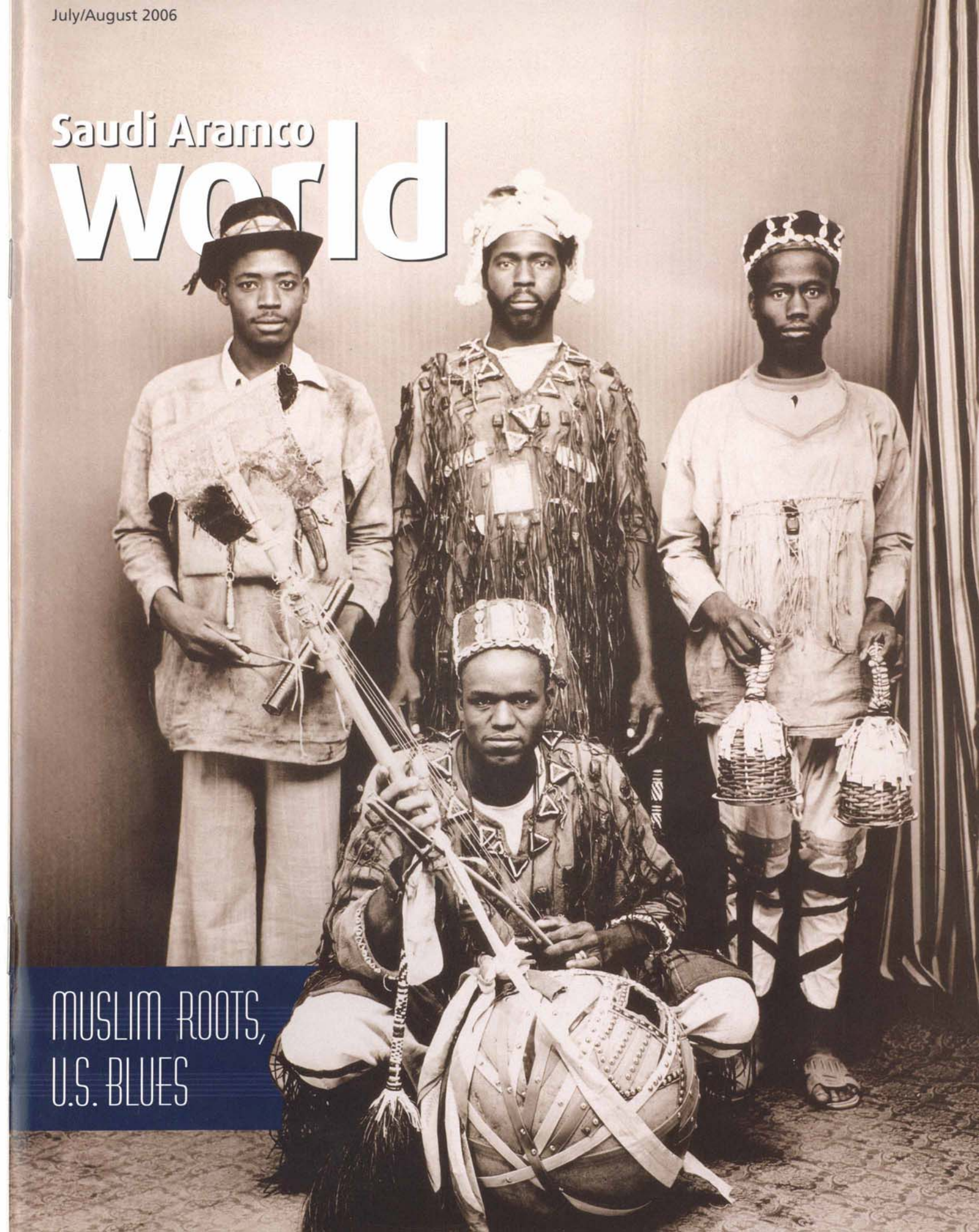
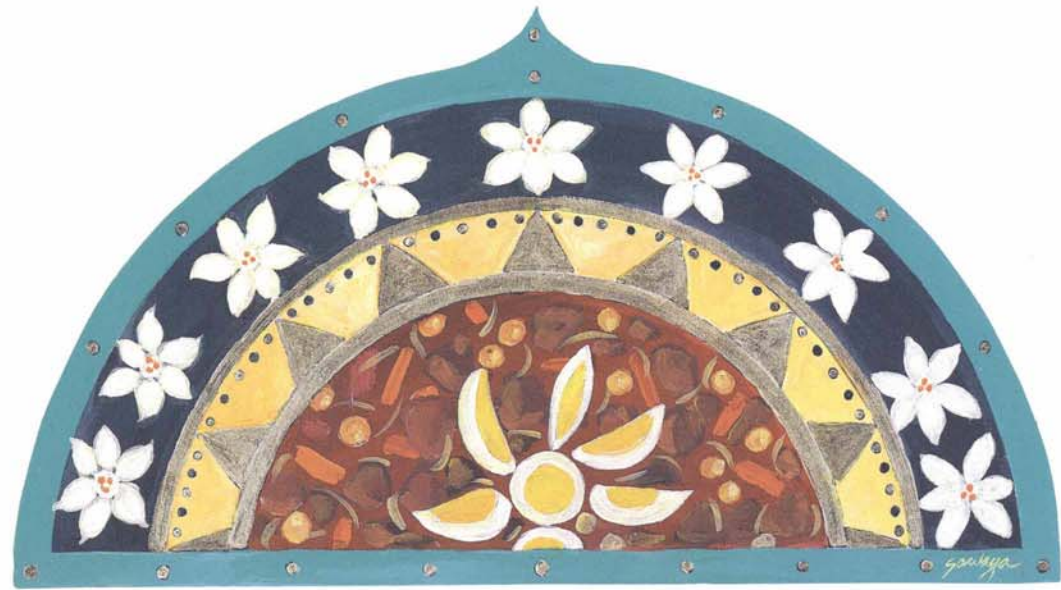


# Saudi Aramco world



MUSLIM ROOTS,  
U.S. BLUES

## 2 The Decorated Houses of Nubia

Written by Louis Werner  
Photographed by Michael Nelson

In northern Sudan and southern Egypt, Nubians have long taken pride in the painted patterns, white lime-plaster decorations and unexpected objects that adorn the walls and doorways of homes that are still often built by the family itself. The result is a simple, personalized beauty whose motifs have a traceable history.



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## 8 Muslim Roots, U.S. Blues

Written by Jonathan Curriel

Thirty percent: That's how many of the 10 million West Africans brought to the Americas as slaves may have been Muslims, according to a growing body of research. The intonations, cadences, song themes and instruments of their musical traditions—and their daily prayers and recitation of the Qur'an—all played little-known roles in the development of American music, especially the blues.



A CAROLINA RICE PLANTER.

## 14 Cooking with the Caliphs

Written by Charles Perry  
Illustrated by Linda Sawaya

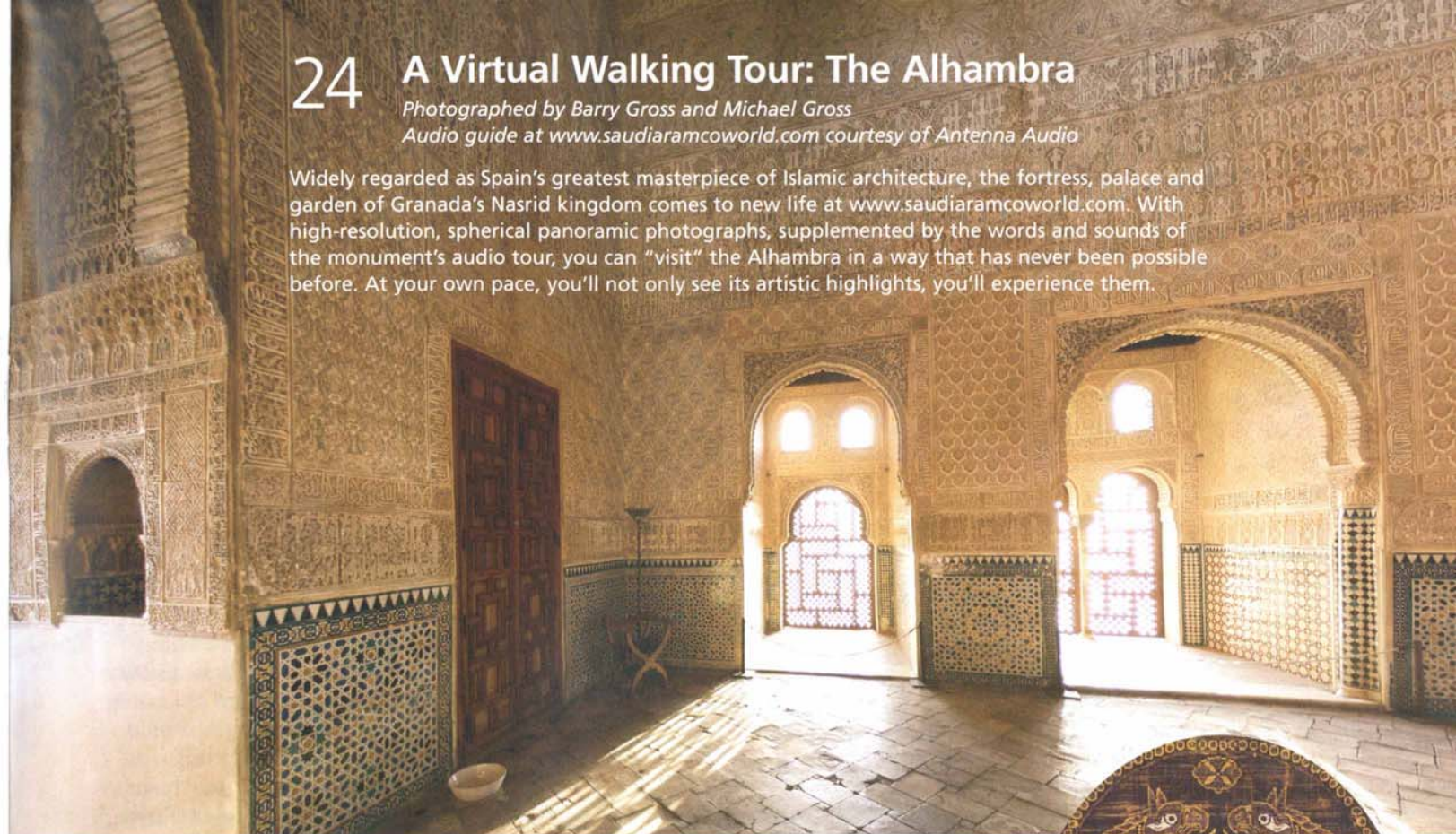
It's the 10th century; Baghdad is the hub of the world, and you've been invited to dinner at the palace: What's on the table? Don't expect hummus or tabouli. Look for complex stews with spices and herbs; sample roast meats, soups, breads and cheeses. Save room for sweets. (No, not baklava—it hasn't been invented yet.) When you get home, use any of these five easy recipes to start your own caliphal kitchen.



## 24 A Virtual Walking Tour: The Alhambra

Photographed by Barry Gross and Michael Gross  
Audio guide at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com) courtesy of Antenna Audio

Widely regarded as Spain's greatest masterpiece of Islamic architecture, the fortress, palace and garden of Granada's Nasrid kingdom comes to new life at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com). With high-resolution, spherical panoramic photographs, supplemented by the words and sounds of the monument's audio tour, you can "visit" the Alhambra in a way that has never been possible before. At your own pace, you'll not only see its artistic highlights, you'll experience them.



## 30 Millennia of Murex

Written by Philippa Scott

Among the more unlikely "marriages" in early human technology was one arranged between the Chinese silk moth and the Mediterranean murex sea snail. The snails produce a pigment that dyed silks and woollens the many shades of "Tyrian purple," a color that became a symbol of wealth and power for nearly 3000 years and constitutes the world's most enduring fashion statement.



## 38 The Scholar's Supernova

Written by Margaret Donsbach

On the night of April 30, 1006 a young Egyptian student gazed into the sky and saw a "new star" so bright it cast faint shadows. For months it was visible both day and night. Nearly a millennium later, his record of its position and brilliance helped scientists locate the supernova's faint remains.



## 44 Classroom Guide

Written by Julie Weiss

## 46 Events & Exhibitions

### Cover:



The instrument in this 1976 portrait from Mali is a *kora*, or African harp, an instrument at least three centuries old and still popular today. Africans enslaved in the Americas constructed this and other instruments from memory to express the culture from which they had been uprooted. The slaves' vocal and instrumental ways—some explicitly Muslim as well as African—were braided into American musical history. Photo by Malick Sidibe / Contemporary African Art Collection Limited / Corbis.

### Back Cover:



While some entries in the *Kitab al-Tabikh* (*Book of Recipes*) are named for the caliphs themselves—*haaruuniyyah*, *ma'muuniyyah*, and so on—other names are more fanciful. For example, a stew called *narjisiyyah* was topped with a segmented egg to give it the appearance of a narcissus flower—at least if imagination was also among the ingredients. Illustration by Linda Sawaya.

**Publisher**  
Aramco Services Company  
9009 West Loop South  
Houston, Texas 77096, USA

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**ISSN**  
1530-5821

**Editor**  
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**Circulation**  
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**Design and Production**  
Herring Design

**Printed in the USA**  
Wetmore & Company

**Address editorial correspondence to:**  
The Editor  
*Saudi Aramco World*  
Post Office Box 2106  
Houston, Texas  
77252-2106 USA

Saudi Aramco, the oil company born as an international enterprise more than seventy 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.

Printed on recycled paper

[www.aramcoservices.com](http://www.aramcoservices.com)

# THE DECORATED HOUSES OF NUBIA

WRITTEN BY LOUIS WERNER PHOTOGRAPHED BY MICHAEL NELSON

The region of Upper Nubia in Sudan, lying between the Nile's Second Cataract near the Egyptian border and the river's distinctive S-bend some 350 kilometers (200 mi) to the south, is a land where the clock ticks to non-Arab time. Within Upper Nubia, north of the Third Cataract near Kerma, where the Mahas district begins and the asphalt and electricity end, Nubian villagers maintain their linguistic and cultural differences with great pride. To be Mahasi means to be a true Nubian, to speak a pure Nubian language and to live in the Nubian heartland.

But Mahas was recently spared a project whose benefits would surely have despoiled it, a project aimed dead center at the village of Kajbar at the Third Cataract and the Nubian fields and homesteads upstream. The government had planned a hydroelectric dam at Kajbar that would have flooded out tens of thousands of families and covered countless archeological sites in and around Kerma, the ancient Kushite capital. This, all agree, would have been a tragic reprise of the losses in Lower Nubia, on the Egyptian side of the border, with the building of the Aswan High Dam in the 1960's.

Luckily, the Kajbar dam never got past the blueprint stage. An international campaign publicized the threat and successfully petitioned the Sudanese government to reconsider. A dam now under construction at an alternative site, at the Fourth Cataract of the Nile near Karima, will displace fewer non-Nubian farmers and will not disturb the



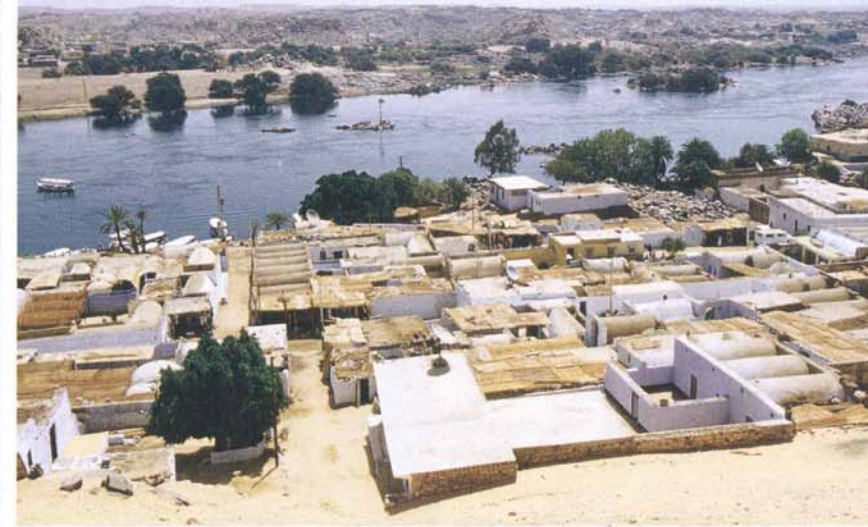
Ornamentation typically focuses on the home's exterior doorway, which may open on an interior courtyard or lead directly into a reception room.

archeological sites at Napata and Jebel Barkal.

If the Kajbar dam had been built, perhaps its saddest casualty would have been not a site but a type: the Nubian house, a mud-walled, stand-alone family compound centered on a courtyard and surrounded by an extensive layout of men's and women's quarters. The Sudanese novelist Tayyib Salih has compared such a house, often built on heights above the flood plain, to "a ship that has cast anchor in mid-ocean."

Even more distinctive than the floor plan of a Nubian house is the decoration of its exterior doorway, or *bawaba*, which mixes vivid color, adobe brick filigree, figurative and geometric images in mud and white lime-plaster relief, and wall-mounted objects like ceramic plates, automobile headlights, mirrors, cow horns and dried crocodiles. While the full range of these decorative materials has shrunk in recent years, the impulse to draw attention to one's home, and to its doorway as a symbol of the family, remains strong.

Farther north, this homegrown architecture did not survive the displacement of the Egyptian Nubians. Relocated into concrete, common-walled shells in a new-lands development at Kom Ombo, north of Aswan, this change in architectural space, more than anything else that happened to them in their move, has been a main reason for their gradual "arabization" over the last 40 years. Something

