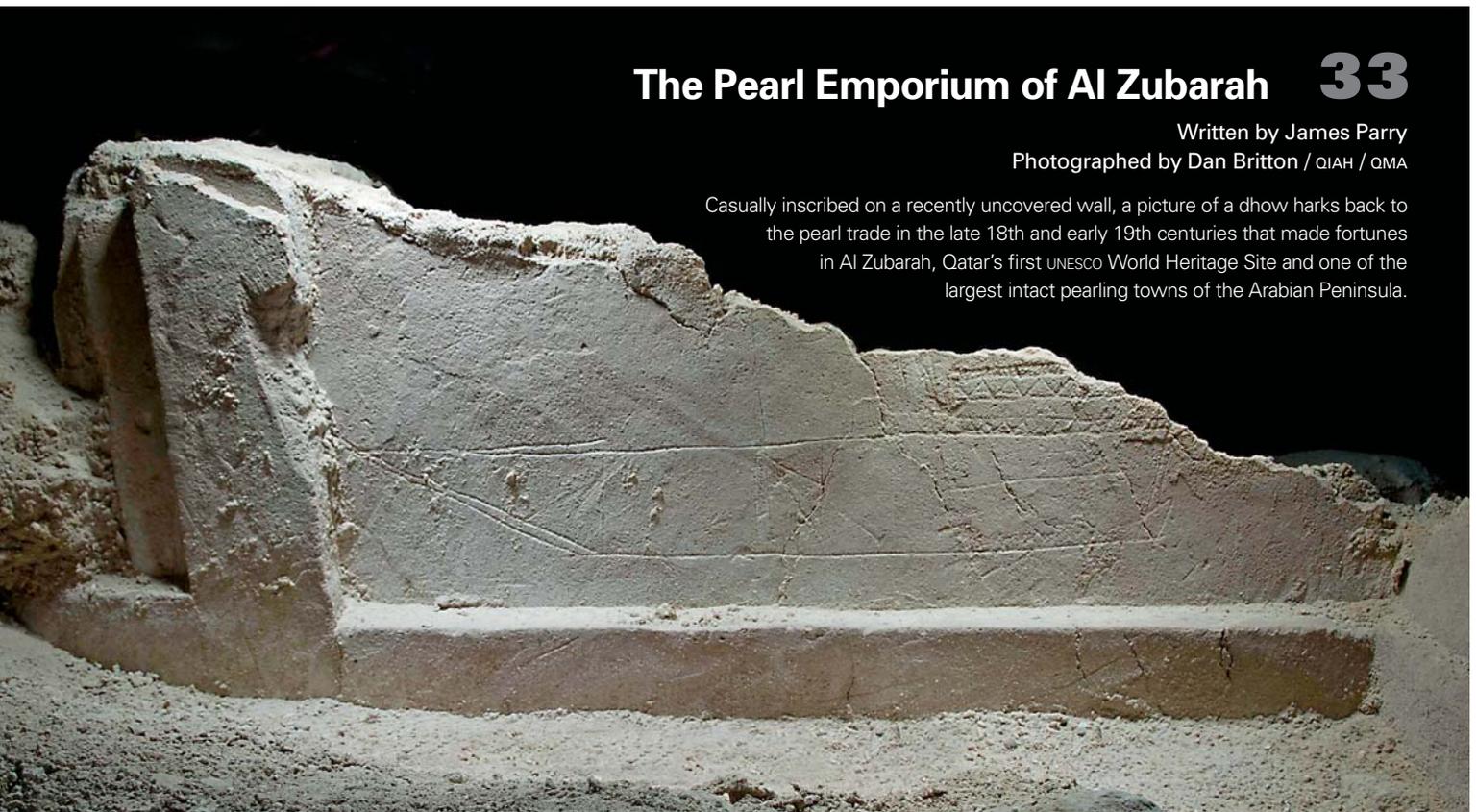
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2014 Calendar: Domes

Introductions by Sheila S. Blair
and Jonathan M. Bloom, and Paul Lunde

Like minarets, domes are one of the signature forms in Islamic architecture, vaulting spaces in most—if not all—Islamic lands with masterpieces of art for more than 1300 years. Each dome evokes its time and place, and inspires beauty and wonder.



The Pearl Emporium of Al Zubarah **33**

Written by James Parry
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Casually inscribed on a recently uncovered wall, a picture of a dhow harks back to the pearl trade in the late 18th and early 19th centuries that made fortunes in Al Zubarah, Qatar's first UNESCO World Heritage Site and one of the largest intact pearling towns of the Arabian Peninsula.

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IN SEARCH OF THE MOTHER TREE

WRITTEN AND PHOTOGRAPHED BY ERIC HANSEN



IN 1957, A SMALL EXPERIMENTAL ORCHARD IN CHICO, CALIFORNIA DISTRIBUTED TO COMMERCIAL NUT-GROWERS A PROMISING NEW VARIETY OF PISTACHIO TREE FROM IRAN, CALLED KERMAN.



THE UNITED STATES DEPARTMENT OF AGRICULTURE
WANTED TO SEE HOW THESE KERMAN TREES
MIGHT PERFORM IN THE RICHLY FERTILE
CENTRAL VALLEY OF CALIFORNIA.

By 2013, the Kerman had created a billion-dollar agricultural industry, and what was once a delicacy was a long way toward becoming a common household snack. University of California pistachio specialist Louise Ferguson calls the California Kerman pistachio tree “the single most successful plant introduction of the 20th century.”

Humans have enjoyed pistachios for perhaps 9000 years. The Bible mentions them in Genesis (43:11). Archeological excavations at Jarmo, in northeastern Iraq, provide evidence that the nuts were collected from the wild and eaten as early as 6750 BCE. Ever since, they have been an important food source and often a delicacy in the Middle East and Mediterranean, and as a result, the trees have been widely planted and cultivated for millennia. In Greece, pistachios were introduced in the fourth century BCE following the campaigns of Alexander the Great. In the first century CE, during the

rule of the emperor Tiberius, the nut was brought to Italy. The spread of Islam, along with the Crusades and the Venetian sea trade with Syria, helped further expand the cultivation and culinary popularity of pistachios in the Mediterranean basin and Europe.

The cultivated, nut-bearing pistachio tree, *Pistachia vera*, is a member of the Anacardiaceae, the cashew family, which also includes sumac, poison oak, poison ivy and mango. Pistachios need long, hot, dry summers and root-chilling cold winters, and they are dioecious, meaning there are male trees that produce the pollen



Named for the Iranian city where the seed was gathered in 1929, the Kerman pistachio proved the best for California growers, thanks in part to its naturally large kernels—the nuts—that split their shells 60 to 75 percent of the time, making the pistachio an easy snack food. Previous spread: The pistachio trees at Wolfskill Experimental Orchard allow botanists to continue research into Kerman and other new, promising pistachio varieties.

and female trees that produce the nuts. The pistachio is originally from Central Asia, and it can still be found growing wild in parts of northeastern Iran, northwest Afghanistan, Turkmenistan, Uzbekistan, Tajikistan and Kyrgyzstan.

Alan Davidson, author of *The Oxford Companion to Food*, noted that pistachio trees produce a good crop in alternate years. The nut is “the kernel of the stone of a small, dry fruit which looks like miniature mangos and grows in clusters.”

The pistachio, he continued, “with its unique color and mild but distinctive flavor, has always been a luxury, costing three or four times as much as other nuts. It is generally eaten roasted and salted as a dessert nut. In cooking it is often used as a garnish or decoration, both in sweet and in savory dishes. For example, it figures in some of the finest pilaf dishes, and in European Pâtés and Brawns which are served in slices, so that the nuts appear as attractive green specks or slivers.”

The most common example of this use in the West is in sliced mortadella, the popular Italian sausage. From the Middle East to North Africa, though, pistachio nuts are a common ingredient in sweets, lending their crunch and flavor to ice cream, French *macarons*, baklava, halva, *lokum* (Turkish delight) and biscotti.

In the US, although the first pistachio trees were officially introduced in 1805 by the New Crop Introduction Division of the newly founded government, more than 100 years passed before there was a concerted effort to develop them into a viable commercial crop.

In 1909, to guide development of the vast agricultural potential of California’s Central Valley, the USDA opened a New Crop Introduction Research

Station in Chico. Two decades later, in 1929, the USDA dispatched plant specialist William E. Whitehouse to Persia (modern Iran) to collect pistachio seeds for the station. He returned with some nine kilograms (20 lb) of seeds, of different varieties. In 1930, Lloyd Joley, director of research in Chico, began field tests to determine the suitability of each tree to the Central Valley environment. Because it takes a pistachio tree seven to 10 years to produce fruit, it was not until 20 years later that Joley and his staff had results: Of 3000 trees they planted from Whitehouse’s seeds, one—which they had grown from a lone seed of its type—performed best. In 1952, they named this variety Kerman, after the city on the central plateau of modern Iran near which Whitehouse had collected the seed. They released it for commercial orchard trials in 1957, and today, all commercial pistachio trees in California come from this one “mother tree.”

I set out to find it.

A few months later, I was in Chico, standing—and nearly lost—in a chaotically overgrown, abandoned orchard section of the research station that had been closed since 1967. It was more like a habitat restoration area than a former experimental pistachio orchard. Pushing my way through 46 years of undergrowth, I was looking for metal ID tags that identified the pistachio trees that remained. Of the few tags I could find, most were damaged or illegible. To further complicate matters, there were two sets of tags, each with separate number sequences, and I had only a partial list of the older set of tag numbers. The trees had been planted by row and number, but it was nearly impossible to determine where individual trees were located.

I was trying to get my bearings with an old, hand-drawn map that was photocopied for me by Robyn Scibilo, the site manager of the Chico Genetic Resource and Conservation Center, which took over the old research station orchards in 1992 and today works on propagating and improving some 130 species. With her map and helpful suggestions from several staff members, I wandered from tree to tree, looking for the most famous pistachio tree in the US. If it were still alive, it would be 83 years old. I was cautiously optimistic: Pistachios can live 100 or even 150 years. On the map, I could see two Kerman trees: one male and one female, side by side,



This metal tag identifies the tree that today grows at Wolfskill from a cutting taken from the Kerman “mother tree.”

at the top of Row 10. But the map was not drawn to scale, and there was no indication of north. I eventually identified a Hachiya persimmon on the map, lined it up with an ancient cork oak and then, keeping a flowering crab apple to my right, I headed southeast in search of the mother tree of all California pistachios.

Dan Parfitt is a pomologist, or fruit tree specialist, at the University of California at Davis’s Agricultural Extension Service. An expert on pistachio research and field trials, he had told me that no one could remember seeing the original Kerman tree since around 1983. This is the approximate date when cuttings were taken from most of the pistachio trees at Chico in preparation for cloning and re-establishment in the US Pistachio Collection at the National Clonal Germplasm Repository for Tree Fruit, Nut Crops and Grapes at Wolfskill Experimental Orchard, 160 kilometers (100 mi) south of

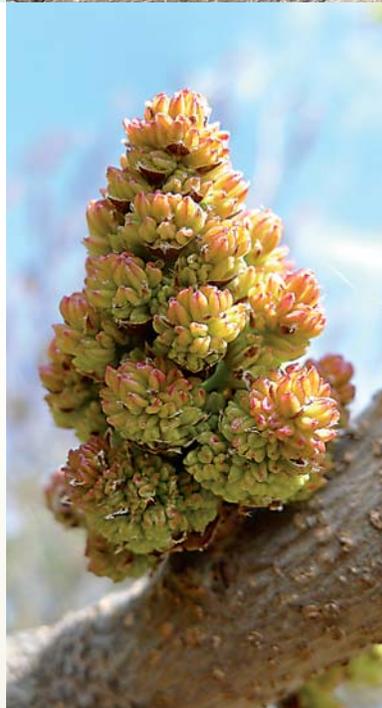


Chico near the town of Winters, California. At that time, the original Kerman tree would have been some 50 years old. That would make it too large to move, and thus I was guessing that the original tree, if it were still alive, was still in Chico.

During an earlier visit to Wolfskill, John Preece, the supervisory research leader and horticulturist, showed me the entire us pistachio collection of approximately 750 trees. These include 10 distinct species and many hybrids from the Middle East, Greece, China, Italy, Kazakhstan, Turkmenistan, Pakistan and Tunisia, as well as several other countries. Some of these pistachio species were not used for nuts at all, but rather for the turpentine or mastic that could be obtained from them, and others are suited to urban beautification—especially the landscaping tree *Pistacia chinensis*, with its spectacular, feathery red, yellow and orange fall foliage.

I asked Preece about the Kerman in his collection. It was clear from its size that it had been propagated from a cutting, and that it was no older than 25 to 30 years. He agreed that

Pistachio trees are pollinated by wind, not insects. The male flower of the Peters variety, right, turned out to best match the timing of the female Kerman's flower, far right.





Andy Schweikart of Pioneer Nursery holds one of some 890,000 rootstock pistachio saplings, all pre-ordered for growers eager to expand their orchards. Pistachios are now the second most valuable nut crop in the us, after almonds.

if the original tree were still living, it would be in the old station orchard in Chico.

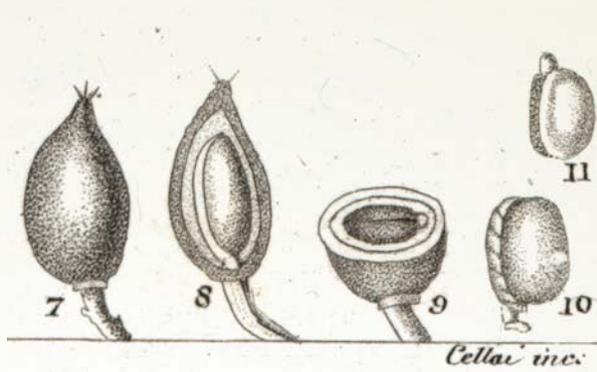
Following its introduction in the 1950's, the Kerman tree was a novelty for growers in the 1960's and early 1970's. In 1976, the crop yielded 680,000 kilograms (1.5 million lb). In 1979, growers got a surprise boost when us President Jimmy Carter imposed sanctions on Iran—then the world's largest pistachio grower and exporter—in response to the taking of hostages in the us embassy. Among their many provisions, the sanctions banned pistachios.

Today, starting from the first female Kerman tree in Chico, there are more than 100,000 hectares (250,000 acres) of pistachios growing in the Central Valley. At 270 to 360 trees per hectare, this translates into an estimated 31 million trees, which produce 98 percent of the total us pistachio crop. (The other two percent is grown in Arizona and New Mexico.) In 2010, with a harvest of 240 million kilograms (528 million lb), California surpassed Iran, which until then had remained the world's top producer. This year, the value of the harvest for the first time exceeded \$1 billion,

surpassing the value of walnuts, and making pistachios the second most valuable nut crop in the US, after almonds. That means the average pistachio orchard is worth \$75,000 per hectare (\$30,000 per acre), and growers are so optimistic about the expanding market that they are planting 4800 to 6000 additional hectares (12,000 to 15,000 acres) of pistachios every year.

Richard Matoian, executive director of American Pistachio Growers, estimates that by 2017 the harvest will exceed 360 million kilograms (800 million lb), and there is, he is confident, plenty of global market. According to the California Pistachio Commission, 65 percent of the crop is exported, mainly to China and Europe. China consumes the most pistachios of any single country—some 77 million kilos (170 million lb) a year—and the





A member of the cashew family and related to sumac, poison ivy and mango, pistachios grow in bunches, left. Above: This 1837 botanical illustration shows a whole fruit, then slices through it vertically and horizontally; the stone (or shell); and the edible kernel.

California growers are investing heavily in the expectation of continued rapid growth of this demand.

Yet the Kerman is not the perfect nut for everyone. While it produces a large, firm nut with good flavor, many connoisseurs regard the Sicilian pistachio Napoletana to be the

world's most highly flavored and physically attractive pistachio nut. Other experts in other countries, unsurprisingly, disagree, claiming the pistachio crown for Turkey's Uzun or Kirmızı varieties, Syria's Red Aleppo or Iran's Momtaz or Kalehghouchi.

But taste, any grower will say, is but one criterion for success. Kerman is a "heavy producer"—lots of nuts per tree—and Kerman nuts have a high



FLORILEGIUS / ALAMY (DETAIL)

percentage of natural splits to their shells that make them easy to open and eat. The Kerman also grows well in the deep boracic, calcareous soils of the Central Valley, whose climate resembles those of the Mediterranean and Central Asia.

And even so, the Kerman did not thrive unchallenged. In the late 1960's, early growers found that it was susceptible to a common, slow-spreading root disease called Verticillium wilt. At about the same time, two friends interested in going into pistachios—dentist Ken Puryear and row

During the harvest season in late fall, operators at Dewey Farms use mechanical shakers to work Central Valley pistachio orchards 24 hours a day, filling half-ton boxes that are trucked to processing plants, right. There, the nuts are dried and sorted, and some are roasted and salted.

CHINA CONSUMES MORE PISTACHIOS THAN ANY OTHER COUNTRY. THE CALIFORNIA GROWERS ARE INVESTING HEAVILY IN THE EXPECTATION OF CONTINUED GROWTH OF CHINESE DEMAND.





Pistachios have long been a favorite nut in sweets from the Middle East and Mediterranean. From top left, clockwise: Pistachios in jelled confection wrapped in toasted sesame seeds; whole pistachios over jelled sugar; chopped pistachios in nougat; chopped pistachios in sugar gel.

Kermans. Pistachios are pollinated by wind, not insects, and in a commercial orchard there is typically one male tree to every 8 to 24 females. The male pistachio Peters (parentage unknown but possibly Armenian) was already growing near Fresno, and it produces large quantities of pollen for approximately two weeks—two weeks that match the female Kerman bloom perfectly. With the rootstock and pollinizer problems solved, by the early 1980's the new industry had a superior tree that it could depend on for quality, disease resistance and large yields.

When I visited Pioneer Nursery, manager Andy

farmer Corky Anderson—traveled to Chico from the southern San Joaquin Valley to meet Joley, who had selected the original Kerman. Joley advised Puryear and Anderson, and they planted their first trees in 1969. As their legend goes, a large pistachio grower came to look at their young trees, offered to buy the lot, and he came back with an order for a similar number of trees for the following year. Instead of planting an orchard, the pair formed Pioneer Nursery to develop rootstock for the new pistachio industry.

In response to *Verticillium* wilt, Pioneer Nursery experimented and found that *Pistacia atlantica* crossed with various hybrids of *Pistacia integerrima* created a disease-resistant hybrid, which they called Pioneer Gold 1. Then, bud-grafting Kerman onto those crosses, by 1981 they gave pistachio growers the solution.

There was one last bit of horticultural fine-tuning left, and this had to do with finding a suitable pollinizer whose viable period overlapped the extremely brief, one-week receptive bloom period of female

Schweikart gave me a tour of the vast acreage completely filled with saplings about 125 centimeters (4') tall. Overhead sprinklers bathed the trees in a gentle mist.

How many? He estimated 890,000. And every one of them, he added, “pre-ordered, paid for and ready for delivery. We will have even more ready for sale, same time next year.”

My next destination was Dewey Farms in Yolo County, 50 kilometers (30 mi) north of Sacramento, where I went to watch the harvest. Pistachio trees bloom in April, and they are harvested from early September through mid-October. The development of the nut within the shell often forces the hard shell to split, a phenomenon we rely on to make it easy to eat the nuts. (In Iran, the term to describe this natural split shell and the resulting partly exposed kernel is *khandan*—“laughing.”) The percentage of natural splits for Kerman are typically 60 to 75 percent. The remaining unsplit nuts must be sorted out and then mechanically cracked.

Pistachios harvesting is done with powerful, mechanized tree shakers. These grab the tree trunk and shake it for several seconds. The resulting shower of nuts is caught in long, fabric-covered frames. According to Harry Dewey, who oversaw the operation at his farm, the harvest is sometimes done in stages: a light shake for early-maturing nuts followed by a more vigorous shake for later-maturing nuts. The long catch-frames that surround the tree are sloped, and they direct the rolling nuts onto a conveyor belt, which sends them into wooden harvest bins, each of which holds approximately half a ton of nuts. The bins are

In western desserts, pistachios appear perhaps most often in ice cream, in a simple cone, or (below) in a fancy ice cream sandwich—as produced here by Ginger Elizabeth Chocolates of Sacramento—between French *macarons* made from almond meal, sugar and egg whites.



loaded onto trucks, and the trucks take them to the processing plant, 24 hours a day during the harvest season.

