

MARCH APRIL 2017

# AramcoWorld





## 4 America's Zouaves

Written by Robert Lebling

As tensions escalated and the nation moved toward the outbreak of the us Civil War in 1861, a law student in Chicago formed the first American company inspired by a North African light infantry known as Zouaves that had won distinction in both Algeria and Crimea. Soon dozens of Zouave regiments mustered up and, from 1859 to the end of the war in 1865, Zouave soldiers were wildly popular in both the North and the South—mostly for their courage and elite training, but also for their fashionably colorful Algerian-style pantaloons, waistcoats and headgear.

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Written by Jonathan Curiel

Photographed by Amanda Kari McHugh

Screened before red-carpet audiences in Hollywood, the premieres of seven short films by seven young directors from Saudi Arabia proved an international debut for some of film's newest and most promising talent.

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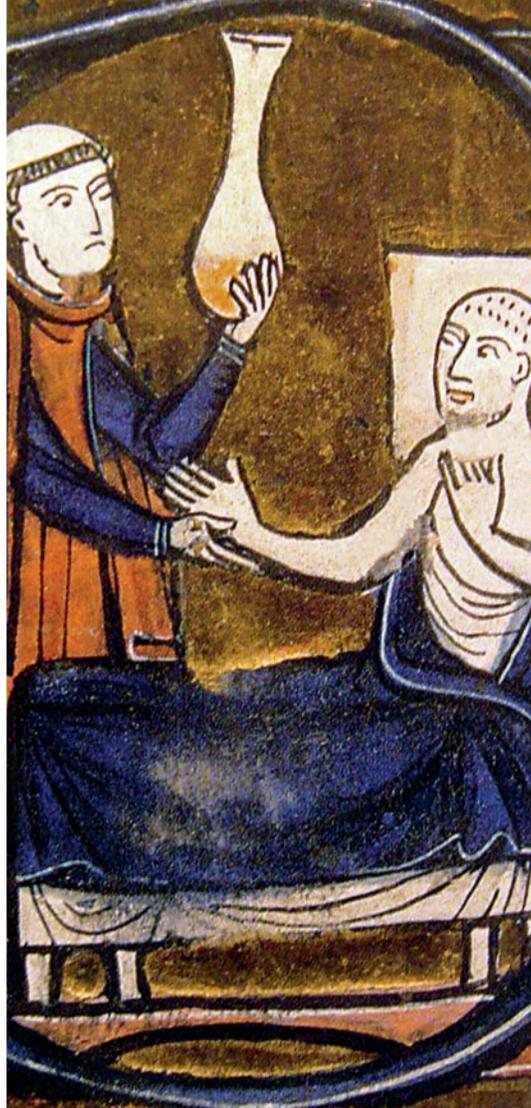
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We distribute *AramcoWorld* in print and online to increase cross-cultural understanding by broadening knowledge of the histories, cultures and geography of the Arab and Muslim worlds and their global connections.

**Front Cover:** Posing for a portrait during the us Civil War, his red pantaloons and red shirt show this unidentified Union soldier belonged to an elite, North African-styled Zouave regiment. Photo courtesy of Liljenquist Family Collection / Library of Congress.

**Back Cover:** The marquee of the historic Theatre at Ace Hotel in Los Angeles announced the premiere. In the audience was veteran Hollywood actor Giancarlo Esposito, who observed of the films, "Each one had its own specific beauty." Photo by Amanda Kari McHugh.



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By the mid-ninth century, more than 30 *bimaristans*—centers for treating illness and injury—were working from the Arab Middle East to Persia in the east and Al-Andalus in the west. Dedicated to the empirical pursuit of wellness, their design, organization and goals were much the same as those of hospitals today.

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Harvesting genetic samples across the breadth of Asia, researchers are finding that the portable, long-lasting, tasty and nutritious walnut may have spread because it was an ideal traveler’s snack along the Silk Roads.