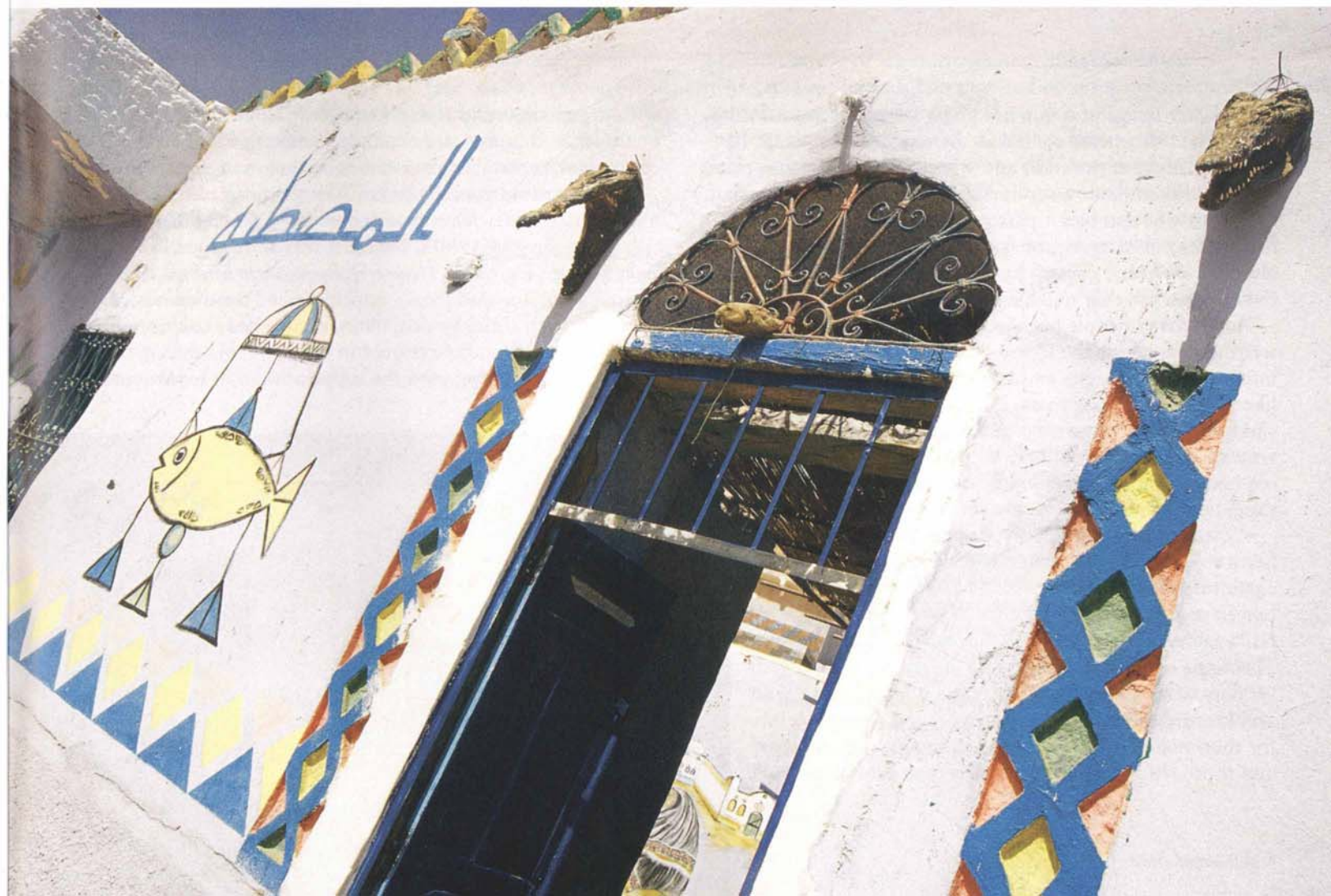


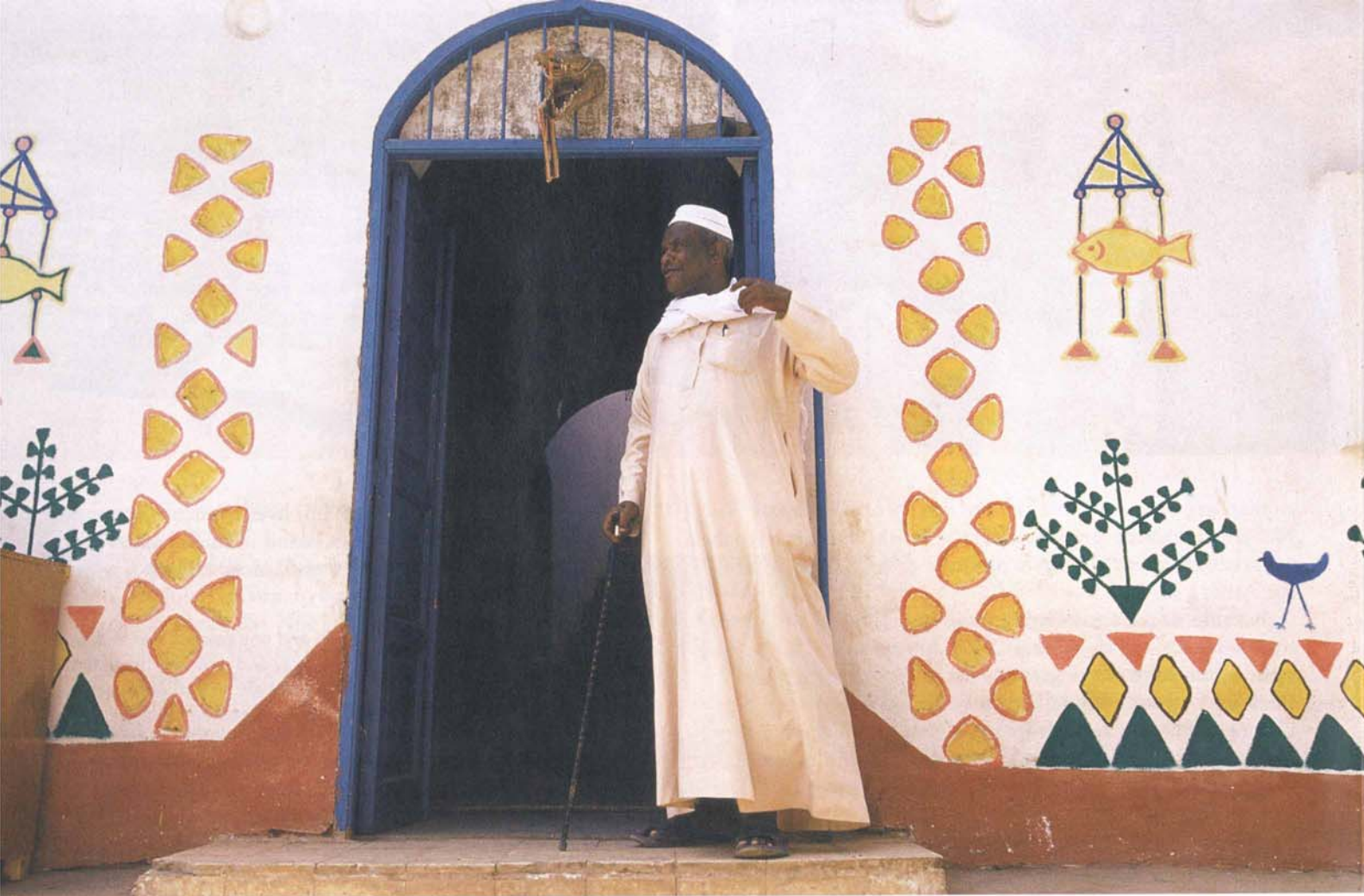
similar has happened to a smaller number of Sudanese Nubians relocated from Wadi Halfa, at the southern reaches of Lake Nasser, to Khashem al-Girba east of Khartoum on the Atbara River.

Because of the clear demarcation of cultivable and uncultivable land along the Nubian Nile, houses there can be built right at the edge of the green fields, taking advantage of the view and the cooling humidity. Unlike, say, in the Nile Delta or in a new agriculture development off-river, a Nubian house could be amply proportioned and comfortably situated because it did not occupy otherwise productive land.

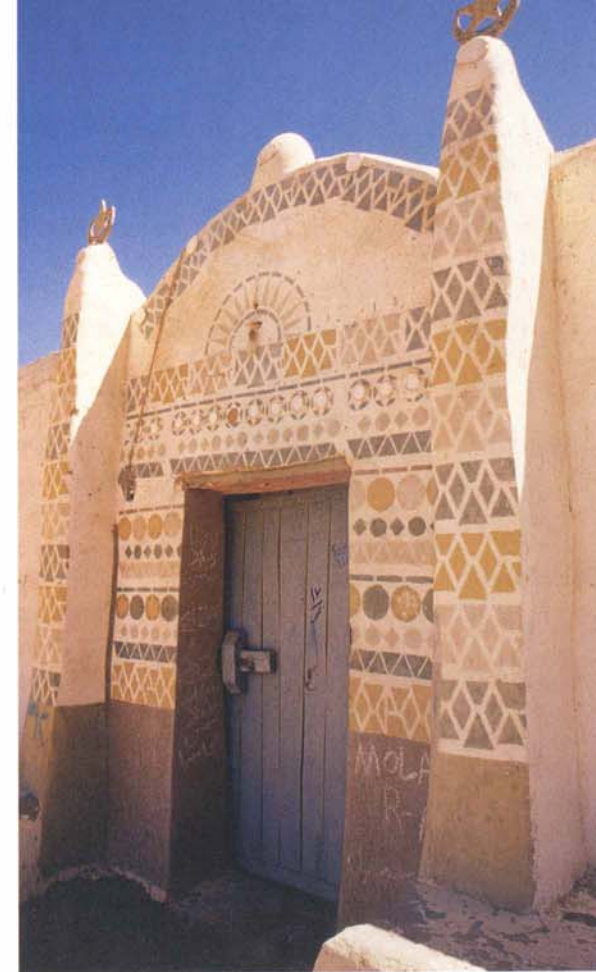
Abdallah Salih Suleiman, age 75, lives in such a house near Kerma. He was born on Badeen Island in mid-channel and remembers his old home's outer wall adorned with a white

Below: Dried crocodile heads, one dried and one painted fish and geometric plaster-carving decorate the doorway and wall of a home in the village of West Sahel, near Abu Simbel in Egypt. In the courtyard of another home, above left, the wings of a dried pelican echo the arches behind it. Above right: The village of West Sahel hugs the bank of the Nile. Many of its residents, ethnic Nubians, were displaced during the building of the Aswan High Dam in the 1960's.





While many motifs recur frequently, the differences in decoration from one house to another are often lively. The home at right has an all-geometric decoration. Much of the Nubian style is attributed to a builder-artist of the early 20th century named Ahmad Batoul, whose iconography has become "traditional."



spot his handiwork throughout the Halfa and Mahas districts.

At the same time, the intrusion of the import market economy, in the form of product advertising and logos brought home by Nubian laborers returning from domestic-service jobs in Egypt, provided Batoul with his imagery. The sword-carrying lion that is such a common sight on Nubian houses represents Ali, son-in-law of the Prophet Muhammad. The image arrived in the form of tin cutouts tacked onto wedding chests imported from Egypt and stuffed with the consumer goods of Cairo and Alexandria.

Huntley & Palmers brand tea-biscuit tins, imported into Sudan from the famous Reading firm from the 1880's onward, were decorated with images of flowers and Art Deco geometrics; those later ended up as standard design motifs on the walls of houses. The tins were ubiquitous throughout the country by the turn of the 20th century. After

is anonymous and no folk tradition is truly timeless, she determined that the iconography of Nubian house décor was a 20th-century phenomenon, traceable to the handiwork of a few known builders-turned-artists.

A primary demand for decorated walls was created because of a new building material suddenly available—the iron railroad rail—which increased the practical dimensions of interior rooms, and thus the length of otherwise plain exterior walls. The rails were salvaged from a British railroad extended from Wadi Halfa to Kerma as part of Kitchener's campaign to reconquer Sudan. It was abandoned in 1905 when construction began on the direct line from Halfa to Khartoum via Abu Hamid.

Wenzel found that what once had been an anonymous profession of masons and plasterers became, through the work of a house builder named Ahmad Batoul, an artistic specialization. Batoul, who was born in Lower Nubia before moving to Sudan in the 1920's, established the accepted images and treatments for decorating exterior walls, and his style became so recognizable that, decades later, Wenzel could

the 1898 Battle of Omdurman, an abandoned Mahdist sword scabbard was found that had been repaired with strips cut from such a tin.

By far the most distinctive materials, however, were ceramic plates and saucers. Adhered to the wall, they were believed to guard the house against the evil eye, superseding the earlier reliance on shiny pebbles and shells. Nubians returning from hotel work in Egypt brought with them these

WHAT ONCE HAD BEEN AN ANONYMOUS PROFESSION OF MASONS AND PLASTERERS BECAME AN ARTISTIC SPECIALIZATION IN ITS OWN RIGHT.

icons of the western, individually served meal. (Many Nubians still eat their food communally, and in earlier days served it on woven reed disks, which are still used as tray covers.)

Muhammad al-Shazali, president of Khartoum's Nubian Club, is particularly proud of the club's own doorway, a freshly painted assemblage of semiabstract zoomorphic images—crocodiles, hippos and egrets—in two-tone stucco. "For guests," he says, "it is a sign that they have come to Nubia. For Nubians, it is a sign they have come home." Like similar clubs in Aswan, Cairo and Alexandria, the Khartoum club caters to nostalgic Nubians, living far from their home villages, who yearn to gather regularly among compatriots.

lime-plaster image of a lion holding a sword, surrounded by sunbursts. "Whenever a child in the family lost a tooth, he would throw it at the wall, and where it struck, in that place we would then paint a sunburst as a wish for a new tooth. Our doorway also had a plaster cattle egret, which we call here *sadeeq al-mazreeq*, or friend of the fields, because it is always a welcome guest." Egrets eat insect pests and make the farmer's job that much easier.

As do many people his age, Abdallah regrets that times seem to change for the worse. "Before, we put a lot of effort into our house designs and into things around the house, like pottery and floor mats. But now we think we can buy beauty, so we stop making it—but we are wrong. There is nothing better than something homemade."

A Nubian proverb has it that "one man cannot build a house, but 10 men can easily build 20 houses." This sense of the collectivity of household architecture, both for those who build and those who dwell

within, remains valid today. Extended families live under one roof, and houses are expanded when newly married couples take up residence and require their own private room.

The late art historian Marian Wenzel was a member of a multidisciplinary team that documented Nubian life and culture in the mid-1960's, before it was submerged by Lake Nasser. Her book *House Decoration in Nubia* (1972, University of Toronto Press), which applied the methods of art criticism to social anthropology, established the chronology of design motifs and techniques in Upper Nubia during the 20th century. Starting with the supposition that no artwork

Painted motifs, plaster carving and—in the blind arch above the door—a crocodile head decorate this home (above). Nubian houses today increasingly resemble Arab ones in the use of separate men's and women's rooms built off a central shaded courtyard (right). Both painted and three-dimensional objects, here fans and baskets woven of palm fronds, are part of the decoration.



Kerma is the site of ancient Deffufa, a settlement dating from Nubia's First Intermediate Period (2500–2050 BC), which had trade relationships with Egypt from the Middle Kingdom onwards. The site has been excavated over the last 25 years by a Swiss team led by Charles Bonnet. Deffufa consists of a 50-foot-high mud-brick citadel, a landmark for miles around, surrounded by cemeteries and residential quarters.

The German Egyptologist Karl Richard Lepsius visited Deffufa in 1842 and called it "an extensive city spread wide over the plain in which two large monuments were conspicuous. They are not pyramids but oblong squares quite massive and strong and built of good firm unburnt Nile bricks." His book *Discoveries in Egypt, Ethiopia, and the Sinai...* (1852) contained a good color lithograph of the citadel.

Bonnet's excavation of a modest dwelling in the residential quarter shows architectural parallels to contemporary Nubian houses, with their buttressed and pilastered doorways and courtyards—and probably also with their geometric wall decorations, which Bonnet postulates because of similar designs he found on Deffufan pottery.

The decorative use of ceramics and white lime-plaster decreased as colored paints became available on the market.

In the rocky parts of northern Mahas, yellow and red stone-based pigments had made possible a broader palette, but the introduction of brighter artificial pigments in the first decades of the 20th century quickly pushed out the monochromatic look. As wooden doors gave way to sheet metal, oil-based paints could be applied to their best reflective, smooth-coated effect. Today, the art of polychrome doors with tinted stucco on their flanking pilasters has reached its own pinnacle of inventiveness.

Yet Nubians are nostalgic for their lost wooden doors. Salih Ibrahim Ahmad, a Halfawi now

living in Khartoum, remembers the Nubian exodus from his homeland when neighbors could salvage only their doors and their personal effects. In Khartoum's Ethnographic Museum, the only Nubian artifacts on display are two old doors (*kobid*, in Mahasi Nubian) with their wooden locks (*dogul*) and keys (*kushar*)—symbols, says Salih, of male and female fertility.

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The "chicken-and-shrub" design becomes a frieze that defines the bottom of a band of decoration that goes all around this house; the top is marked by a repeated "tree-and-grass" pattern. Color marks the door and windows on the front.

A NUBIAN PROVERB HAS IT THAT "ONE MAN CANNOT BUILD A HOUSE, BUT 10 MEN CAN EASILY BUILD 20 HOUSES."



Buttresses on either side of the door are typical design elements, as is the use of tented-brick openwork on this house and the one opposite.

Osman Muhammad Orsud, a 50-year-old Mahasi living in the hamlet of Buyud ("Eggs") near Argo, offers a tour of the old gateways near his house. "Most face south," he notes, "in order to stay clear of the north wind. That also helped them to survive as long as they have. Otherwise, the wind would have erased them completely." Osman's house may be freshly plastered and painted, but every day he takes time to admire the old details.

The same architectural finishes on 20th-century walls and gateways—blind arches over doors, openwork in the shape of tented bricks as a running wall cornice, and square cross reliefs—were also found north in Faras and south in Old Dongola in houses dating from Nubia's Christian period (sixth to 14th centuries). Some historians say that many elements of Nubian folklore, such as immersing newborns in the river, crossing their foreheads with kohl, and rattling a copper mortar and pestle in their ears, also date from this period.

The Nubian crowns found painted on Christian-era tomb frescoes at Faras West, merging upturned cow horns with a crescent held aloft on a stem, were adapted in the 20th century as a purely decorative motif on household walls, both in whitewash and as actual horns set over doorways. Such imagery predates even the medieval era. Under New Kingdom pharaohs and then under the Ptolemies, Nubians were permitted to take statues of the cow goddess Hathor and moon goddess Isis from the Philae temple to their own sanctuaries south of Abu Simbel each year in a pilgrimage.

In the river town of Kerma al-Nuzl ("the Alighting"), named for the former train terminal built here, two traders nearing 70 years of age remember the days gone by. Kamil Hamid Harun, a Mahasi, and Abd al-Latif Abaa Yazeed, a Kenzi Nubian from Aswan who came here as a boy, reminisce about how they had to learn Arabic because Kenzi and Mahasi dialects are so different, how the first automobiles that came to town had headlights brighter than the moon, and how the Nile flood of 1946 changed their childhood. "The waters stayed high for 20 days," says Kamil, "and then came the disease and the dying—malaria."

Many houses were destroyed then, especially the grandest ones because they were closest to the water, they recall. Abd al-Latif mentions how a boat carrying the *umda's* (town leader's) mother away from her flooded home capsized; she



drowned, but 30 other passengers swam to safety. Kamil's father rebuilt his house on Simit Island but did not stay. "Our fields were full of sand." Kamil did go back to the house four years ago, just to see. "It was partly collapsed," he said. "But it was still beautiful, and big, just as I remember it."

"A maze of a house," as the author Tayyib Salih remembered it from his own childhood, "cool in summer, warm in winter.... Somehow, as if by a miracle, it has surmounted time." 🌐



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Nubia: J/A 79, J/A 91, M/A 03

Nubian adobe: J/A 99



WRITTEN BY JONATHAN CURIEL

# MUSLIM ROOTS, U.S. BLUES



Sylviane Diouf knows her audience might be skeptical, so to demonstrate the connection between Muslim traditions and American blues music, she'll play two recordings: The *athaan*, the Muslim call to prayer that's

heard from minarets around the world, and "Levee Camp Holler," an early type of blues song that first sprang up in the Mississippi Delta more than 100 years ago.

"Levee Camp Holler" is no ordinary song. It's the product of ex-slaves who worked moving earth all day in post-Civil War America. The version that Diouf uses in presentations has lyrics that, like the call to prayer, speak about a glorious God. But it's the song's melody and note changes that closely resemble one of Islam's best-known refrains. Like the call to prayer, "Levee Camp Holler" emphasizes words that seem to quiver and shake in the reciter's vocal chords. Dramatic changes in musical scales punctuate both "Levee Camp Holler" and the *adhan*. A nasal intonation is evident in both.

"I did a talk a few years ago at Harvard where I played those two things, and the room absolutely exploded in clapping, because [the connection] was obvious," says Diouf, an author and scholar who is also a researcher at New York's Schomburg Center for Research in Black Culture. "People were saying, 'Wow. That's really audible. It's really there.'"

It's really there thanks to all the Muslim slaves from West Africa who were taken by force to the United States for three centuries, from the 1600's to the mid-1800's. Upward of 30 percent of the African slaves in the United States were Muslim, and an untold number of them spoke and wrote Arabic, historians say now. Despite being



"History changes things," says author Cornelia Walker Bailey, who lives on Sapelo Island, Georgia. Her surname started out as Bilali, the given name of her ancestor Bilali Mohammed. Trained as a Muslim prayer leader in his native Guinea, he was enslaved in 1803 and brought to Sapelo Island (opposite), where a small community of his descendants still lives. Bailey grew up saying Christian prayers facing east, the direction of Makkah—the same direction in which her Muslim ancestor prayed. Left: W. C. Handy, "Father of the Blues" and a son of former slaves, recorded a 1903 encounter with a man playing an instrument that was evolving from an African zither into an American slide guitar.

OPPOSITE: TONY ARRUIZA / CORBIS; ABOVE: BRIDGEMAN ART LIBRARY; RIGHT: MACDUFF EVERTON / CORBIS

pressured by slave owners to adopt Christianity and give up their old ways, many of these slaves continued to practice their religion and customs, or otherwise melded traditions from Africa into their new environment in the antebellum South. Forced to do menial, backbreaking work on plantations, for example, they still managed, throughout their days, to voice a belief in God and the revelation of the Qur'an. These slaves'

practices eventually evolved—decades and decades later, parallel with different singing traditions from Africa—into the shouts and hollers that begat blues music, Diouf and other historians believe.

Another way that Muslim slaves had an indirect influence on blues music is the instruments they played. Drumming, which was common among slaves from the Congo and other non-Muslim regions of Africa, was banned by white slave owners, who felt threatened by its ability to let slaves communicate with each other and by the way it inspired large gatherings of slaves. Stringed instruments, however—favored by slaves from Muslim regions of Africa, where there's a long tradition of musical storytelling—were generally allowed because slave owners considered them akin to European instruments such as the violin. So slaves who managed to cobble together a banjo or other instrument—the American banjo

## SLAVE OWNERS OFTEN BANNED DRUMMING BUT TOLERATED STRINGED INSTRUMENTS.

originated with African slaves—could play more widely in public. This solo-oriented slave music featured elements of an Arabic-Muslim song style that had been imprinted by centuries of Islam's presence in West Africa, says Gerhard Kubik, a professor of ethnomusicology at the University of Mainz in Germany. Kubik has written the most comprehensive book on Africa's connection to blues music, *Africa and the Blues* (1999, University Press of Mississippi).

Kubik believes that many of today's blues singers unconsciously echo these Arabic-Muslim patterns in their music. Using academic language to describe this habit, Kubik writes in *Africa and the Blues* that "the vocal style of many blues singers using melisma, wavy intonation, and so forth is a heritage of that large region of West Africa that had been in contact with the Arabic-Islamic world of the Maghreb since the seventh and eighth centuries." (Melisma is the use of many notes in one syllable; wavy intonation refers to a series of notes that veer from major to minor scale and back again, something that's common in both blues music and in the Muslim call to prayer as well as recitation of the Qur'an. The Maghreb is the Arab-Muslim region of North Africa.)

Kubik summarizes his thesis this way: "Many traits that have been considered unusual, strange and difficult to interpret by

earlier blues researchers can now be better understood as a thoroughly processed and transformed Arabic-Islamic stylistic component."

The extent of this link between Muslim culture and American blues music is still being debated. Some scholars insist there is no connection, and many of today's best-known blues musicians would say their music has little to do with Muslim culture. Yet a growing body of evidence—gathered by academics such as Kubik and by others such as Cornelia Walker Bailey, a Georgia author whose great-great-great-grandfather was a slave who prayed toward Makkah—suggests a deep relationship between slaves of Islamic descent and US culture. While Muslim slaves from West Africa were just one factor in the formation of American blues music, they *were* a factor, says Barry Danielian, a trumpeter who's performed with Paul Simon, Natalie Cole and Tower of Power.

Danielian, who is Muslim, says non-Muslims find this connection hard to believe because they don't know enough about Arabic or Muslim music. The call to prayer and other Muslim recitations that were practiced by American slaves had a musicality to them, just as these recitations still do, even if they aren't thought of as music by westerners, Danielian says.



The largest of the banjo ancestors is the *kora* of the Mandinka people in today's Senegal, Guinea-Conakry and Gambia. It traditionally uses 21 strings and a large calabash-gourd body.