Just outside the San Joaquin Valley town of Wasco, I visited one such plant, the Primex Pistachio Processing Plant. Getting permission to enter and photograph inside a state-of-the-art plant like Primex is not easy—proprietary processing features need to be kept confidential. But once inside the immaculate, high-tech, 3250-square-meter (35,000-sq-ft) plant, general manager Mark Sherrell showed me around.

Harvested pistachios, he explained, must be delivered from the orchard, hulled and dried within 24 hours to avoid shell staining that renders them visually unattractive. Upon arrival at Primex, the fleshy outer skin is removed and the nut is dried from its original moisture content of about 30 percent down to 10 percent, which Sherrell says is what ensures an unblemished shell. Further drying, down to five to seven percent moisture, takes several more days, and at that point the pistachios are “stabilized,” that is, they can be stored until they are ready for shipping. The pistachio is unique in that its split shell allows roasting and salting without first removing the shell, and that is how about 80 percent of pistachios are eaten, says Sherrell. The rest are shelled mechanically and sold either fresh—often for candies, baked goods and ice cream—or roasted and salted.

All of what I had seen so far made me wonder about the wisdom of betting a billion-dollar industry on the health and continuing well-being of a single female cultivar, the Kerman. As any farmer knows, “monocultures” are risky businesses, as they can be invitations to pests and diseases on epidemic scale. For precisely this reason, the California Pistachio Commission and the University of California teamed up in 1990 to search for new pistachio varieties. One of the most promising varieties is turning out to be Kaleghouchi, also from Iran.

Back in Chico in the abandoned orchard, the sun was beginning to set when I finally came upon a Kerman tree. It was alive, but its flowers showed that it was a male, and the ID tag confirmed it. I was standing at Row 10, but here, the orchard abruptly stopped. In front of me was just an open, dusty field, cleared—recently it seemed—and plowed. I had a Google Maps satellite view printout showing a second Kerman tree, just to the east, which I now realized was almost certainly the female. Then I looked down. The sawdust from the chainsaw was still almost fresh around a stump.

On my hands and knees, in the fading light, I counted the growth rings. There were 82 of them: 2013 minus 82 equals 1931—the approximate year Lloyd Joley planted out the first Kerman. I later learned that the “mother Kerman” died last year and was cut down only three weeks before my visit. The dead branches and trunk were thrown onto a nearby burn pile. The mother tree had been reduced to ashes, but its progeny live on. ☹



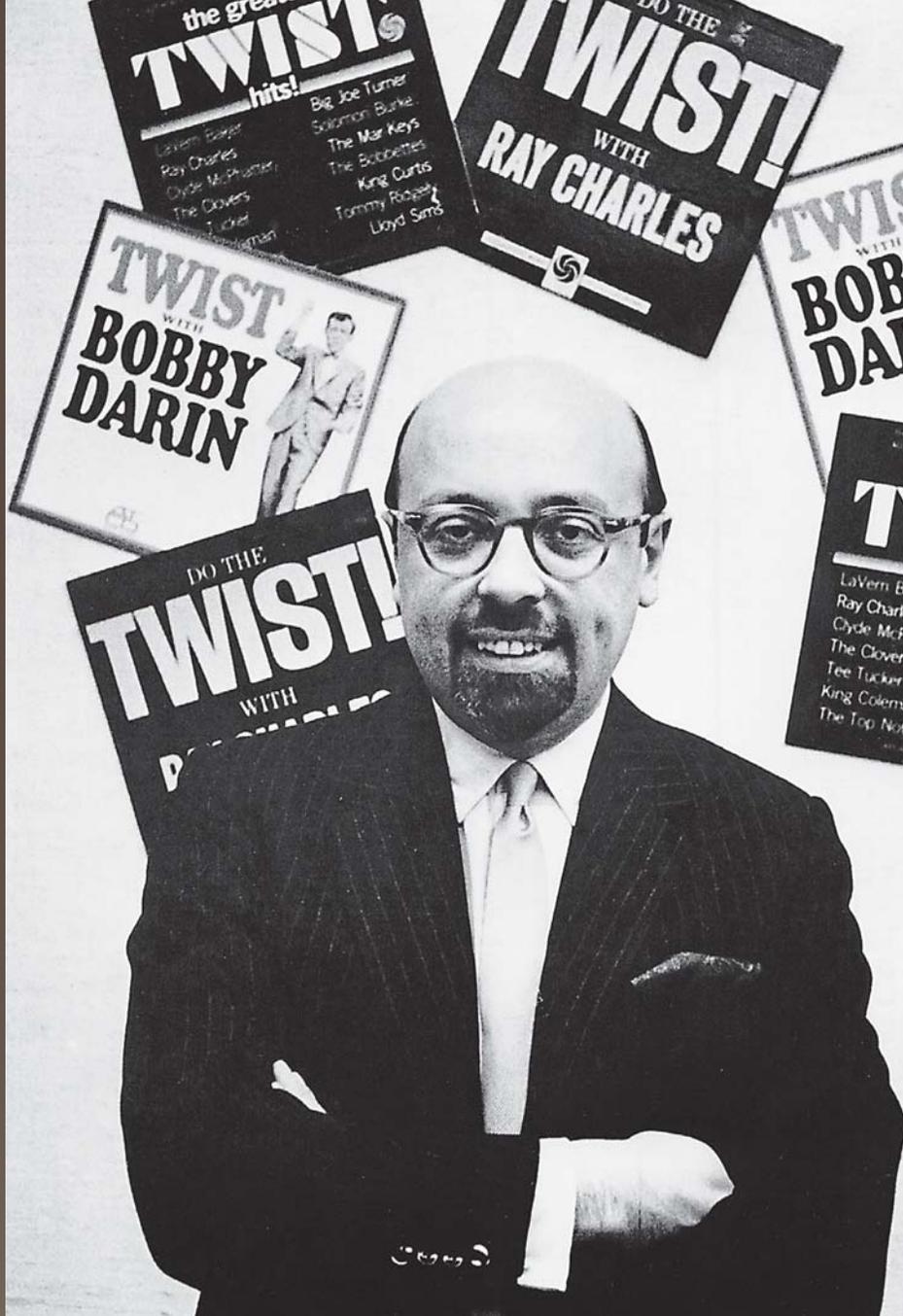
Best-selling author and photojournalist **Eric Hansen** (ekhansen1@gmail.com) is a frequent contributor to *Saudi Aramco World*. He lives in California’s Central Valley, surrounded by the world’s greatest concentration of pistachio orchards.

 **Related articles** from past issues can be found on our Web site, www.saudiaramcoworld.com. Click on “indexes,” then on the cover of the issues indicated below.
pistachios in Syrian sweets: N/D 08
pistachio origins: J/A 98

ROCK & ROLL Ambassador

WRITTEN BY GERALD ZARR

They may not all know his name, but Ahmet Ertegun gave two generations of music lovers the soundtracks of their lives. More likely they knew his company—Atlantic—from its logo that clocked countless RPMs on turntables that played dozens of today's music legends—Ray Charles, Aretha Franklin, The Rolling Stones and Led Zeppelin, to name just a few.



The future impresario was born in the pine-forested, hilly enclave of Sultantepe, on the Asian side of Istanbul, on July 31, 1923, a week after the Treaty of Lausanne granted international recognition to the Turkish Republic led by Kemal Atatürk. Ertegun's father, Mehmet Münir, was part of the Lausanne negotiating team, and he stayed on in Europe for 10 years to serve as Atatürk's ambassador to Switzerland, France and Britain. In 1936, when surnames became mandatory in Turkey, Münir chose "Erteğün" (air-teh-gan), "living in a hopeful future," as his family name.

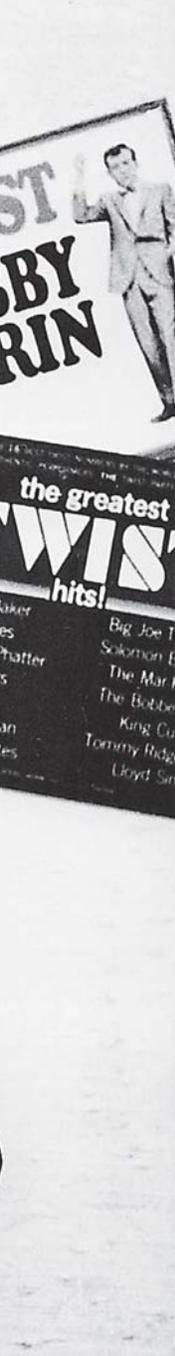
Ahmet Ertegun's first childhood memory was playing in the gardens of the Turkish embassy in Bern, Switzerland. Later, in Paris, he attended an exclusive lycée, where he achieved perfect scores in French and calculus. In London, Ertegun and his younger sister, Selma, were put under the care of a strict English governess whose previous charges had been Princess Elizabeth, the future queen, and her younger sister, Princess Margaret.

Ertegun's mother, Hayrūnisa, was an accomplished musician who could play any keyboard or stringed instrument by ear. She bought the popular music of the day, and at night, Ertegun and his

elder brother, Nesuhi, would sneak her records into their rooms. In 1932, Nesuhi took Ahmet to the London Palladium to see Cab Calloway and Duke Ellington. "I had never really seen black people," Ertegun recalled in a 2005 interview. "And I had never heard anything as glorious as those beautiful musicians wearing white tails, playing these incredibly gleaming horns." His infatuation with jazz got a boost two years later when his father was posted to Washington, D.C. as the Republic of Turkey's first ambassador to the United States.

In Washington, Ertegun found himself in the rarified atmosphere of an all-boys private school, but as he noted later, he got his "real" education at the Howard Theatre. Located in the heart of what was then simply "the black district," the Howard was where Ertegun got to meet Duke Ellington, Count Basie, Billie Holiday, Louis Armstrong and Lionel Hampton; according to *The New York Times*, it was Ertegun who was the first person ever to ask Ella Fitzgerald for her autograph.

Unhindered by the heated politics of race, Ertegun and his brother arranged Washington's first integrated concert at the



only venue that would allow black and white musicians to play on the same stage before a mixed audience: the Jewish Community Center. Then, the two took the extraordinary step of inviting musicians they had seen performing at the Howard on Saturday nights to come to Sunday lunches at the Turkish embassy. It was not a hard sell to their parents, especially their musician mother, or to the musicians themselves, who—after being served by white-jacketed waiters—gathered in the embassy ballroom to jam. In photographs of the time, jazz luminaries wearing impeccably tailored double-breasted suits are standing in front of a huge bust of Kemal Atatürk. One of these integrated gatherings prompted an outraged letter to the ambassador from a southern senator, who wrote: “A person of color has been seen entering your house by the front door. In my country this is not a practice to be encouraged.” The ambassador responded: “In my country, friends enter through the front door, but if you wish to come to the embassy, you can enter from the back.”

In 1940, at 17, Ahmet entered St. John’s College in Annapolis, Maryland, where he studied the arts and literature, mathematics and philosophy, and a new language each year. He graduated with honors in June 1944. Four months later, as the embassy was astir preparing for a reception celebrating Turkey’s 21st year of independence, Münir Ertegun, the 61-year-old ambassador, felt a sharp pain in his chest. He died two weeks later.

“I am deeply grieved by the news of the sudden death of my personal friend, the Turkish Ambassador,” US President Franklin D. Roosevelt said in a press release. The ambassador’s body was kept at Arlington National Cemetery until the end of World War II, after which it was returned to the family home in Sultantepe aboard the *uss Missouri*.

Faced with choosing between careers in diplomacy or music, Ertegun followed his heart. “What I really loved was music—jazz, blues—and hanging out. And so, I did what I loved.” He moved into an apartment near the embassy, and he hung out at the Quality Music Shop, a record store in the ghetto owned by Max Silverman, later known as “Waxie Maxie,” where old jazz 78’s could be bought for as little as a dime apiece or three for a quarter. It was only steps away from the Howard Theatre.

One of his mother’s musical gifts to him, at age 14, had been a toy record-cutting machine. Now, in 1947 at age 24, Ertegun decided to set up a real record-cutting company. During the war, shellac—a key ingredient in the manufacture of records—had been rationed. As a result, such major record labels as RCA Victor, Columbia and Decca had

dropped what was then called “race music” to concentrate on white audiences. Though the postwar economy was putting spending money into the pockets of people of all colors, even in sophisticated New York, Harlem residents couldn’t go downtown to the Broadway theaters. As Ertegun once put it, “Black people had to find entertainment in their homes—the record was it.”

Lionel Hampton, who knew Ertegun from the Howard, offered to invest \$15,000 to help launch Ertegun’s company. They both went to see Gladys, Hampton’s money manager, who also happened to be his wife. Ertegun waited outside. Within minutes he heard Gladys



Ahmet, Selma and Nesuhi Ertegun stand above their parents, Hayrūnisa and Ambassador Münir Ertegun, at the Turkish Embassy in 1942.

In the 1940’s, Ertegun often invited black and white musicians to mingle and jam together at the embassy. Here a group gathers around a bust of Kemal Atatürk, founder of the Turkish Republic. In 1947, Ertegun founded Atlantic Records.





Above left: **Ertegun and Atlantic Records partner Jerry Wexler—who coined the term “rhythm and blues”—pose with musician Big Joe Turner in 1956 to mark the pressing of “Corinne, Corrina.”** Above right: **Pop duo Sonny and Cher produced three hit albums for Atlantic between 1965 and 1967, when this photo was made in Los Angeles.**

screaming: “You’re what? You’re going to give our money to that little jerk who’s never worked a day in his life?” Years later, when Hampton visited the plush offices of Atlantic Records, he could be heard to mutter: “To think all this could have been mine!”

Ertegun turned to an old family friend, a dentist named Vahdi Sabit. Ertegun’s pitch went over so well that Sabit mortgaged his home to plop down \$10,000. Atlantic Records was born, its name inspired by a west-coast record label called Pacific Jazz. Unlike many other executives in the growing record industry, Ertegun understood and actually liked the music he made. His hours at Waxie Maxie’s had taught him much about the music business, and he had developed a refined sense of the records people would like and buy, as well as of new trends.

As Ertegun explained in a 2007 article in *Rolling Stone*: “A black man lives in the outskirts of Opelousas, Louisiana. He works hard for his money; he has to be tight with a dollar. One morning he hears a song on the radio. It’s bluesy, authentic and irresistible. He must have this record. He drops everything, jumps in his pickup and drives 25 miles to the first record store he finds. If we can make that record, we’ve got it made.”

Ertegun set up shop in a tiny suite in a derelict hotel in midtown Manhattan, but he recognized that the talent that would make or break Atlantic Records was to be found in crowded, smoke-filled haunts in the Deep South. So off he went.

One night in New Orleans, Ertegun set out in search of an obscure genius who went by the name “Professor Longhair,” who he heard was

playing in a joint across the Mississippi River. No white taxi driver would take him into the black area, so his cabbie dropped him off in the middle of a field to walk a mile in the dark, his only light coming from a house in the distance that, as he got closer, literally vibrated from the sounds of a piano, drum and loud singing. When Ertegun walked in, what he thought sounded like a band turned out to be none other than Professor Longhair, playing solo on a piano with an attached drumhead that he hit with his right foot. As people danced, Ertegun was mesmerized by this completely original artist who was making a kind of music he had never heard before. Rushing up to Longhair—whose real name was Henry Roeland “Roy” Byrd—during his break, Ertegun asked him to sign with Atlantic. “I’m terribly sorry,” Longhair said. “I signed with Mercury last week.” Then he added: “But I signed under my own name.... With you, I can be Professor Longhair.”

Following in Longhair’s footsteps, Ruth Brown, Big Joe Turner and Clyde McPhatter also signed with Atlantic in the late 1940’s and early 1950’s. But it was Ray Charles who came to define Atlantic on the national scene. Up to that point, Charles played in the smooth

style of Nat King Cole—he had never played boogie-woogie piano. When Ertegun explained the sound he wanted, Charles suddenly began, in Ertegun’s words, “to play the most incredible example of that style of piano playing I’ve ever heard. It was like witnessing Jung’s theory of the collective unconscious in action—as if this great artist had somehow plugged in and become a channel for a whole culture that just came pouring through him.”

From the mid-1960’s on, Ertegun embraced what in the us was called “The British Invasion.” In April 1967, he advised Eric Clapton, Ginger Baker and producer Felix Pappalardi of the band Cream while recording “Strange Brew,” the song that became the lead single on its landmark album, “Disraeli Gears.”





“A painful, ecstatic courtship” was how Ertegun described his pursuit of the deal with The Rolling Stones that helped make Atlantic the top us label in the early 1970’s. In this undated photo, Ertegun is flanked by Mick and Bianca Jagger.

In 1952, Ertegun brought Jerry Wexler into Atlantic. The intense, brilliant former Manhattan street kid turned *Billboard* writer had coined the term “rhythm and blues” in 1947, a style that soon after became just “R&B.” During their collaboration, Ertegun and Wexler began to realize that their biggest target audience was no longer rural and black, but teenaged and white. This became clear in 1954 when Big Joe Turner’s version of “Shake, Rattle and Roll” was recorded by white musicians Bill Haley & His Comets and Elvis Presley. Ertegun and Wexler realized that the blues had to change to meet the tastes of bobbysoxers who were hungry for a sound beyond R&B—the new rock and roll.

In 1955, Nesuhi Ertegun, who had married and moved to Los Angeles, announced he was going to work for Imperial Records, the label on which Fats Domino recorded. Ahmet couldn’t bear the thought of his older brother working for a competitor and persuaded him to come to New York to head Atlantic’s jazz division. Within a year, Nesuhi Ertegun had signed and recorded the Modern Jazz Quartet and jazz bassist Charles Mingus. In

1958, Ertegun took Bobby Darin into the studio and cut “Splish Splash” and “Queen of the Hop,” both hits aimed at the kids who watched “American Bandstand” on the latest entertainment medium—television.

One night in 1960, Ertegun’s life took another turn: Friends introduced him to a Romanian émigrée who had fled her country after the Communist takeover. Her name was Mica, and they married the following year.

Riding Atlantic’s success wave, Ahmet and Mica lived in high style in a Manhattan townhouse crammed with paintings by Hockney, Warhol and Magritte. On a road trip

through Turkey in 1971, they fell in love with an Aegean retreat in Bodrum. Mica restored it, supposedly using ancient stones from the ruins of the Mausoleum of Halicarnassus, one of the Seven Wonders of the World. *Vanity Fair* called a summer invitation to spend time with Ahmet and Mica in Bodrum “the hottest ticket in town.”

There were other tickets, too, as their parties mixed music stars, diplomats, financiers, movie stars, avant-garde artists and

“Only Ahmet could talk about geopolitics and medieval Islamic history, and then pick the next Vanilla Fudge single.”

—Mick Jagger

literati. At one party the Ertegunes threw for the Rolling Stones on the roof of New York's St. Regis Hotel in 1972, the guest list included Tennessee Williams, Bob Dylan, Huntington Hartford, Oscar and Françoise de la Renta and a host of titled nobles; entertainment was by Count Basie and Muddy Waters. Jacqueline Onassis, Truman Capote, Diana Vreeland and the Duke of Marlborough were all frequent visitors at their home.

Rolling Stone magazine described him this way: "Ertegun looked like a suave, wealthy and titled combination of Oriental pasha and the Wizard of Oz; he spoke with a smoky, gravelly drawl in a patois of hipster-cool, ... maybe five different accents all flowing together, as he assayed all around him through tortoise-shell glasses, eyes often at half-lid. He was always turned out with a precisely trimmed goatee and never a wrinkle in his clothes.... He was one of those people who knew exactly what the right thing to do was at all times."

Into the 60's and 70's, the hits kept flowing. Sonny and Cher's "I Got You Babe" became an international blockbuster. In 1970, Ertegun rushed to Los Angeles to pursue a distribution deal with The Rolling Stones, beginning what he later called "a painful, ecstatic courtship." Ertegun and Mick Jagger played cat and mouse, and while Jagger entertained numerous offers, Ertegun eventually won him over—but only after finally making Jagger dial Atlantic's office repeatedly for some 45 minutes while Ertegun sat coolly by the ringing phone, just to make Jagger sweat. Landing the Stones locked Atlantic's position as the top record label in America.

In the 1980's, Ertegun's philanthropic side began to emerge when he became the driving force behind what became the Rock and Roll Hall of Fame, opened in 1995. He picked the museum's architect (I. M. Pei) and its venue (Cleveland). Hard choices had to be made to reconcile the formality of a museum with the raucous spontaneity of rock and roll, and here, Ertegun the diplomat helped arbitrate good taste.