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# FIRST LOOK

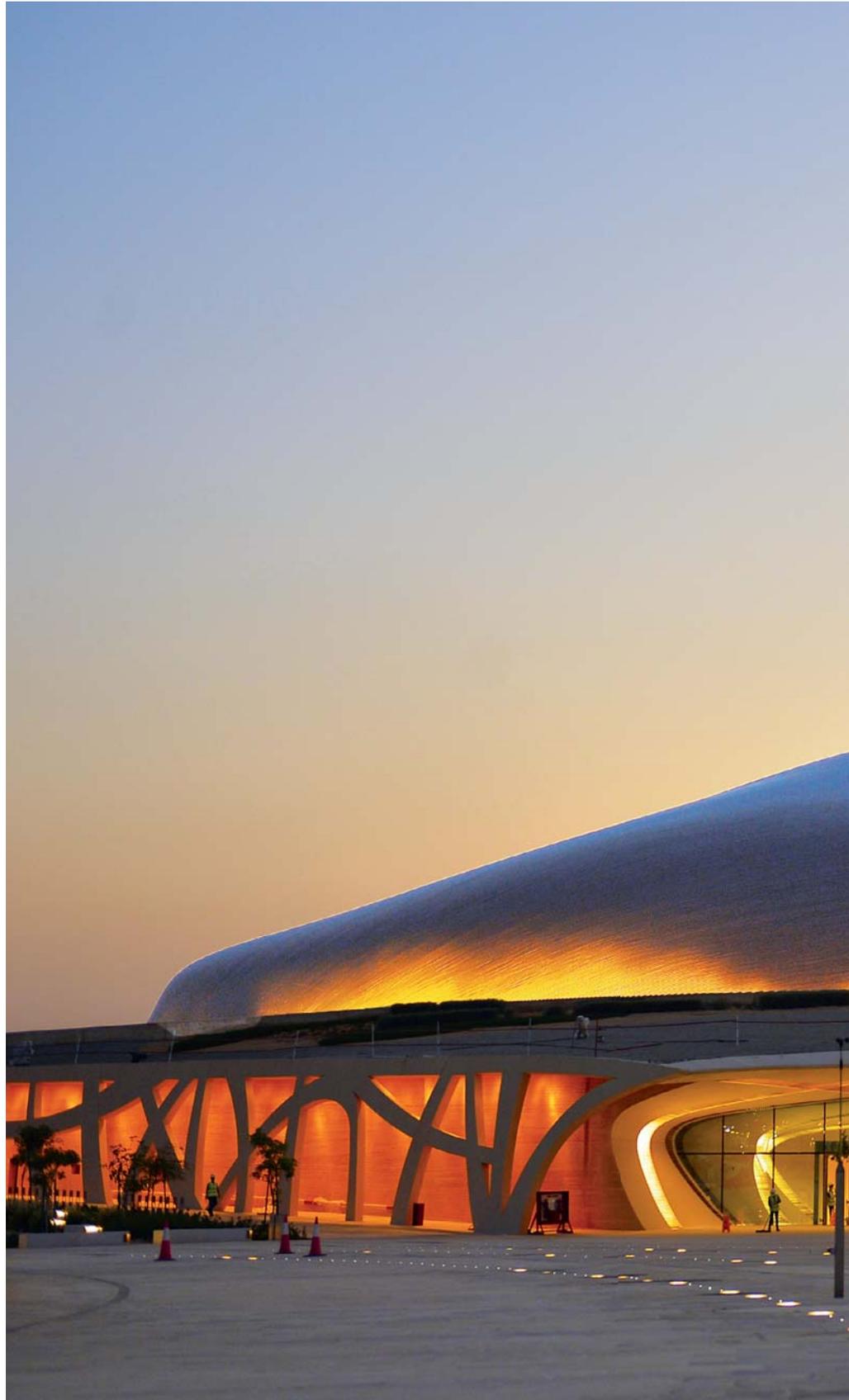
## New Energy

Photograph by Abdulaziz Al-Moaiweed / Saudi Aramco

Silhouetted from afar, five shapes cluster like wind-worn stones. Closer, they shimmer, suggesting perhaps a squad of recently landed spaceships. Standing in their shadow, touching one of the thousands of polished steel tubes that wrap the King Abdulaziz Center for World Culture in Dhahran, Saudi Arabia, is to touch a 21st-century *mashrabiyyah*, the traditional Middle Eastern window screen that both clads and cools. Indoors, a light brown wall of rammed earth, flecked and pitted with desert pebbles, plays off seven tall panels of dark Corten steel inscribed with centuries-old Arabian motifs. In the Great Hall, lighting sparkles across a sky-sized ceiling like desert stars.