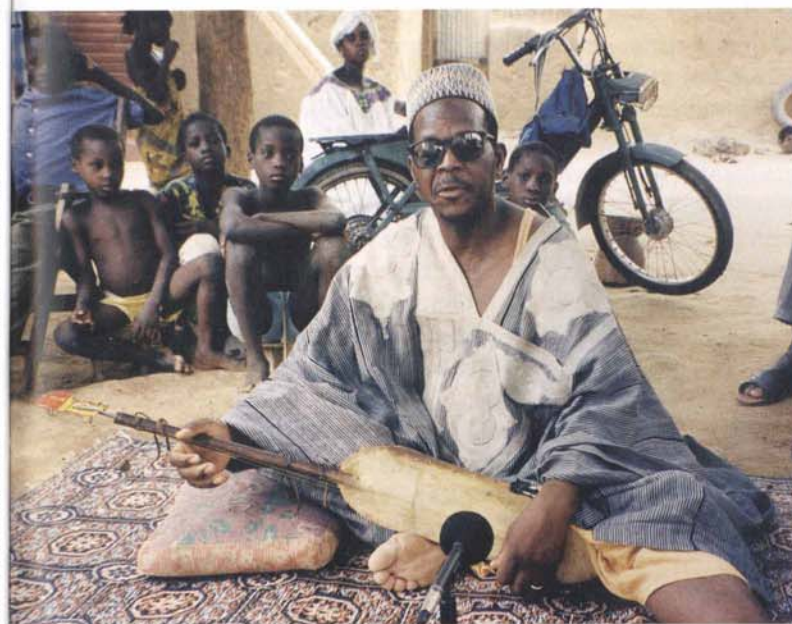
"In my congregation," says Danielian, who lives in Jersey City, New Jersey, "when we get together, especially when the shaykhs [leaders] come and there are hundreds of people and we do the litanies, they're very musical. You hear what we as Americans would call

soulfulness or blues. That's definitely in there."

What people now think of as blues music developed in the 1890's and early 1900's, in southern US states such as Louisiana, Mississippi and Alabama. Blues music was an outgrowth of all the different music that was then being performed in the South, from minstrels to street shows. Early blues performers didn't recognize the music's African or Muslim roots because, by then, the songs had more fully merged with white, European music and had lost their obvious connections to a continent that was 4000 miles away. Also, by the turn of the 20th century, the progeny of America's Muslim slaves had generally converted to Christianity, either by force or circumstance. Among southern blacks in that period, there were few exponents of Islam. But as more scholars research that period in history, they see plenty of signs that weren't obvious 100 years ago.

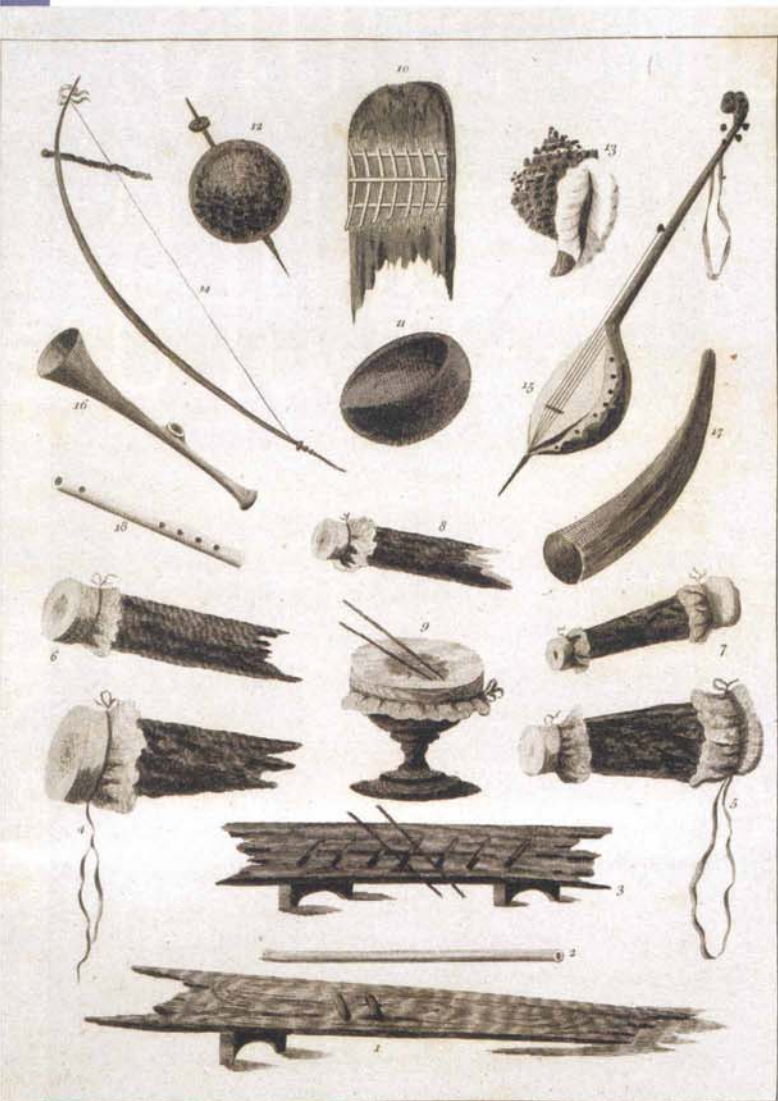
Take the case of W. C. Handy, who earned the moniker "Father of the Blues" for the way he formalized blues music over a 40-year career of writing songs and playing the cornet. In his autobiography, Handy, whose parents were slaves, writes about a life-changing moment that happened to him around 1903. Handy was sleeping at a train station in Tutwiler, Mississippi when "a lean, loose-jointed Negro had commenced plucking a guitar beside me while I slept. His clothes were rags; his feet peeped out of his shoes. His face had on it some of the sadness of the ages. As he played, he pressed a knife on the strings of the guitar.... The effect was unforgettable. His song, too, struck me instantly.... The singer repeated the line ("Goin' where the Southern cross' the Dog") three times, accompanying himself on the guitar with the weirdest music I had ever heard."

The song was about a nearby train station where different train lines intersected. As Handy noted in the autobiography, published in 1941, "Southern Negroes sang about everything. Trains. Steamboats, steam whistles, sledgehammers, fast women, mean bosses, stubborn mules—all became subjects for their songs.



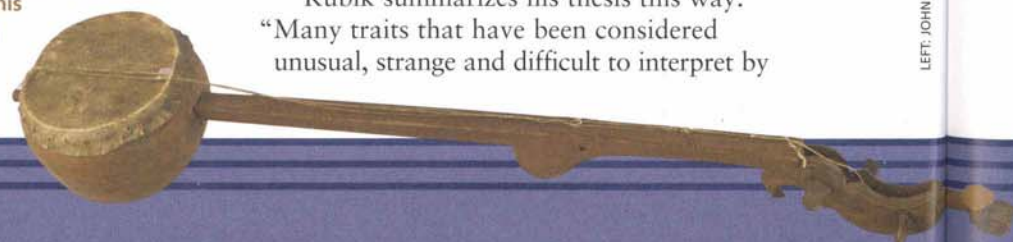
The West African lute known as the *ngoni* is played in the "clawhammer style" formerly popular for playing today's banjos. For almost every note of the scale, there is a different tuning for the *ngoni* and a different pattern of playing.

LEFT: JOHN GABRIEL STEDMAN, NARRATIVE... (LONDON, 1796) / THE MARINER'S MUSEUM; OPPOSITE, TOP: E. DEN OTTER / KIT TROPENMUSEUM; LOWER: ROBERT C. NEWTON



*Musical Instruments of the African Negroes.*

African Muslim slaves influenced later blues both through their musical style and through their instruments, which, in late-18th-century Suriname, included percussion, wind and string devices. Among the latter were a one-string *benta* (top left), and a *Creole-bania* (top right), an ancestor of the American banjo. Right: This *Creole-bania* was made in the late 18th century from a half-gourd covered with skin; it had a fretless neck.



They accompany themselves on anything from which they can extract a musical sound or rhythmical effect, anything from a harmonica to a washboard. In this way, and from these materials, they set the mood for what we now call the blues.”

While washboards, in fact, became popular among later blues musicians such as Robert Brown (known as “Washboard Sam”), the technique that Handy witnessed—that of pressing the back of a knife blade on guitar strings—can be traced to Central and West Africa, where, as Kubik points out in *Africa and the Blues*, people play one-string zithers that way. Handy assumed that the technique, now called “slide guitar,” was borrowed from Hawaiian guitar playing, but it’s more likely that the itinerant guitar player that Handy met in Tutwiler was manifesting his African roots. Kubik has traveled to Africa many times for his research and has lived there.

Bailey, who visited West Africa in 1989, says the African and Muslim roots of southern US traditions are often mistaken for something else.

Bailey lives on Georgia’s Sapelo Island, where some blacks can trace their ancestry to Bilali Mohammed, a Muslim slave who was born and raised in what is now the African nation of Guinea. Visitors to Sapelo Island are always struck by the fact that churches there face east. In fact, as a child, Bailey learned to say her prayers facing east—the same direction that her great-



To trumpeter Barry Danielian, Muslim prayers are “very musical. You hear what we as Americans would call soulfulness or blues. That’s definitely in there.”

great-great-great-grandfather faced when he prayed toward Makkah.

Bilali was an educated man. He spoke and wrote Arabic, carried a Qur’an and a prayer rug, and wore a fez that likely signified his religious devotion. Bilali had

been trained in Africa to be a Muslim leader; on Sapelo Island, he was appointed by his slave master to be an overseer of other slaves. Although Bilali’s descendents adopted Christianity, they incorporated Muslim traditions that are still evident today.

The name Bailey, in fact, is a reworking of the name Bilali, which became a popular Muslim name in Africa because one of Islam’s first converts—and the religion’s first muezzin—was a former Abyssinian slave named Bilal. (Muezzins are those who call Muslims to prayer.) One historian believes that abolitionist Frederick Douglass, who changed his name from Frederick Bailey, may also have had Muslim roots.

“History changes things,” says Bailey, who chronicled the history of Sapelo Island in her memoir *God, Dr. Buzzard, and the Bolito Man* (2001, Anchor). “Things become something different from what they started out as.”

A good example is the song “Little Sally Walker.” It’s been recorded by many blues artists, but it’s also been recorded as “Little Sally Saucer” because the lyrics describe a girl “sittin’ in a saucer.” Frankie Quimby, a relative of Bailey’s who also traces her roots to Bilali Mohammed, says the song originated during slavery on the Georgia coast, written by songwriting slaves who took their slaveholder’s last name, Walker, as their own.

Author John Storm Roberts points to patterns of African Muslim music in the “bending” of notes by modern blues icon John Lee Hooker, as well as such others as Billie Holiday and B. B. King.

“I’ve seen [people] take the song and use different words,” says Quimby, who sings slave songs with her husband in a group called the Georgia Sea Island Singers.

Because there is little documentation about these slave-time origins, it’s easy to argue about what can be unequivocally linked to Africa and Muslim culture. Muslim and Arab culture have certainly been influences on other music around the world, including flamenco, which is rooted in seven centuries of Muslim rule in Spain, and Renaissance music. So far, knowledge of Muslim culture’s association with blues music seems limited to a select group of academics and musicians. Books such as Kubik’s *Africa and the Blues* and Diouf’s *Servants of Allah: African Muslims Enslaved in the Americas* (1998, New York University Press) are more geared toward university audiences.

In terms of popular culture, it’s hard to find a single work—whether it’s a novel, movie, song or other art form—that covers the intersection of Muslim culture, music and African slaves. “Daughters of the Dust,” Julie Dash’s 1991 film about life on the Sea Islands of Georgia, features a Muslim man who portrays Bilali Mohammed, but a scene that shows him in prayer lasts just a few moments, and the movie received limited release.

*Roots*, Alex Haley’s novel that was made into a historic television series in the 1970’s, featured a main character (Kunte Kinte) who is Muslim, although novelist James Michener and others doubted the authenticity of Haley’s work.

The trading of African slaves led to a diaspora unlike any other in human history, with at least 10 million Africans bought and sold into bondage in the Americas. The pain felt by those slaves is evident in American blues music—a music that’s often about cruel treatment, sad times and a yearning to break free. Blues music is a unique American art form that went around the world and, in turn, influenced history. Without the blues, there wouldn’t be jazz and there wouldn’t be the bluesy music of the Rolling Stones and the Beatles.

In his book *Black Music of Two Worlds* (1998, Schirmer), author John Storm Roberts says he can hear patterns of African Muslim music in the songs of Billie Holiday. Roberts refers to the “bending of notes” that is evident in Holiday’s sad, soulful ballads, as it is in the call to prayer. This same note-bending can be heard in the music of B. B. King and John Lee Hooker.

Blues music, with its strong tempos and many lyrical references to relationships, has been described as “the devil’s music” by those outside it. Many conservative Muslims think of blues music as decadent and indicative of permissive western morals. But people such as Diouf, Kubik and Moustafa Bayoumi, an associate pro-



In the Memphis city park that carries his name, a statue of W. C. Handy commemorates his introduction of the blues along the city’s famously musical Beale Street.

fessor of English at Brooklyn College, City University of New York, who has researched Muslim culture’s connection to American music, are trying to correct the public record. Bayoumi wrote a paper several years ago that examined African Muslim history in the United States. In it, he argues that John Coltrane’s best-known album, “A Love Supreme,” features Coltrane saying, “Allah supreme” in addition to the many refrains of “a love supreme.”

“It’s about uncovering a hidden past,” says Bayoumi, asked about the spate of new scholarship on the subject of Islam and African-Americans. “You can hear [influences of Muslim culture] in even the earliest days of American blues music. What you’ve gotten lately is an ethnomusicology that’s trying to reconstruct that. These are deliberate attempts to rebuild a bridge, as it were.”



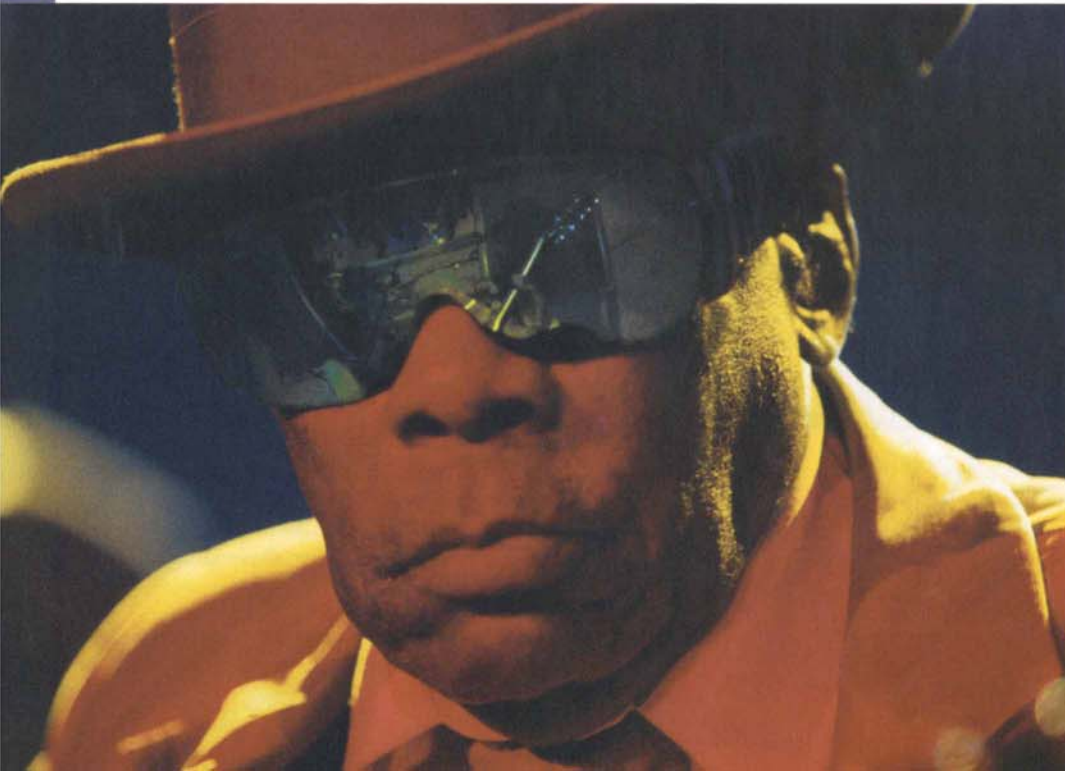
Jonathan Curiel ([www.jonathancuriel.com](http://www.jonathancuriel.com)), a staff writer with the *San Francisco Chronicle*, has researched Islamic culture as a Reuters Foundation Fellow at Oxford University, and has taught journalism as a Fulbright Scholar at Punjab University in Lahore, Pakistan.

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Flamenco: N/D 94

Recordings of the call to prayer, or *athaan*, and of “Levee Camp Holler” can also be heard on our Web site.

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# COOKING WITH THE CALIPHS

pomegranate + dates

# A

little over a thousand years ago, an Arab scribe wrote a book he titled *Kitab al-Tabikh* (*The Book of Recipes*). It was a collection of recipes from the court of ninth-century Baghdad, for the scribe's unnamed patron—probably Saif al-Dawlah Al-Hamdani, the culture-minded prince of 10th-century Aleppo—had specifically asked him for the recipes of “kings and caliphs and lords and leaders.” The scribe, Abu Muhammad al-Muzaffar ibn Sayyar, was in a position to oblige, being descended from the old Muslim aristocracy himself.

The book has come down to our time in three manuscripts and fragments of a fourth—and what a treasure it is. These are the dishes actually eaten by the connoisseurs of Baghdad when it was the richest city in the world. There are recipes from the personal collections of every caliph from al-Mahdi (died 785) to al-Mutawakkil (died 861), including 20 from Harun al-Rashid's son al-Ma'mun. Thirty-five of the recipes—nearly one-tenth of the non-medicinal dishes in the book—come from Harun's brother, the famous poet and gourmet Ibrahim ibn al-Mahdi.

WRITTEN BY CHARLES PERRY  
ILLUSTRATED BY LINDA SAWAYA

This was the golden age of medieval cookery; centuries later, cookbooks would still carry recipes named for these very men: *haaruuniyyah*, *ma'muuniyyah*, *mutawakkiliyyah*, *ibraahimiyyah*. A dish named for Ma'mun's wife, *buraniyyah*, lives on today.

But *Kitab al-Tabikh* includes scarcely any of the familiar dishes of the modern Arab world. There's no hummus or tabouli, no stuffed grape leaves, no kibbe, no baklava. Many dishes have strange, clanking medieval names like *bazmaawurd*, *kardanaaj*, *isfiidhabaaaj* and *diikbariika*.

It was a heavily Persianized cuisine, but the dishes are not those of modern Iran either. There isn't a single pilaf recipe, for example. What we see in this book is the royal cuisine of sixth- and seventh-century Iran along with a wealth of new dishes created under its influence by the chefs of Baghdad.

This was inevitable. Pre-Islamic Arabia had a wholesome but monotonous diet that revolved around dates, barley and dairy products. There were separate Arabic words for fresh dates mixed with milk (*majii*), dried dates steeped in milk



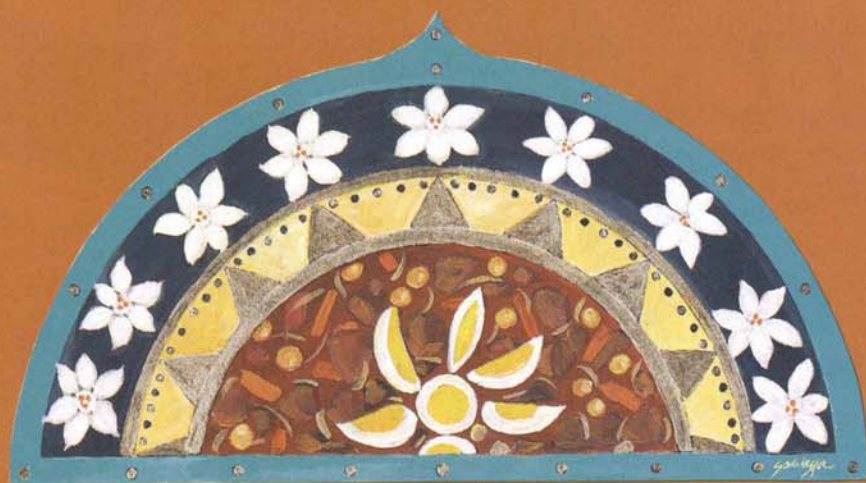
linda sawaya

THE CENTERPIECE OF NINTH-CENTURY BAGHDADI CUISINE WAS RICH AND COMPLEX STEWS, OFTEN COOKED IN THE TANDOOR OVEN. SOME WERE NAMED AFTER THEIR MAIN INGREDIENT, SOME AFTER ARISTOCRATS, AND SOME HAD FANTASY NAMES.

grilled fish



parsley sumac cilantro galangal root caraway mint basil farragon



Narjisigga stew

(*siq'al*), pitted dates kneaded with milk (*watii'ab*) and pounded dates moistened with milk (*wajii'ab*). When the Arabs conquered Persia, they found a sophisticated court with a rich and impressive cuisine, and they eagerly adopted Persian eating habits.

There had been a regular cult of gastronomy at the court of the Sassanian kings. A sixth-century Persian book entitled "The Story of King Khusraw and His Page" tells of a young nobleman who asks for a place in the king's retinue on the grounds that he knows the best and choicest of everything. The king questions him on a host of subjects, mostly concerning food. In effect, the story is a handbook of fashionable gourmet opinions for a society where knowing such things was *de rigueur*.

*Kitab al-Tabikh* contains anecdotes about cooking contests organized by the Persian kings. We know that the Abbasid caliphs later did the same. And "The Story of King Khusraw and His Page" was eventually translated into Arabic with many details intact, such as the fattening of chickens on hemp seed.