On October 29, 2006, the 83-year-old Ertegun attended a benefit concert by The Rolling Stones for the Clinton Foundation at Manhattan's historic Beacon Theatre. After former President Bill Clinton spoke, Ertegun waited in a backstage lounge. At some point he tripped and fell, striking his head on the concrete floor. He was rushed to the hospital, but lapsed into a coma. Six weeks later, he died.

Paul Allen, co-founder of Microsoft, lent his Boeing 757 to



At the 2004 annual induction ceremony for the Rock and Roll Hall of Fame, which Ertegun helped found, he stood with Jann Wenner, founder of *Rolling Stone*, and Mick Jagger. Lower: Mica Ertegun, center, stands outside the newly opened Ertegun House at Oxford University with Ahmet Ertegun Education Fund scholars last year.



bear Ertegun's body and his family and friends to Istanbul to bury him at the family gravesite in Sultantepe, where his mother, father and older brother (who had died in 1989) were also buried. Ertegun's body was lowered into the ground wrapped in a traditional white *kefen*, or burial shroud.

The following year, Henry Kissinger expressed his regard for Ertegun at a tribute concert in New York. "Ertegun was vastly entertaining, but he was, above all, sensitive, thoughtful, incredibly generous and caring. He loved music, and he loved his artists. He was extraordinarily loyal to his friends. He cared deeply for Turkey, acting as an unofficial permanent ambassador of Turkey in Washington and as a spokesman for America in Turkey."

In London that same year, Atlantic's Led Zeppelin, which Ertegun signed in 1968 and helped to sell more than 300 million records, reunited for a rock-filled tribute to the music mogul in the O2 Arena. More than 20 million fans from across the globe vied for the lottery distribution of 20,000 tickets at £125 (\$250) each.

"Everybody wanted to do something to show how much we loved the guy," recalled Led Zeppelin lead singer Robert Plant in a 2012 interview. Profits from the show benefited the Ahmet Ertegun Education Fund.

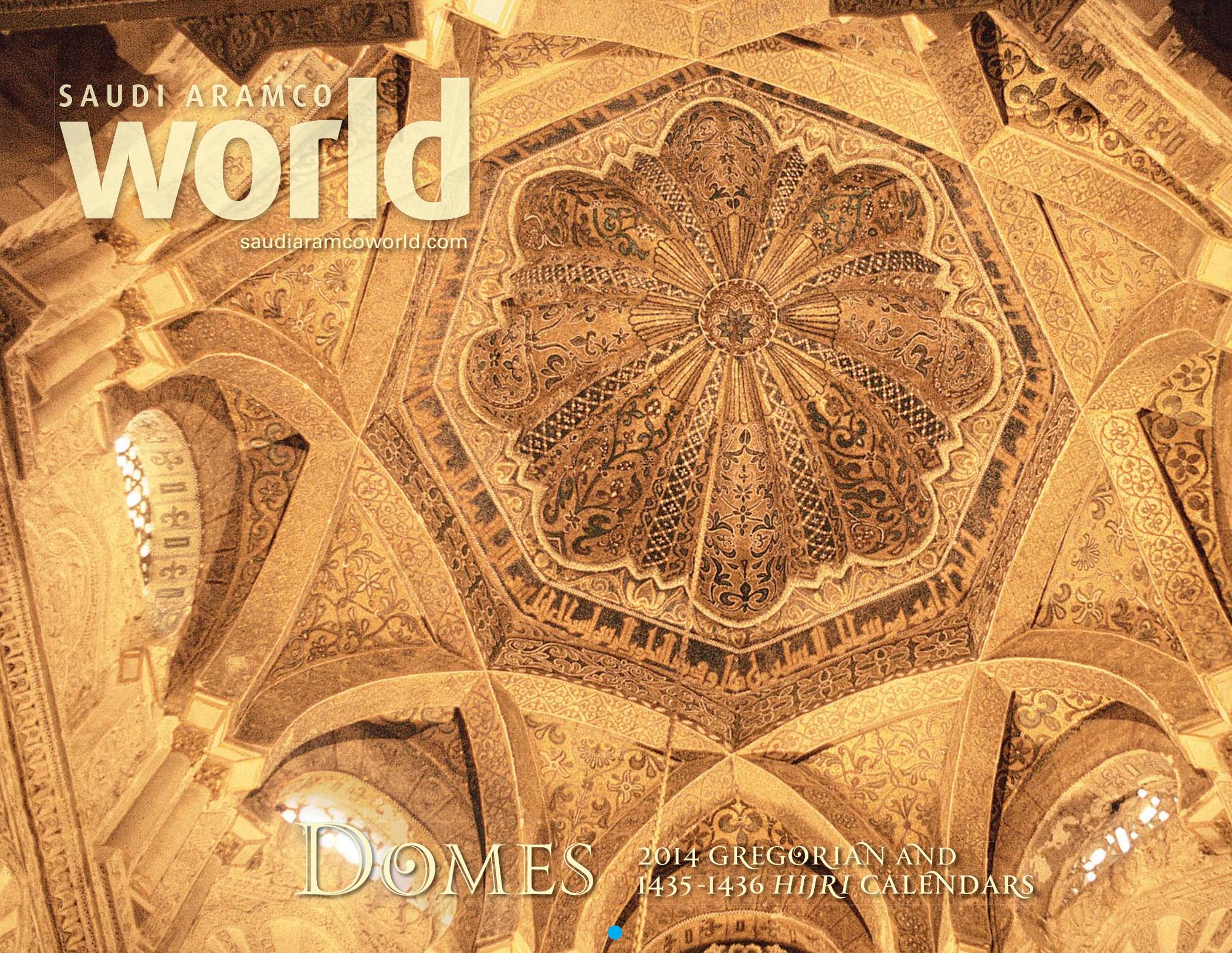
"Although he was deeply into music, my husband was very keen on education," said Mica Ertegun at a ceremony at Oxford University in February 2012. "With so much strife in the world, it is tremendously important to support things ... that help human beings understand one another and make the world a more humane place."

In its January 25, 2007 issue, *Rolling Stone* had called Ertegun "the greatest record man who ever lived, who signed some of the greatest rhythm & blues, jazz and rock artists of all time, guided their careers, their education, their records, and built Atlantic Records, the historic label that was home to these artistic treasures."

Ertegun always knew a good song when he heard one, and he put it on vinyl faster than any record could spin. Through the eras of 45's, eight-tracks, cassette tapes, CDs and into today's digital musical world, Ertegun laid down beats that still go on today. 🎧



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DOMES

2014 GREGORIAN AND
1435-1436 HIJRI CALENDARS

DOMES

Written by Sheila S. Blair and Jonathan M. Bloom

Like minarets, domes are one of the signature forms in Islamic architecture. Since the revelation of Islam in the seventh century of the Common Era until today, they have been used in most—if not all—Islamic lands and cultures. Technically, a dome is a rounded vault, set over a room that is usually square. Builders adopted various means to connect the square room to the dome's circular base.

Long before Islam, the dome was a popular architectural form throughout the Mediterranean and southwest Asia. Indeed the English word *dome* derives from the Latin word *domus*, which means “house.” In Arabic, the most common term for a dome is *qubba*, which comes from a Syriac word meaning “canopy” or “umbrella”—a reference to the much earlier domical tents of Turkoman and other nomads.

The first major work of Islamic architecture, the Dome of the Rock in Jerusalem, finished in 691 under the sponsorship of the Umayyad caliph ‘Abd al-Malik, is covered by a monumental dome on a wooden frame. A few years later, when his son the Caliph al-Walid had the Prophet Muhammad’s mosque in Madinah reconstructed, a shallow wooden dome was installed over the space in front of the *mihrab*, to emphasize its importance, and today the Prophet’s Mosque, rebuilt over the centuries, retains this feature. Additionally, the palaces of the Umayyad caliphs in Syria invariably had a domed audience hall, known as a *qubbat al-khadra’* or a “dome of heaven.” These three types of domes—commemorative, sacred and royal (or official)—continue to be used in Islamic architecture to this day.

In the Islamic lands and cultures around the Mediterranean, the domed interior was generally regarded as more important than the exterior, which was often either plain or covered with a practical, weather-resistant pyramidal tile roof. Thus the ribbed domes added to the Great Mosque of Córdoba in the 10th century are magnificently decorated on the interior, especially the one on the cover of this calendar, which rises above the front of the *mihrab*. By the 12th century, the development of the *muqarnas*, the quintessentially Islamic form of architectural decoration that is often likened to stalactites, gave builders new means of decorating interior vaults. The plaster interior of the Qubbat al-Baadiyyin in Marrakesh combines the Córdoba tradition of ribbed vaults with *muqarnas* in the corners. Perhaps the most magnificent examples to survive are the two Nasrid *muqarnas* domes in the Alhambra in Granada, Spain, in which thousands of plaster elements suggest the rotating dome of heaven.

In Egypt, from the 10th century onward, domes were often used commemoratively to mark the graves of important people. While some domes were constructed of wood covered with lead sheets, the most famous are a series of carved stone domes for rulers and courtiers of the Mamluk period (1250 to 1517). Builders vied with each other to erect taller, larger, more elegantly decorated domes that would be visible from afar, the better to glorify the memory of the deceased patron. Masons strove to coordinate the increasingly complicated exterior decoration of the dome with its curving profile and diminishing surface. As a result, in contrast to domes in the western Islamic lands, the interiors of most Mamluk domes are often uncomfortably attenuated, revealing the challenges builders faced in combining exterior monumentality with a comfortable interior.

PATTERNS OF MOON, PATTERNS OF SUN

Written by Paul Lunde

THE HIJRI CALENDAR

In 638 CE, six years after the death of the Prophet Muhammad, Islam’s second caliph, ‘Umar, recognized the necessity of a calendar to govern the affairs of Muslims. This was first of all a practical matter. Correspondence with military and civilian officials in the newly conquered lands had to be dated. But Persia used a different calendar from Syria, and Egypt used yet another. Each of these calendars had a different starting point, or epoch. The Sasanids, the ruling dynasty of Persia, used June 16, 632 CE, the date of the accession of the last Sasanid monarch, Yazdagird III. Syria, which until the Muslim conquest was part of the Byzantine Empire, used a form of the Roman “Julian” calendar, with an epoch of October 1, 312 BCE. Egypt used the Coptic calendar, with an epoch of August 29, 284 CE. Although all were solar calendars, and hence geared to the seasons and containing 365 days, each also had a different system for periodically adding days to compensate for the fact that the true length of the solar year is not 365 but 365.2422 days.

In pre-Islamic Arabia, various other systems of measuring time had been used. In South Arabia, some calendars apparently were lunar, while others were lunisolar, using months based on the phases of the moon but intercalating days outside the lunar cycle to synchronize the calendar with the seasons. On the eve of Islam, the Himyarites appear to have used a calendar based on the Julian form, but with an epoch of 110 BCE. In central Arabia, the course of the year was charted by the position of the stars relative to the horizon at sunset or sunrise, dividing the ecliptic into 28 equal parts corresponding to the location of the moon on each successive night of the month. The names of the months in that calendar have continued in the Islamic calendar to this day and would seem to indicate that, before Islam, some sort of lunisolar calendar was in use, though it is not known to have had an epoch other than memorable local events.

There were two other reasons ‘Umar rejected existing solar calendars. The Qur’an, in Chapter 10, Verse 5, states that time should be reckoned by the moon. Not only that, calendars used by the Persians, Syrians and Egyptians were identified with other religions and cultures. He therefore decided to create a calendar specifically for the Muslim community. It would be lunar, and it would have 12 months, each with 29 or 30 days.

This gives the lunar year 354 days, 11 days fewer than the solar year. ‘Umar chose as the epoch for the new Muslim calendar the year of the *hijra*, the emigration of the Prophet Muhammad from Makkah to Madinah, where Muslims first attained religious and political autonomy. The *hijri* epoch thus began on 1 Muharram of the year 1 according to the Islamic calendar, which corresponds to July 16, 622 CE, on the Gregorian calendar. Today in the

“It is he who made the sun to be a shining glory, and the moon to be a light (of beauty), and measured out stages for her, that ye might know the number of years and the count (of time).”

—Qur’an 10:5
(English by Yusuf Ali)

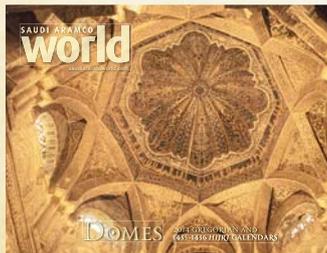
Domes became most popular in medieval Iran and surrounding regions, where an abundance of brick encouraged builders to experiment with myriad forms. In the 11th and 12th centuries, Seljuq rulers enlarged many Iranian mosques by adding large dome chambers in front of the mihrab. Under the Mongol rulers from the 13th century, domes grew bigger and taller still, and they were decorated in innovative ways. To combine exterior monumentality with interior commodity, builders developed an extravagant double-dome system in which the interior and exterior profiles were entirely independent, somewhat like a toque perched on a chef's head, as in both the Tilla-Kari mosque and *madrassah* at Samarkand.

The double-shelled dome was also used later in Iran under the Safavids, who tiled not only the dome's exterior but also its interior with starburst designs, as at the Shaykh Lut-fallah mosque in Isfahan. In Mughal India, builders developed a distinctive, swelling type of double dome, immortalized in such royal monuments as the Taj Mahal at Agra, which was begun in 1632. Mughal architects also integrated domes into their mosques, covering prayer halls with three bulbous domes, often built of white marble.

In Anatolia, builders erected domed mosques that combined Iranian Seljuq with Byzantine Greek traditions. In the 14th and 15th centuries, builders there experimented with ways of expanding and unifying the space covered by a dome. The perfect union of exterior and interior domed space was achieved by later Ottoman architects in the 16th century, notably by the great Mimar Sinan, whose 1567 Selimiye mosque in Edirne combined an enormous single-shelled dome with cascading semi-domes to create an exquisitely uninterrupted interior space.

Today, many contemporary domed mosques refer to historical precedents. For example, the Jumeirah mosque in Dubai is a modern interpretation of Qaitbay's tomb in Cairo. Others take new directions. Chinese-American architect I. M. Pei abstracted the Mamluk-era domed fountain in Cairo's Ibn Tulun mosque for his design of Doha's new domed Museum of Islamic Art; on the interior, its cupola recalls the sculptural qualities of the traditional muqarnas dome. Thus the architectural traditions of domes remain vibrant in Islamic cultures today. 🌐

Sheila S. Blair and **Jonathan M. Bloom**, a wife-and-husband team, share 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.



On the cover: **During the extension of the Mosque of Córdoba in 976 under the Spanish Umayyad Caliph al-Hakam II, this ribbed dome was erected over the mihrab, which indicates the direction of prayer. Entirely covered with glass and gold mosaics, its unique form was probably meant to recall a dome in the Umayyad mosque of Damascus, as were the mosaics, which were said to have been**



produced by a workman sent by the Byzantine emperor in Constantinople. Photo by Tor Eigeland/SAWDIA; inset (right) by Dick Doughy/SAWDIA.

Inside: **The captions that accompany each month's images were written by Sheila S. Blair and Jonathan M. Bloom. The quotations and historical notes were compiled by Robert W. Lebling. Mary Kathryn Flores provided photo research and editing.**

West, it is customary, when writing hijri dates, to use the abbreviation AH, which stands for the Latin *anno hegirae*, "year of the hijra."

Because the Islamic lunar calendar is 11 days shorter than the solar, it is therefore not synchronized to the seasons. Its festivals, which fall on the same days of the same lunar months each year, make the round of the seasons every 33 solar years. This 11-day difference between the lunar and the solar year accounts for the difficulty of converting dates from one system to the other.

THE GREGORIAN CALENDAR

The early calendar of the Roman Empire was lunisolar, containing 355 days divided into 12 months beginning on January 1. To keep it more or less in accord with the actual solar year, a month was added every two years. The system for doing so was complex, and cumulative errors gradually misaligned it with the seasons. By 46 BCE, it was some three months out of alignment, and Julius Caesar oversaw its reform. Consulting Greek astronomers in Alexandria, he created a solar calendar in which one day was added to February every fourth year, effectively compensating for the solar year's length of 365.2422 days. This Julian calendar was used throughout Europe until 1582 CE.

In the Middle Ages, the Christian liturgical calendar was grafted onto the Julian one, and the computation of lunar festivals like Easter, which falls on the first Sunday after the first full moon after the spring equinox, exercised some of the best minds in Christendom. The use of the epoch 1 CE dates from the sixth century, but did not become common until the 10th.

The Julian year was nonetheless 11 minutes and 14 seconds too long. By the early 16th century, due to the accumulated error, the spring equinox was falling on March 11 rather than where it should, on March 21. Copernicus, Christophorus Clavius and the physician Aloysius Lilius provided the calculations, and in 1582 Pope Gregory XIII ordered that Thursday, October 4, 1582, would be followed by Friday, October 15, 1582. Most Catholic countries accepted the new "Gregorian" calendar, but it was not adopted in England and the Americas until the 18th century. Its use is now almost universal worldwide. The Gregorian year is nonetheless 25.96 seconds ahead of the solar year, which by the year 4909 will add up to an extra day. 🌐

Paul Lunde (paul_lunde@hotmail.com) is a senior research associate with the Civilizations in Contact Project at Cambridge University. His most recent publication, with co-author Caroline Stone, is *Ibn Fadlan and the Land of Darkness: Arab Travellers in the Far North* (Penguin, 2012). He lives in Seville and Cambridge, England.

CONVERTING DATES

The following equations convert roughly from Gregorian to *hijri* and vice versa. However, the results can be slightly misleading: They tell you only the year in which the other calendar's year begins. For example, 2014 Gregorian begins at the end of Safar, the second month, of Hijri 1435 and ends in Rabi' I of Hijri 1436.

Gregorian year =

$$[(32 \times \text{Hijri year}) \div 33] + 622$$

Hijri year =

$$[(\text{Gregorian year} - 622) \times 33] \div 32$$

Alternatively, there are calculators available at www.rabiah.com/convert/ and www.ori.unizh.ch/hegira.html.



*"If it is said that a paradise is to be seen in this world,
then the paradise of this world is Samarkand."*

—'Ata-Malik Juvaini, *Tarikh-i Jahangushay-i Juvaini*
(*The History of the World-Conqueror*), ca. 1260 CE



The Tilla-Kari (Goldwork) *madrasah* in Samarkand was erected in the mid-17th century as the third and largest structure facing the city's Registan, or public square. The prayer hall is crowned by a double dome: The interior one is set on squinches and richly decorated with painted and gilded plaster; the outer dome is raised on a tall drum and tiled in turquoise blue.

Photo by Robert Preston / Alamy

JANUARY SAFAR — RABI' I 1435

S M T W T F S

NOTES: _____

			I 30	2 1	3 2	4 3	
				Farouk El-Baz, NASA scientist, born in Egypt 1938			
5 4	6 5	7 6	8 7	9 8	10 9	11 10	
Al-Mu'tasim, caliph who introduced <i>mamluks</i> , dies 842			Construction begins on Egypt's Aswan High Dam 1960		Cornerstone is laid at Washington, DC, Islamic Center 1949		
12 11	13 12	14 13	15 14	16 15	17 16	18 17	
			'Abd al-Rahman III becomes caliph of al-Andalus 929				
19 18	20 19	21 20	22 21	23 22	24 23	25 24	
			Caliph 'Umar introduces Islamic calendar 638				
26 25	27 26	28 27	29 28	30 29	31 30		
Experts say humans reached Arabia 125,000 years ago 2011				Freya Stark, British explorer of the Mideast, born 1893			

FEBRUARY RABI' II

S M T W T F S

NOTES: _____

							I 1
							India's Mughal classical era begins 1556
2 2	3 3	4 4	5 5	6 6	7 7	8 8	
	Egypt's singing legend Umm Kulthum dies 1975	Danny Thomas founds St. Jude's for children in Memphis 1962					
9 9	10 10	11 11	12 12	13 13	14 14	15 15	
	Hadji Ali of us Army Camel Corps arrives in Texas 1856			Mongols sack Baghdad 1258	us Pres. Roosevelt, Saudi King 'Abd al-'Aziz meet 1945		
16 16	17 17	18 18	19 19	20 20	21 21	22 22	
us raid against pirates in First Barbary War 1804		First air crossing over Sahara Desert 1920		Archeologist Sir Leonard Woolley dies 1960	Shah Waliullah, scholar & reformer, born in India 1703		
23 23	24 24	25 25	26 26	27 27	28 28		
Persian-Byzantine war ends 628		Traveler Ibn Battuta born in Tangier 1304					

2013 DECEMBER

1 2 3 4 5 6 7
 8 9 10 11 12 13 14
 15 16 17 18 19 20 21
 22 23 24 25 26 27 28
 29 30 31

Paule Seux / Hemis / Corbis



MARCH

1
 2 3 4 5 6 7 8
 9 10 11 12 13 14 15
 16 17 18 19 20 21 22
 23 24 25 26 27 28 29
 30 31



“This *khanqah* and mausoleum is the sum total of Faraj’s durable legacy. It neatly integrates architecture and urbanism and is the earliest of the noble landmarks of the Northern Qarafa.”