Designed by the Norwegian architectural firm Snøhetta following an international competition in 2007, the Center has been built to Leadership in Energy and Environmental Design (LEED) standards by Saudi Aramco. Inaugurated in December by King Salman ibn Abdulaziz Al Sa'ud, it is scheduled to open to the public this year. When it does, it will give permanent space to local, national and international programs for art, culture, science, education and innovation, a number of which have been under way for several years and have drawn several hundred thousand participants across Saudi Arabia. The new spaces include a creativity incubator called IDEALab; four natural history and art galleries; two theaters for stage productions and multimedia; and Saudi Arabia's first children's museum, a library, a historical archive and the Great Hall for traveling exhibits.

The Center, says Director Tareq Al-Ghamdi, employs "design inspired by the geology that formed the wellspring of the Kingdom's economy" to raise "a platform for explorers, learners, creators and leaders who believe in the power of people and ideas to unlock new possibilities."





# America's ZOUAVES



*Written by*  
Robert Lebling

A fellow with a red bag ... for a coat; with two red bags ... for trousers, with an embroidered and braided bag for a vest, with a cap like a red woolen saucepan; with yellow boots like the fourth robber in a stage play; with a mustache like two half-pound paint brushes, and ... a sword-gun for a weapon, that looks like the result of a love affair between an amorous broadsword and a lonely musket; discreet and tender—that is a Zouave.

A fellow who can pull up a hundred and ten pound dumbbell; who can climb up an eighty foot rope, hand over hand, with a barrel of flour hanging to his heels; ... who can jump seventeen feet four inches high without a spring board; who can tie his legs in a double bow knot round his neck without previously softening his shin bones in a steam bath; ... who can take a five shooting revolver in each hand and knock the spots off the ten of diamonds at eighty paces, turning somersaults all the time and firing every shot in the air—that is a Zouave.

So wrote a western Virginia newspaper reporter, tongue firmly planted in cheek, describing a strange and unprecedented military phenomenon sweeping America in the months leading up to the Civil War in 1861. Americans were going nuts over a new kind of fighting force: Zouaves, Algerian-style fighters introduced to the Western world by the French during the Crimean War.

The Zouaves' heritage was North African, running back to the indigenous Berber fighters who served the Arab *dey*, or ruler, of Algiers prior to the French occupation of 1830. Initially recruited into the French military, by the time of the Crimean conflict in the mid-1850s almost all of the Zouave troopers were French.

In 1855 US Army Captain George McClellan, who was stationed in Europe as an official observer of the Crimean War, had witnessed the Siege of Sevastopol and observed the French Zouaves in action against Russian troops. McClellan, who would later command the Union Army of the Potomac in the Civil War, praised the Zouaves "as the finest light infantry that Europe can produce; the beau-ideal of a soldier." Other US officers and the American press shared his admiration for the unconventional troops.

Not long after that, Zouave units were springing up all over northern and southern states. As reporters put it, their drill performances were acrobatic, and their battle cries of "zoo-zoo-zoo!" had men cheering and women swooning.

By the early 1860s, when North and South took to the battlefield, about a hundred Zouave volunteer regiments entered the fray—more than 70 for the Union and about 25 smaller units, mostly companies, for the Confederacy. (A regiment was comprised of about 1,000 men, divided into 10 companies.)

"Zoo-zoos" fought throughout the war, from First Bull Run to Antietam, and from Gettysburg to Appomattox. The first Union officer to die in action was a Zouave. So was the first Union soldier to win the Medal of Honor. And the last Union trooper to die before the war ended in 1865 was a Zouave. Fans of the Zouaves thought of them as



Zouave regiments attracted some 70,000 recruits on the Union side and about 2,500 on the Confederate side.

superheroes; critics dismissed them as showboaters.

Today some continue to make light of the Zouave units that served in that bloody and divisive conflict, suggesting they were little more than acrobats in Orientalist dress—a fashion fad that came and went in a few decades. The Zouave uniform was indeed colorful by American standards, with bright red baggy trousers, short braided jacket, vest and tasseled fez. The outfit was designed for warm climates and rugged terrain. (It occasionally proved to be a fatal drawback, too, as the vivid colors made Zouaves easy targets on a battlefield.)

But those who study the Zouaves' role in the Civil War realize they were about much more than style. America's interest in the French Zouaves was fundamentally military: US officers were impressed by the fast-moving, agile fighting style inspired by the Algerian Berbers who developed it. On July

20, 1860, *The New York Times* burred:

If the Zouaves should be deprived by siege of their ammunition, they would fight with the butt end of their guns; if by stratagem they should lose their guns,

This painting shows Duryee's Zouaves, the 5th New York regiment, charging into the Battle of Gaines' Mill in 1862, where they and other Union forces were defeated. *Opposite:* Members of the 114th Pennsylvania regiment wore Zouave outfits, including turbans, for this photo taken in August 1864 during the siege of Petersburg, Virginia.



they would throw stones; if there were no stones, they would indulge in fistiana, and if their hands and feet were cut off, they would “butt” with their heads and pummel with their stumps.