The centerpiece of ninth-century Baghdadi cuisine was rich and complex stews, often cooked in the *tannuur* (tandoor oven). Some had Persian names, such as *sikbaaj* (which was flavored with vinegar) and *naarbaaj* (flavored with pomegranate juice). The dishes with Arabic names, presumably developed in Baghdad, were often named after the main ingredient; for example, *'adasiyyah* (lentils with meat) and *shaljamiyyah* (with turnips). Some were named for aristocrats, such as *haaruuniyyah* (containing ground sumac, clearly one Harun al-Rashid's favorite spices, because it appears in several of his recipes in *Kitab al-Tabikh*). A few stews have fantasy names. *Narjisigga* was topped with an egg, giving it the appearance of a narcissus flower—at least, if you really yearned to see the resemblance.

The dishes in this book call for a wide range of spices, including some little used in many Arab countries today, such as caraway (highly popular in the ninth century), the garlic-like asafetida, and galangal, a root which tastes like a cross between ginger and mustard. Fair enough: Everybody knows medieval food was heavily spiced. What's more surprising is the lavish use of herbs in these recipes—sometimes five or more herbs in a single dish, including basil and tarragon as well as the usual mint, parsley and cilantro of modern Arab cookery. Many stews are sprinkled with the bitter, plum-scented herb rue just before serving. Even more surprising, many medieval stews call for cheese to be thrown in at some point.

The most unexpected flavoring is *murri*. This was made by wrapping lumps of barley dough in fig leaves so that they

would be attacked by mold, then mixing the moldy barley with flour, salt and water and allowing it to ferment for another month or more. The rotted barley paste would then be pressed to yield a dark-brown liquid which turns out to taste just like soy sauce. This whiff of soy ran through the food of the caliphs. The Arab sauce was not borrowed from China, however: *Murri* was never made from beans and it was always a liquid sauce, while the Chinese product was used as a paste until the 16th century.

People must often have cooked skewers of meat over an open charcoal fire in the ninth century, as they do today, but in this book roast meat (*shiwaa'*) is always cooked in a *tannuur*. The meat wasn't always cut small in the shish kebab manner; fairly large items were roasted in this way, such as stuffed kid and spice-crusted rack of lamb (*janb mubazzar*).

Fish were cooked in the *tannur* too. *Kitab al-Tabikh* gives an ingenious recipe for a fish "whose head is roasted, whose middle is baked and whose tail is fried" which later appeared in medieval European cookbooks. (The middle of the fish was wrapped in several layers of cloth and the tail was wrapped in oil-soaked canvas.) It must have seemed as astonishing in the ninth century as baked Alaska would a thousand years later.

The supreme roast meat dish was *juudhaab* (or *juudhaabah*), where the meat was served on a sweet pudding which had been

baked at the bottom of the *tannur* to catch its dripping juices. In the wickedly funny story known as the *Maqamah* of Baghdad, the 10th-century writer Badi' al-Zaman al-Hamathani shows a rascal tricking a peasant into buying him a *juuthaab* dinner from one of the specialists in the market.

Fried meat was popular, of course, but fried dishes were less impressive and dignified than roasts and stews. Frying was often done in a smaller version of the *qidr*, the shallow pot used for stews. It was made of carved soapstone, like the *miqlah* of modern Yemen. Dishes containing eggs, such as *narjiliyyah* and *'ujjah*, a rather solid "omelette" which is still popular in the Arab world, were also fried in soapstone utensils.

There was no bulgur wheat, and the pilaf technique of cooking rice by boiling and then steaming was unknown. Rice and wheat were often cooked in the *tannur* overnight with meat and spices to make a sort of meaty porridge (*aruzziyyah*, *hintiyyah*). If the wheat was beaten to a smooth paste, you had *hariisah*, a dish still widely made in the Middle East.

Noodles were usually cooked in soup. The book recounts a quite unbelievable story of their supposed invention by the sixth-century Persian king Khusraw Anushirwan: He offhandedly tells his cook to throw "some pieces of dough" into his



Murri

IN TODAY'S ARAB WORLD, THE EGGPLANT IS *SAYYID AL-KHUDAAR*, THE LORD OF VEGETABLES. BUT IN THE NINTH CENTURY IT WAS A RECENT IMPORT FROM INDIA AND NOT YET QUITE POPULAR. IT WAS CONSIDERED IMPOSSIBLY BITTER AND EVEN BAD FOR THE HEALTH.



*ujja*

soup. The book's word for noodles, *lakhsaa*, is now extinct in both Arabic and Persian, though it has entered European languages from Hungarian to Russian. For that matter, the book calls soup *maa'-wa-milh* ("water-and-salt"), a fairly literal translation of the Persian *shorbaa* ("salty stew"), because the word *shorbaa* had not yet entered Arabic.

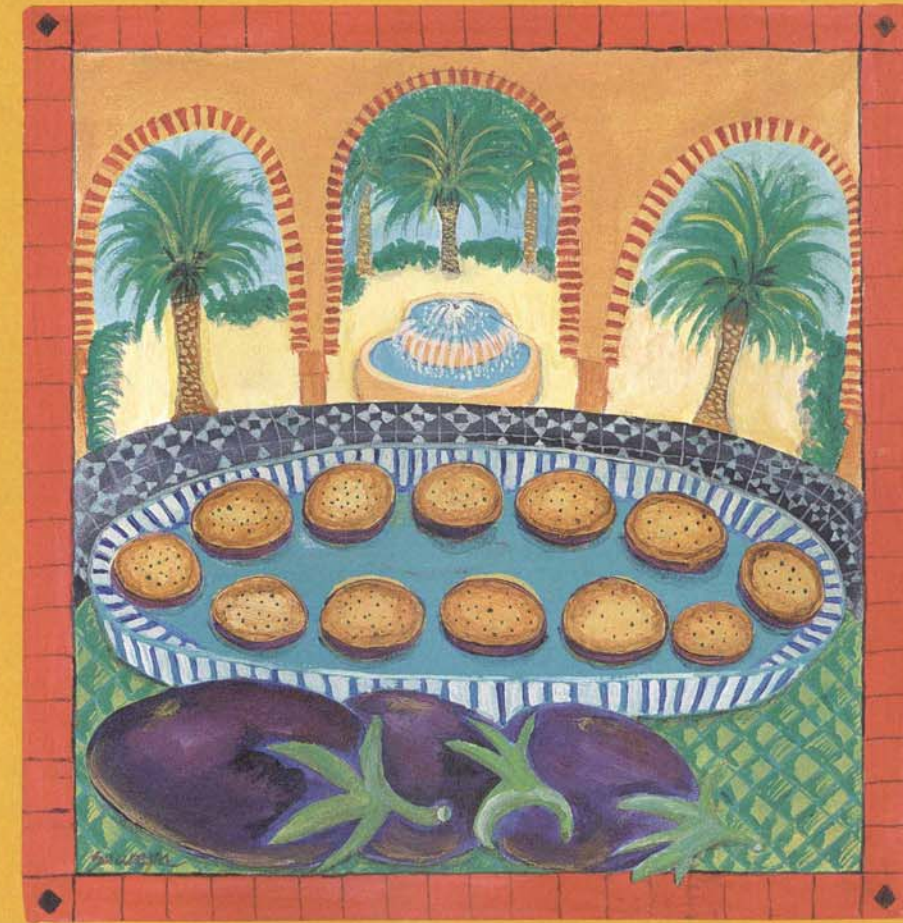
The book gives only a few vegetarian dishes, called *muzaw-waraat* (literally, "counterfeit" dishes, which reminds us of the Turkish name for vegetables with a meatless stuffing: *yalanci dolma*, "lying *dolma*"). They were known as the dishes that Christians ate on fast days, and they were thought to be good for the health—and they had indeed been introduced by the Nestorian Christian physicians favored by the caliphs. There were also cold dishes, sometimes vegetable-based but more often containing meat, called *baaridah*. Some of them are probably descended from the pre-Islamic Persian dishes called *aamiz*.

It comes as a surprise that eggplant shows up so rarely in these recipes. In today's Arab world, it is *sayyid al-khudaar*, the lord of vegetables, but at the time it was a recent import from India and not yet quite popular. It was considered impossibly bitter; in a widely repeated anecdote, a Bedouin declared that eggplant had "the color of a scorpion's belly and the taste of a scorpion's sting." It was actually considered bad for the health. Doctors blamed it for everything from freckles and a hoarse throat to cancer and madness.

Still, there are seven eggplant *baaridah* in this book, probably because a taste for eggplant first arose among the aristocracy. Two of the dishes are called *baadhinjaan buran*, "the eggplant of Buran," after al-Ma'mun's wife, whose month-long wedding party was a medieval byword for luxury. Today a vast range of dishes called *burani* or *buraniyyah* are made everywhere from Spain to India. The recipes in *Kitab al-Tabikh*, dating from only 50 or 60 years after her death, must be very close to the originals. One is simply fried eggplant slices sprinkled with murri, pepper and caraway. It's rather good.

Some foods, such as bread and roasted meats, were felt to be excessively plain by themselves, so they were served with sauces or condiments. A condiment for meat or fish was called a *sibaagh*. It was something like an Indian fresh chutney, usually including a sour ingredient, a dried fruit, crushed nuts—or all three—as well as herbs and spices.

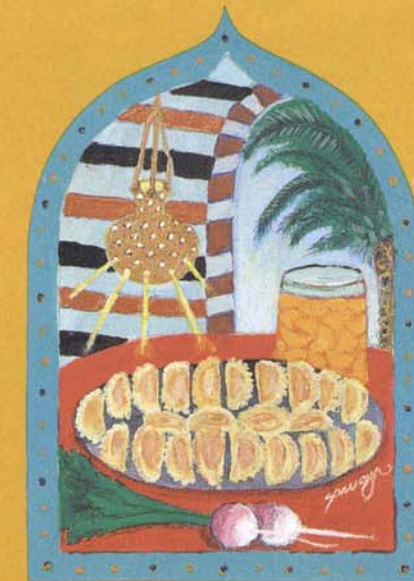
For bread, there was a whole range of condiments or dips called *kaamakb*. In modern Arabic, this word is sometimes used for vinegar pickles, but the main ninth-century condiment, *al-kaamakb al-ahmar*, was made by mixing fermented barley—the same material that murri was made of—with milk and salt. The mold quickly gives the milk the flavor of a blue cheese. In fact, blue cheese is made much the same way, by mixing moldy bread with fresh cheese curd.



*fried eggplant*



*chutney - almonds, apples, dates  
dried apricots*



*sambusik  
+ pickled turnips  
in saffron*

THE MAIN NINTH-CENTURY CONDIMENT, *AL-KAAMAKH AL-AHMAR*, WAS MADE BY MIXING FERMENTED BARLEY WITH MILK AND SALT. THE SALT PRESERVED IT; THE MOLD GAVE IT THE FLAVOR OF A PUNGENT, SALTY BLUE CHEESE. A DARK REDDISH-BROWN, IT HAD A SPREADABLE CONSISTENCY. IT COULD BE USED AS IT WAS, BUT *KITAB AL-TABIKH* ALSO GIVES A DOZEN RECIPES FOR FLAVORING IT WITH VARIOUS HERBS AND SPICES.



*zafahiga gataif lauzinaq sweets muhallabiya juhaba*

*judhaba*



*kaamakh ahmar & bowls of spices*

The difference between blue cheese and al-kaamakh al-ahmar (apart from color: al-kaamakh al-ahmar is a dark reddish brown) is that the Arab condiment wasn't curdled and pressed to remove moisture, which is what allows cheese to resist spoilage. Al-kaamakh al-ahmar was preserved by its salt. It smelled and tasted like a pungent, salty blue cheese and had a spreadable consistency. It could be used as it was, but *Kitab al-Tabikh* also gives a dozen recipes for flavoring it with various herbs and spices.

Finally, the book gives 90 recipes for sweets. Some are still known today, such as *zulaabiyyah*, a fritter made by pouring batter into hot oil, and *qataa'if*, crepes folded around a filling of ground nuts and then deep-fried. *Naatif* was a sweet made from beaten egg whites. *Muhallabiyyah* was a pudding sometimes thickened with rice flour, like the present-day version, but sometimes with eggs or noodles, and it might contain chicken meat. There were 38 recipes for *khabisah*, a flour-thickened pudding flavored with nuts, dried fruits or even carrots.

But other desserts are unfamiliar. *Khushkanaanaj* was a sort of cookie or sweet biscuit. The most esteemed sweet was *lauzinaq*, an almond paste much like marzipan—probably the ancestor of marzipan, in fact. In its most admired

form, it was rolled into finger shapes, wrapped in paper-thin crepes and "drowned" in syrup. The gourmets of ninth-century Baghdad would certainly have appreciated modern sweets like baklava, but they were justly enthralled by the glory of their own cuisine. Among the 90-odd poems about food scattered through this book, many reflect a passionate fascination with these rich and impressive dishes, including this heartfelt praise for a *juthabah* by the 10th-century poet Kushajam:

A juudhaabah of excellent semolina, as pallid as a lovesick face,  
A shining wonder from the hand of an able cook,  
The well-done meat as rosy as dates made by the Creator,  
With sugar of Ahwaz sweeter than a night visitor,  
Drowning in fat, trembling, it diffuses aroma to the taster.  
As soft as butter to the touch, its perfume like finest ambergris.  
It gleams in its bowl like a star in the dark of night  
Or a bright yellow carnelian on the clear cheek of a tender girl,  
Sweeter than peace coming in the depths of night  
To a throbbing, anguished heart.

# RECIPES

## BAZMAAWURD

This giant canapé was the traditional first course at a banquet in pre-Islamic Iran or Abbasid Baghdad. The name comes from the Persian *bazm*, “banquet,” and *awurd*, “bringing.” The recipe given here is from the collection of the Caliph al-Ma'mun. It calls for the flesh of citron, a fruit with very little flesh—we know it mostly for its candied peel. Lemon is an obvious substitute.

1 lavash, Mexican flour tortilla or other fresh thin flatbread about 12" diameter

1 whole chicken breast, roasted, boned and chopped

2 tablespoons chopped walnuts

1½ to 2 lemons, peeled, seeded and chopped

1 tablespoon minced fresh tarragon

1 tablespoon chopped mint

2 tablespoons chopped basil

Spread flatbread on work surface. Sprinkle evenly all over with chicken, walnuts, chopped lemon, tarragon, mint and basil.

Roll up and cut into 4 slices. Warm in oven before serving. Serves four as an appetizer.



*bazmaawurd*

## BAARIDAH

A *baaridah* was a cold meat or vegetable dish served before the hot dishes. Following pre-Islamic Iranian tradition, when a *baaridah* was made with fowl, it was usually a sort of chopped cucumber salad garnished with the roast meat. Some recipes call for only the seeds of cucumbers, which makes for a luxurious, slippery texture. This particular recipe is that of Harun's famous vizier, Yahya ibn Khalid al-Barmaki. Verjuice, the juice of sour grapes, is sold in Middle Eastern markets as *abhureh* or *hismi*. If you can't find it, lemon juice will do.

1 whole chicken breast, roasted

1 teaspoon coriander

½ teaspoon pepper

¼ teaspoon cumin

⅛ teaspoon cinnamon

¼ cup verjuice or lemon juice

1 teaspoon minced fresh mint

2 teaspoons minced fresh tarragon

1 teaspoon minced fresh thyme

2 tablespoons olive oil

salt

1 cucumber, peeled and cut in ¼-inch dice

When chicken is cool, remove skin and bones, and tear meat into small pieces.

Place in bowl and add coriander, cumin, pepper, cinnamon, verjuice, mint, tarragon, thyme and oil. Mix well and season to taste with salt. To serve, mound chicken on salad plates and surround with chopped cucumbers. Serves two.



*baaridah*

## MULAHWAJAH

*Mulahwajah* means “hasty.” The book says that this recipe was often prepared for Harun al-Rashid. Galangal is sold in Arabia as *irq al-hail* or *khulanjan*, and in Southeast Asian markets under such names as *kha* and *laos*. Dried ginger could be substituted. Use the rue sparingly—it's very bitter.

2 tablespoons oil

1 onion

2 leeks

rue, preferably fresh

cilantro (green coriander, kuzbarah)

½ pound lamb, chopped or ground

2 teaspoons ground coriander seed

½ teaspoon cinnamon

1 teaspoon ground caraway

1 teaspoon ground pepper

1 teaspoon ground galangal

4 teaspoons vinegar

2 tablespoons soy sauce

2 tablespoons honey

Heat oil in pan. Add onion, leeks, pinch of rue and 2 to 3 sprigs cilantro and fry until soft.

Add meat and fry until brown. Add coriander, caraway, pepper, galangal, vinegar and soy sauce.

Cook until done. Stir in honey and garnish with several more sprigs cilantro. Serve with flatbread. Serves two.



*mulahwajah*

## TABAHAHAJA

This recipe, from the manuscript of Yahya ibn Khalid al-Barmaki, makes striking use of *murri*, the indigenous Middle Eastern barley “soy sauce.” Most dishes flavored with *murri* were vinegary, but this is the exception, being quite sweet. The result is surprisingly reminiscent of a Chinese “red-stewed” meat dish. The name comes from the Persian word for frying pan, *tavah*.

½ cup soy sauce

5 teaspoons honey

¼ teaspoon ground coriander seed

1 rounded teaspoon cinnamon

⅛ teaspoon pepper

2 pounds boneless lamb shoulder

½ cup oil

cilantro (green coriander, kuzbarah)

rue, preferably fresh, optional

mustard greens, optional

Mix soy sauce, honey, ground coriander,

cinnamon and pepper. Add meat and

marinate half an hour. Heat oil in large

frying pan. When hot, spoon in meat and marinade. Reduce heat to medium-

low and cover pan loosely for half an hour. Remove lid and cook, stirring

often to prevent scorching, until meat is tender and sauce is reduced to a thick

glaze. Pour off oil and serve, sprinkled with cilantro, rue and mustard greens,

accompanied by flatbread. Serves four.



*tabahaahaJa*

## JUDHAAB

This favorite dish of medieval Baghdad consisted of a sweet pudding which was set at the bottom of a *tannuur* oven to catch the juices of roasting meat, which would be served with the pudding. Here we have a recipe from the collection of Caliph al-Wathiq (842–847).

1 chicken

¼ cup plus 2 tablespoons rosewater

ground saffron

1 pound dried apricots

2 fresh lavashes, Mexican flour tortillas or other flatbreads, 12" in diameter

½ cup sugar

Wash chicken and pat dry. Mix 2 tablespoons rosewater with pinch of saffron and rub on

chicken, inside and out. Set chicken on high rack in 350-degree oven. Put apricots in small saucepan, add water to cover

apricots by ½ inch and stew until softened. Place one lavash in baking pan. Arrange stewed apricots on top, sprinkle with

sugar and ¼ cup rosewater in which pinch of saffron has been dissolved, then cover with remaining lavash. When juices begin

running from chicken, set baking pan under it to catch juices. When chicken is done, serve on apricot pudding. Serves four. 🌐



*judhab*



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Food, present-day, Saudi Arabia: J/F 99

Marzipan: M/J 96

Spices, Arabia: M/A 88

The Arabic text of Ibn Sayyar al-Warraq's *Kitab al-Tabikh* was edited by Kaj Ohrnberg and Sahban Mroueh and published in 1987 by the Finnish Oriental Society, Helsinki, as *Studia Orientalia*, vol. 60.



A VIRTUAL WALKING TOUR  
**THE ALHAMBRA**

PHOTOGRAPHED BY BARRY GROSS AND MICHAEL GROSS  
AUDIO GUIDE AT [WWW.SAUDIARAMCOWORLD.COM](http://WWW.SAUDIARAMCOWORLD.COM)  
COURTESY OF ANTENNA AUDIO

"INDEED, WHEN THE SPECTATOR HAS ATTENTIVELY  
EXAMINED MY BEAUTY, HE WILL FIND REALITY  
TO EXCEED THE MOST EXTRAVAGANT CONCEPTION  
OF HIS FANCY."

— ABU ABD ALLAH IBN ZAMRAK,  
FROM AN INSCRIPTION IN THE HALL OF THE TWO SISTERS (SHOWN HERE)



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*From the Editors:*

For the first time since *Saudi Aramco World* launched its Web edition in early 2004, what you see and read in this article is a scant and even misleading fraction of what is available in its electronic counterpart. In fact, we can't show you here what you can see there: Our series of spherical high-resolution photographs puts you, the viewer, at the center of images you can "explore"—pan, zoom, examine details, linger or move on—much as if you were standing in the location itself. In each image, you will find "hotspots" in doorways and on neighboring buildings: By clicking on the hotspots, you can move to the next site. Such panoramic photography, made by digitally "stitching together" a series of 13 to 50 still images, is a rather cumbersome, specialized process, and rendering such images on a flat screen presents distortion problems that invert the old cartographer's challenge of representing a spherical earth on a flat map. Barry and Michael Gross first explored digital panoramic photography while undergraduates at Williams College, and since then they've become expert practitioners of this new visual medium. For this article, their photographs were made possible by a partnership between Aramco Services Company and the Department of Art at Williams College, which commissioned the brothers to digitally document more than 100 masterpiece buildings in the US and Europe. After you visit this issue's Web edition at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com), we hope you'll not only appreciate anew the splendor of the Alhambra, but also enjoy your experience with an emerging medium that enlarges our understanding of the world all around us.

SPHERICAL PANORAMIC PHOTOGRAPHS OF THE ALHAMBRA, WITH AN AUDIO TOUR.