— Cairo Historic Buildings Survey, 2009



From 1400 to 1411, Sultan Faraj ibn Barquq built an enormous *khanqah* or commemorative complex in Cairo around the grave of his father, Barquq. Its two massive stone domes are the largest of the Mamluk period, which lasted from 1250 to 1517. This dome, decorated on the interior with polychrome designs and supported by *muqarnas* pendentives, stands over the graves of both the sultan and his father, while the other was intended for female members of the family.

Photo by B. O’Kane / Alamy

MARCH RABI' II — JUMADA I

S M T W T F S

NOTES:

I 29

2	1	3	2	4	3	5	4	6	5	7	6	8	7
				First commercial flow of Saudi Arabian oil 1938		Traveler Khusraw begins seven-year journey 1046		Twitter launches Arabic version 2012		Saudi Prince Al-Waleed bin Talal born 1955			
9	8	10	9	11	10	12	11	13	12	14	13	15	14
		Romans defeat Carthaginians in First Punic War 241 BCE		Facebook launches Arabic version 2009		uk maps out Iraq, Palestine & Gulf states 1921		Palestinian poet Mahmoud Darwish born 1941					
16	15	17	16	18	17	19	18	20	19	21	20	22	21
				Caliph Abu Bakr unifies Arabian Peninsula 633				Khaleda Zia named Bangladesh's 1st female PM 1991		Nowruz, traditional Persian New Year's Day			
23	22	24	23	25	24	26	25	27	26	28	27	29	28
		Harun al-Rashid, fifth Abbasid caliph, dies 809											
30	29	31	30										
				Saudi King Faisal assassinated 1975						Mahmoud Mokhtar, Egyptian sculptor, dies 1934			

FEBRUARY

					1								
2	3	4	5	6	7	8							
9	10	11	12	13	14	15							
16	17	18	19	20	21	22							
23	24	25	26	27	28								

John Feeney / SAWDIA



APRIL JUMADA II — RAJAB

S M T W T F S

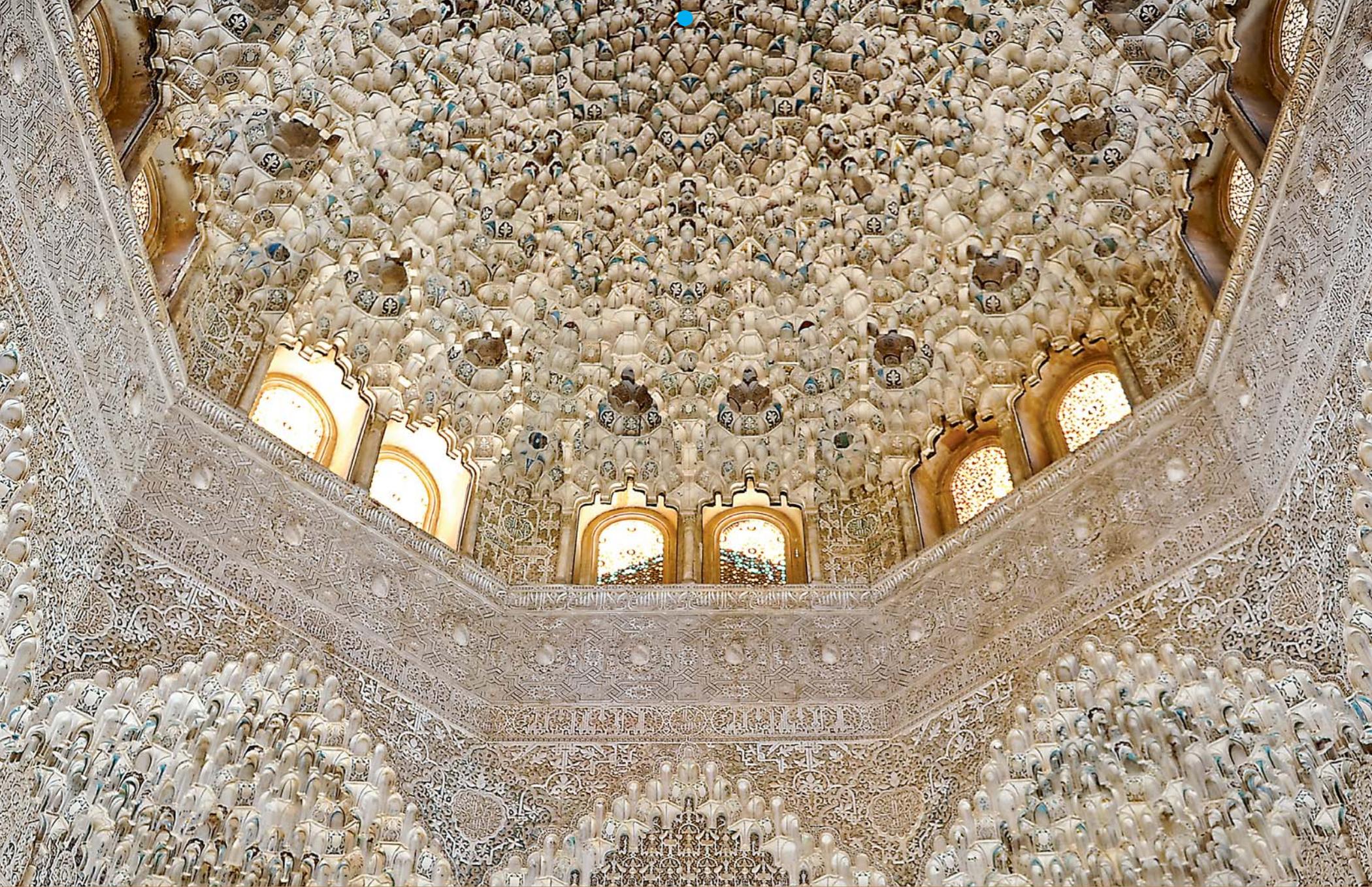
I 1 2 2 3 3 4 4 5 5

6	6	7	7	8	8	9	9	10	10	11	11	12	12
							Heinrich Schliemann begins to dig for ancient Troy 1870		Mt. Tambora volcano erupts in Indonesia 1815		Dead Sea Scrolls discovery announced 1948		
13	13	14	14	15	15	16	16	17	17	18	18	19	19
		Ibn Rushd (Averroes), philosopher, born 1126		Ottoman architect Sinan born 1489									
20	20	21	21	22	22	23	23	24	24	25	25	26	26
Easter		Poet-philosopher Sir Muhammad Iqbal dies 1938		Mamluks defeat Mongols in Syria 1303				Mamluks admitted to French Imperial Guard 1815				Pres. Obama hails <i>The 99</i> Muslim comics series 2010	
27	27	28	28	29	29	30	1						

NOTES:

MAY

						1	2	3					
4	5	6	7	8	9	10							
11	12	13	14	15	16	17							
18	19	20	21	22	23	24							
25	26	27	28	29	30	31							



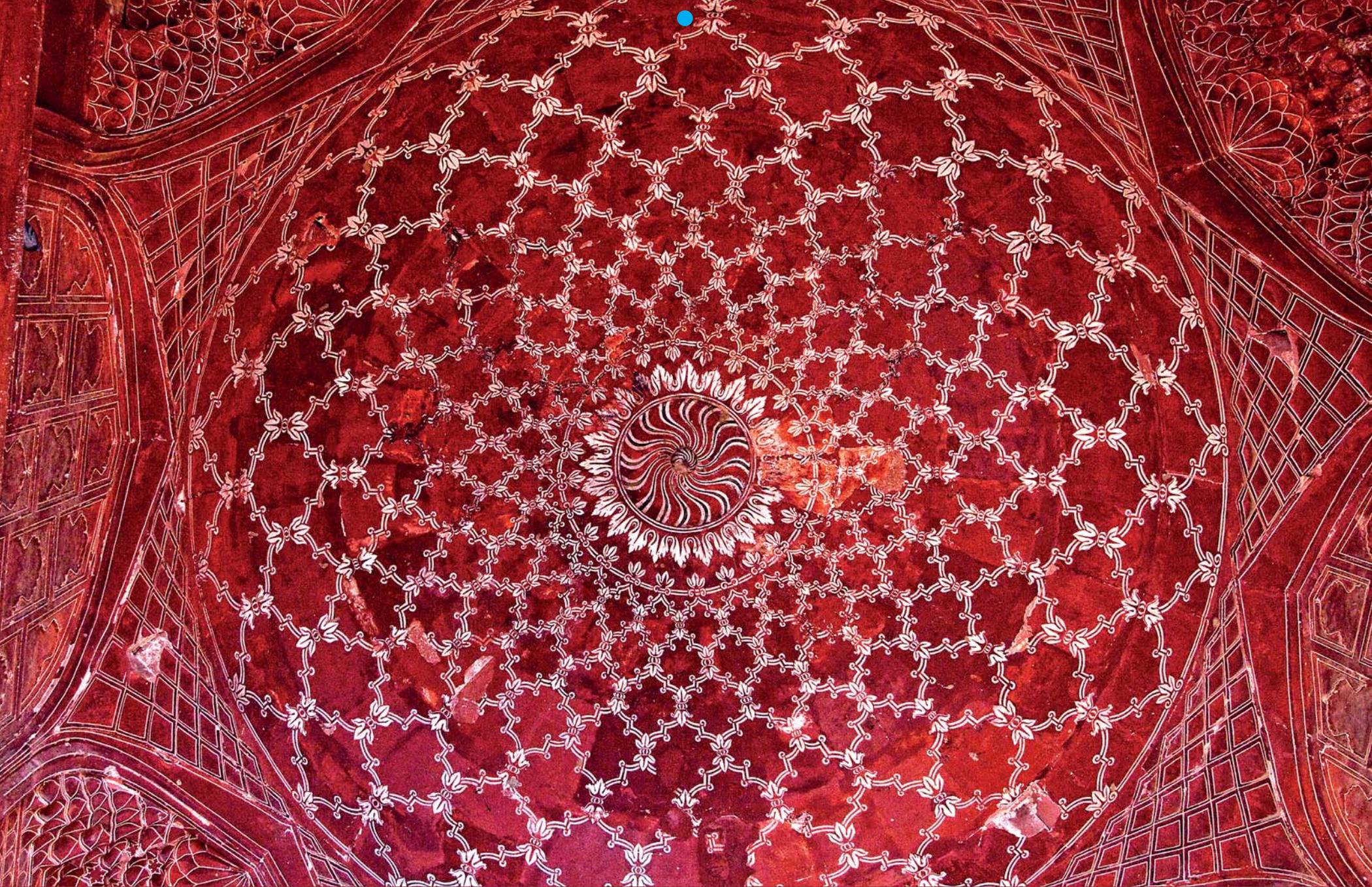
"Everything here appears calculated to inspire kind and happy feelings, for everything is delicate and beautiful. The very light falls tenderly from above, through the lantern of a dome tinted and wrought as if by fairy hands."

—Washington Irving, *Tales of the Alhambra*, 1832



Composed of small molded plaster elements fit together with extraordinary precision, the *muqarnas* dome over the Hall of the Two Sisters is one of the highlights of the 14th-century Palace of the Lions within the Alhambra palace in Granada, Spain. Retaining traces of its original gold and blue paint, the dome would have twinkled like stars in the sky when sunlight shone through the windows onto its faceted surface.

Photo by Dick Doughty / sawdia



*"The sight of this mansion creates sorrowing sighs, • And the sun
and the moon shed tears from their eyes. • In this world this edifice
has been made • To display thereby the creator's glory."*

—Shah Jahan, Mughal emperor, 1628-1658



The white marble Taj Mahal in Agra, India, built by the Mughal emperor Shah Jahan in the 17th century, is flanked by two red sandstone structures crowned with white marble domes. While the domes' exterior profiles are bulbous, the hemispheric dome on the interior of the mosque is made of red sandstone delicately decorated with a network pattern picked out in white marble.

Photo by Charles O. Cecil / Alamy

JULY RAMADĀN — SHAWWAL

S M T W T F S

NOTES: _____

		1	4	2	5	3	6	4	7	5	8
								Saladin defeats Crusaders at Hattin 1187			
6	9	7	10	8	11	9	12	10	13	11	14
				Singer & child advocate Raffi born in Cairo 1948	South Sudan gains independence 2011			Abbasids defeat Tang China at Talas 751			
13	16	14	17	15	18	16	19	17	20	18	21
				Muslims surrender Jerusalem to Crusaders 1099				At age 98, master Ottoman architect Sinan dies 1588			Arab-Berber army founds al-Andalus in Iberia 711
20	23	21	24	22	25	23	26	24	27	25	28
				Tsunami kills 50,000 in Alexandria, Egypt 365							
27	30	28	1	29	2	30	3	31	4		
*Id al-Fitr				Egyptologist William Flinders Petrie dies 1942				Tamerlane writes French King Charles vi seeking trade 1402			

JUNE

1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30

Nik Wheeler / SAWDIA



AUGUST SHAWWAL — DHU AL-QA'DAH

S M T W T F S

NOTES: _____

				1	5	2	6
						Romans capture Alexandria, Egypt 30 BCE	Iraq's occupation of Kuwait sets off Gulf War 1990
3	7	4	8	5	9	6	10
				Habib Bourguiba, first president of Tunisia, born 1903			
10	14	11	15	12	16	13	17
						Queen Cleopatra dies by her own hand 30 BCE	
17	21	18	22	19	23	20	24
				Genghis Khan dies in Western Xia 1227			
24	28	25	29	26	30	27	1
31	5						
Lunar crater named for Andalusian aviation pioneer Ibn Firnas 1976		Abbasids take Damascus, ending Umayyad rule 750		Physician-polymath Al-Razi born in Persia 865			
						Ottomans occupy Belgrade 1521	"Mo" Amin, Kenyan photographer, born 1943

SEPTEMBER

1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30

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"In this Mosque Mohammed spent the greater part of the day with his companions, conversing, instructing, and comforting the poor.... Here he received worldly envoys and embassies, and the heavenly messages conveyed by the Archangel Gabriel. And within a few yards of the hallowed spot, he died, and found a grave."

—Richard F. Burton, *Personal Narrative of a Pilgrimage to Al-Madinah and Meccah*, 1855



From the early eighth century, a dome marked the Prophet's Mosque in Madinah, the second holiest site in Islam, and domes have been associated with this structure ever since, throughout its many repairs, restorations and expansions over the centuries. The most recent expansion included a series of 27 domes, decorated on the interior with traditional geometric patterns, which are each ingeniously designed to slide open to let in air and light.

Photo by Peter Sanders

SEPTEMBER DHU AL-QA'DAH — DHU AL-HIJJAH

S M T W T F S

	1 6	2 7	3 8	4 9	5 10	6 11
			Mamluks save Cairo by defeating Mongols at 'Ain Jalut 1260		Queen's Freddie Mercury born in Zanzibar 1946	
7 12	8 13	9 14	10 15	11 16	12 17	13 18
Henry Every captures a Mughal ship and becomes the world's richest pirate 1695						Palestinian-Israeli Oslo I Peace Accords 1993
14 19	15 20	16 21	17 22	18 23	19 24	20 25
	Caliph al-Ma'mun, House of Wisdom founder, born 786	Hormuzd Rassam, finder of <i>Epic of Gilgamesh</i> , dies 1910				
21 26	22 27	23 28	24 29	25 1	26 2	27 3
	Abdülhamid II, last Ottoman sultan, born 1842	Kingdom of Saudi Arabia is proclaimed 1932			Crusaders surrender Arwad Island, last base in Levant, 1302	
28 4	29 5	30 6	NOTES:			
	Cervantes, author & Barbary pirate captive, born 1547	Persian poet Jalal al-Din Rumi born 1207				

AUGUST

	1	2				
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Abdullah Al-Dobais / SAWDIA



OCTOBER DHU AL-HIJJAH — MUHARRAM 1436

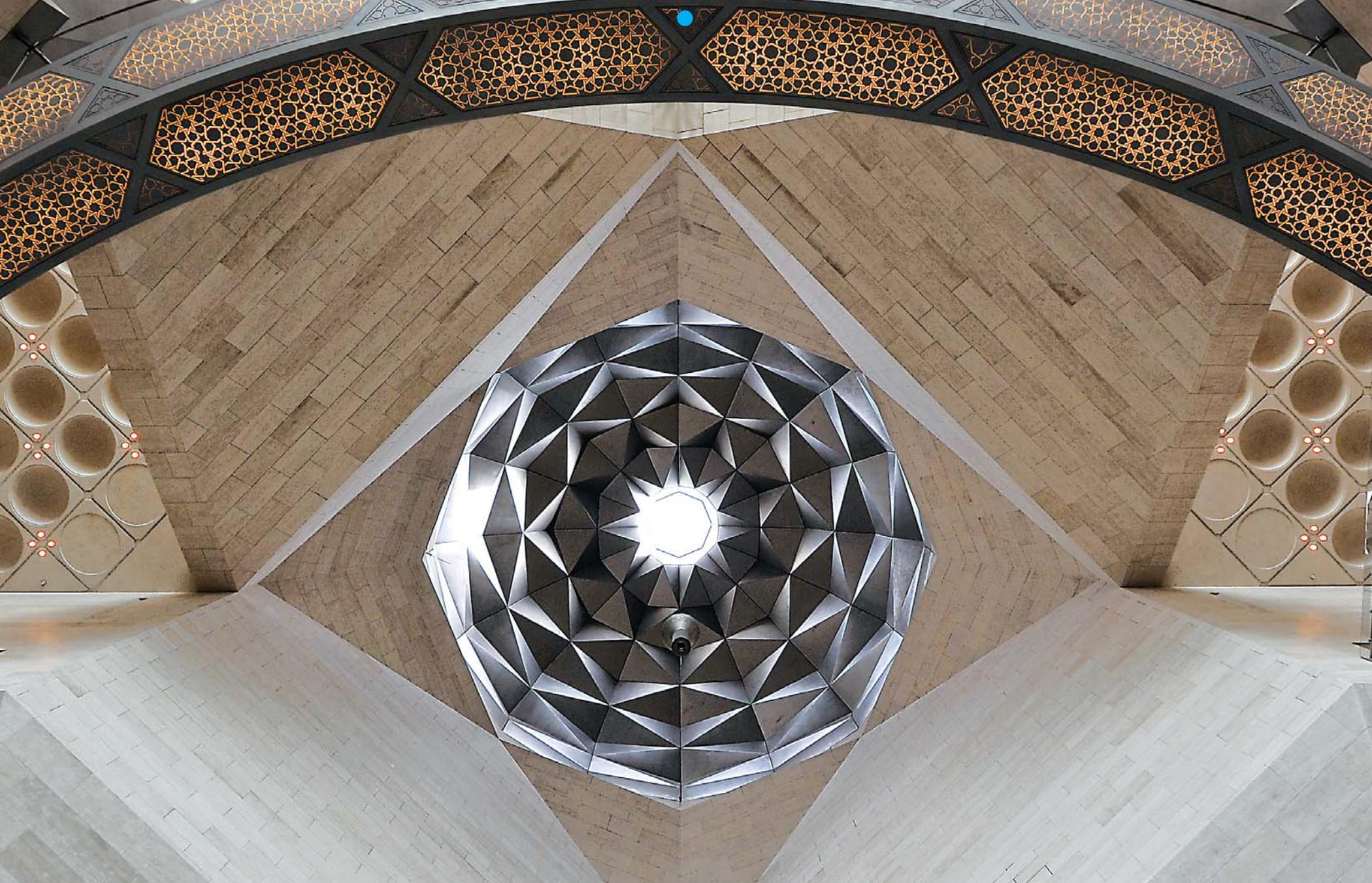
S M T W T F S

NOTES:

	1 7	2 8	3 9	4 10
		Alexander defeats Persians at Gaugamela 331 BCE	Saladin retakes Jerusalem from Crusaders 1187	'Id al-Adha
5 11	6 12	7 13	8 14	9 15
	Genghis Khan's palace uncovered in Mongolia 2004			TV's "Monk," Tony Shalhoub, born 1953
12 18	13 19	14 20	15 21	16 22
		Ottomans abandon siege of Vienna 1529		Egypt opens New Library of Alexandria 2002
19 25	20 26	21 27	22 28	23 29
Vandals from Germany seize Carthage 439	Translator and explorer Sir Richard F. Burton dies 1890	Seljuks defeat Peter the Hermit 1096		
26 2	27 3	28 4	29 5	30 6
		Egypt's Taha Hussein, dean of literature, dies 1973		Ottoman armistice with Allies 1918
				17 23
				18 24
				19 25
				20 26
				21 27
				22 28
				23 29
				24 30
				25 1
				Hijri New Year

NOVEMBER

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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						



"I think that geometry is the fundamental element of architecture. It doesn't matter if it's Islamic or Renaissance. Geometry is the framework."