Zouaves won admiration also for their compassion for victims of war. *The Atlantic Monthly* in August 1859 described how French Zouaves escorted a large group of “prisoners, wounded, and helpless women, old men and children” across the Algerian desert to their home villages. The troopers “behaved like very Sisters of Charity, rather than rough bearded soldiers,” sharing their food and water, feeding orphaned babies with ewes’ milk and carrying the infants to their destination. Zouaves developed remarkable unit cohesion and morale, modeled on the close relationships of the French family. It was common for soldiers to refer to their commander as “Father.”

Newspaper coverage of the Crimean War and other

European conflicts, backed up by engraved illustrations in magazines like *Harper’s Weekly*, had given Americans ample exposure to the Zouaves. As the North and South readied for war, it was only natural that each side would look to them for potential advantage in the field.

The first Zouave unit to capture the national imagination was a cadet drilling company formed in 1859 in Chicago by

a bright young New York law clerk named Elmer Ephraim Ellsworth. While studying law in Illinois, Ellsworth spent much of his spare time on another pursuit: military drill teams. He was fascinated by military science but had failed to qualify for the United States Military Academy at West Point,

New York. Undeterred and captivated by the Zouave craze like many of his generation, he threw himself into training drill teams and introducing them to Zouave methods.

Ellsworth pursued two career tracks. On the one side, he studied legal practice by working as a law clerk. On the other, he worked during his free time as a drill instructor with cadets in Rockford, Illinois, and Madison, Wisconsin—and eventually in Chicago.

Ellsworth’s interest in the Zouaves intensified under the instruction of his fencing instructor, a former Zouave physician and expert swordsman named Charles DeVilliers, who had served in the Crimean War. From the Frenchman, Ellsworth learned the ins and outs of Zouave drill and tactics. He took command of a local military drill team called the Rockford City Greys, and in time his reputation as an effective drillmaster spread.

An eyewitness recalled the Greys’ performance:

They would fall to the ground, load their guns, fire, turn over on their backs, fire again, jump up, run a few steps, fall, then crawl on their hands and feet as silent and quick as cats, climb high stone walls by stepping on each other’s shoulders, making a human ladder.

Members of the National Guard Cadets of Chicago, a bankrupt and dispirited militia company, saw Ellsworth’s Greys perform this new system of drill that combined movements prescribed in the military manuals of American officers Winfield Scott and William Hardee with the athleticism and flamboyance of the French Zouaves.

It was not long before Ellsworth was offered command of the National Guard Cadets. At first he declined because he had just become engaged to marry the daughter of a Rockford businessman. When his putative father-in-law expressed concern that Ellsworth would not be able to provide for his daughter, Ellsworth assured him he would return to his law

In 1859, nearly two years before the Civil War broke out, a law student in Illinois named Elmer Ellsworth gained fame commanding the first Zouave cadets, and on May 24, 1861, he became the first Union officer to die in combat.

## As tensions escalated between the northern Union and the southern Confederacy, war loomed closer and each side looked for potential tactical advantages.





Reflecting both the range of the Zouaves' novel maneuvers and the public's appetite for information about them, in 1860 Frank Leslie's Illustrated Newspaper published this composite of drill routines performed by Ellsworth's Zouave Cadets of Chicago.

Ellsworth quickly transformed the moribund militia company into the United States Zouave Cadets. He began developing dramatic exercises, and under his training, in 1859 the Zouave Cadets won the national military drilling competition in Chicago.

Ellsworth advocated more than military discipline: He advocated also

studies in Chicago. But then he told his fiancée in a letter that he had a plan:

I have changed my mind and have taken command of the Cadets for a limited time. I did not do so for the mere pleasure of commanding them, but I have an object in view which would justify me even in laying aside my studies entirely until after the Fourth of July. It was no idle move on my part I assure you and it throws a great additional labor upon me.

an unbending work ethic, the highest level of physical skills, and exemplary morality that renounced alcohol, pool halls, bawdy houses and any hint of scandal. This instilled a powerful sense of loyalty among his men, and Ellsworth booted out 12 cadets for failure to uphold his standards.