*Previous Spread:* Among the most magnificent of the rooms of the Nasrid palace, at the heart of the royal complex, stands the Hall of the Two Sisters, built in the mid-14th century by Muhammad v. Entered through a succession of three archways, the room is adorned with fine geometric and vegetal patterns and extensive Arabic calligraphy, mostly poetry by a Nasrid statesman named Abu Abd Allah ibn Zamrak. It is topped by a *muqarnas* dome of stunning intricacy, delicately lit by clerestory windows. This photograph is part of the spherical view of the entire hall at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com). Above: "You're standing in the Partal, one of the many gardens in the Alhambra that complement the beauty of the palaces," says the narrator of the Alhambra's official audio guide, parts of which can be heard at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com). In this part of the kilometer-

long (1000-yd) Alhambra complex, the guide continues, "gardens from the early 20th century sit among architectural ruins from the Nasrid period." *Partal* may originate from the Arabic *burtulah*, a word that refers to a narrow shady area or "a summer shade," a good description of this garden. "The space begins with the five-arched gateway, and the pool acts as a mirror reflecting the face of the building, breaking the horizontal lines of the architecture. Let's go into the Partal gardens. You'll see that this isn't the typical layout of a Hispano-Moorish orchard garden; rather, it reflects the idea of a western garden, showing a more recent stage of building in the Alhambra. These gardens are laid out in levels marked out by box hedges connected by stairways. As you walk along, you'll find pools, fountains, and the remains of Nasrid-era buildings. Go up the stairs, and you'll come to a patio with a central pool."

Though the Alhambra's hilltop location was first selected in the ninth century for military reasons, when the Nasrid palaces were built in the 13th and 14th centuries, the views were regarded as part of the architecture. These three double windows overlook the Albacín, Granada's old Arab quarter that lies across the river Darro, which separates the Alhambra's hill from the rest of the city. The room is called the Mexuar Oratory, and it is one of the lesser-known gems amid the Nasrid palaces. Located at the end of the Mexuar Hall, which was used by the Nasrid kings as a reception room, this small room was likely used for private conversations and—importantly—for daily prayers. At [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com), you can pan this photo to the right, and you will find on the wall that, in this view, stands behind you an ornate *mihrab* or prayer niche, indicating the direction of Makkah. Anywhere in the room you can also zoom in to examine closely the inscriptions and ornamental designs and, if you wish, to take a closer look at the buildings of the Albacín. To your left you will find a doorway with a "clickable" hotspot that leads into the Mexuar Hall, and from there to a number of other locations in the Alhambra, including the Alcazaba (the military fortifications) and the gardens of the Generalife. 🌐



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#### Special Thanks

**Ana Carreño Leyva**, Communications Director, Fundación El Legado Andalusi ([www.legadoandalusi.com](http://www.legadoandalusi.com))

**E.J. Johnson, Ph.D.**, Class of 1955 Memorial Professor of Art, Williams College, Williamstown, MA

**Andrew W. Keating**, Williams College Class of 2002

**Antenna Audio** ([www.antennaaudio.com](http://www.antennaaudio.com))

**Patronato de la Alhambra y Generalife** ([www.alhambra-patronato.es](http://www.alhambra-patronato.es))

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The Alhambra: M/J 67

Art of Islamic Spain: S/O 92

Islam in Granada today: S/O 03

*Al-Andalus*, a 64-page printed compilation of past articles on Muslim Spain, is available in single copies or classroom sets on request. E-mail [saworld@aramcoservices.com](mailto:saworld@aramcoservices.com).







Detail from an 11th-century Byzantine robe shows griffins embroidered on a delicate silk woven of murex-dyed threads. It was in the eastern Roman empire of Byzantium that the symbolic power of murex purple reached its apogee.

# Millennia of Murex

Written by Philippa Scott

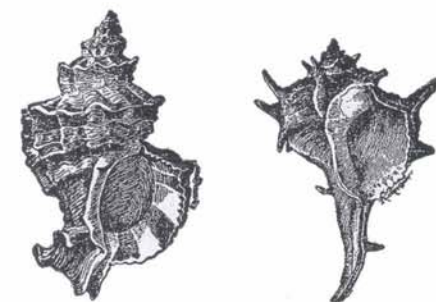
*Among the more unlikely "marriages" arranged by human ingenuity is the one between the Chinese domesticated silk moth, Bombyx mori, and the Mediterranean sea snails of the Muricidae, or murex, family. The sea snails produce a pigment that, when brought together with silk, led to the world's longest-lasting fashion statement.*

SION (SWITZERLAND) / EGLISE DE VALÈRE / ABEGG-STIFTUNG, RIGGSBERG; RIGHT: G. MASPERO, HISTORY OF EGYPT, VOL. IV (LONDON: THE GROUPE SOCIETY, 1903)

Murex is the dye first famous as "Tyrian purple," named for the city of Tyre, today in Lebanon but 3000 years ago the center from which that energetic trading nation, the Phoenicians, controlled a far-flung luxury trade in murex-dyed silks. Later, the dye was known as "royal purple" or "imperial purple," from the Roman and Byzantine emperors who

reserved the color for members of the imperial family.

The search for stable, brilliant textile dyes is an ancient one. Early dyers experimented with plants, lichens, colored earths, stones containing metallic oxides, insects, blood, seaweeds—and shellfish. Shell mounds, pits full of shells and stretches of seashore made up of millions of crushed shells are continually



THE MUREX TRUNCULUS AND THE MUREX BRANDARIS.



being discovered, forcing archeologists and historians to reassess dates and boundaries. Archeologists working in Qatar, along the Gulf coast of the Arabian Peninsula, have recently uncovered shell middens—discard heaps—that date to the 18th century BC and are composed mostly of the *Thais savigni* species of murex. Nearby were pits with hearths and dye pots more than a meter (39") in diameter. Until this discovery, historians believed the story of murex purple dyes began around 3000 BC with the Minoan civilization of Crete, and was then advanced by the enterprising Phoenicians. Now it seems probable that the use of shellfish dyes developed as independently in what is today Qatar as it did in the Mediterranean and the Americas. (See "It's a Purple World," opposite.)

In the Mediterranean there are 16 species of Muricidae. Three that are common to

The oldest known murex-dyed textile is a fine wool tapestry woven during the fifth to fourth centuries BC in Persia. Originally a garment, it was later adapted—in a well-worn condition—as a felt-lined horse trapping, which was buried with its owner.

the eastern Mediterranean were specifically fished for dye: *Murex trunculus*, *Murex brandaris* and *Thais haemastoma* (also called *Purpura haemastoma*). The earliest, most complete written account of early dyeing techniques comes from Pliny the Elder in the first century of our era, but researchers have recently found that Pliny either misunderstood certain processes or was misinformed—or perhaps intentionally misled by craftsmen reluctant to fully reveal their techniques. For example, it might be true, as Pliny claimed, that honey was a traditional ingredient in the murex formula, or there may be a lost legend about it, or a belief in some symbolic potency of which today we know nothing. However, modern methods of chemical analysis have found honey to be of no practical use in murex dyeing.

The Minoan civilization of Crete endured some two millennia, from roughly 3000 BC to 1000 BC. Excavations there have revealed houses decorated with frescoes that used murex purple as a paint. Some earthen floors have been found to

contain crushed murex shells as aggregate—an example of recycling from about 1500 BC. Murex shells appeared as a design motif on pottery and on carved gemstones. From frescoes, painted figures and pottery, we know that the Minoans wove fine wool cloth that was profusely patterned and colored; however, we do not know whether the designs were woven, embroidered, appliquéd or printed, for archeologists have not yet found any of the textiles themselves.

The extensive Minoan trading network operated by barter, coinage not having yet been invented, and cloth was among the most important trading elements. To the south, Egypt was a significant trading partner, and the Papyrus Anastasy, a New Kingdom document written about 1400 BC (now in the Victoria Museum in Upsala, Sweden), includes 70 formulae for dyeing wool, most of which deal with purple. There is a vivid description of a purple dyer: "His hands stink, they have the smell of decaying fish. His eyes are overcome with exhaustion."

From the 15th century BC or earlier, murex dyeing was also carried on along the north coast of Syria at the port of Ugarit, at Mina al-Bayda. Here, archeologists' finds include lots of crushed shells and part of a pot still stained with purple. Surviving Ugaritic texts describe a thriving commerce in purple wool and purple cloth. They mention wool being dyed in the yarn, an indication that craftsmen may have practiced pattern weaving. An Assyrian chemist's text gives a formula for murex purple dye. Eastward in Mesopotamia, Babylonians dressed sacred idols in purple cloth.

But it was another seafaring nation of traders, the Phoenicians, who were destined to become irrevocably linked with murex purple dye. The name "Phoenician"—and "phoenix," the legendary bird reborn in the flames—

## It's a Purple World

Beyond the Mediterranean, there are a number of other sea snails useful for dyeing. Some 140 species flourish off the shores of North and South America. Of these, *Purpura patula*, *Purpura persica* and *Purpura aperta* inhabit the Gulf of Mexico, and these are still valued today in Central America, where women use them to color skeins of yarn. Sun and saltwater cause the pigment to oxidize on the fibers into an attractive but uneven purple. Unlike the Mediterranean types of murex, which must be crushed in order to obtain the tiny sac of pigment, the gland on the American shellfish is closer to the surface, and the creature can be persuaded to squirt its secretion onto the yarn. Afterward, the shellfish can be put back into the sea, given time to recover, and used again. Threads colored in this way tend to retain a fishy smell, however. The dyes in many pre-Columbian textiles and the purple paint in the Nahuatl codices have been analyzed and found to be shellfish purple.

In ancient Japan yet another type of shellfish was used. In the waters around Scandinavia and the British Isles, the Anglo-Saxons called purple dye *fiscdeag* ("fish dye"), and in the seventh century the Venerable Bede wrote about red and purple dyes obtained from sea snails. In Australia, although there are equivalent shellfish, no evidence has yet been found that these were ever used for textile dyeing.

is derived from the Greek *phoinix*, meaning "purple-red." (*Murex* comes to us from Latin, derived from the Greek *muax*, or "purple fish.") It was

The name  
"Phoenician"  
is adapted  
from the Greek  
*phoinix*,  
meaning  
"purple-red."

the Phoenicians who developed and promoted the Mediterranean murex market. Herodotus tells us that Tyre, built on an island and the neighboring mainland, was founded in 2759 BC. Archeology supports this as a roughly probable date for the arrival and settlement of this Semitic people from

somewhere further south. The geography of their long, narrow country, with its high mountains sloping toward the coastal plain, made the Phoenicians look naturally outward to the sea.

The sea meant trade, and by the eighth century BC, the Phoenicians were established as traders, craftsmen and daring seafarers, and Phoenician sarcophagi depict wealthy businessmen. Perhaps because good business required efficient accounting, the Phoenicians invented an alphabet which was passed on to and adapted by the Greeks—and

which became the origin of our own today. Phoenician vessels traveled as far as the British Isles, where they traded for tin in Cornwall and tin, gold, silver and copper in Spain.

All around the Mediterranean there are wide stretches of beaches composed of crushed murex shells, silent witnesses to the geographical scope and longevity

Dye formulae of many kinds were widely known by the time this cuneiform tablet was inscribed in the seventh century BC near Babylon, now in Iraq. It describes the dyeing of wool to shades of "lapis-lazuli," which was apparently an attempt to imitate murex.



of the Phoenician dyeing industry. One famous Phoenician dye-works was near Cadiz, in the south of Spain; others were in present-day Tunisia, where Carthage was a Phoenician colony. At all these sites, the shellfish were crushed, and the pigment extracted, processed, mixed and used. Grave-stones of “purple merchants” (*purpurarii* or *negotiatores artis purpurariae*) often show a set of scales or hanks of yarn, indicating that here too yarn was dyed before weaving, enabling it

to be used for woven patterns and embroidery.

On the supply end, the “marriage” of silk and murex may have occurred relatively early. Strands of Chinese silk—the remains of a decorative net, perhaps—have been identified in the hair of an Egyptian mummy dating from 1000 BC, long before an established trade network is thought to have existed—a reminder of the importance of keeping an open mind to the reassessment of historical knowledge.

The East–West land and maritime routes that became known as the Silk Roads are generally considered to have been “opened up” during the time of the Han and the Roman Empires, but already during the sixth century BC, Greek vessels carried silk to the Mediterranean via trading settlements around the Black Sea. The Chinese, who kept close account of all silk production outside their borders, recorded that Syria was a silk producer by the fifth century of our era.

The commercial success and enduring appeal of murex was based on solid science. Silk and wool are both protein fibers obtained from living creatures and, as such, they both have carboxyl and amino groups available to which dyestuffs can bond, unlike such plant fibers as cotton, linen, hemp, nettle and jute. Silk, as strong as steel, weight for weight, is also highly absorbent, which makes it easier to dye than any other fiber. This meant it required less dye to achieve more effect. Results ranged the palette from heavy ultramarine blues and purples to gentle lilacs, mauves and pinks, all depending on dye mixture and timing. Silk, it turned out, was more than a chemically compatible partner for murex: Both were labor-intensive in use, extremely expensive

To paint this fresco of a bull-leaper, a Minoan artist of approximately 1500 BC used murex dye in his palette.

and long-lasting, and the Phoenicians justified the high prices they demanded for murex because so little pigment was obtained from the glandular secretions of each shellfish. (See “How Murex Works,” opposite.)

When Alexander the Great’s troops, marching east in 324 BC, took the Achaemenid winter capital Susa (in today’s Iran), they found a vast store of purple robes and cloth in the royal treasury. Afterward, Alexander’s generals criticized their leader for swanning around in the all-purple robes “like a Persian.” To the austerity-loving Greek mind of the time, only a show-off

would don such ostentatious luxury. Not long afterward, however, possibly thanks to captive Phoenician dyers, the Greeks learned purple technology themselves. Purple dye works have been excavated in Corinth, and murex shells were depicted on certain Greek coins. Archeologists excavating the royal Macedonian graves at Vergina found the bones of Cleopatra, Philip II’s youngest wife and Alexander the Great’s stepmother, wrapped in a breathtaking fabric of the finest purple wool, delicately woven with gold thread. A fragment of that royal shroud has recently been analyzed and proved, not surprisingly, to have been dyed with murex.

The Phoenicians continued trading until the late fourth century BC, when the gradual incorporation of their cities into the Greek empire effectively put an end to a separate Phoenician identity. However, their dyeing and textile skills continued to flourish in the Levant and Syria.

By the time Julius Caesar returned to Rome from Egypt in 47 BC, his mind awash with thoughts of Cleopatra’s perfumed purple sails, the number of purple stripes or emblems on any Roman male’s outer garment was an indication of his rank, authority and prestige. This prompted imitations and became a fashion. Artists and orators donned purple. Nero, who had a habit of taking things to extremes, wore all-purple robes, and it was he who issued a decree that anyone else who did so would be executed.

In the breakaway Syrian state of Palmyra, grown rich from the Silk Roads trade, statues show its citizens elaborately coiffed and bejeweled, and the folds of their carved robes drape in silk’s inimitable manner. Murex purple has been identified in some of the Palmyran silks discovered in graves and funeral towers. When Palmyra fell to Rome in the year 273, its

## How Murex Works

*At first, the mucus-like glandular secretions of all types of murex are colorless or faintly yellow. The glands of the American species are close to the surface, which means the animals can be squeezed lightly, then replaced in the water alive, but in the Mediterranean, the species must be crushed. Exposure to sunlight and air causes rapid oxidization, turning the secretions into a purple pigment. If this is immediately rubbed onto fabric (or, as in a Phoenician legend, a dog’s muzzle), it will stain. Each shellfish, however, produces very little pigment, and although this method of rubbing the pigment onto thread or fabric is used in the Americas, it was not practical for Phoenician commercial purposes. Murex produce most of their secretions in early spring, the season when Sirius, “the Dog Star,” is high in the northern hemisphere’s sky, and thus the legend of Melcarth (Hercules) and his dog may in fact be a folktale reminding people of this seasonal advantage.*

*A pigment is a coloring agent, but to become a dye that will attach itself permanently to fibers, it needs to be processed. Murex is chemically related to the indigo dye family (which includes woad), and all these need to be processed in dyeing vats in an alkaline solution. Usually this meant a mixture of saltwater, wood ash, fermented urine or lime-water. (The salt stops the shellfish’s flesh from rotting, just as salt-curing preserves meat). No doubt dyers had their own formulae, each with varying quantities, reduction times and so on.*

*Once the dye had been made, it could be used to color cloth or unwoven yarn, or it could be dried and made into a powder, which could then be stored or transported and later reconstituted. After the cloth or yarn had been dyed, its color could be brightened by rinsing in an acetic-acid bath, such as diluted vinegar.*

*The trickiest question is, how many sea snails were required for dyeing? Enormous numbers have always been quoted, and indeed the dyeing vats used in ancient Qatar had a capacity of more than 600 liters (160 gal).*

*One experiment in 2001 with woollen fleece found that good color could be obtained on one gram of wool (1/30 oz) with just three snails, though darker hues and a more uniform color could be obtained by using a more concentrated dye solution and less wool. Excellent uniformity of dyeing was obtained using three successive one-gram samples of wool, 20 medium-sized snails (total weight, with shells, about 360 grams [13 oz]) and about 200 milliliters (6 3/4 oz) of sodium carbonate, or washing soda, as the alkaline solution—just enough to cover all the snails. The minimum recipe to produce uniform purple color was seven snails and 70 milliliters (2 1/2 oz) alkaline solution.*

*Based on these findings, the researchers calculated that dyeing a robe, cloak, mantle, toga or other garment that weighed only a kilogram (2.2 lb) to a deep shade would require not fewer than 10,000 snails.*



In 1636, Flemish artist Peter Paul Rubens depicted the legendary discovery of murex by the Phoenician god Melcarth (in Greek versions of the tale, it is Hercules), who was strolling along the shore when his dog began to play with a murex snail, staining his muzzle. The legend may be a reminder that murex snails are best harvested in early spring, when Sirius (the “Dog Star”) is high.

queen, Zenobia, was paraded through the streets of Rome in golden chains—and we may be reasonably certain that she also wore murex-dyed silks from Palmyran looms.

But it was in the eastern Roman Empire of Byzantium that the murex purple fashion reached its all-time apogee. When Emperor Constantine established his new city, Constantinople, in 330, the Byzantines embraced the symbolism of purple. Ancient Phoenicia and Syria became Byzantine territories. Syrian merchants were accorded special privileges in the imperial city, for they brought the most desirable dyestuffs and the most desirable purple-dyed silk, some already woven and some as thread, to supply the imperial weaving ateliers. The Byzantine silk industry was

strictly regulated by guilds, and silks of both purple and purple-and-gold were imperial monopolies. Many Byzantine laws regulated the sale, production and wearing of purple, and punishment for their breach was severe.

If in Rome a single stripe of murex purple had signified wealth, prestige and, at times, even aristocracy, how much more magnificent was a Byzantine subject dressed in a purple garment or—better yet—in a purple silk garment? More prestigious still were purple silk garments woven with gold thread, in patterns of varying degrees of intricacy. And what of the Byzantine imperial children, literally and in every symbolic sense “born to the purple,” raised in the *porphyra*, a room with pillars and a floor of polished purple porphyry, hung all around with perfumed purple drapes? As a finishing touch, there was also

**For the Turks, and the Arabs as well, purple did not hold the same symbolic meanings that it held for Phoenicians, Romans and Byzantines.**

include Byzantine silks, and a gift of Byzantine silk was a treasure indeed. It may be difficult for us to imagine today, accustomed as we are to the

easy worldwide availability of silk, but it is no exaggeration to say that in the Byzantine economy and in Byzantine diplomacy, the central position of their fabulous silks is loosely comparable to the role of crude oil in today's world.

All around the Mediterranean, throughout the Roman Empire, from Phoenician times until the collapse of the

Byzantine Empire and the fall of Constantinople in 1453, purple meant glamour, royalty, aristocracy, wealth and power. Authors have often borrowed this symbolism: In 1400, Geoffrey Chaucer wrote of “the venom of Tyre” and “the bright fleeces of the land of Syria” and, quoting St. Jerome, warned, “wives that are apparelled in

A Minoan earthenware jar, dated between 1450 and 1400 BC, depicts an octopus and semiabstract *murex trunculus* shells.

imperial footwear, crimson or scarlet, sandals or boots, for men and women alike.

Of all the shades obtained from murex, the Byzantine favorite was a dark violet color sometimes described as “cockroach.” Exerting a strict monopoly on murex, the Byzantines colluded with the Syrian merchants to maintain and protect this market. Foreign rulers begged for trading privileges that would

silk and in precious purple are not able to clothe themselves in Jesus Christ.” Shakespeare's image of Cleopatra's royal barge conjures romance: “Purple the sails, and so perfumed that the winds were lovesick with them.” And Byron: “The Assyrian came down like a wolf on the fold / And his cohorts were gleaming in purple and gold.”

Our ancestors thus understood “purple” in a broader, more symbolic sense than we do today. Many a student in recent times has puzzled over Homer's “wine-dark sea,” in *The Iliad*: The sea can be dark blue, they wonder, but surely not wine-colored. As a color, however, “purple” encompassed all the shades that could be obtained from the murex family of shellfish, from ultramarine to pink. Which color resulted

depended on what species' pigment went into the dye pot, what it was or wasn't mixed with, for how long and how many times the yarn or cloth was dyed and even the season in which the shellfish had been harvested. Faced with such a rainbow, “purple” was not so much a color as a notion, a status.

The demise of murex purple has been variously attributed to the seventh-century Arab conquest of the Levant and to overfishing, but most writers and textile historians blame the Turks. Historian Stephen Runciman, in his *Fall of Constantinople*, wrote that two great secrets were lost when Constantinople fell to the Ottoman Turks in 1453: the military formula for making “Greek fire,” and the dyeing techniques of Tyrian purple.

But there were other factors. In 1202, the Fourth Crusade sacked and looted Constantinople, and the Byzantines and their great city never fully recovered. As always throughout history, skilled craftsmen were part of the booty taken back to Italy, and among them were textile workers whose skills and knowledge boosted the fledgling Italian silk industry, which suddenly, around this time, began to flourish.