— I.M. Pei, designer of the Museum of Islamic Art,
The Independent, 2008



I. M. Pei's design for the recently opened Museum of Islamic Art in Doha, Qatar, combines traditional motifs within a modernist esthetic. The rigorous geometry of the vast interior atrium recalls Islamic geometric patterns, while the crowning cupola is a modernist take on traditional *muqarnas* domes. The interior is subtly illuminated by an enormous circular chandelier inspired by Mamluk and Ottoman lamps.

Photo by Dick Doughty/SAWDIA

NOVEMBER MUHARRAM—SAFAR

S M T W T F S

NOTES:

I	8
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Al-Jazeera satellite television channel launched 1996

2 9	3 10	4 11	5 12	6 13	7 14	8 15
uk Balfour Declaration on Palestine 1917		Last great Mughal emperor, Aurangzeb, born 1618		Estebanico of Morocco is first Muslim in Texas 1528		
9 16	10 17	11 18	12 19	13 20	14 21	15 22
Kingdom's founder King 'Abd al-'Aziz ibn Sa'ud dies 1953	Mustafa Kemal Atatürk, first president of Turkey, dies 1938				Scotsman James Bruce reaches source of the Blue Nile 1770	
16 23	17 24	18 25	19 26	20 27	21 28	22 29
For 1st time since 1492, 'Id al-Adha marked officially in Spain 2010	Fourth sea link of "Med & Red" Seas, Suez Canal, opens 1869	Émigré novelist Paul Bowles, 88, dies in Tangier 1999			Lebanese superstar singer Fairuz born 1935	
23 1	24 2	25 3	26 4	27 5	28 6	29 7
30 8			Howard Carter, Lord Carnarvon open King Tut's tomb 1922		Oldest Philippine mosque (1380) made national shrine 2006	

DECEMBER SAFAR—RABI' I

S M T W T F S

I	9	2 10	3 11	4 12	5 13	6 14
		us Egyptologist James Breasted dies 1935				Petra, Jordan, declared a UNESCO World Heritage Site 1985
7 15	8 16	9 17	10 18	11 19	12 20	13 21
'Abd al-Rahman al-Sufi, Persian astronomer, dies 903		Khazars defeat Umayyad army at Marj Ardabil 730		Novelist Naguib Mahfouz born in Egypt 1911		
14 22	15 23	16 24	17 25	18 26	19 27	20 28
			Persian poet Jalal al-Din Rumi dies in Konya 1273			Morocco is first to officially recognize new USA 1777
21 29	22 30	23 1	24 2	25 3	26 4	27 5
"Walk Like an Egyptian" by The Bangles is No. 1 single 1986	Roger II of Sicily born 1095		Verdi's <i>Aida</i> premieres in Cairo 1871	Christmas		
28 6	29 7	30 8	31 9	NOTES:		
	Muhammad Iqbal's two-nation proposal 1930		Khedive Isma'il Pasha born in Cairo 1830	<hr/> <hr/> <hr/>		

OCTOBER

	1	2	3	4
5	6	7	8	9
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20	21	22	23	24
25	26	27	28	29
30	31			

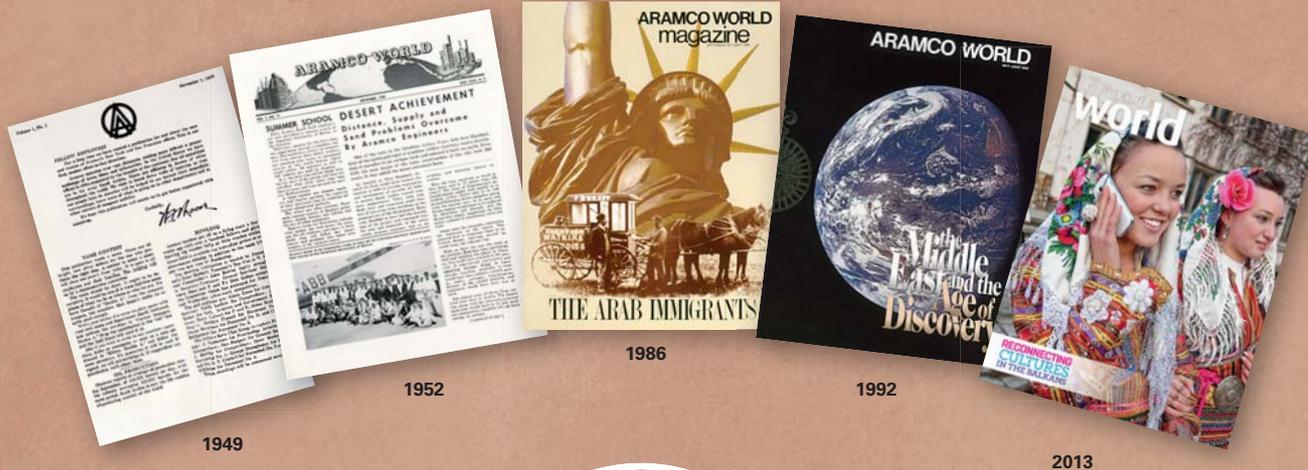
Dick Doughty / SAWDIA



2014

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16	17	18	19
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24	25	26	27
28	29	30	31

JANUARY



Subscriptions to the print edition are available without charge to a limited number of readers worldwide at saudiaramcoworld.com

In November 1949, the Arabian American Oil Company (Aramco) published the first issue of an interoffice newsletter named *Aramco World*. Over the next two decades, as the number of Americans working with Saudi colleagues in Dhahran grew into the tens of thousands, *Aramco World* grew into a bimonthly educational magazine whose historical, geographical and cultural articles helped the American employees and their families appreciate an unfamiliar land.

The magazine is now published by Aramco Services Company in Houston, Texas, on behalf of Saudi Aramco, which succeeded Aramco in 1988 as the national oil company of Saudi Arabia. In 2000, *Aramco World* changed its name to *Saudi Aramco World* to reflect this relationship.

Today, *Saudi Aramco World's* orientation is still toward education, the fostering of cooperation and the building of mutual appreciation between East and West, but for



A searchable, indexed reference disk containing PDF scans of all print-edition articles, from 1950 through 2010, is also available upon request, without charge, from the addresses at right.

the last five decades the magazine has been aimed primarily at readers outside the company, worldwide, as well as at internal readers. Its articles have spanned the Arab and Muslim worlds, past and present, with special attention to their connections with the cultures of the West.

Subscriptions may be requested on the magazine's website, by email to saworld@aramcoservices.com, or by fax to +1-713-432-5536. Multiple-copy print subscriptions for seminars or classrooms are also available.

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2012 Bronze Eddie Award • 2011 Gold Eddie Award
2011 Web Marketing Association WebAward • 2010 Gold Ozzie Award





Drifting sand covers much of the ruins of Al Zubarah, which at its height in the late 18th century housed several thousand people and was surrounded by a defensive wall with 22 watchtowers.

THE PEARL EMPORIUM OF AL ZUBARAH

written by JAMES PARRY // photographed by DAN BRITTON/QIAH/QMA

On the northwest coast of Qatar, the bay's flat cobalt waters give way gradually to sand and small stony hills from which Al Zubarah ("Sand Mound") may have taken its name but not, explains archeologist Alan Walmsley, its historic reputation.

"It's very clear," he explains. "Al Zubarah is not only the best-preserved pearling settlement anywhere in the Gulf, but also an outstanding example of urban planning in the Arabian Peninsula." It is, he adds, significant enough to "help expand our whole view of how the region's coastal trading settlements functioned."

In a region where archeologists often deal in millennia, this is an impressive claim for a site that went from sand to riches and back to sand in just a bit more than a century. Profiting from the nearby pearling banks on the bed of the south-central Gulf, Al Zubarah (ahl zoo-bar-ah) became a wealthy trading hub during the mid- to late

1700's. Its affluent merchant class built what must have been an imposing, walled town that was home to several thousand people. Though it was attacked and largely destroyed in the early 1800's, its story illuminates the vitality of the Gulf's preindustrial coastal economies that thrived on "white gold"—pearls.

Pearling is an industry of great antiquity. The earliest pearls yet discovered are estimated to be as much as 7500 years old, unearthed at the Neolithic sites of Al-Sabiyah in Kuwait and Umm al-Quwain 2 in the United Arab Emirates.

Those and other excavations indicate that even then pearls were accorded high status as jewelry, and they were featured in burial chambers. "Pearling dominated the thoughts and way of life of nearly all the coastal inhabitants of the Gulf for centuries," wrote Robert A. Carter in his 2012 book, *Sea of Pearls*.

Exactly how important pearls were to Al Zubarah and how important Al Zubarah was in its historical era are the subjects of the 10-year Qatar Islamic Archaeology and Heritage Project (QIAH), founded in 2009 and led by the Antiquities Department of the Qatar Museums Authority (QMA) in association with the University of Copenhagen. Although limited excavations took place in the 1980's and early 2000's, until very recently the precise extent and character of the town remained largely cloaked in mystery, even though what was thought to be the key event in its demise was well recorded: In 1811 Al Zubarah was bombarded from the sea by Omani ships, devastated by fire and reduced to ruins. Historians traditionally understood that

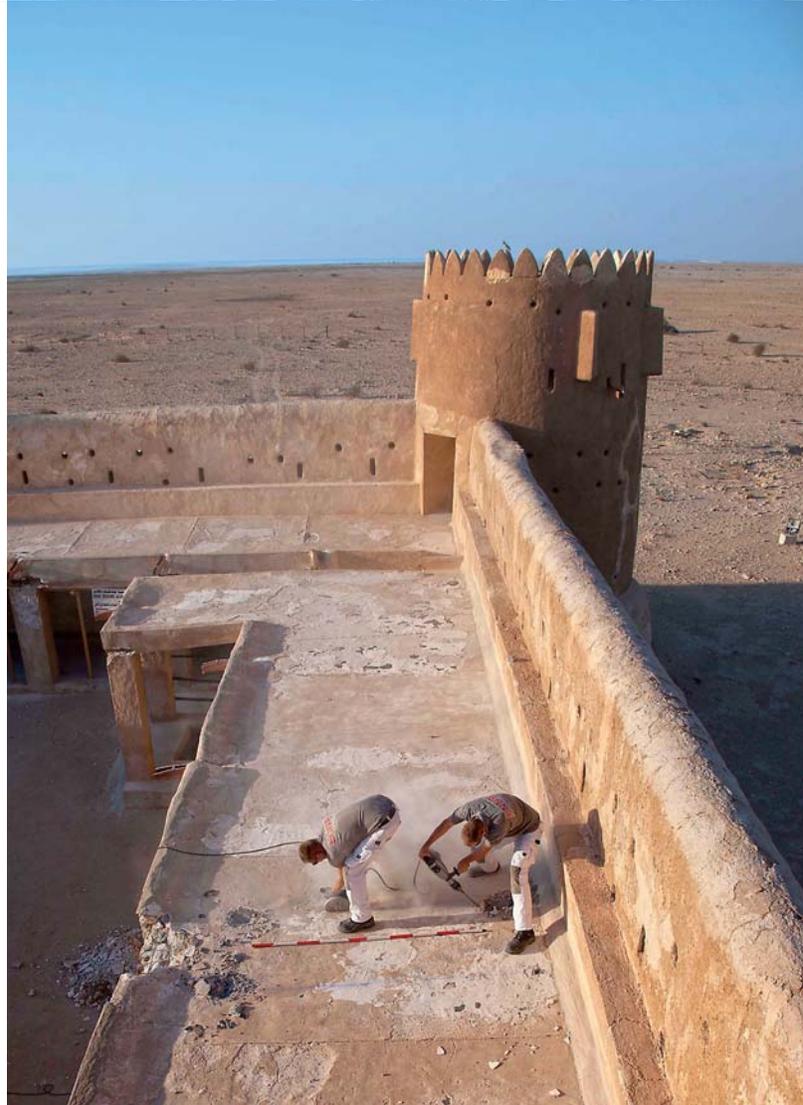


Puzzle pieces of the emerging story of the Gulf-wide boom in “white gold,” as pearls were sometimes called, more than 60,000 pottery fragments have been recovered from Al Zubarah. *Right:* The impressive fort was built in 1938, almost a century after Al Zubarah’s fall from prominence. It is currently under restoration.

its inhabitants had fled as a result and that the town had been totally abandoned. Now, the QMA project is finding evidence that challenges this version of events and suggests a more complex and nuanced process of occupation, partial abandonment and re-occupation.

Jhough sources are scarce, the story of Al Zubarah appears to begin in the 1760’s with the arrival of families belonging to the ‘Utub, a coalition of tribes that emerged from central Arabia during the late 1600’s. Among them was the Al Khalifah clan, which is now the ruling family of neighboring Bahrain. The ‘Utub established a headquarters in Kuwait, and by 1765 they boasted a pearling fleet of some 800 boats. Determined to extend their influence, they colonized Al Zubarah and established a trading hub there. Merchants came from elsewhere in the Gulf, favoring Al Zubarah at a time when other trade centers such as Basra were under pressure from outbreaks of plague and the threat of Persian attack.

Under the ‘Utub, and equipped with its own pearling fleet, Al Zubarah quickly flourished—so much so that an ambitious town was built in a decade or less. Trade links extended across the Gulf, to the Indian Ocean and beyond. Yet its meteoric rise was short-lived. Other, rival pearling settlements had sprung up along the Gulf coast, too, among them the precursors of Dubai and Abu Dhabi. The intensity of the economic rivalries among the coastal towns was compounded by the fragility of local tribal and family alliances, which were often racked by disputes.



The late 1770's were also a time of wider political instability. Just some 40 kilometers (25 mi) north by sea, Persians from Bushehr had established a governor on the island of Bahrain. To the Persians, Al Zubarah was an upstart threat, and hostility culminated in battle in 1783. The 'Utub prevailed and seized Bahrain. Prominent among Al Zubarah residents who relocated to Bahrain were members of the Al Khalifah clan.

This movement of people, and the shift in economic focus to Bahrain that went with it, was fueled also by a second threat—one from inland. United under Muslim theologian Mohammed ibn Abd al-Wahhab, other tribal groupings traveled out from central Arabia to menace coastal towns, including Al Zubarah. As an island, Bahrain offered a measure of safety.

Meanwhile, international powers, too, were turning attention to the region. The British were anxious to contain the Qawasim, a tribe based at Ras Al Khaimah, along the Gulf coast northeast of Al Zubarah, whom the British accused of masterminding pirate attacks on British ships passing through the Gulf to and from India. To suppress the Qawasim, the British entered into a treaty with the Omanis, who were similarly concerned for their own vessels.



Evidence that Al Zubarah was part of a larger system of coastal trading and farming, the outlines of this former mosque are in Freiha, north of Al Zubarah. *Right:* With no later towns or cities covering it, Al Zubarah is “a place of outstanding cultural integrity,” says Faisal Al-Naimi, director of archeology for the Qatar Museum Authority.

of Al Zubarah in its prime. More than a decade after the attack, in 1824, Captain George Barnes Brucks of the East India Company recorded it as “a large town, now in ruins. It is situated in a bay, and has been, before it was destroyed, a place of considerable trade.” This evocative and elusive history forms the backdrop to the current project, which is trying to piece together the character of the town at the

peak of its prosperity in the late 18th century. For the past four years, an international team of more than 70 experts has worked at Al Zubarah each autumn and winter, spending several months researching, surveying, excavating and cataloguing what is now recognized as one of the Gulf's most important historic sites. The team seeks answers to questions about the layout of the town, which activities took place and where, and how Al Zubarah's inhabitants lived and worked to earn the wealth that built so much so fast.

With these questions in mind, I wandered through the remains of the town. It covers 61 hectares (150 acres), about the area of a dozen soccer fields. On the landward side, it is bounded by the remnants of its 2½-kilometer (1½-mi) defensive wall, which reached five meters (16') in height and featured 22 watchtowers at

intervals. Geophysical surveys, radar tracking and traditional digging have revealed a regular, grid-like street pattern inside the wall, with frameworks for residential compounds—one clearly palatial—as well as workshops and other spaces.

The houses are mostly built around courtyards, points out archeological supervisor Tom Collie. As I explore, I can see that some are distinctly more ambitious in size and design than others. “The building materials vary, but we have found that better quality stone was



Project director Ingolf Thuesen of the University of Copenhagen shows visitors the market and workshop area of Al Zubarah. For the past four years, an international team of more than 70 experts has worked at the site each autumn and winter, researching, surveying, excavating and cataloging.

In 1809, the Wahhab-inspired tribes joined the Qawasim to occupy Al Zubarah. This gave the British–Omani alliance a chance to kill two birds with one stone. The British had already attacked other Qawasim-held ports, and the Omanis decided to attack Al Zubarah. One day in 1811, they sailed to the town and bombarded it with their cannons. The ensuing panic and fire left the town largely in ruins.

So swift was its rise and fall that no description has yet been found



in the central, seaward part of the town. “These point toward production and trade in different commodities, including ironsmithing and other artisanal enterprises,” says archeological supervisor Mike House. He takes me to an area of open-air enclosures, which he explains were probably used for livestock. Far from being just workers in a “pearling town,” the people of Al Zubarah “were always trying different ways of making money,” suggests House.

In the same way that the excavations are showing pearling to be one of several sources of Al Zubarah’s prosperity, so they are also turning another totemic chapter in the town’s history on its head: the infamous attack of 1811. Far from being Al Zubarah’s supposed Armageddon, the archeology is showing this event was in fact rather less than cataclysmic. For a start, the town was already past its prime. “After analyzing the different construction layers, we now think that Al Zubarah was already in decline when the Omanis fired their cannons,” explains Walmsley, who serves as archeology director for the QIAH. “Some major buildings had certainly been stripped and abandoned in the years *before* the Omani attack.” This new evidence supports the historical data suggesting that the populace had already started leaving

used for the more elaborate and important structures,” explains Collie. He shows me how the basic construction technique is of roughly hewn beach rock, sealed and protected by a lime-based plaster. On the wall plaster of one courtyard house, I spot a well-preserved if simple etching of a dhow, an emblem of the crucial role played by seaborne trade in the history of the town.

What the teams are finding is that, despite its brief history, Al Zubarah has layers, different levels of construction that highlight dramatically shifting fortunes, like a Gulf version of the 19th-century gold rush towns in the us—a place of rapid change and fast money. The town at its largest extent was laid out in a single phase during the 1760’s and 1780’s, although it is now clear that this plan replaced an earlier and smaller settlement of tents and huts, probably inhabited by fishermen and their families. Of particular interest is an area excavated at the western end of the town, directly above the beach. Here, numerous post- and stake-holes, ovens and fire pits indicate temporary occupation in the form of tents and/or palm huts during a period that coincides with the major phase of the town’s construction. This suggests the presence of economic migrants who would have come to supplement resident pearl fishers during the annual “white gold” harvest, or pearling season from May through September.

Meanwhile, the town shows evidence that pearling was far from the only source of prosperity. Warehouses and markets have been discovered

Excavations are turning another totemic chapter in the town’s history on its head: the infamous attack of 1811.

the town well before the Omani navy showed up.

Equally, while the 1811 bombardment prompted a sizeable exodus, this was only an initial response: Some people, at least, soon returned, and they may have lived in temporary

structures, indicating recolonization in the 1820’s. Work done around that time included the construction of an inner wall, built over collapsed earlier buildings and marking the contraction of the town’s extent to approximately one-fifth of its original size. Similarly, the commercial quarter was scaled down and rebuilt, some damaged

buildings having been demolished and others reconstructed using salvaged, often inferior material.