In a photo taken in 1855 during the Crimean War, a Zouave in full dress stands next to French officers. By that time, the Zouaves were almost entirely members of the regular French Army in uniforms based on the original North African Zouaves, of whom just a handful by then served, usually as interpreters.

## ALGERIAN BERBER ORIGINS

Berbers, whose history in North Africa dates to thousands of years before the Arab conquest in the seventh century CE, made up the original French Zouave unit. Marshal Louis de Bourmont, who led the French invasion of Algeria in 1830, issued an appeal to the tribes for soldiers, and he created a unit of 500 Berber fighters. These men were called Zouaves—after the Zwawa, a confederation of tribes from the Kabylia region that extends from the Jurjura mountains to the coast east of Algiers, where they had served the leader of Algeria. One French account called them “vigorous and resolute montagnards.”

In 1852 Louis-Napoléon Bonaparte, president of the Second Republic and soon to be crowned Emperor Napoléon III, ordered the Zouaves restructured into three regiments of the regular French Army. The units kept only a few North African soldiers for specialist functions such as interpreting. From then on, Algerian and Moroccan Arabs and Berbers served in units of the Tirailleurs Algériens (Algerian Riflemen), also simply called Turcos, and they wore their own distinctive, light blue version of the Zouave uniform.



The 50 who followed his rules became a smash hit. They traveled throughout the country, visiting major cities of the Midwest and Northeast performing acrobatic drill demonstrations at fairs, parades and other events. They wore uniforms designed by Ellsworth: a dark blue jacket trimmed in orange and red, a red sash, loose red trousers and a bright red chasseur cap or a flat-topped, short-visored *kepi* with gold braid.

On July 4, 1859, the cadets staged a parade in Chicago before Tremont House for the mayor and city council. Ellsworth, in his personal journal, described their reception: “The *Chicago Tribune and Press* ... after giving the company a long but flattering notice concluded by saying, ‘We express the opinion of all who saw the drill yesterday morning when we say the company cannot be surpassed this side of West Point.’”

One journalist commented: “Even their most sanguine friends were surprised at the wonderful precision, rapidity, and difficulty of their drill.... Major Ellsworth has done nobly and received well-merited applause.”

One of those who witnessed a drilling performance that summer in Springfield, Illinois, was a lawyer named Abraham Lincoln. He was greatly impressed by Ellsworth’s leadership and organizational skills, and when he discovered the young man was studying law as well, he acted. At this point, Ellsworth’s two career tracks converged. In 1860 Lincoln offered him a job as a clerk in his law office in Springfield.



## HAWKINS' ZOUAVES: "Toujours Prêt" ("Always Ready")

Hawkins' Zouaves, the 9th New York Infantry Regiment, was the first official Zouave regiment in the Civil War, mustered on April 23, 1861, just 11 days after war broke out at Fort Sumter, South Carolina. The unit was formed by New York lawyer and Mexican War veteran Rush C. Hawkins, and it served with distinction throughout the war. Though officially a Zouave unit, its uniforms were a modified version of the light blue worn by the Tirailleurs Algeriens.

Hawkins' Zouaves fought most bravely on September 17, 1862, at the Battle of Antietam at Sharpsburg, Maryland—the bloodiest single-day battle in US military history, when nearly 22,000 soldiers on both sides fell. The Zouaves charged uphill from Antietam Creek toward the town of Sharpsburg, which was defended by a superior force of Confederate infantry and artillery deployed behind a stone wall.

Zouave Sergeant John H. E. Whitney took part in the charge, and he was badly wounded in the left hip. After the war, he described the attack:

A scene of carnage now ensued too terrible to describe; the imagination, however, may be aided by the statistics, which estimate that from the ranks of the "Ninth" alone there fell, in the space of a few minutes, about two hundred men killed and wounded.... The Zouaves were ordered strictly to [hold] their fire until they should have approached within whispering distance of the rebels, *then* to give them a hot fire of "Minie;" afterward to rush upon them with the cold, bright bayonet and finish the work.... A scene of the wildest confusion took place when the Zouaves surmounted the wall. Some of the enemy begged for mercy on the spot, while others resisted with right good-will.... Those who ran away were quickly reached with bullets, and many fell in their cowardly flight; others threw down their arms to save their lives by submission. The Zouaves now had it all their own way.