It is also true that for the Turks, and the Arabs as well, purple did not carry the same symbolic freight as for the Byzantines. To Muslims, green and red were the colors of life and royalty. Ottoman superstitions held black and purple to be unlucky colors. Although purple at times conferred distinction, during times of war it was an omen of death. But still, the Ottoman Turks were always canny about their textile trade, and they had no compunction about continuing to manufacture Byzantine-style silks, complete with figures of Jesus, for the Orthodox Church in Russia. Despite some claims

that Byzantine dye works and weaving factories were destroyed by the Turks, we know that murex dyeing continued under the Ottomans, for the dye has been identified recently in at least one silk examined by Turkish textile historians, and the Topkapı holdings contain other silks that, when analyzed,

In the western hemisphere, artisans tended to apply shellfish dyes in the manner of paints. This fragment of a mantle from coastal Peru is between 2000 and 2200 years old.



may well prove to be murex.

There is also the element of alum. With the collapse of the Byzantine Empire, the Ottomans began to control the lucrative trade in this vital ingredient used for mordanting textile dyes (and also for preparing leather). Alum had always been a major Byzantine export to Europe, and to the Ottomans it promised a no less vital revenue for the sultans' coffers. But

in 1460, Italians discovered a plentiful source of alum on their mainland. The Pope immediately claimed the deposits as church property, simultaneously enriching the Church and dealing a blow to Ottoman commerce.

Then, a 1467 papal decree stated that the murex purple, previously used on cardinals' robes, should be replaced by scarlet, a color intended to bring the cardinals onto a level equal with kings. The new “cardinal purple” was dyed with a mixture of indigo and kermes, the “beetle dye” from which English takes its word *crimson*—via the Arabic *qirmizi*. By this color shift, said the Pope, the Ottomans would lose valuable revenue and the Church would gain it, the better to wage war against them.

Yet a further blow to the murex industry lay ahead. The European

discovery of the Americas brought cochineal, a crimson dye obtained from the insect of the same name (*Dactylopius coccus*). It proved less expensive than either murex or kermes. From the 16th century, with no more need to go through the laborious processes of obtaining pigment from sea snails, Turkish dyers, as others, began mixing cochineal with indigo to obtain shades formerly obtained from shellfish. (Logwood imported from Sri Lanka also gave a deep, purplish-red color, but in 1630 a complaint is recorded from the velvet-makers of Bursa, who considered this to be an inferior dye.)

Things changed further in the 19th century when chemists discovered how to make synthetic colors. When William Henry Perkin, an 18-year-old English student and lab assistant of the German chemist Wilhelm von Hofmann, accidentally discovered the dye mauveine in 1856, he initially called it “Tyrian purple,” thinking, mistakenly, that he had rediscovered the dye of the ancients. When Queen Victoria chose mauve for her Jubilee dress in 1887, she was perhaps the first monarch ever to wear silk that had been dyed to that shade without the aid of either the venerable murex or the upstart cochineal.

Fashion being a fickle jade, the murex market, so stable and central for millennia, had finally faded. The marriage was over. The silkworm had spurned the shellfish, first for a beetle, and finally for a chemist. 🌐



London-based free-lance writer Philippa Scott is a textile historian and author of several books, including *The Book of Silk* (2001, Thames & Hudson).

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

Tyrian purple: A/S 60  
Porphyry: N/D 98  
Queen Zenobia: May 62, S/O 81



# The Scholar's Supernova

Written by Margaret Donsbach

*Exactly one thousand years ago, people from Europe to China gazed into the southern night sky to wonder at the sudden appearance of what seemed to be a new star that outshone all others. Ali ibn Ridwan of Cairo, then 18 years old, was among them. The star hung low, about a hand's span above the horizon, its light more than twice as bright as Venus. It was so bright that, like the moon, it cast shadows in the city beneath.*

Left: The supernova of 1006 was visible around the world, and sightings were recorded from Europe to Japan. This astronomer's illustration of the star shows how it may have appeared from the southern coast of Turkey. Below: Established by the Fatimid caliphate in 971, only two years after the founding of the city of Cairo itself, Al-Azhar University was the centerpiece of learning in a caliphate whose policy was to support the education of ambitious men from humble backgrounds—such as Ali ibn Ridwan.

**T**he ambitious son of a poor baker, Ibn Ridwan had just begun his education in medicine, but he was already an astrologer accomplished enough to support himself by casting horoscopes. To him, there was a relationship between these fields: In his autobiography, written at age 58, he noted that “the astrological omens at my birth indicated that medicine should be my profession.”

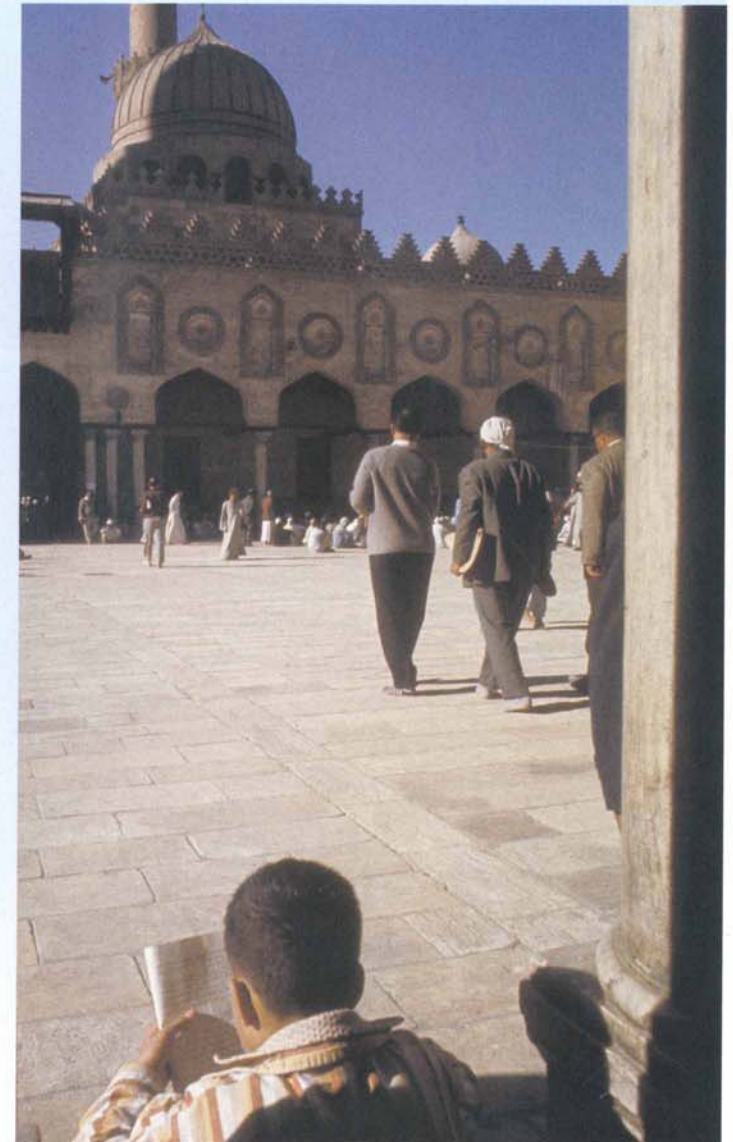
The “new star,” today simply called SN1006, first appeared on the evening of April 30, 1006. It persisted through the summer, but by mid-August the sun had moved so close to it that, from Cairo, it was above the horizon only during the daylight hours, making further observation difficult. According to Chinese accounts, within two years it was no longer visible at all. It appeared low in the southern sky, in the sign of Scorpio, which Ibn Ridwan interpreted as a portent of ill fortune.

Ibn Ridwan later noted, without offering specifics, that “calamity and destruction” in fact followed in that year. Indeed, ill fortune seemed to lie in wait for many in his day. The Fatimids had captured Egypt, establishing Cairo as their capital, only 37 years earlier. Its ruler, Caliph Al-Hakim, was only three years older than Ibn Ridwan. The caliph had been a boy of 11 when his father died, and at 15 he arranged the assassination of the administrator who had usurped his rightful powers. Though popular with his subjects at first—he mingled with the crowds during both Muslim and Christian holidays—he remained suspicious of court officials and did not hesitate to execute those who displeased him.

For young Ibn Ridwan, however, good fortune also beckoned. The year before the supernova appeared, Al-Hakim had founded the Dar al-‘Ilm, “the House of Knowledge.” This was a sort of informal public university where anyone who wished might come to read and copy books, study, or attend lectures in theology, grammar, philology, medicine and astronomy. Astrology was excluded, for a distinction had emerged between the empirical discipline of astronomy and what many, including Al-Hakim, regarded as its less respectable, interpretive counterpart.

In 1013 Al-Hakim would forbid the practice of astrology and later banish a number of astrologers. He patronized astronomers like Ibn Yunus, who produced a set of astronomical tables so accurate they took into account the atmospheric refraction of the sun's rays at the horizon, and a few years after founding the Dar al-‘Ilm, Al-Hakim began construction of an astronomical observatory.

Though Ibn Ridwan makes no mention of the Dar al-‘Ilm in his autobiography, its foundation is indicative of the intellectual atmosphere of Cairo that thrived alongside its volatile politics. As a child, Ibn Ridwan would have received his basic

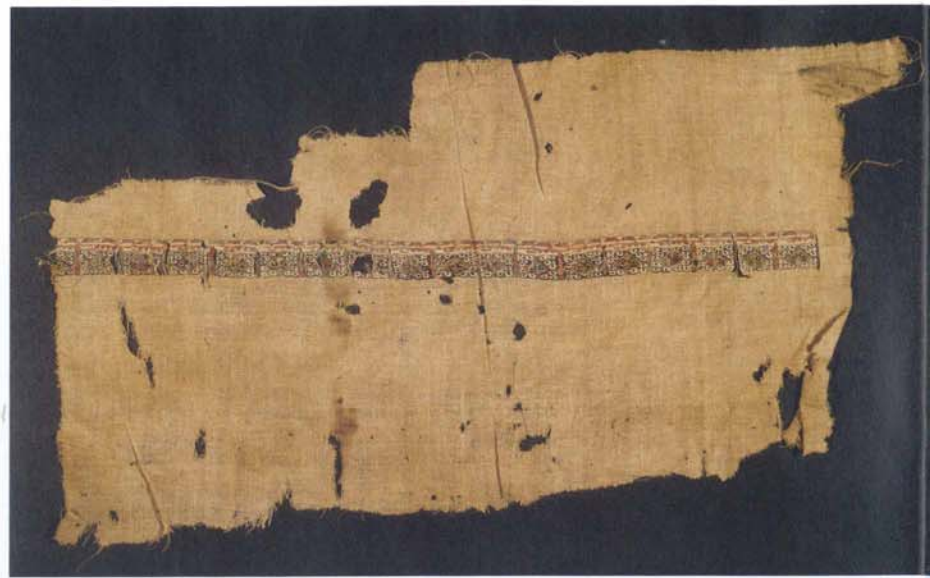


education at a local mosque, including reading and writing and the recitation of the Qur'an. At 15, he embarked on his medical and philosophical studies. “I had no fortune,” he says, “from which I could have paid for my education and so my studies were hampered by obstacles and difficulties. Sometimes I earned my livelihood by practicing astrology, again by medical practice, and yet again by giving lessons.”

The prevailing system of medical study disappointed him. Students customarily paid a substantial fee to attach themselves to a well-known teacher and memorize the works he assigned. But Ibn Ridwan says his own teacher “explained no obscure point and added no single word to whatever it was that was being read, but simply listened as the student read it.” In disgust, Ibn Ridwan abandoned him. He heard

of a better teacher in Iraq, but could not afford to travel there. Instead, he began to read the classical Greek medical authority Galen on his own. When he read that only those trained in geometry or logic could understand Galen's teachings, he paused to learn both. Then he returned to his close study of Galen and added Hippocrates.

A physician friend finally took him on as an assistant. Ibn Ridwan gained practical experience as the physician's substitute and built up a clientele of his own. "My office," he says, "was medicine and astronomy." (He evidently found it prudent, whatever astrological services he may have offered his clients, to advertise himself as an astronomer.) In his personal library, he kept a copy of the *Tetrabiblos*, an astrological work by the second-century astronomer and mathematician Ptolemy, which



BELOW: HERMANN GOELL / ARCHIV FÜR KUNST & GESCHICHTE / AKG-IMAGES; RIGHT: JOHN FEENEY / PADIA; OPPOSITE: BRITISH MUSEUM / HIP / ART RESOURCE

includes a chapter on the roles various planets might play in causing diseases and injuries.

Ibn Ridwan later wrote an extensive commentary on the *Tetrabiblos*. Like Ptolemy, he believed astrology could be useful for understanding the past and predicting future conditions, but he considered it an imprecise art compared with the mathematical and geometrical calculations of astronomy. In one of his medical treatises, Ibn Ridwan expressed scorn for a colleague who insisted on consulting the stars before considering a patient's illness.

Not until age 30 did Ibn Ridwan feel sufficiently established in his profession and secure enough financially to marry and buy a house. He continued his studies another year until, he wrote, "I achieved a reputation in medicine."

*Caliph Al-Hakim also patronized astronomers like Ibn Yunus, whose astronomical tables were so accurate they took into account the atmospheric refraction of the sun's rays at the horizon.*

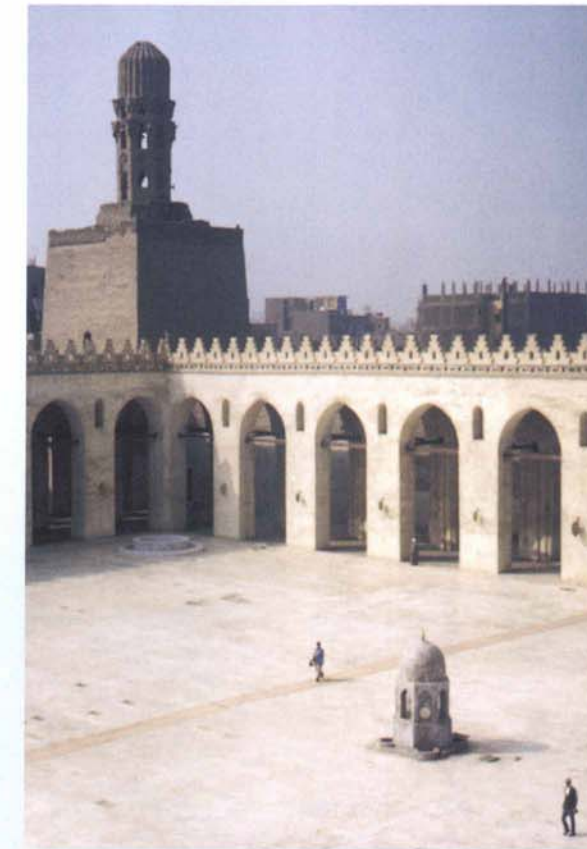
He was appointed, probably around this time, to be chief physician to Caliph Al-Hakim.

However exalted, a life this close to Al-Hakim could hardly have been serene. Indeed, some historians think the caliph was insane. In 1018, not long before Ibn Ridwan's appointment, a heretical cult had arisen which asserted that Al-Hakim was an incarnation of God. The caliph seemed to encourage the cult, infuriating many of his subjects. Riots broke out. Besides

executing court officials, the caliph persecuted Christians and made oppressive laws confining women to their homes. He conducted state business at night, and he often went riding in the desert after dark. On February 13, 1021, he went on one of his nocturnal rides and never returned. Searchers found

only his mutilated donkey and his bloodstained clothes. For the next two years, his elder sister Sitt al-Mulk ruled as regent for Al-Hakim's young son. When she too died, 17-year-old Al-Zahir became caliph for the next 13 years.

Those turbulent times must have troubled Ibn Ridwan. He later wrote that epidemic diseases could break out "when a common fear of a ruler grips the people. They suffer prolonged sleeplessness and worry about deliverance or the possibility of trouble." Professionally, though, he prospered. He invested in real estate so he could look forward to a comfortable retirement. He took on medical students of his own, and his reputation spread as far as Makran, in Baluchistan, whose ruler consulted him after being partly paralyzed. Ironically and tragically, despite his medical



Left: By Ibn Ridwan's time, observation of the stars and planets—for empirical, religious and astrological reasons—had a long history in Egypt. This 19th-century woodcut is a fanciful depiction of Claudius Ptolemy's famous first-century observatory at Alexandria. From there, Ptolemy made the observations that supported Earth-centered models of solar and planetary motion. Above: The mosque founded by caliph Al-Hakim in 990 was under construction when the 1006 supernova appeared in the sky, and it was completed in 1013—the same year the caliph officially banished astrologers. Top: This fragment of a sleeve of a Fatimid linen robe from Ibn Ridwan's era shows a line of embroidery known as a "tiraz band," which was a common ornamental motif on honorary robes bestowed by a ruler. Ibn Ridwan may have referred to such a garment when he wrote, "I am wearing clothes which are adorned by the marks of distinguished people, and by cleanliness."



renown, Ibn Ridwan could not save the lives of his own son and three daughters, all of whom died in childhood.

His writings show a prickly, even defensive personality—perhaps due partly to his unconventional, bootstrap education, the stress of serving Al-Hakim and his personal misfortunes. Professionally, he feuded. When Ibn Butlan, a Christian physician from Baghdad, visited Cairo from 1049

to 1052, the two argued over the constitutions and relative temperatures of baby chicks and birds so fiercely that Ibn Ridwan accused Ibn Butlan of

ugliness and Ibn Butlan retorted that Ibn Ridwan had “the face of a buffalo and eyes like a cow.”

By the time of his death, probably in 1067 or 1068, Ibn Ridwan had written more than 100 works, mostly commentaries on Galen and Hippocrates or medical treatises, several of which he dedicated to his Jewish friend and colleague Yahuda ibn Sa'ada. He also wrote on philosophy, theology, natural science, astronomy and astrology.

It is in one section of his commentary on Ptolemy's *Tetrabiblos* that we find a passage devoted to the unique heavenly spectacle he had witnessed in his youth—SN1006.

From other accounts, we know today that the supernova had appeared as far north as the monastery of Sankt Gallen in Switzerland; it must thus have been visible around the world at any latitude south of Sankt Gallen. But no other observer described it with the scientific precision of Ibn Ridwan:

The sun on that day was 15 degrees in Taurus and the spectacle in the 15th degree of Scorpio. This spectacle was a large circular body, two and a half to three times as large as Venus. The sky was shining because of its light. The intensity of its light was a little more than a quarter of that of moonlight. It remained where it was and it moved daily with its zodiacal sign until the sun was in sextile with it in Virgo, when it disappeared at once. [From Bernard R. Goldstein's translation]

He then detailed the positions of the sun, moon and other planets, down to their degrees and minutes in each sector of the zodiac.

A millennium later, we know that what Ibn Ridwan witnessed was a supernova, the cataclysmic explosion that marks the death of a star.

As a young faculty member in the 1970's, Middlebury College

astrophysicist Frank Winkler had the opportunity to study satellite data on x-ray emissions from space, and he wanted to see if he and his students could use this and other data to locate the remains of SN1006.

A team of English and Australian astrophysicists used Ibn Ridwan's data in 1977 to narrow down the area of sky in which the supernova could have occurred. While the Swiss record established the northern limit of the supernova's visibility, only Ibn Ridwan, Winkler explains, gave its position “along the ecliptic, that is, the path that the planets follow through the sky.” Winkler and his students combed through the x-ray data looking for an emission source in the right area.

“Lo and behold,” he says, “we were definitely able to detect it.” It was the beginning of Winkler's long fascination with SN1006. Winkler's current work focuses on its distance from Earth, its brightness and the material the exploding star ejected into space. He's still learning about the composition of the remnant, but in 2003 he was able to obtain a more precise estimate of its distance from Earth than had previously been possible by comparing a series of digital images taken in the 1980's and 1990's: His estimate that it is just over 7000 light-years from Earth is widely accepted.

How bright was SN1006? Once again, Ibn Ridwan helped provide the answer. His account was the only one to compare the supernova's brightness with that of both Venus and the moon.

“Since we know how bright Venus gets,” Winkler says, “and we know the brightness of the full moon, we can use those as benchmarks along with Ibn Ridwan's description to peg the intermediate spot in between them that leads us to an estimate for how bright the 1006 supernova would have been, at its peak.”

Astronomers measure brightness—or “magnitude”—along a logarithmic scale in which the brighter stars have lower numbers. Using their knowledge of SN1006 and its distance from Earth, Winkler and his team calculated its maximum brightness at a magnitude of -7.5. This squares neatly with Ibn Ridwan's estimate and makes it the brightest supernova in recorded history.

“That's about a hundred times brighter than Jupiter ever gets,” Winkler says, or “250 times brighter than Sirius,” the brightest star in the sky. Furthermore, it would have twinkled strongly because of the angle at which it appeared through the atmosphere. In Cairo, it never rose higher than about 23 degrees over the horizon—hold your hand at arm's length with fingers spread and the tip of your thumb on the horizon, and that's about where the tip of your little finger will be.