Tribal tensions continued throughout the region, and in 1878 Al Zubarah was attacked again, this time by Shaykh Jassim bin Mohammed Al Thani, one of the founders of the modern state of Qatar, which his family continues to rule. Al Zubarah thus remained occupied on this reduced scale until the end of the 19th century, when it was again abandoned, and thereafter used only sporadically.

In addition to the remains of walls and



Conservation specialist Nadia Tsatsoulie fits sherds together to reconstruct a broken pot. Right: Marianne Schwartz uses a microscope while removing corrosion that may hide inscriptions on a coin.



Archeologists give visiting students a lesson in washing and sorting pottery. Some 1000 students visit Al Zubarah annually to learn about the site and its history, and to see archeology in process.

some roofs, by far the greatest number of finds unearthed at Al Zubarah to date are pottery. Some 60,000 fragments, known as sherds, have been examined since 2009. Many have been retrieved from the middens or rubbish heaps found throughout the site, often on the landward side of the perimeter wall. “I have to navigate my way through piles of sherds,” explains research ceramicist Agnieszka Bystron, “sorting them into type and date. Surprisingly small details, such as subtle changes in the shape of a floral design, can give away the date of a piece.” Bystron guides me through a wide variety of pottery, including Julfar ware from Ras Al-Khaimah, pots from Khunj in Iran, tall, thin “torpedo” jars for transporting liquids, decorated tobacco pipes, specialist water containers produced by craftsmen in the Bahraini village of Aali, and one mysterious black vessel, its provenance unknown but possibly from India or perhaps Iran. There are also pieces of Chinese porcelain dating to the 18th and 19th

centuries, as well as European porcelain that is usually of a later date. One interesting blue-and-white bowl has a riveting wire and drill hole, indicating that particularly prized or expensive objects were not discarded when broken, but mended and reused.

Other finds reveal much about cooking and the inhabitants’ diets, which, not surprisingly, prominently feature fish. Yet there are surprises: Among the vast quantities of fish bones are those of sawfish, which today is very scarce in Gulf waters, as well as specimens of more common species that are much larger than any caught today, which indicates that today’s fishing industry is netting fish well before they reach maximum size. And pearls, of course, are produced by oysters, which were eaten and their shells discarded into middens that the team are finding run as deep as three meters (nearly 10’). A large number of date presses have been found, indicating the production of date syrup; evidence of rice, wheat, barley and fava beans, as well as fruits such as coconuts, peaches, apricots,



This partially formed pearl was found, discarded with its oyster’s shell, outside a 19th-century building. Pearls form when the oyster secretes nacre, a calcium-carbonate protective coating, over a small intruding object.



Left: A diving weight, made of hematite (iron ore), helped pearl divers descend more than 50 meters. *Above:* A mother-of-pearl bead, on a gold wire, is a rare find: Jewelry usually left Al Zubarah with departing residents. *Lower:* This glass and faience bead was wound on a mandrel and smoothed to fuse its layers. *Right:* This flattened silver ring was found in a midden (trash heap) inside the city wall.



walnuts, grapes and plums, all indicate diverse trade networks and purchasing power.

Among the finds directly connected to pearling, there are only a few actual pearls. Holly Parton, who tracks the site's inventory of finds, says this is to be expected, given their value and portability: They would have been among the first objects carried away by residents moving or even fleeing. There are, however, a variety of objects that would have been used by pearl divers and traders: an 18th-century pearl merchant's chest, a pearling knife and teardrop-shaped diving weights made of hematite, a mineral form of iron oxide. These helped the divers descend to more than 50 meters (160') beneath the waves in search of their prize. In all, more than 200 objects have been sent to Doha for display in the new National Museum scheduled to open in December 2014.

Interest in the finds is being matched by what Al Zubarah's urban topography says about Gulf settlements. Walmsley, who has specialized for three decades in archeology in Syria, Jordan and Palestine, explains that Al Zubarah demonstrates none of the complicated, organic urban layout so typical of old, traditional Middle Eastern towns. "Al Zubarah does not correspond to the established notion of Islamic cities developing in an intrinsically chaotic or unplanned way," he says. "Things were much more organized here, which indicates that there was a central authority responsible for the town's design and construction." It is not yet clear who might have offered such direction, but such vision and organization would probably have come from a sophisticated individual supported by worldly advisers.

Such discoveries and new questions underscore how little is still understood about the urban archeology of smaller Gulf towns and cities. With the direct evidence for most of them now out of sight, buried beneath modern development, Al Zubarah offers an exceptional

opportunity to understand how people in such settlements lived, worked and related to others around them.

To understand even more about the latter, I traveled a few kilometers north along the coast to Freiha, another "lost" town that, like Al Zubarah, is helping historians understand the fickle fortunes of coastal trading ports. Ceramic finds confirm Freiha predates Al Zubarah, but excavations indicate a similar type of evolving, boom-and-bust settlement pattern. What makes Freiha most interesting is a settlement around a spring, on higher ground inland from the main port.

Stumps of long-dead date palms indicate that this was farmland, likely capable of supplying the port with seasonal fresh produce otherwise difficult to obtain. It is fair to guess that such arrangements were in place elsewhere, and formed part of the coast's

With most of the layout of the town now known, there are opportunities to learn more about how people lived, worked and related to others.



LOWER: AGNIESZKA BYSTRON / OIAH / OMA

Right: Cowrie shells with their tops removed could have been used as jewelry or game pieces. These were found in Al Zubarah's market and commercial area.



Left: This ceramic fragment may once have been part of a Chinese bowl, later reused as an inlay for a pendant. It is estimated to date to the 19th century, as is this glass stopper for a bottle, *right*.



supporting hinterlands. A 19th-century reference to 20 forts “in and around Al Zubarah” has been supported by surveys indicating former field systems and enclosures. This network of small-scale rural settlements, located slightly inland near freshwater sources, would have served as satellites to the coastal towns and provided Al Zubarah in particular with vital supplies.

This improved understanding of how the network of small trading “city-states” of the southern Gulf connected socially and economically both to each other and to their hinterlands is one of the most valuable outcomes to date of the QIAH project. Equally significant are the indications that the 1811 bombardment, while important, was not determinative, and that Al Zubarah thrived on more than just pearling.

All this points finally to decline that was similarly due to multiple events, and not just local ones. The Gulf pearl trade collapsed

Following restoration, Al Zubarah's fort will become the Qatar Museum Authority's visitor center.

following the influx of Japanese cultured pearls from the 1920's onward. From 1869, the Suez Canal repositioned hemispheric trade routes, effectively reducing the Gulf's shipping to regional rather than global traffic. Locally, overexploitation of water resources appears to have hastened drought and agricultural decline. Conservation work at Al Zubarah has been limited so far to the rebuilding and consolidation of sections of the outer wall, one of the towers and a few domestic dwellings within the largest of the compounds. Although none have been reconstructed, walls have been stabilized, historic plaster sections reattached where possible and a new plaster applied where necessary. This has helped to begin to recreate for today how the town would have looked in its heyday 250 years ago; for the first time in at least a century it is now possible to stroll along the sandy streets and stand on a section of the boundary wall that once protected Al Zubarah's inhabitants.

“Al Zubarah is a place of outstanding cultural integrity,” explains Faisal Al Naimi, head of archeology at the Qatar Museum Authority. “It sheds unique light on the history not just of Qatar but of the whole region. We are privileged to be unveiling its rich heritage to the world.” 🌐



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 pearls in the Gulf: S/O 90
 Gulf maritime life: M/A 10



PART 6:

Tall Tales

WRITTEN BY TIM MACKINTOSH-SMITH

TITLE CALLIGRAPHY BY SORAYA SYED

This is the last of the author's six collections of eclectic, occasionally irreverent, excerpts from the vast treasure-house of Arabic literature. In each, he samples and comments thematically, seeking that which is insightful, prescient or poignant, as well as the curious, mischievous or wisely satirical. Like the original authors, his goal, and ours, is to entertain, educate and enlighten.

—The Editors



HOW TALL MUST A TALE BE TO BE TRULY TALL?

Arabic literature is full of more or less incredible 'aja'ib wa-ghara'ib, wonders and marvels—pearls formed from raindrops, stones that make you laugh or cry, tribes of half-people with one arm, one leg and so on who hop about secluded wastes and spout spontaneous Arabic verse. Some of these preternatural phenomena might have begun as tall stories, but over time they gained credence in the retelling, and often ended up as parables of the limitless possibilities of creation.

Perhaps to be truly tall a story should not only be utterly

incredible, but also a one-off, and willfully told. The following tales from my library meet those criteria to varying degrees. All of them, though, are indisputably fishy.

Pearls from raindrops were a persistent fancy. The following further addition to the unnatural history of oysters appears in Abu Zayd's supplement, of about 900 CE, to Sulayman the Merchant's *Accounts*. Despite the title, the setting is Arabian; despite the author's claim only a few paragraphs later that he has avoided unbelievable tales, to my mind the last part of the anecdote leaps the bounds of credibility with panache:

In days long past, a Bedouin turned up in al-Basrah with an extremely valuable pearl. Having no idea of its worth, he took it to a druggist of his acquaintance, showed it to him and asked him what it was. The druggist told him that the object was a pearl.

"What's it worth?" the Bedouin asked.

"A hundred dirhams," the druggist replied.

The Bedouin thought this was an enormous sum. "Would anyone actually give me that much for it?" he said.

The druggist immediately paid him a hundred dirhams, and the Bedouin went off and bought provisions for his family. As for the druggist, he took the pearl to Madinat al-Salam and sold it there for a large sum of money, with which he was able to expand his business.

The druggist mentioned that he asked the Bedouin how he had got hold of the pearl. "I was passing al-Samman," the Bedouin told him—this being part of the land of al-Bahrain, a short distance from the seashore—"when I saw a fox lying dead on the sand. I noticed that something had attached itself to the fox's muzzle, so I went down to it and found the thing was like a dish with a lid, all

It's always hard to suggest an equivalent modern value for old currencies. One way is to consider the bullion value, which for 100 silver dirhams would be around \$250 at the time of translation.

This, "the City of Peace," was—and perhaps still is—the official name of the Abbasid metropolis founded in 762. It is more usually known by the Persian name of the village that preceded it on the site: Baghdad.

Samman in general signifies an area of low rugged hills. At this period, the term "al-Bahrain" included both the islands known by that name today and a large area of the adjacent mainland.

The idea that oysters come ashore to take the air was another old chestnut.

Called Tarikh al-Mustabsir, something like The History of Him Who Seeks to See Clearly.

In the next tale, hungry foxes wreak their revenge. The source is Ibn al-Mujawir's wonder-stuffed 13th-century description of the western and southern parts of the Arabian Peninsula, and the setting of the story is my adoptive hometown of Sana'a in the

The source of several (mostly dubious) snippets of information in Ibn al-Mujawir's book, but otherwise, I think, unknown.

"Durayn" is a proper name, like English "Reynard". An old Adeni proverb goes, "When the lion's away, Durayn comes out and strolls about."

The next tale, also from Ibn al-Mujawir's book, doesn't reach the same height of improbability, but it is both metaphorically and

ie. from what is now the west of Saudi Arabia.

Something like \$2500, going by today's bullion prices, and probably more than the buyer himself was worth: 800 dirhams—the sum paid for the future Mamluk sultan, Baybars, at about the time this tale was told—was an unexceptional price for a male human slave. In my local fish market, dayrak can fetch up to \$5.50 a pound (\$12 a kilo).

The story resurfaces a hundred years later in the south Arabian port of Aden, where the traveler Ibn Battuta heard it. In his version, the fish has metamorphosed into a ram, and the price deflated to 400 dinars.

Sailing on from Aden but returning to remarkable fish, my

A dinar being not quite half as heavy again as a dirham, I assume Ibn Battuta means silver dinars (he often does): The gold equivalent would be mind-boggling. And regarding continuity, a certain joke told by Ibn al-Mujawir—unprintable here—is still doing the rounds nearly 800 years on.

gleaming white inside. I found this round thing in it, and took it."

At this the druggist realized what had happened. The oyster had left the sea and gone onto the shore to sniff the wind, as oysters are accustomed to do. The fox had passed by and spotted the meat inside the oyster as it lay there with its mouth open, and had pounced, stuck its muzzle in the shell and got hold of the meat. At this the oyster had clamped shut on the fox's muzzle.... When the fox felt itself being asphyxiated, it had rushed about, hitting the oyster on the ground, right and left, until it had run out of breath and died and the oyster had died too.

mountains of Yemen. Given its altitude of 2250 meters (7400'), water does indeed freeze in Sana'a in cold years. The subsequent claim is, as Ibn al-Mujawir himself notes, magnificently tall.

An English visitor of 1608 said of Sana'a, "I never felt soe much cold in any place as by the waye in the mornings before some risinge, with a hoare frost on the ground." I had frozen water-pipes two winters ago—not a common occurrence in most of Arabia.

Water freezes there. I was informed by Sulayman ibn Mansur, who said, "The water freezes around geese and cranes, so that the only parts of their bodies that are visible are their heads. When this happens, Durayn—that is, the fox—comes over the ice and bites off the birds' heads." Ibn al-Mujawir said, "This is an impossibility, because nothing can freeze around any body in which the vital spirit is present, since its innate heat overcomes the cold. Therefore, water can only freeze around something dead, for life is by nature hot and moist, while death is cold and dry."

"Geese and cranes" is the Arabic editor's guess. Much of Ibn al-Mujawir's text is notoriously corrupt. Neither makes much ornithological sense—which only adds to the authentic tallness of the anecdote.

"...hot and moist... cold and dry," according to ancient notions of biology and medicine, deriving from ideas about the four humors, the four elements and their qualities.

literally fishy. I include it to show how such anecdotes did the rounds of suqs and centuries, shifting shape along the way.

I was informed by a Hijazi man, who said, "The particular food of the Persians living at Siraf was the dayrak fish. In certain seasons, however, it was in very short supply. During such a period, two young slaves belonging to two different merchants went out to buy a dayrak, as the fishermen had brought one in. The two slaves bid against each other for it, and one of them ended up paying a thousand dirhams for the fish. When the slave took the fish home, his master was so delighted with what he had done that he freed him, and also gave him a thousand dirhams more, to live on. As for the other slave, his master was so angry with him for letting the other man's slave outdo him in cleverness that he treated him with the utmost contempt."

Sometimes known in English by its Anglo-Indian name, seerfish, the dayrak belongs to the mackerel family and was rightly deemed by Captain Hamilton in 1727 "as savoury as any Salmon or Trout in Europe." Until its destruction by an earthquake in 977, Siraf was the major port on the Iranian coast of the Gulf.

favorite maritime raconteur, the 10th-century Captain Buzurg ibn Shahriyar of Ramhurmuz, was—unlike the narrator of the tale of the deadly oyster above—an unrepentant yarn-spinner. Believe, if you will, this story told him by a seagoing friend:

He heard one of the seamen telling how he once set sail from Aden on a vessel bound for Jidda. When they were level with Zayla', a fish rammed into the ship and gave it such a devil of a blow that the crew were sure it had smashed the hull. But when the crewmen went down into the bilges, they found that the water had not risen above its normal level, and were amazed that a tremendous blow like that had had no effect. When they

On the northern Somali coast.

reached Jidda, they unloaded the vessel, took it out of the water and beached it—and discovered the fish's head in the ship's hull! When it had rammed the ship, its head had got stuck fast and sealed the hole it had made, leaving not a single gap. The fish had been unable to free itself, and its head had broken off at the neck and remained in the hole.

I once quizzed an expert on the marine life of the seas around Arabia about the possibility of such an incident. His first reaction was to smile; but then he recalled the case of a dhow arriving in Dubai with a curious "figurehead"—an enormous whale-shark that had managed to impale itself on the vessel's prow. So perhaps

we shouldn't entirely dismiss Captain Buzurg's kamikaze fish.

Another piscine peril, however, which the 12th-century traveler Abu Hamid of Granada encountered in the Black Sea, sounds like a definite escapee from the teeming waters of the mariner's imagination:

A cubit is the distance from elbow to middle fingertip, about 47 centimeters (19").

Bulghar, the capital of the Volga Bulgars, was situated south of Kazan in what is now the Republic of Tatarstan, Russia.

Even on dry land, however, the credibility of Abu Hamid's informants doesn't necessarily improve. Staying in Bulghar in 1136, the Andalusian became friendly with a certain Danqi, a gigantic

I also saw in this sea a fish like a mountain, whose head, back and tail were visible. From head to tail it had a row of black spines like the teeth of a saw, each of which appeared to the eye to be more than two cubits long. There was more than a farsakh of water between us and the fish. I heard the mariners saying that this fish is known as "the saw," and if it happens to strike against the bottom of a ship, it slices the hull in half.

A farsakh is about 5 kilometers (3 mi). Abu Hamid must have had good eyesight to estimate the length of those spines.

man "of the lineage of 'Ad, who was more than seven cubits tall." If that is too tall to be comfortably credible, the postscript to the account of Danqi is worthy of a Monty Python sketch:

This may be the judge of Bulghar said elsewhere to have written a history of the city, now lost.

The ruler of Bulghar had a coat of mail made for him that was so heavy it had to be carried on a cart, as well as a helmet as big as a cauldron. In time of war, Danqi would fight using an oak log that he could wield as easily as a walking stick, but which could have killed an elephant at a single blow. Yet he was a kindly and modest soul, and whenever he met me he would greet me in a most welcoming manner. My head did not even reach his waist, God have mercy on him.... He had a sister of similar stature, whom I often saw in Bulghar. While I was there, Judge Ya'qub ibn al-Nu'man told me that this giantess had killed her husband, a man by the name of Adam who was one of the strongest in Bulghar. She gave him a hug that smashed his ribs, and he died instantly.

'Ad, a proto-Arab people mentioned in the Qur'an, are popularly believed to have been giants. At seven cubits plus, "Danqi" (the reading of his name is uncertain) would have stood at over 3.3 meters (11').

From one doomed marriage to another—this one contracted by the 13th-century Andalusian wit and poet Ibn al-Murahhal with financially disastrous, if not fatal, results. Visiting the Moroccan town of Sabtah, he meets some women who offer him the hand of a beautiful girl. Enticed by her alleged charms, he sinks most of his fortune in the "bride-price"—a house—and blows the rest

on a lavish wedding feast. Eventually the groom is conducted to his bride and the marriage consummated. At this point, Ibn al-Murahhal realizes that the girl is still covered, and asks her to unveil the beauty of which he has heard so much. (Warning: The poet lived long before our disability-sensitive age....)

For his sake I hope, as does his biographer, that the marriage took place only in the poet's imagination. Ibn al-Murahhal's poems include one, apparently a party-piece among lisp-sufferers, in which all the s sounds can be changed to th without a loss of meaning. He described his addiction to verse as "a chronic illness."

And there she was, revealed—bald as a coot!
And with a head you'd think was shaped by cudgel blows, to boot.
Squint-eyed, she saw the world all upside-down—
Just picture her at large with gape-mouthed stare about the town!
Snub-nosed—you'd think her schnozz had lost its tip.
(If so, all power to the hand that gave her snout the snip!)
Deaf as a post, as well—she'd only come
If summoned with a screech, a cattle goad or banging drum.
Plus she could barely speak, and when she did
You'd think a nanny-goat was bleating to a suckling kid,

Currently the Spanish-administered enclave of Ceuta.

Literally, "May the hand not become unsound..."

Barik, if the reading is right, is specifically a raven's croak.

And that her gap-toothed whistling was the wind
 One sometimes hears emitted by an overstuffed behind.
 Besides, she was so lame it was her fate
 To limp about lopsided and to lope with crooked gait.
 I stared in disbelief, spat in disdain,
 Then made my getaway into the night and pouring rain.
 Lost and confused, I dashed from place to place
 Like an escaping robber when the cops are giving chase,
 Until the light of dawn brought a reprieve,
 The city gates were opened and I was the first to leave.
 Since then I've had no news of my ex-spouse,
 Or, come to think of it, of that lost property—my house.

To end, a most blatant (and literal) tall tale, capped by an even taller, though horizontal, one, from a book on the dialect of my adoptive hometown. I have found no information about the

original narrator, Colonel Hilmi ibn 'Ali Ruhi, but I suspect from his name—and the comeuppance at the end of the story—that he may have been of Turkish origin.

An Iranian and a Turk met in a café. The Iranian said, "Our Shah has built a palace so tall that no one knows how tall it is."

"How many floors does it have?" the Turk asked.

"Oh, far too many to count," the Iranian answered. "But a builder dropped a hammer from the top of it two months ago, and it still hasn't reached the ground."

"Well," said the Turk, "our Sultan ordered some cucumber seeds from America and sowed them in his vegetable garden. When the cucumbers appeared, one of them started growing at a rate of 10 meters a day. The Sultan gave orders that no one should interfere with it until they knew how long it would get. Anyway, it grew out of the garden and through the streets of Istanbul and eventually reached Lake Van—the Sultan had sent 10 policemen to keep track of it, you see. The cucumber went down from Lake Van, along the mountains of Kurdistan and across the Great Zab, and then arrived at the River Tigris. It then grew all the way down to Shatt al-'Arab, entered al-Muhammarah on the Iranian shore . . ."

"Hey, you can't expect me to believe this!" the Iranian interrupted.

"Okay then," said the Turk, "you bring your hammer down to earth. And if you don't . . ."

But the Turk's threat had better remain unspoken. Suffice it to say that it involved the rogue cucumber continuing its relentless

progress and only stopping when it had reached the most private part of all the Shah's domains.

Depending on the hammer's precise terminal velocity, this could give a height for the palace of as much as 461000 kilometers (288000 mi). The lost tool is therefore probably either a) still in orbit somewhere beyond the moon or b) has burned up on re-entry into the Earth's atmosphere.

In the east of Turkey. Of the further points on the cucumber's route, the Great Zab is a tributary of the Tigris rising east of Van, and Shatt al-'Arab the combined waterway of the Tigris and Euphrates. Al-Muhammarah is the former Arabic name of Khurramshahr, on the left bank of Shatt al-'Arab.

Since the account clearly predates the abolition of the Ottoman sultanate in 1923, this and the subsequent claims for the cucumber's remarkable growth (modest though they are in comparison with the figures above) suggest the need for a reassessment of the history of genetically modified vegetables.



*Even the best efforts at translation often entail some loss. However, the pleasing sound of the original Arabic title of this series, *Tarjuman al-Kunuz*, makes up for some of the literary shortfall when it becomes the syntactically accurate but less euphonious English "Interpreter of Treasures." *Tarjuman* is the root of the English word "dragoman," which refers to an interpreter serving in an official capacity. The full title echoes Ibn al-'Arabi's early-13th-century collection of poems, *Tarjuman al-Ashwaq* (Interpreter of Desires).*



Tim Mackintosh-Smith (tim@mackintosh-smith.com) recently appeared in *Newsweek's* list of the top dozen travel writers of the last 100 years. Following his award-winning trilogy of travels in the footsteps of Ibn Battuta, he is working on a history, a thriller set in 14th-century Spain and the translation from Arabic of an early collection of travelers' accounts from around the Indian Ocean.

Soraya Syed (www.artofthepen.com) is a calligrapher and graphic designer in London.



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.

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Curriculum Alignments

To see alignments with us national standards for all articles in this issue, click "Curriculum Alignments" at www.saudiaramco.world.com.

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CLASS ACTIVITIES

This edition of the Classroom Guide focuses on production, distribution and consumption—economic processes that always take place within the contexts of history, politics and culture. The activities have students look at three products featured in this issue of *Saudi Aramco World*: pistachio nuts, pearls and rock 'n' roll. Two brief activities round out the Classroom Guide.

Production, Distribution and Consumption

The focus of economics is how people organize the production, distribution and consumption of goods and services. A lot of people find economics intimidating, so in these activities, you will hardly see the word again. Instead, you'll get a chance to work with some of the basic concepts of that discipline in the context of three of the articles in this edition. The activities are organized loosely around each of the three products.

Pistachios

Read "In Search of the Mother Tree." (If you want to enhance your understanding of the article before you dig into these activities, skip to the "If you have 30 minutes" section of this Classroom Guide, complete the activity there, and then come back to this.) Author Eric Hansen set out to find the one tree that gave rise to virtually all the pistachio trees in the United States. You might think of him as a botanical detective. But embedded within his quest you will find some information about the distributing, marketing and selling of the nuts. That's what you're going to look at.

Let's begin with the fact that the pistachio "has always been a luxury," as Hansen put it. Why do you think it has luxury status? To answer, think about

something in your own life that you consider to be luxurious. What characteristics does your luxury have? Think about its physical qualities—a diamond is bright and twinkly, for example—as well as about its availability and social value. How do those characteristics compare to the characteristics that make pistachios luxurious?

The cultivating, selling and buying of pistachios takes place in a setting that extends beyond the orchards where the trees grow. What political event in 1979 gave the American pistachio industry a big, unexpected boost? Write a paragraph explaining the connection between this incident in international politics and the pistachio industry. Then step back and think about what that connection might look like with products other than pistachios. Choose a product—you might think about something as mundane as olive oil or something as valuable as gemstones—and do some research to find out how it has been affected by global politics. Have volunteers share their findings with the class. What general statement can you and your classmates make about how selling products is related to politics?





IF YOU ONLY HAVE 30 MINUTES...

Understanding how an author organizes a piece of writing can help you both to understand what s/he has written and to learn some tricks of the trade for your own writing. “In Search of the Mother Tree” is a case in point, and this activity will help you discover the underlying structure of the article. Just follow these simple steps.

1. Read the article through once.
2. Number the paragraphs of the article.
3. Read each paragraph and write a one-sentence summary of it, numbering your sentences to correspond to the numbers of the paragraphs.
4. Read your list of paragraph summaries. It should give you a good summary of the whole article.
5. Now look closely at the numbered list. Which paragraphs seem to go together to create a coherent section? A section will generally focus on a specific topic. For example, paragraphs 3-6 form a section that provides background information about pistachio trees.
6. Once you’ve identified the sections, you should have the first tier of an outline—the tier that’s identified with Roman numerals. Fill in at least the next level of the outline, drawing from the paragraphs in each section to show how the paragraphs support or provide evidence for each topic.
7. Have a class discussion to discuss what you’ve just done. What have you learned about how this article is organized? How might you use this knowledge in your next writing assignment?



IF YOU ONLY HAVE 15 MINUTES...

Look at the pictures of the domes in the calendar in this month’s issue, but don’t read the text that introduces the calendar. Instead, write your own introduction to the calendar based on the images of the domes and the captions that accompany them. What would you put in an introduction so that people who used the calendar would understand the reason for giving a year’s worth of attention to domes? You might want to do some brief research to gather additional information for your introduction. Read each others’ introductions and discuss which elements from classmates’ work you find most useful as an introduction to the calendar.

Rock ‘n’ Roll Music

Beyond pistachios in your study of commodities is music—specifically the recordings of music that Ahmet Ertegun produced and distributed through his company, Atlantic Records, and that millions of people bought. Read “Rock and Roll Ambassador.” Working with a partner, identify who made the music. Who were the musicians? The producers? The distributors? And who were the consumers, or audiences? (Keep in mind how they may have changed over time.)

The article provides an intricate picture of how music and the music business both shaped and were shaped by the political, cultural and technological circumstances of their historical era. Go through the article and highlight or underline the places that mention or discuss these contexts. Compare your markings with a partner’s to see if you’ve spotted the same things. Discuss any discrepancies to decide what does and doesn’t belong in the category of contexts for R&B.

One of the major issues during the time period in which Ertegun worked was race relations in the United States. With your partner, review the parts of the article that discuss the topic. Make some notes to answer these questions: How did the context of race relations affect music? How did it affect Ertegun’s business? Another factor was the development of television. How did the new technology affect music—including those who made the music, those who sold it and those who bought it?

Now, with your partner, come up with a graphic that shows the interrelationships among race, music, television and the record industry. Some questions to guide your work: How did Ertegun’s decisions about the audience (consumers) he wanted the music to reach affect which musicians became commercial successes? How do you think the music affected race relations in the United States? Post the completed graphics around the room, and look at other pairs’ work. How are the graphics similar? How do they differ?



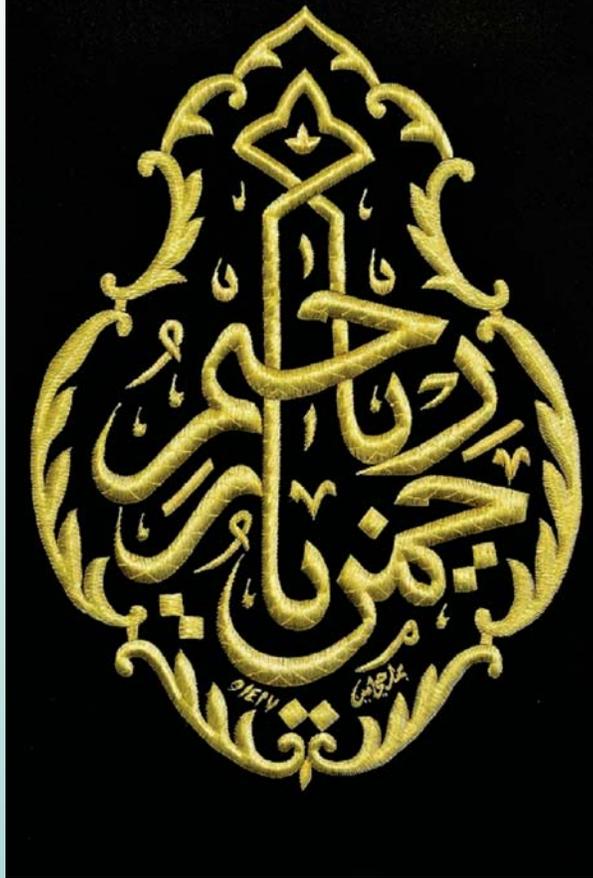
Pearls

Finally, consider pearls. “The Pearl Emporium of Al Zubarah” provides a fascinating look at a settlement in Qatar (pronounce it like “cut-ter”) that quickly rose in prominence and then fell, in part because of its connection with one product: the pearl. After you’ve read the article, make a T chart. Title the left column “Factors that led to settlement,” and the right column “Factors that led to rapid decline.” Fill in the chart with information about Al Zubarah from the article. Once you’ve done that, think about the factors in your chart in terms of production, distribution and consumption. How was Al Zubarah’s location connected to the production, distribution and consumption of pearls? How did the presence of other pearling sites—in other words, competition—affect Al Zubarah? Finally, look at the politics of the era. How did political instability affect the pearl trade and Al Zubarah’s fate? Sum up your answers to these questions by writing answers to the following:

- How was geography related to the production, distribution and consumption of pearls?
- How was politics related to the production, distribution and consumption of pearls?
- How did competition affect pearling?

Summation

You’ve done some thinking about how production, distribution and consumption play out in the cases of three commodities. Now it’s time to pull it all together. Review the three articles and the activities you’ve completed. Discuss with your partner (or work alone, if you prefer) what generalizations you can make. Write them down. Then take it a step further. If you were to make a guide for students who want to explore the contexts within which economic activity takes place, what would you include? Make an outline of your guide. Include in it the different topics you would address. Write a sentence explaining why each topic is included—in other words, what makes it important to address. Write another sentence identifying an example and explain how it illustrates the topic.



Draping the Holy Places:

Religious Textiles from Makkah and Medina

comprises original historical and contemporary textiles used to cover sacred places inside the two holy mosques at Makkah and Madinah in Saudi Arabia. After the death of the Prophet Muhammad, Islamic rulers honored both the Makkah sanctuary and his burial place in Madinah with precious textiles. In the 12th century, a black silk *kiswa*—later decorated with a monumental inscription band—became common. Production of this and other religious textiles was overseen by the Mamluk rulers of Egypt and Syria, and after them by the Ottomans, until 1927, when the tradition was continued under Saudi patronage in a purpose-built factory in Makkah. Production of the *kiswa* (including a second copy for emergencies) takes a whole year. Sharjah [UAE] Museum of Islamic Civilization, through December 1.

Sixteen lamp-shaped medallions like this one form part of the decoration of the *kiswa*. The panels are embroidered on black silk with gilt metal thread over cotton and silk padding. They contain some of the names of God in majestic *thuluth jali* script, in this case “Ya Rahman, Ya Rahim” (“Oh Most Gracious, Oh Most Merciful”).

Current **November**

Al Hajj: *The Malaysian Experience* provides stories of Malaysian pilgrims to Makkah and their experiences as they travel, unfolding their devotion and determination as they take steps toward Makkah. The exhibition also lays out the key rituals of the Hajj and presents information about the biggest pilgrimage on earth. Catalog. Islamic Arts Museum **Malaysia, Kuala Lumpur**, through November 20.

Current **December**

The Cyrus Cylinder and Ancient Persia: *A New Beginning* focuses on a document sometimes referred to as the first “bill of rights,” a football-sized, barrel-shaped clay object covered in Babylonian cuneiform that dates to the Persian king Cyrus the Great’s conquest of Babylon in the sixth century BCE. Almost 2600 years later, its remarkable legacy continues to shape contemporary political debates, cultural rhetoric and philosophy. The text on the cylinder announces Cyrus’s intention to allow freedom of worship to his new subjects. His legacy as a leader inspired rulers for millennia, from Alexander the Great to Thomas Jefferson, and the cylinder itself was used as a symbol of religious freedom and the hope for peace in the Middle East. Getty Museum, **Los Angeles**, through December 2.

Raja’a Khalid: *Southeast to Armageddon* is a small selection of images from the Middle East chapter of the artist’s ongoing “Minor Histories Archive” project. Questioning the objectivity of certain public documents, this body of work focuses on how the discovery of Middle Eastern oil in the 1930’s was depicted in the western press at the time, and the American perception of Arabian Gulf oil companies in the 1940’s and 1950’s. The publications photographed here were meant for a very specific, western audience. Seen today, they make explicit that which has already been implicit in the relationship between the Middle East and the West, and raise questions about the highly problematic politics of representation at work in the original documents. Project Space, Third Line, **Dubai, UAE**, through December 5.

Sherin Guirguis: *Passages/Toroq* presents works in two parallel series that address concerns of identity formation, highlighted predominantly in the wake of the mercurial “Arab Spring.” The title refers to the literary and historical passages that are quoted in the work, as well as the social passageways, or toroq, forged by the revolution. Three large-scale

kinetic sculptures from the first series are inspired by Nobel laureate Naguib Mahfouz’s Cairo *Trilogy*, which maps the cultural evolution and revolution in Egypt and the post-colonial breakdown and reconstruction of the country. The second series centers on paintings that explore historically relevant locations in Egyptian feminism, specifically the life of Huda Shaarawi, a pioneer Egyptian feminist leader and nationalist. Third Line, **Dubai, UAE**, through December 5.

Fabric of a Nation—Deja Vue Series 2: *Mixed Media Photography by Amr Mounib.* Photographer Amr Mounib has deep roots in Egypt and in film, extending back to the first silent films produced in Egypt by his grandfather, Fawzi Mounib. Here he combines painting, collage, photography and a touch of surrealism to produce images of the Egypt in his heart. In the face of the present day chaos and uncertainty, the noise, the pollution and the plastic, he creates photographs of real people, real places, overlaid with magical images that illustrate a reality that lies in the dreams of its people. Jerusalem Fund Gallery, **Washington, D.C.**, through December 6.

Vantage Point Sharjah is a photographic exhibition capturing the emirate. **Sharjah [UAE]** Art Museum, through December 7.

The Everlasting Flame: *Zoroastrianism in History and Imagination* provides a visual narrative of the history of Zoroastrianism, largely displaced in its Persian homeland by the advent of Islam. One of the world’s oldest religions, Zoroastrianism inspired texts and paintings from around the world, more than 300 of

which in this exhibition take visitors on a journey beginning in the religion’s earliest days. The exhibition transforms areas of the gallery with spectacular installations, including a walk-in fire temple, consisting of a prayer room and inner sanctum. Brunei Gallery, SOAS, **London**, through December 14.

Steel and Gold: *Historic Swords From the MIA Collection* displays swords not as weapons but as a means of self-expression, historical artifacts and masterpieces of technology and design. Museum of Islamic Arts, **Doha, Qatar**, through December 14.

In The City is a graphic design and sound-art exhibition that provides a rare glimpse into four enigmatic, but overlooked Arab cities—Alexandria, Algiers, Baghdad and Nablus—by recapturing and reimagining elements of those cities. The collection explores each city’s panorama through its streets, landmarks, people, signage and sounds. Each room contains elements borrowed from the city it represents, forming a variety of installations that will entice interaction between the audience and the work. P21 Gallery, **London**, through December 15.

Hanieh Delecroix and Keyvan Saber: *Lifeline* is the product of a unique collaboration between two Iranian artists based in Paris. Prior to this partnership, Hanieh Delecroix pursued painting and sculpture while working as a clinical psychologist and psychotherapist, specializing in adults suffering from chronic illness. The relationship between mind and body, especially the mind of a damaged body, is central to her art. Keyvan

Saber is a visual artist and poet, who has also worked as a professional photographer, graphic designer and art critic in Iran and France. Their seamless working method involves Hanieh painting abstract images as a stage on which Keyvan performs his writing, embellishing Hanieh's work with fluid and energetic abstract calligraphy of his own poetry or texts by contemporary and classical Persian writers. Rose Issa Projects, **London**, through December 20.

Sultans of Science: Islamic Science Rediscovered. Norsk Teknisk Museum, **Oslo**, through December 30.

Made for Eternity highlights everyday functional objects that once belonged to the upper and middle classes of ancient Egypt, with the more finely made and thus more desirable works owned by those of higher status. While the names of the artisans are no longer known, the materials they used and the techniques they employed convey much about artistic practices that endured for many centuries. The quality of the craftsmanship also attests to the care and attention that the artisans lavished on these varied objects, all of which functioned as important components of a complex system of Egyptian religious beliefs and ritual practices, giving us a glimpse into life—and death—in ancient Egypt. RISD Museum, **Providence, Rhode Island**, through December 31.

Current January

Paradise on Earth: Flowers in the Arts of Islam presents works of art from the Middle East, India and Indonesia that feature floral subjects, a favorite theme of Muslim artists. The works date from medieval times to the present era and include textiles, painting, ceramics and metalware. The gallery's renowned Yakob "Polonaise" carpet, woven in Iran between 1624 and 1630, forms a highlight of the display. Its richly patterned design of stylized lotus flowers, blossoms and arabesques epitomizes the inspiration of nature in Islamic art. The term "Polonaise" originates from its similarity to carpets found in Poland, where they had been traded or sent as diplomatic gifts from Iran centuries before. Many of the objects in the exhibition testify to the multiculturalism of pre-modern Muslim societies. Art Gallery of South **Australia, Adelaide**, through January.

Echoes of Egypt: Conjuring the Land of the Pharaohs considers 2000 years of fascination with ancient Egypt. Visitors enter through a reproduction of the Egyptian-style gateway that is the entrance to New Haven's Grove Street Cemetery, designed by Henry Austin in 1839, and then discover how a culture that flourished thousands of years ago has impacted our own world. Echoes of ancient Egypt appear in art, architecture and literature around the world, from ancient Africa, to medieval Europe and the Middle East, to modern North America. Yale Peabody Museum of Natural History, **New Haven, Connecticut**, through January 4.

Ayşe Erkmen: Intervals presents an ambitious new work highlighting the artistry and craft of scenic painting. From fairy tale landscapes to atmospheric interiors and abstract designs, a series of scenic backdrops move up and down on an automated fly system. Dividing the

gallery, the backdrops become performers in their own production. Barbican Art Gallery, **London**, through January 5.

Anish Kapoor in Istanbul. One of the living legends of contemporary art, the Indian-born sculptor exhibits large-scale works in stone, alabaster and other materials at the Sakıp Sabancı Museum, **Istanbul**, through January 5.

Adel Abdessemed: L'âge d'or includes recent drawings, paintings, sculptures and videos. Abdessemed, who has described himself as "an artist of acts," transforms well-known materials and imagery into charged artistic declarations. His works are known for their forceful impact and symbolic resonance. He is often provocative in his use of materials; camel bones, gold, salt, brass, gum and terra-cotta take on new and multiple meanings. Mathaf: Arab Museum of Modern Art, **Doha, Qatar**, through January 5.

Iran Modern. The three decades prior to Iran's 1979 revolution saw increased international recognition of Iranian artists that included their participation in the Venice Biennale and other art festivals. Comprising more than 100 artworks, *Iran Modern* is the first international loan exhibition to chronicle this vibrant period of Iran's formative and pluralist modern art. Asia Society Museum, **New York**, through January 5.