“It would have been twinkling like crazy,” Winkler says. 🌍

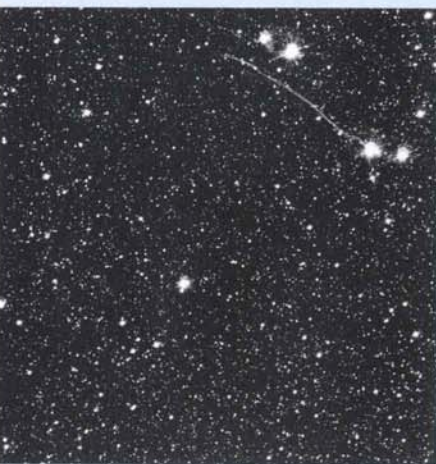
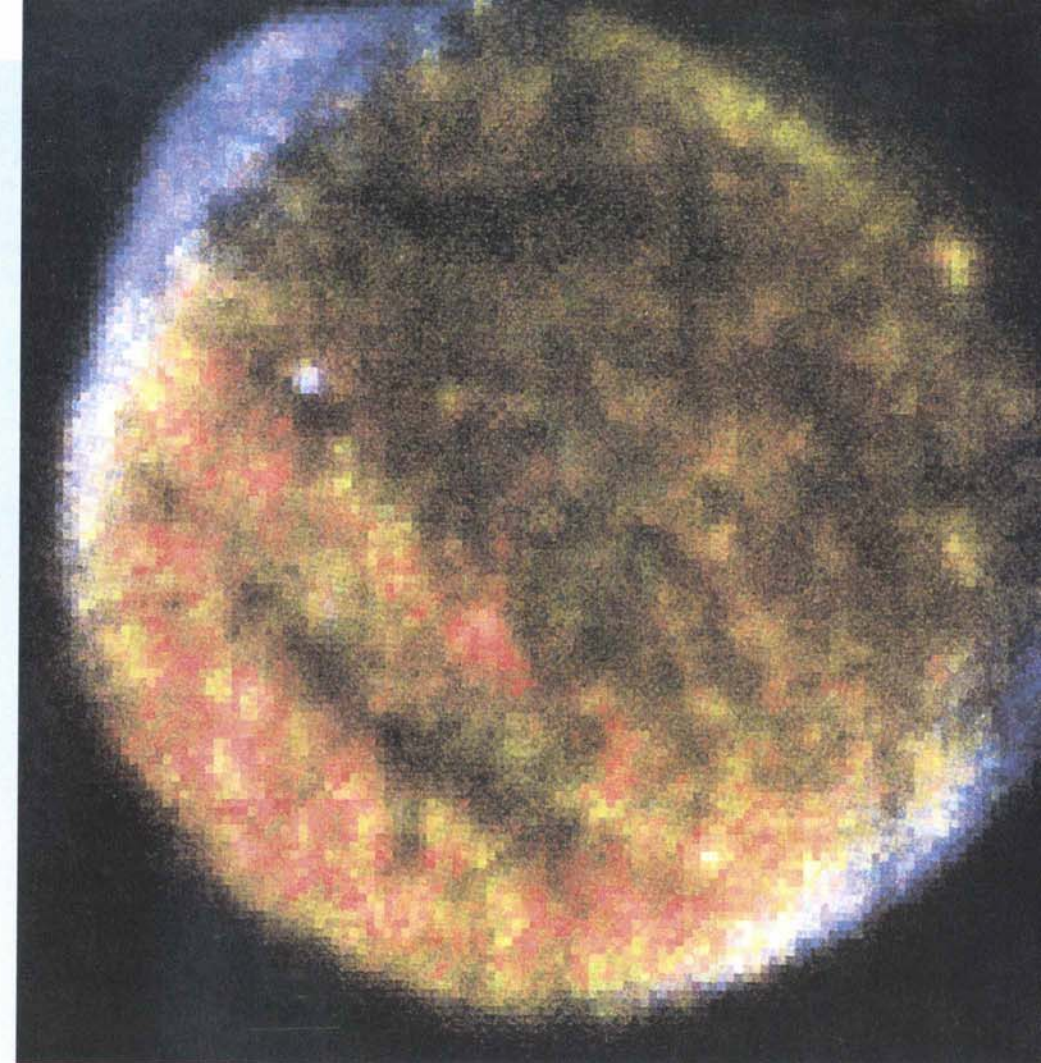


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#### For Further Reading

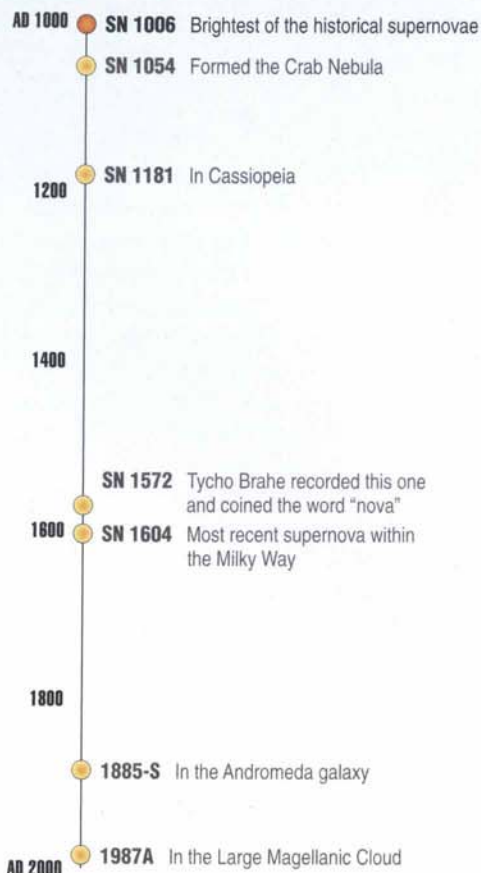
**Medieval Islamic Medicine: Ibn Ridwan's Treatise "On the Prevention of Bodily Ills in Egypt."** Michael Dols. 1984, University of California Press, ISBN 0-520-04836-9.

**The Medico-Philosophical Controversy Between Ibn Butlan of Baghdad and Ibn Ridwan of Cairo.** Joseph Schacht and Max Meyerhof. 1937, Cairo.

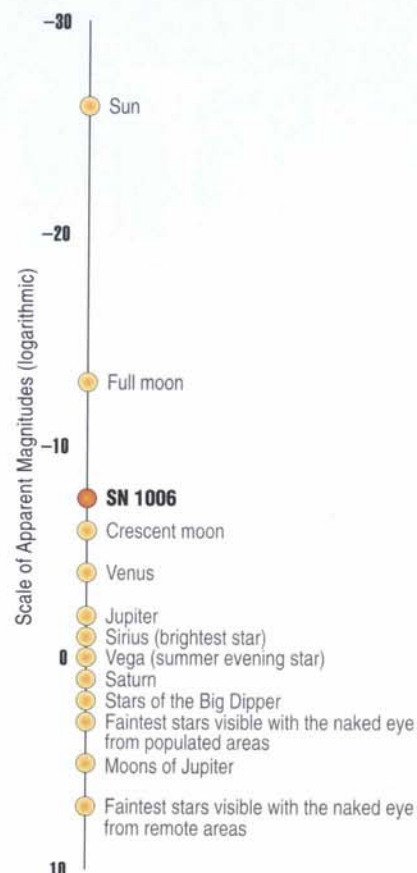


Today, the supernova known to astronomers as SN1006 is only a faint, spherical shell of gas that continues to expand at an estimated 2900 kilometers (1800 mi) per second, or about one percent of the speed of light. This photo shows part of the shell passing through trace amounts of interstellar matter.

## Historical Supernovae



## How Bright Was SN 1006?



COURTESY FRANK WINKLER; OPPOSITE: MAX PLANCK INSTITUTE FOR EXTRATERRESTRIAL PHYSICS



**For students:** We hope this two-page guide will help sharpen your reading skills and deepen your understanding of this issue's articles.  
**For teachers:** We encourage reproduction and adaptation of these ideas, freely and without further permission from *Saudi Aramco World*, by teachers at any level, whether working in a classroom or through home study.

—THE EDITORS

## Analyzing Visual Images

How does looking at a still photograph, like the ones you see in *Saudi Aramco World*, compare to looking at the kind of virtual reality images you can see on the Internet? Here's your chance to make a direct comparison.

Start in the magazine with the photo spread on pages 24 and 25, the Hall of the Two Sisters. What part of the room are you looking at? How can you tell? What part of the photo draws your glance first? What draws it there? Is it light? Or color? Or shape? Or something else?

Photographers choose to take photos the way they do to include certain parts of a scene and to omit others. Magazine editors also make decisions about how to trim photos. (They call it "cropping.") In this case, *Saudi Aramco World's* editors chose to crop the photo this way. Why do you think they did so? They also chose to place this photo at the beginning of the article. Why do you think they did that? To help you think about it, cover page 25 and look at page 24. Then cover page 24 and look at page 25. What do you notice about the two sides of the photograph? Do you find it pleasing to look at? Why or why not?

Now imagine what the rest of the Hall of the Two Sisters looks like, based on what you can see here. How big do you imagine it is? What makes you think so? How many doors and windows do you imagine it has? What might the walls be like? What might be on the other side of the archway you see in the bottom center of the photo?

Find the Hall of the Two Sisters in the Web edition at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com). Maneuver your position so that you're looking at the view that's like the photo in the magazine. Then navigate around



the room. What do you see? How does it compare to what you imagined? Then "pass through" the center arch by clicking on the "hot spot." Explore the space. Are you surprised by what you see? Why or why not?

Now think about the differences between viewing the flat photograph in the magazine and being able to select your own views (more or less) of the Hall of the Two Sisters. What do you like about each presentation? What, if anything, do you gain by looking at the flat photograph that gets lost in the computer images? What, if anything, do you gain by looking at the computer? Which presentation do you like better? Why?

## Class Activities

### Theme: Origins

Where does it come from? "It" can refer to almost anything. Think about physical objects: the food on the supermarket shelf? The car parked in the driveway? Think about people: Where did your family come from? Can you trace it back to a particular town or country? What about before that? How did the family end up where it is today? Does knowing something about how "it" got where it is now help understand it better? For example, if you know that your neighbor originally came from New York City, you can probably understand why she's the only person on your street who never mows the lawn. Figuring out origins can be challenging and fun—kind of like a treasure hunt.

### Where do things come from? How can you find out?

You're going to go on a quest to find out where something came from. With a partner, choose a food that you've bought recently at a market or a restaurant. Trace that food back to its origins. For example, say you choose potato chips. Start by finding out how the bag of chips got to your supermarket. Then back up a step: Where were the chips made and packaged? Then back another step: Where were the potatoes grown? Where was the oil for frying made? Who first had the idea of doing this with potatoes? (What other questions can you ask and answer?) You get the picture.

Keep records of what you discover as you trace your food back to its origins. When you've got to the root of it (yes, that's a pun),

## Class Activities (cont.)

present your findings. Your presentation might be a flow chart that starts at the supermarket and works its way backward, maybe with several branches. You can illustrate your flow chart with pictures of the potato chips at each stage in the process. Or you might want to illustrate with a map that shows the locations and distances traveled from potato plant to supermarket shelf. Or both.

### How can you discover origins if they took place far in the past?

It's a little trickier to trace origins that take you back in time. Genealogists trace families back in time. Anthropologists trace humans as a species back in time. Geologists trace physical formations back in time to find out how the earth originated.

Ideas and traditions originate someplace, too. How can you figure out where they came from? Read "The Decorated Houses of Nubia," which traces the origins of the decorations on Nubian houses. When did the decorations come into being? What evidence reveals that to be the case? The article identifies three factors that contributed—one technological, one human and one economic. What are they?

When the origins are even farther in the past, figuring them out is more difficult. Read "Muslim Roots, U.S. Blues." Author Jonathan Curiel and the experts he spoke to believe that some blues music has origins in Islamic calls to prayer and folk songs sung by African Muslims.

After you've read the article once, go through it and trace the argument Curiel presents. Working with a small group, make a list of the different steps in the argument. Be sure to identify the evidence that each step of the argument is based on. Now, with your group, evaluate the argument: Are you convinced that blues music has origins in Muslim calls to prayer? If you are, explain what it is, step by step, that has convinced you. In your explanation, be specific. What steps in the argument did you find particularly persuasive? What made them so? If you're not convinced, which step or steps of the argument do you question? What makes you question them? Is it the information itself? Say, for example, that you are surprised to learn that as many as one-third of North American slaves came from Muslim Africa. Does your sense of surprise lead you to question the accuracy of the information? Are you convinced that this is evidence of a Muslim connection to the origins of blues music?

Finally, go to the article at [www.saudiaramcoworld.com](http://www.saudiaramcoworld.com) and listen to the audio samples. Does that change your analysis? How?

### Theme: Color

What's your favorite color? Why do you like it so much? Some people like to be known and recognized for a specific color they wear regularly. Some wear all black; others want to be known for their red shoes. Color, in other words, can be one way people express their identities. One poet has even written that "when I am an old woman, I shall wear purple." In the following activities, you'll think about color in general, and purple in particular.

### How is dye made?

Before anything you wear is colored, think about how it got that way. If you want to dye a T-shirt, you can go to the store and buy a little box of dye—a powder that you add to water. Mix it up, soak the shirt, and voilà—you're done. Of course, it wasn't always so easy to get dye. For thousands of years, people had to come up with ways to make dye, as "Millennia of Murex" describes. For people like us

today, it might seem strange to think of dye as a kind of "technology." But it is. And it's developed over time.

Read "Millennia of Murex," paying particular attention to the different ways purple dye has been made at different times over nearly 4000 years. What four sources have been used? Make a timeline that shows when each came into use and how long people used it. Discuss what caused the changes from using one source to using another.

### What do different colors symbolize?

Start by thinking about colors that are popular with you and your friends. For example, there's a lot of turquoise and brown around these days. When you see people wearing those colors, what do you think about them? What other colors "tell" you something about the person wearing them? What do they "say"?

Businesses, too, know the importance of color. Colors provide a way for customers to identify a brand. One shipping company is identified by its purple and orange logo, another by its brown trucks. One chain of doughnut shops always presents itself in pink and orange. As a class, brainstorm and list different businesses that you recognize by their colors. Are there repeats—more than one business identified by the same color or color combination? (You might be surprised to discover that companies have been known to trademark their colors—and to sue other companies that try to use them.)

Use a highlighter to mark the places in "Millennia of Murex" that explain what the color purple meant to different people at different times. When purple had positive associations, what were they? What were the negative associations?

Different factors affect what the color purple stood for at different times. Based on what you've read, write a short answer to these questions: How did supply and demand affect the meanings ascribed to purple? When purple dye was difficult to make and therefore rare, what did purple symbolize?

With a partner or a small group, go on a search for all things purple. Try going to the mall, or a museum, or a walk downtown. Keep your eye out for everything purple, and write down what you see. (You might also take digital photos.) Study your list. When you see purple in these places, what does it mean to you and your friends? Compare the meanings—or lack of meanings—to what you've read that purple symbolized in the past. What connections can you draw?

### On Your Own

Colors are one way people express themselves, but of course there are others. "The Decorated Houses of Nubia" says people decorate the doorways of their houses "to draw attention to one's home and to its doorway as a symbol of the family." How would you decorate the doorway to your house, or to your room, or to your classroom? Draw a picture—or do it for real. Draw or put up objects and colors that are meaningful to you. For example, if you love the ocean, you might want to include shells. If you're a mechanic at heart, try including nuts and bolts. Be creative. Remember that the doorway you decorate is a symbol of you. (This could be a class project.)



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## Ibn Khaldun: The Rise and Fall of Empires in the 14th Century

focuses on one of history's most decisive centuries, looking at events of the period through the eyes of Ibn Khaldun, the great Muslim sociologist, political scientist and philosopher of history, who died six centuries ago this year. The exhibition reviews political, economic and social relations between East and West and between Europe and the Arab North African world in the 14th century, as well as the artistic legacy that marked this period.

The 14th century included the struggle to establish and consolidate the kingdoms of the Iberian Peninsula; the Hundred Years' War that ravaged Europe; the Black Death, history's most deadly scourge; and the destruction of Damascus by Tamerlane. But it was also the seedbed for, and the beginning of, far more positive times, and the exhibition offers a general vision of the time, recognizing both its tragic and irrational elements and its rationality, generosity, creativity and progress.

Ibn Khaldun, born in Tunisia, had Andalusian ancestors. He visited Andalusia, living in the Nasrid court of Mohammed V, and served as ambassador to King Pedro I ("the Cruel") in Seville, whom he met in the Real Alcázar Palace. As a scholar, he was concerned with the logic of empires, their rise and fall, and he made considerable contributions to scholarship on the formation of states. He belonged to a period in which the West took the initiative among nations, mainly due to innovations related to its economy and social organization; he is considered the first modern historian. His powerful analysis of the civilizations and peoples of his time serves as an incentive and stimulus: As we try to establish parallels between the 14th century and our own times, he helps us face humankind's universal conflicts and problems with intelligence and lucidity.

Besides its venue, itself a magnificent and significant art object, the exhibition includes more than 100 other beautiful and evocative artifacts from Spain and abroad. Real Alcázar Palace, **Seville**, through September 30.

This mudejar door from Seville Cathedral is made of gilded wood and iron.



**The Tablet and the Pen:** Drawings from the Islamic World uses 28 examples from Turkey, Iran and India to explore the development of drawing as an independent artistic medium; as part of the process of design for paintings, textiles and metalwork; and as a catalyst for artistic experimentation. It emphasizes aspects of technique and illuminates the historical circumstances that affected the development of the medium and the increased demand for single-sheet drawings in the 16th and 17th centuries. Sackler Museum, **Cambridge, Massachusetts**, through July 23.

**Woven Jewels From the Black Tents:** Baluchi, Aimaq, and Related Tribal Weavings of Iran, Afghanistan, and Pakistan. The women of the nomadic and settled Baluchi tribes have long produced distinctively beautiful weaving, largely for their own use, that includes kilims and pile rugs, pile and flat-woven bags and animal trappings. Baluchi weaving tends to be rich but somber in color, and the rugs are known for their velvety pile and

the silky sheen of the wool, the result of minerals in the soil of Baluchi pastures. The exhibition presents the whole range of Baluchi and related weavings, including some "war rugs" produced during the late 20th century in Afghanistan. **Georgia** Museum of Art, **Athens**, through July 30.

**Beasts of the Nile** explores the important role that animals of all shapes and sizes played in ancient Egypt, exhibiting mummies, bronzes, textiles, pottery and wooden sculptures and including 20 remarkable objects from the British Museum. North Lincolnshire Museum, **Scunthorpe [uk]**, through August 6; **Swansea [uk]** Museum, August 22 through November 21.

**Nafas:** Contemporary Art from the Islamic World presents 10 artists whose works serve as examples of artistic positions being taken, and especially questions being asked, by other artists from Islamic countries and regions: Self-determination and censorship, the strict separation of public and private space, the

questioning of traditional values in an urban field subjected to fundamental and rapid changes: All are among the themes that numerous artists in the Islamic world are tackling. Artists represented are Lida Abdul, Ebtsam AbdulAziz, Vyacheslav Akhunov, Mounir Fatmi, Amal Kenawy, Nur Hanim Mohamed Khairuddin, Waheed Malullah, Anas Al-Shaikh and Suha Shoman. IFA-Gallery, **Berlin**, through August 20.

**artconneXions** in South-East Asia, Australia, New Zealand is a photographic exhibition based on a novel form of cooperation. Artists and curators from different countries collaborated *in situ*. Nine curators chose artists who worked in Singapore, Sydney, Manila, Melbourne, Auckland, Jakarta, Bangkok, Hanoi and Kuala Lumpur. Eighteen artists met in different groupings and explored unfamiliar cities in Southeast Asia. The resulting "artconneXions" show views from

the inside of a region that is still today an entrepôt for both wares and ideas as well as a meeting point for peoples of various cultures. The old Arab sea-trade route between Europe and the Far East, centuries of European colonial rule, political developments of the 20th century and globalization have all influenced the region. IFA-Gallery, **Stuttgart, Germany**, through August 20.

**1001 Inventions:** Muslim Heritage in Our World demonstrates the scientific contributions made by scholars of the Muslim world, using engineering principles, historical manuscripts and multimedia technology to recall a "golden age" of scientific innovation by Muslim scholars between the years 500 and 1500. Coffee, soap and public baths, clocks, experimental optics and the first attempt at flight are among the contributions discussed. Museum of Science and Industry, **Manchester, uk**, through September 3.

**Treasures from Olana:** Landscapes by Frederic Edwin Church features 18 of the artist's own paintings that he displayed in his carefully devised interiors at Olana. The majority are landscape oil sketches, which illustrate the artist's favorite domestic landscapes and his journeys not only to the Middle East, but also to South America and Europe. During a period of debate regarding the artistic merit of an oil sketch versus a finished painting, Church boldly exhibited these *plein-air* oil sketches as finished works of art alongside his precisely rendered "Great Pictures"—a testament to his belief in the quality of these smaller works. This is the first time they have been displayed together outside Olana. **Portland [Maine]** Museum of Art, through September 10; Huntington Library, **San Marino, California**, October 14 through January 3.

**Teaching About the Arab World and Islam** is the theme of teacher workshops conducted by Arab World and Islamic Resources and School Services (AWAIR) of Berkeley, California and sponsored by Georgetown University's Alwaleed Center for Muslim-Christian Understanding. The program is fully funded and workshops may be requested by any school, district, office of education or university. [www.awaironline.org](http://www.awaironline.org) or 510-704-0517. Cities and dates currently scheduled include: **Asilomar, California**, September 28–30.

**Lions, Dragons and Other Beasts:** Aquamania of the Middle Ages. Vessels for Church and Table displays both a large collection of the zoomorphic vessels themselves and additional objects, including Byzantine and Islamic examples, that suggest sources and models. Stylistic and technical relationships are explored with other medieval examples in such media as textiles and ceramics. Bard Graduate Center for Studies in the Decorative Arts, **New York**, through October 15.

**Woven Gold:** Metal Threads in Textile Art provides an insight into the decorative forms, luster effects, techniques and materials used in the manufacture of textiles made with gold and silver thread. Such weavings, luxury goods of the first order since time immemorial, were always reserved for the highest dignitaries. The exhibition shows late-antique gold weavings, medieval gold cloth from China and Central Asia, gold-brocaded Renaissance velvets and richly adorned gold and silver embroideries of the Baroque. Many different techniques were developed to integrate hard, shiny metal into flexible fabrics. One of the oldest was to wind extremely thin strips of gold foil round the textile thread. Late-antique and early Islamic art provide impressive examples of this method. Animal gut coated with gold was also wound round silk or linen threads, and these were lighter and more flexible than threads covered with gold foil. This technique reached its pinnacle in Italian silk weaving of the 14th century. In the Middle East, strips of gilded leather were often preferred for decorating fabrics,

while in China gold-coated paper was also used. In the 16th and 17th centuries, Persia and the Ottoman Empire were important centers of silk weaving. Persian silks of supreme artistic significance made during the Safavid dynasty (1501–1722) came to influence all Islamic textile art of the age. They combined playful ease and elegance of pattern with finely balanced color compositions. In contrast, Ottoman fabrics of this period stand out above all for their strong colors and majestic patterns. The ground of these fabrics was often woven completely with gold thread. Abegg-Stiftung, **Riggisberg, Switzerland**, through November 12.