Haji: The Journey Through Art celebrates and illuminates the Hajj pilgrimage and explores its history through the centuries, focusing on the routes taken by pilgrims, the rituals of Hajj as depicted in art and the experiences of pilgrims after they have completed the Hajj. It includes a special section dedicated to the oral histories and souvenirs brought back by Qatari pilgrims. The majority of the items on display are from the museum's own collections and many have never before been publicly shown. An outdoor photography exhibition parallel to the main exhibition features the works of five international photographers who offer unique visions of the Hajj. Museum of Islamic Art, **Doha, Qatar**, through January 5.

Egypt's Mysterious Book of the Faiyum is an exquisitely illustrated papyrus from Greco-Roman Egypt, one of the most intriguing ancient representations of a place ever found. The papyrus depicts the Faiyum Oasis, located to the west of the Nile, as a center of prosperity and ritual. For the first time in over 1500 years, major sections owned by the Walters Art Museum and the Morgan Library & Museum, separated since the manuscript was divided and sold in the 19th century, will be reunited. Egyptian jewelry, papyri, statues, reliefs and ritual objects will illuminate the religious context that gave rise to this enigmatic text, which celebrates the crocodile god Sobek and his special relationship with the Faiyum. Walters Museum of Art, **Baltimore**, through January 5. The exhibition will then travel to the Roemer- und Pelizaeus-Museum in **Hildesheim, Germany**.

Interwoven Globe: The Worldwide Textile Trade, 1500–1800 highlights an important design story that has never been told from a global perspective. Beginning in the 16th century, European exploration in search of spice routes

to the East brought about the flowering of the international textile trade. Textiles often acted as direct payment for spices, as well as other luxury goods. Textiles and textile designs traveled from India and Asia to Europe, between India and Asia and Southeast Asia, from Europe to the East, and eventually west to the American colonies. Trade textiles blended the traditional designs, skills, and tastes of all of the cultures that produced them, resulting in objects that are both beautiful and historically fascinating. Metropolitan Museum of Art, **New York**, through January 5.

Moroccan Carpets and Modern Art exhibits one of the world's finest collections of carpets made by Moroccan nomads. In the early 20th century, Moroccan carpets fascinated such artists as Vassily Kandinsky and Le Corbusier and today bring to mind images of Mark Rothko or Cy Twombly. Indeed, an inquiry into the Islamic culture of North Africa in general and carpets from Morocco in particular brings us to the roots of European avant-garde art. Restrictions on depictions of humans led Berbers of the Maghreb to what seems, to western eyes, radical abstraction and a completely free and very modern approach to color and shape. Pinakothek der Moderne, **Munich**, through January 5.

Mesopotamia: Inventing Our World: Extraordinary Treasures of Sumer, Assyria and Babylon. The world we live in was born in Mesopotamia more than 3000 years ago. Home to the world's first great cities, the land "between the rivers" is the birthplace of writing, codified laws, urban planning, long-distance trade and empire-building. The exhibition explores this legacy through an array of artifacts including a cuneiform tablet of part of the *Epic of Gilgamesh*, bas-reliefs from Nineveh, jewelry from Ur and one of King Nebuchadnezzar's striding lions. A complementary exhibition reveals what happened during the looting of Baghdad's Iraq Museum in April 2003, an event that shocked the world and devastated one of the most important museums of ancient culture. Royal Ontario Museum, **Toronto**, through January 5.

An I for an Eye: Counter-Representations of Geopolitical Conflict gathers artistic reactions to the ways in which media representations of violent conflict and identity are increasingly rendered through an individualized perspective. In this age of seemingly permanent global warfare, the experience of violent conflict is continually restaged in films, documentaries, mainstream journalism and user-generated media. Seen most clearly through the intimate renderings of soldiers, agents and politicians, the identificatory power of the personal overwhelmingly occludes the broader constructs of the political. The 15 artists in the exhibition foreground this complex politics of attachment, detachment and affect in their counter-representations of conflict. Austrian Cultural Forum, **New York**, through January 6.

Fifty Years of Collecting Islamic Art. In 1963 the museum's department of Islamic art was established as a separate entity. Since then, the collection has grown through gifts, bequests and purchases. The works of art in the exhibition are grouped by decade of acquisition to highlight the trends and

broadening focus in collecting Islamic art at the Met. From ceramics, glass and metalwork to carpets and contemporary art, this exhibition celebrates the 50th anniversary of the department and its collections. Metropolitan Museum of Art, **New York**, through January 6.

Gifts From Shah Abbas the Great to the Serenissima: Diplomatic Relations Between the Republic of Venice and Safavid Persia aims to illustrate the excellent relations between Venice and Safavid Persia during the reign of Shah Abbas the Great (1587–1629), a time when both nations were intent on countering Ottoman expansion. Sending reciprocal delegations bearing gifts was a common practice between Venice and other great powers, above all those in the East, with whom the Venetian Republic was permanently in contact, whether peacefully or belligerently. The exhibition presents a series of 17th-century documents witnessing the exchange of letters, repeated promises of collaboration and the exchange of goods expressly requested by each side. Palazzo Ducale, **Venice**, through January 12.

The Fascination of Persia: Persia–European Dialogue in 17th-Century Art focuses on Persia/Iran and its rich and complex relationship with Europe. The show, which includes some 200 works, concentrates on three themes: the fascination with Persia among artists in Baroque Europe, Safavid Persia's engagement with European images, and contemporary art from Tehran. When Europe and Persia began to establish closer contact with each other more than 400 years ago, new relations between them developed at a diplomatic, economic and artistic level. Persia and Europe met on an equal footing. Embassies were sent to and fro in the hope of initiating joint action against the powerful Ottoman Empire, which was then a constant cause of concern for both Europe and the Safavid Empire. At the same time the trade in Persian silk was holding out the prospect of large profits. The mutual exchange left lasting traces in both European and Persian art. Museum Rietberg, **Zürich**, through January 12.

The Lightning Testimonies is a disturbing eight-channel video installation exploring the often repressed, always sensitive and newly urgent subject of sexual violence against women on the Indian subcontinent. The work is a complex montage of simultaneous accounts, with stories ranging from wide-scale abduction and rape during the partition of India in 1947 to the powerful anti-rape protests in Manipur in 2004. Throughout the piece, Kanwar explores the many ways in which narratives of sexual violence are enmeshed within Indian social and political conflicts. Art Institute of **Chicago**, through January 12.

Afritecture: Building Social Change. Contemporary architecture in Africa presents many innovative approaches in the field of public buildings and communal spaces, such as schools, marketplaces, hospitals, cultural centers, sports facilities and assembly halls. In many cases, the future users are directly involved in design and construction; in addition, many of the projects are developed with local materials and utilize dormant local building traditions.

The exhibition spotlights those projects, with particular emphasis on those that incorporate global relationships in addition to those with local culture and individual social groups. It comprises 28 projects from 10 countries in sub-Saharan Africa, including Kenya, Nigeria, Burkina Faso and South Africa. Bilingual catalog. Pinakothek der Moderne, **Munich**, through January 12.

She Who Tells a Story: *Women Photographers from Iran and the Arab World* introduces the pioneering work of 12 leading women photographers: Jananne Al-Ani, Boushra Almutawakel, Gohar Dashti, Rana El Nemr, Lalla Essaydi, Shadi Ghadirian, Tanya Habjouqa, Rula Halawani, Nermine Hammam, Rania Matar, Shirin Neshat, and Newsha Tavakolian. They tackle the very notion of representation with passion and power, questioning tradition and challenging perceptions of Middle Eastern identity. Their work ranges from fine art to photojournalism and provides insights into political and social issues, including questions of personal identity, and explores the political and social landscapes of their homelands in images of sophistication, expressiveness and beauty. Museum of Fine Arts, **Boston**, through January 12.

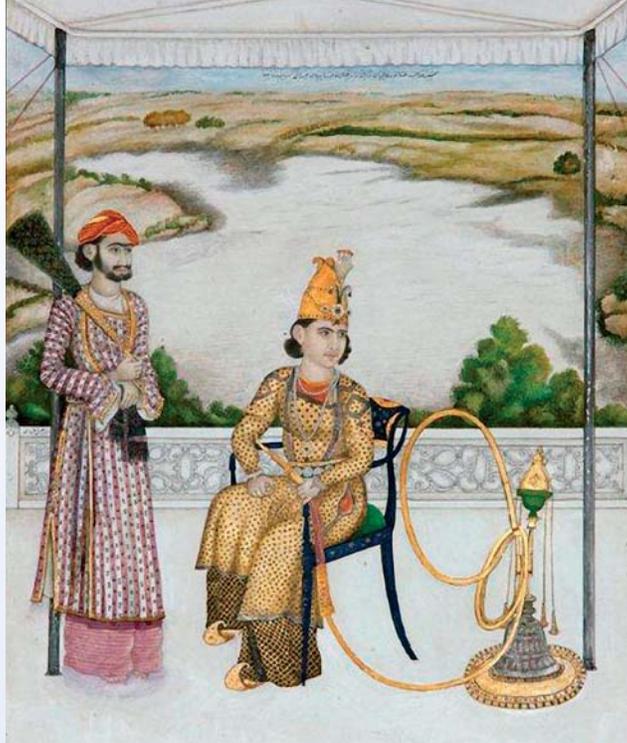
Beauty and Belief: *Crossing Bridges with the Arts of Islamic Culture* brings to life the story of art created in the societies fostered by Islam, including objects from the seventh century to the present day. The exhibition features more than 250 items—including calligraphy, ceramics, paintings, woodcarvings and textiles—that not only address what defines Islamic art, but also offer an overview of Islamic culture throughout history. Some pieces in the exhibition have been used and cherished in the homes of royalty; others were created for more modest levels of society. Exhibits come from collections across the United States as well as in other countries. **Indianapolis [Indiana]** Museum of Art, through January 13.

Pearls, an exhibition of the V&A and the Qatar Museums Authority, explores the history of pearls from the early Roman Empire to present day. Their beauty and allure, across centuries and cultures, have been associated with wealth, royalty and glamour—but also with the brutal and dangerous labor of the divers who bring them to the surface. Natural oyster pearls were fished in the Arabian Gulf from as early as the first millennium BCE until the decline of the trade by the mid-20th century, caused largely by

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Prince Mirza Muhammad Salim Shah (1799–1836) was a son of Mughal emperor Akbar II and his empress Mumtaz al-Nissa Begum. Here he is shown with a huqqa in a watercolor painted about 1825, probably in Delhi.

the development of cultured pearls. Yet natural pearls have always been objects of desire due to their rarity and beauty, and goldsmiths, jewelers and painters have exploited their symbolic associations. Victoria and Albert Museum, **London**, through January 19.

Damien Hirst: *Relics*, the artist's first solo show in the Middle East, incorporates pieces from every major Hirst series over the past 25 years, including his "spot" and "spin" paintings, the natural history sculptures and medicine cabinets and his diamond-encrusted human skull titled "For the Love of God." The exhibition is said to be "the largest collection of Hirst's work ever assembled." Al Riwaq Art Space, **Doha, Qatar**, through January 22.

Tea With Nefertiti surveys the controversial stories of how Egyptian collections have found their way into numerous museums since the 19th century. Organized as part of the celebration of the 100th anniversary of the discovery of the bust of Nefertiti, the exhibition is organized around three themes that reflect on the processes of appropriation, de-contextualization and re-semanticization that an artwork undergoes as it travels through time and place. In doing so, it unpacks the complex relationships that exist among such artworks, the artists who first made them and the institutions that exhibited them. Visitors can see over 100 works of art dating from 1800 BCE to the present day, including paintings, sculptures, photographs, video installations and mixed techniques. Institut **València d'Art Modern, Spain**, through January 26.

Current **February**
Amar Kanwar: *The Sovereign Forest + Other Stories* centers on The Sovereign

Forest, an inquiry into crime, politics, human rights and ecology in a constellation of moving and still images, texts, books, pamphlets, objects and seeds. Kanwar is known for his film essays, which evolve from documentary practice and explore the political, social, economic and ecological conditions of the Indian subcontinent. The Sovereign Forest continuously reincarnates as an art installation, an exhibition, a library, a memorial, a public trial, a call for more evidence and an archive, and is also a proposition for a space that engages with political issues as well as with art. Yorkshire Sculpture Park, **Wakefield, West Yorkshire, UK**, through February 2.

Emperor Charles v Captures Tunis: *Documenting a Campaign*. In 1535, Emperor Charles v set sail with a fleet of 400 ships and more than 30,000 soldiers to reconquer the Kingdom of Tunis from the Ottomans. To document the campaign and his expected victory, he brought along historians, poets and also his court painter, Jan Cornelisz. Vermeyen. In 1543, the Flemish artist was commissioned to paint the cartoons for 12 monumental tapestries celebrating the campaign. His designs were informed by the countless drawings and sketches he had brought back from North Africa. The cartoons—full-size paintings in charcoal and watercolor or gouache, intended to guide tapestry-makers—are appreciated as autonomous artworks; their topographically exact rendering of locations and their detailed depictions bring the turbulent events of 1535 to life. Kunsthistorisches Museum, **Vienna**, through February 2.

Sacred Pages: *Conversations About the Qur'an* offers visitors a way to broaden their understanding of the Qur'an, Islam and Islamic art. Drawing on the museum's collection of loose pages

Realms of Wonder:

Jain, Hindu and Islamic Art of India includes more than 200 paintings, sculptures, textiles and decorative art objects dating from the eighth century to the present day. The exhibition features art inspired by the three great spiritual traditions of India: Islam, Hinduism and Jainism. Muslim artists excelled in the production of decorative arts, and the exhibition features a 17th-century inlaid marble panel produced in one of the workshops that decorated the Taj Mahal, along with iconic images of Shiva Nataraja and delicate Jain hand-drawn illuminated manuscripts. Art Gallery of South Australia, **Adelaide**, through January 27.

from copies of the Qur'an, the exhibition showcases 25 examples, illustrating their significance as masterful and sacred works of art but also exploring how they are understood by individual Muslims living in the Boston area today. These beautiful works of Arabic calligraphy, made as early as the eighth and as recently as the 20th century, were created in Egypt, Morocco, Iran and Turkey, and the diversity of time and place of production is mirrored by the manner in which they are displayed, as the exhibition pairs curatorial interpretation about developments in Islamic art with personal statements by members of Boston's Islamic communities who were invited to share their comments and reactions to the pages. Museum of Fine Arts, **Boston**, through February 23.

Our Work: *Modern Jobs—Ancient Origins*, an exhibition of photographic portraits, explores how cultural achievements of the ancient Middle East have created or contributed to much of modern life. To show the connections between the past and today, artifacts that document the origins or development of such professions as baker, farmer, manicurist, brewer, writer, clock maker or judge in the ancient world are paired with a person who is the modern "face" of that profession. The resulting photographic portraits by Jason Reblando represent the diversity of Chicago residents, ranging from ordinary workers to local luminaries. They are accompanied by information on the specific contribution of the ancient world and remarks from the modern representative. Oriental Institute Museum, **Chicago**, through February 23.

Current **March**
The Countenance of the Other: *The Coins of the Huns and Western Turks in Central Asia and India* offers a new

look at a little-known civilization. The Huns, more than any other people, symbolize the menace of migrating nomadic hordes from the steppes. Contemporary historians called the Huns “two-legged beasts”; Indians claimed they had destroyed monasteries and other religious institutions. This reputation was undeserved: Hunnish coinage documents the willingness of the new masters of Central Asia and northern India to conflate and amalgamate the many cultural and religious influences to which they were exposed, creating a unique culture both touchingly strange and familiar to the modern eye. Kunsthistorisches Museum, **Vienna**, through March 2.

Silver from the Malay World explores the rich traditions of silver in the Malay world. Intricate ornament drawn from geometry and nature decorates dining vessels, clothing accessories and ceremonial regalia. The exhibition features rarely seen collections acquired by three prominent colonial administrators in British Malaya at the turn of the 20th century. Victoria and Albert Museum, **London**, through March 16.

The Life and Afterlife of David Livingstone: Exploring Missionary Archives brings together archives, photographs, maps and artifacts relating to one of the best known British explorers and humanitarian campaigners of the 19th century. He is famed for his extensive travels through Africa, his campaign against the slave trade and the rich archival legacy he left behind. A controversial figure, Livingstone was criticized for failing to make converts on his travels, and ultimately died evangelizing. Brunei Gallery, SOAS, **London**, through March 22.

Count Your Blessings exhibits more than 70 sets of long and short strings of prayer beads from various Asian cultures, many with flourishes, counters, attachments or tassels. Some are made of precious or semiprecious stones, others of seeds, carved wood, ivory or bone. Collectively, they reveal sophisticated and complex arrangements and structures based on symbolic meanings. Rubin Museum of Art, **New York**, through March 24.

Echoes: Islamic Art & Contemporary Artists explores how contemporary artists respond to Islamic art and culture in their own work, through a series of visual conversations that make connections across cultures, geography and time. The installation juxtaposes historical objects and architecture with contemporary works that draw on traditional Islamic styles, materials and subject matter. The achievements of traditional Islamic art are represented by works in the museum's collection dating from the ninth to the 21st century from Islamic cultures across the globe, including examples of calligraphy, ceramics, paintings, carpets and architecture. Contemporary works include sculpture, video, photography, paintings, ceramics and digital collage by such internationally recognized artists as: Shahzia Sikander and Rashid Rana. Nelson-Atkins Museum of Art, **Kansas City, Missouri**, through March 30.

Current April
Wise Men From the East: Zoroastrian Traditions in Persia and Beyond explains this ancient but living religion through objects and coins from Persia

and beyond, including Islamic coins from Mughal India that follow the Iranian Zoroastrian calendar adopted by the emperor Akbar. Modern objects show the ongoing legacy of this ancient Iranian religion and its significance as a symbol of national identity for Iranians in modern Persia and beyond. British Museum, **London**, through April 27.

Current May and later
When the Greeks Ruled: Egypt after Alexander the Great displays the artwork produced for Egypt's upper classes—Egyptians, Greeks and Romans—during the cultural confluence that characterized the rule of the Ptolemaic Dynasty. Formerly present in Egypt as tourists, traders, diplomats and soldiers, Greeks became rulers after Alexander's conquest of the Persian Empire. The exhibition includes more than 75 artworks, including gilded mummy masks, luxury glass, magical amulets and portraits in stone and precious metals, that demonstrate the integration of foreign styles but also pay tribute to ancient Egypt's distinctive visual culture. Art Institute of **Chicago**, through July 27.

Coming December
Roads of Arabia: Archaeology and History of the Kingdom of Saudi Arabia. An eye-opening look at the largely unknown ancient past of the Kingdom of Saudi Arabia, this exhibition draws on recently discovered archeological material. *Roads of Arabia* features objects excavated from several sites throughout the Arabian Peninsula, tracing the impact of ancient trade routes and pilgrimage roads stretching from Yemen in the south to Iraq, Syria and Mediterranean cultures in the north.

Elegant alabaster bowls and fragile glassware, heavy gold earrings and Hellenistic bronze statues testify to a lively mercantile and cultural interchange among distant civilizations. The study of archeological remains has brought a wealth of unsuspected treasures to light: temples, palaces adorned with frescoes, monumental sculpture, silver dishes and precious jewelry left in tombs. The exhibition, organized as a series of points along trade and pilgrimage routes, focuses on the region's rich history as a major center of commercial and cultural exchange, provides both chronological and geographical information about the discoveries made during recent excavations and emphasizes the important role played by this region as a trading center during the past 6000 years. Museum of Fine Arts, **Houston**, December 18 through March 9; Nelson Atkins Museum, **Kansas City**, April through July 2014; Asian Art Museum of **San Francisco**, October 17 through January 18, 2015.

PERMANENT/INDEFINITE
Muslim Worlds. In four showrooms totaling 850 square meters 69150 sq ft), this exhibition broaches subjects that continue to play an important role in contemporary Muslims' perception of themselves and others: Using the example of the richly decorated wall of a guest house from Afghanistan, the gender-specific use of space is addressed, as well as the pronounced association of women with private space and men with the public sphere. Ethnologisches Museum, **Berlin**.

Information is correct at press time, but please reconfirm dates and times before traveling. Most institutions listed have further information available at their Web sites. Readers are welcome to submit information eight weeks in advance for possible inclusion in this listing. Some listings have been kindly provided to us by *Canvas*, the art and culture magazine for the Middle East and the Arab world.

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