**Tutankhamun and the Golden Age of the Pharaohs** includes 130 works from the Egyptian National Museum and presents a selection of 50 spectacular objects excavated from the tomb of Tutankhamun, including one of the canopic coffinettes, inlaid with gold and precious stones, that contained his mummified internal organs. Additional pieces in the exhibition derive from the tombs of royalty and high officials of the 18th Dynasty, primarily from the Valley of the Kings. These additional works place the unique finds from the tomb of Tutankhamun into context and illustrate the wealth and development of Egyptian burial practice during the New Kingdom. The exhibition, more than twice the size of the 1979 "King Tut" exhibition, marks the first time treasures of Tutankhamun have visited America in 26 years. Field Museum, **Chicago**, through January 1.

**The Royal Tombs of Ur:** Ancient Treasures From Modern Iraq. Ur was one of the most powerful city-states in ancient Mesopotamia. By 2600 BC, the city may have had 40,000 residents. It traded its surplus grain, wool and manufactured textiles with Egypt, Anatolia, Iran, the Persian Gulf region and South and Central Asia—then the entire known world. It was during this period of prosperity that the kings and queens of Ur were laid to rest in the magnificent tombs Sir Leonard Woolley uncovered between 1922 and 1934. The Royal Cemetery of Ur proved to be the most amazing archeological find of the period; it included the tomb of Lady Puabi, identified by a seal bearing her name that was found on her body. Miraculously untouched by looters, her tomb was filled with beads and gold jewelry, and she wore an elaborate gold headdress; an ornate diadem of gold and lapis lazuli lay near her head. Many more artifacts, now world famous, were found in the larger cemetery, including extravagant jewelry of gold, lapis lazuli and carnelian; cups of gold and silver; bowls of alabaster; extraordinary objects of art and culture; and several of the world's earliest known musical instruments, such as a gold and lapis bull-headed lyre. More than 400 artifacts from the excavations are on display. **Houston** Museum of Natural Science, through August 13.

**Tut Unwrapped** explores the life of ancient Egypt's King Tutankhamun and reveals what has been learned by analyzing his mummified remains.

From archeologist Howard Carter's examination of the mummy in the 1920's to X-rays made in 1968 and 1978 and CT-scans taken of the body in 2005, some questions have been answered, but many more are raised. **Houston** Museum of Natural Science, through August 13.

**Napoleon on the Nile:** Soldiers, Artists, and the Rediscovery of Egypt focuses on the *Description de l'Égypte*, the seminal work that remains the single most important European scholarly study of ancient and modern Egypt. Initiated by young General Napoleon Bonaparte as he invaded Egypt in 1798, and completed in 1829 during the reign of King Charles X, the *Description* was among the most significant, and certainly the most tangible, consequences of the French military's occupation of Egypt (1798–1801). Not only did it form the foundation for the modern discipline of Egyptology, but its large and magnificent plate illustrations influenced the course of "Egyptomania" and "Orientalism" in western fine and decorative arts for two centuries. The astonishing range and precision of the *Description* plates were captured by Napoleon's *savants*—167 physicians, engineers, economists, mathematicians, zoologists, botanists, archeologists, translators, journalists and artists who accompanied the army. Their task was to catalogue all of Egypt's wonders, from architectural ruins (some no longer extant) to flora and fauna. The resulting body of work took roughly 20 years and 2000 skilled draftsmen and typographers to complete. Their 13 volumes of plates, accompanying 10 volumes of text, became a renowned image bank consulted ever since by artists seeking authenticity in their own work. Dahesh Museum of Art, **New York**, through September 3.

**Word into Art:** Artists of the Modern Middle East highlights the contemporary art of the Middle East, reflecting issues of identity and politics and the diverse artistic heritage of the region. The exhibition focuses on the different ways artists engage and experiment with Arabic script—not simply because writing takes so many varied and interesting forms, but because grouping the works together thematically, and looking at what is written within them, gives an insight into the rich literary and artistic cultures of this region, as well as into the ways in which artists are affected by history and by current world politics. The exhibition features works by 75 artists from countries across the Middle East and North Africa. Although many of them still live there, a significant number have left the region and now form a Middle Eastern diaspora. The exhibition is divided into four sections. The first, "Sacred Script," explains the relationship between Arabic script and Islam, showing the enduring vitality of the Islamic calligraphic tradition today. The innovative works of Ahmad Moustafa, Kamal Boullata and Erol Akyavas are featured in this section. The powerful literary tradition of the Middle East, the enduring appeal of ancient and modern Arabic and Persian poetry, and the appeal of the

work of Sufi writers are evoked in the second section, "Literature and Art." Works by Hassan Massoudy, Etel Adnan, Abdallah Benanteur, Shirin Neshat and Farhad Moshiri reveal how artists seek to find ever more inventive ways of writing or illustrating these famous texts. The third section, "Deconstructing the Word," examines the use of script in Middle East abstract art from the mid-20th century to the present day. Here the messages are more ambivalent; letters and words are sometimes legible but more often not, having been turned into beautiful abstract patterns. This includes work by artists such as Rachid Koraichi, Faisal Samra Abdul Qadir al-Raes, Parviz Tanavoli and Ghada Amer. Finally, "Identity, History and Politics" looks at the ways in which the words embedded in these works can provide us with real snapshots of history and social commentary as well as revealing reactions to the region's devastating conflicts during the past few decades. Included here is the work of Sabah Naim, Kareem Risan, Walid Raad and Khusrav Hasan-Zade. British Museum, **London**, through September 3.

**Harpies, Mermaids, and Tulips:** Embroidery of the Greek Islands and Epirus Region includes some 70 textiles created between the 17th and 19th centuries for bridal trousseaux and domestic use and explores the great diversity of design, structure and function that developed in a geographically small area. Epirus—under Ottoman rule for almost five centuries—and the islands of the Aegean and Ionian Seas were located at a crossroads of trade among western Asia, the Black Sea and Europe, and the region was exposed to and assimilated artistic influences of the Venetians and the Ottomans, the two principal cultures vying for dominance—and influencing each other—in the early modern period. Catalog \$35. Textile Museum, **Washington, D.C.**, through September 3.

**Persian Steel:** The Tanavoli Collection presents more than 300 intricately designed steel items—tools, household implements and ceremonial objects—that carry the visitor back to the Safavid and Qajar periods in Persia, where steel was an integral part of economic, social and religious life, and every tool and instrument, be it ever so humble, was a work of art meant to be cherished. The objects were collected over the past 30 years by Iranian sculptor Parviz Tanavoli, who admired their superb workmanship and their makers' keen attention to form. **Vancouver** Museum, through September 4.

**African Mud Cloth:** The Bogolanfini Art Tradition of Gneli Traore of Mali exhibits some 40 textiles made between 1966 and 2000, mostly by Gneli Traore (died 2002) and her children. Made of locally woven narrow strips of white cotton cloth woven together, bogolanfini is covered with geometric designs that depict legends, historical events, heroes, morality tales, life situations and the physical elements and animals in the world of

the Bamana people. The designs are created by artists painting in the backgrounds with mud on cloths previously treated with a herbal mordant. A catalog accompanying the exhibition shows changes in both techniques of making bogolanfina mud cloth and in its designs and patterns, and explains their symbolism. African Art Museum of the SMA Fathers, **Tenafly, New Jersey**, through September 4.

**Facing East:** Portraiture Across Asia explores how portraits expressed cultural identities in Asia and the Ancient Near East over millennia. Some 70 paintings and sculptures of Egyptian pharaohs, Chinese empresses, Japanese actors, Indian rajahs and a host of other subjects reveal how the identities, importance and power of historical subjects were diversely constructed, understood and represented. Divided into three parts—"Portraits and Memory," "Likeness and Identity" and "Projecting Identity"—the exhibition raises questions not only about how portraits are used, valued and understood in Asian cultures, but also about their employment in works of art. Symposium with curators, Freer Gallery, July 15. Sackler Gallery, **Washington, D.C.**, through September 4.

**Nomads in the Art Gallery:** Encounters with Modernity from Bayer to Sol LeWitt juxtaposes magnificent Anatolian kilims from the Norbert Prammer collection with 20th-century artworks from the Lentos Museum's holdings to present a multifaceted view of design in its fundamental forms. Paintings, drawings, objects and photographs meet kilims that date from the 17th century to the early 19th century. ☎ +43-732-7070-3602; www.lentos.at. Lentos Kunstmuseum **Linz, Austria**, through September 10.

**The Fabric of Life:** Ikat Textiles of Indonesia. Renowned for the richness and variety of their textiles, the peoples of Indonesia have the most complex and esthetically sophisticated fabrics of all of the Pacific islands. Their lives are interwoven with textiles, beginning in earliest infancy and continuing until the wrapping of the funerary shroud. This exhibition

SAUDI ARAMCO WORLD (ISSN 1530-5821) is published bimonthly by Aramco Services Company 9009 West Loop South Houston, Texas 77096-1799, USA

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POSTMASTER: Send address changes to Saudi Aramco World Box 2106 Houston, Texas 77252-2106



**Sovereign Threads: A History of Palestinian Embroidery** highlights magnificent embroidery and colorful dresses—many of them bridal dresses—from the late 19th and early 20th century in the Munayyer Collection, including costumes from Ramallah, Jerusalem, Bethlehem and Galilee. Complementing the dresses is contemporary embroidery work using traditional motifs created through INAASH by Palestinian women in refugee camps in Lebanon. Embroidery patterns, some traceable back to pre-Islamic and pre-Christian times, were incorporated into the rich designs and brilliant colors that identify the specific village or town in Palestine where the dress was made. The collection, one of the most extensive in America, is presented by the Palestinian Heritage Foundation. Craft and Folk Art Museum, **Los Angeles**, July 16 through October 15.

**Embroidered chest panels like this one were often removed when a dress wore out and made part of a new garment.**

examines the variety of form, function and imagery of a single important and technically intricate Indonesian tradition known as *ikat*. A number of distinctive regional traditions will be included. The imagery ranges from boldly geometric compositions to figural patterns woven with astonishing artistic and technical virtuosity. Metropolitan Museum of Art, **New York**, through September 24.

**No Place for a Lady** explores aspects of the history of women's travel, from the difficulties of transportation to visiting harems and climbing the Pyramids. Featuring artifacts related to travel complemented by others reflecting the many cultures women travelers encountered, the exhibition focuses on women from the 18th century to the 1930's, including Lady Mary Wortley Montagu, Lady Hester Stanhope, Ida Pfeiffer, Jane Dieulafoy, Isabella Bird and Gertrude Bell. **Vancouver Museum**, through October 1.

**The Quest for Immortality:** Treasures of Ancient Egypt dramatically illustrates the ancient Egyptian concept of the afterlife through 143 magnificent objects and a life-sized reconstruction of the burial chamber of the New Kingdom pharaoh Thutmose III (1490–1436 BC). This exhibition includes objects that have never been on public display and many that have never been seen outside Egypt, selected from the Egyptian Museum in Cairo, the Luxor Museum of Ancient Art and the site of Deir el-Bahri. Ranging in date from the New Kingdom (1550–1069 BC) through the Late Period (664–332 BC), the works of art include luxurious objects that furnished tombs, including jewelry, painted reliefs, implements used in religious rituals, a sarcophagus richly painted with scenes of the afterlife and an ancient painted model of the royal barge that carried the pharaohs along the Nile. Frist Center for the Visual Arts, **Nashville**, through

October 8; **Portland [Oregon] Art Museum**, November 5 through March 4, 2007.

**Petra:** Lost City of Stone, a traveling exhibition, features extraordinary art and artifacts from the red sandstone cliff city in southern Jordan. Petra was a major crossroads of international trade routes from the first century BC to the second century of our era, when it was governed by the Nabataeans, who were renowned for their skills in trade, agriculture, engineering and architectural stone carving. The exhibition presents some 200 objects, including stone sculptures and reliefs, ceramics, metalwork and ancient inscriptions, and a selection of 19th-century artworks documenting the European rediscovery of Petra. Canadian Museum of Civilization, **Ottawa, Canada**, through January 2.

**Mummies:** Death and the Afterlife in Ancient Egypt features 140 objects—including 14 mummies and/or coffins, the largest collection ever to leave the British Museum—and illustrates the fascinating story of how Egyptians prepared and sent the dead into the afterlife. It covers embalming, coffins, sarcophagi, *shabti* figures, magic and ritual, amulets and papyri, and displays furnishings created specifically for an individual's coffin, such as spectacular gold jewelry and a wooden boat to transport the dead into the underworld. Bowers Museum, **Santa Ana, California**, through April 15.

**Treasury of the World:** Jeweled Arts of India in the Age of the Mughals: The Al-Sabah Collection, National Museum of Kuwait is a landmark exhibition of more than 300 spectacular examples of Mughal and other related jeweled objects. The grand imperial vision, refinement and opulence for which the Mughal rulers of India (1526–1858) were renowned found ultimate expression in their jeweled arts. Among the highlights of the exhibition are a historically important

spinel inscribed with the titles of multiple imperial owners from several Islamic dynasties; splendid ornaments for personal adornment, such as a cameo pendant carved with a portrait of the emperor Shah Jahan; a gem-encrusted dagger; brilliantly enameled courtly objects; and jade and rock-crystal bowls set with precious stones. In addition to jewelry and gems, the exhibition includes magnificent works of hardstone inlay, delicate sculptural forms in hardstones, ornate hammered relief in precious metals (primarily gold) and "Oriental damascene" (gold-embellished steel). Enamels from the Mughal period—characterized by a tremendous range of brilliant colors, distinctive motifs and decorative effects—are also on view. Musée du Louvre, **Paris**, July 6 through September 4.

**The Jameel Gallery of Islamic Art**, renovated thanks to a gift from the Abdul Latif Jameel Group, opens to house treasures from the V&A's collection of 10,000 Islamic objects from the Middle East, including the famous Ardabil Carpet from 16th-century Iran and an exquisite rock-crystal ewer from 11th-century Egypt. The displays will explain how Islamic art developed from the great days of the Islamic caliphate in the eighth and ninth centuries. Other objects include ivories from Spain, metalwork from Egypt, Iznik ceramics from Ottoman Turkey and oil paintings from 19th-century Iran. The collections highlight the fruitful interchange between the Islamic world and its neighbors in Europe and Asia. Victoria & Albert Museum, **London**, July 20.

**Saladin and the Crusaders.** Sultan Saladin, considered the epitome of religious tolerance, and his opponent King Richard Lionheart, the ideal of knightly virtue, are the focus of this exhibition, which takes the visitor into the encounters and confrontations of the Middle East at the time of the Crusades. The meeting of

European and eastern cultures was of great importance in European history, and this exhibition shows that it included peaceful relations and cultural exchange as well as armed conflict. The exhibition views events in the Crusader States between 1099 and 1291 from both eastern and western perspectives and is the first to juxtapose Christian and Muslim cultural artifacts. At its Oldenburg venue, it emphasizes the role of the Near East as a mediator of knowledge; at Mannheim, the artistic transfer and historical aspects of the meeting. Focusing on regional history, the State Museum at Halle demonstrates the effects of the Crusades on Central Germany. The various exhibits include jewelry, weapons, coins, astronomical instruments and sculptures, reliquaries and the Magic Ring of Paussnitz, and are supplemented by models, paintings, photographs and large-scale installations. 600-page catalog, € 28. Reiss-Engelhorn Museums, **Mannheim, Germany**, July 23 through November 5.

**Summer Seminar:** The World in the Time of Tutankhamun is a five-day course presented by scholars from the University of Chicago Graham School and the Oriental Institute. Tuition (\$645) includes seminar sessions, materials, reception and closing banquet, expert-led tour, transportation and admission to "Tutankhamun and the Golden Age of the Pharaohs." ☎ 773-834-0159. Oriental Institute, **Chicago**, July 24–28.

**Corridor of Commerce:** Archaeology and the Lives of the Peoples of the Gulf over 7000 Years. In this illustrated lecture, Derek Kennet, archeologist and lecturer at the University of Durham, will explore how the pivotal position of the Gulf from antiquity to the 19th century is reflected in the rich archeological heritage of the region. The lecture is part of the British Museum's "Middle East Now" season. Admission £5. 6:30 p.m. British Museum, **London**, July 27.

**Modern Indian Works on Paper** includes more than 50 works in watercolor, acrylics, pen-and-ink, pencil and gouache produced since 1947 by a broad range of Indian artists, from members of the groundbreaking Progressive Artists Group to other first- and second-generation modernists, and from M. F. Husain and Ghulam-mohamed Sheikh to Krishna Reddy, Francis Newton Souza and Shymal Dutta Ray. At times drawing on their own deep cultural heritage, at others looking forward with novel techniques, these artists have extended modernism beyond the western world. **Georgia Museum of Art, Athens**, August 12 through October 8.

**Archeology at Ras al-Jins [Oman]** is the topic of a lecture by Serge Cleuziou. 10 a.m. Institut d'Art et de Archéologie, 3 rue Michelet, **Paris**, October 5.

**Art of Being Tuareg:** Sahara Nomads in a Modern World. The elegance and beauty of the Tuareg peoples—their

dress and ornament, their large white riding camels, their refined song, speech and dance—have all been rhapsodically described by travelers in Niger, Mali and Nigeria. This exhibition explores the history and culture of the Tuareg through their silver jewelry, clothing, leather purses, bags and saddles, and other highly decorated items. UCLA Fowler Museum of Cultural History, **Los Angeles**, October 15 through February 25.

**Cultural Connections of the Red Sea** is the third conference on the Red Sea sponsored by the Society for Arabian Studies; it focuses on both ancient and historic connections: maritime networks, including seafaring, harbors and navigation; ecological connections, including human-environment interactions in the region; sacred spaces and landscapes, including religious traditions and pilgrimage; architecture; and identity, defined as visual and oral interactions including ethnographic perceptions, literature, craft traditions and ethnomusicology. ☎ societyforarabianstudies.org. British Museum, **London**, October 27–28.

**Persian Visions:** Contemporary Photography From Iran presents more than 80 images that provide a revealing view of Iranian life and experience. The 20 artists featured are among Iran's most celebrated and include Esmail Abbasi (references to Persian literature), Bahman Jalali, Shariyar Tavakoli (family histories), Mehran Mohajer, Shoukoufeh Alidousti (self-portraits and family photographs) and Ebrahim Kahdem-Bayatvin. Some have lived abroad and returned to view their homeland from a changed perspective. Anti-exotic and specific, these images make up the first survey of contemporary Iranian photography to be presented in the United States. Michigan Avenue Galleries, **Chicago**

Cultural Center, October 28 through December 31.

**Arts of the Islamic World Gallery** at Doris Duke's estate, Shangri-La, houses her magnificent collection of tiles, textiles, paintings, jewelry and furniture and other objects reflecting both the secular and religious life of Islam in countries around the world. ☎ 866-385-3849. **Honolulu Academy of Arts.**

**Nubian Gallery.** New permanent installation of artifacts documenting Nubia from the fourth millennium BC into the common era. The gallery displays sculpture, glass, pottery and metalwork, including never before exhibited objects such as a heavily tooled archer's quiver and 2000-year-old textiles. Oriental Institute Museum, **Chicago.**

**Glimpses of the Silk Road:** Central Asia in the First Millennium documents an astonishing amalgam of different influences, combining Hellenistic imagery and Near Eastern motifs with Chinese and Indian features. Goods and raw materials as well as new ideas, religious beliefs, artistic styles and motifs, and technological innovations were transmitted throughout the region along the Silk Road. Wall paintings from the Kushan kingdom and later Kucha illustrate this blend of eastern and western traditions. Two Parthian ivory rhytons from Nysa exemplify the transmission of technology and motifs in the applied arts, combining Iranian and Greek themes and styles. Metropolitan Museum of Art, **New York.**

**Egypt Reborn:** Art for Eternity is an installation of over 1200 Egyptian artifacts that makes available masterpieces of every period of ancient Egyptian history, including some of the most important in the world. The exhibition ranges from the Predynastic Period (ca. 4400 BC) to the 18th Dynasty reign of

Amunhotep III (ca. 1353 BC), including such treasures as an exquisite chlorite head of a Middle Kingdom princess, an early stone deity from 2650 BC, a relief from the tomb of a man named Akhty-hotep and a highly abstract female terra-cotta statuette created more than 5000 years ago. Additional exhibits illustrate themes in Egyptian culture, including women's roles, permanence and change, temples and tombs, technology and materials, art and communication, and Egypt and its relationship to the rest of Africa. Brooklyn Museum, **New York.**

**Alexander's Image and the Beginning of Greek Portraiture** illustrates the reign of Alexander the Great of Macedon and the beginning of portraiture through ancient coins. Alexander opened the way to revolutionary economic and ideological changes in the ancient monetary system, and his idealization and deification on the coins of his successors led to new ways of representing the human figure. With the images of Alexander the Great, the use of individualized portraiture for purposes of political propaganda began in the western world. Sackler Museum, **Cambridge, Massachusetts.**

**The Saudi Aramco Exhibit** relates the heritage of Arab-Islamic scientists and scholars of the past to the technology of today's petroleum exploration, production and transportation, set against the background of the natural history of Saudi Arabia. **Dhahran, Saudi Arabia.**

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