Hawkins' Zouaves brought 373 soldiers to the field and lost 45 killed, 176 wounded and 14 missing in a single day. Years later, in memory of their bravery that day, the State of New York raised an obelisk monument on the battlefield. The inscription bears the motto of Hawkins' Zouaves: "Toujours Prêt" ("Always Ready").



Outfitted with a Zouave fez and equipped with an 1862 Zouave-style sword bayonet, this unidentified Union soldier posed for a portrait against a backdrop depicting a Union military camp. *Opposite:* Zouave-inspired children's clothing became widely popular, and boys such as this unidentified Union drummer served the military in Zouave dress.

dreamed over the graceful wave of curls, and shop-boys tried to reproduce the Grand Seigneur air of his attitude. Zouave corps, brilliant in crimson and gold, sprang up, phosphorescently, in his wake, making bright the track of his journey.

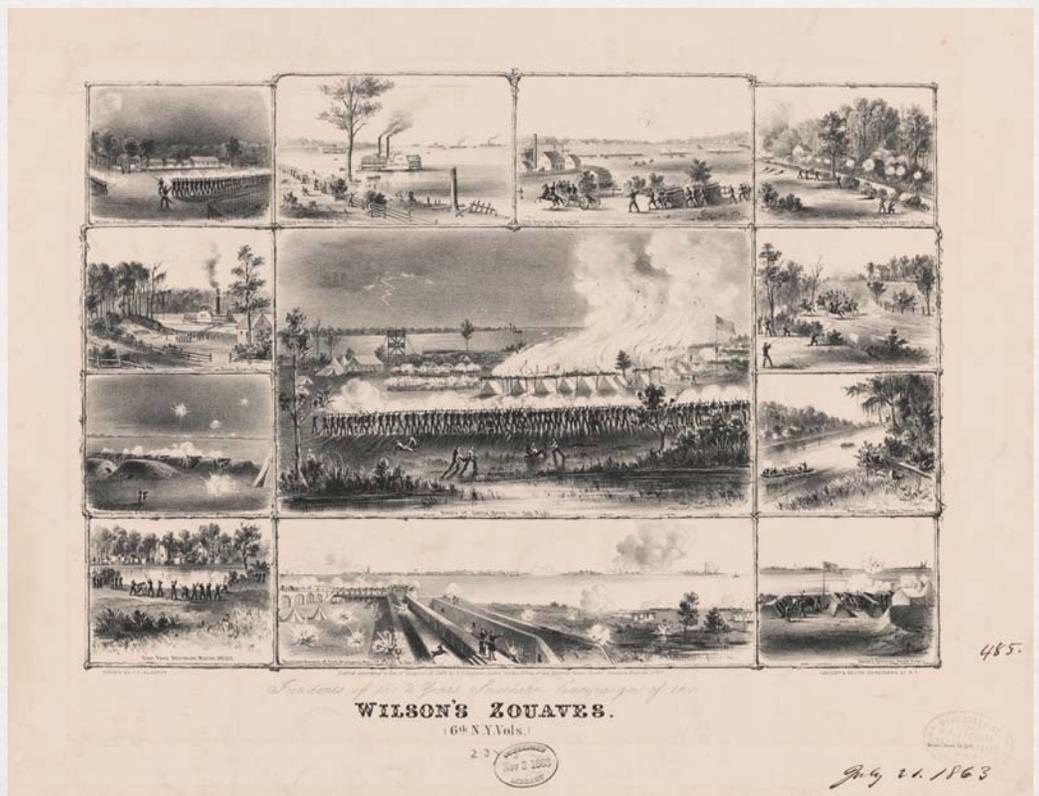
Ellsworth and Lincoln, too, became good friends, and in the fall, the young clerk helped the lawyer with his presidential campaign. When President-elect Lincoln moved in February 1861 to Washington, D.C., Ellsworth accompanied the First Family and stayed at the White House, charming the Lincoln children and their parents alike. The President arranged several government job interviews for Ellsworth, but the young man dreamed of heading a military regiment and had little interest in office work.

Just before the outbreak of the war, Ellsworth traveled to New York, where he put together the 11th New York

And so Ellsworth joined the team of a man many believed was destined for the presidency. John Hay, Lincoln's personal secretary, became close with Ellsworth and in July 1861 wrote in *The Atlantic Monthly* about this pre-election period:

Ellsworth found himself for his brief hour the most talked-of man in the country. His pictures sold like wildfire in every city of the land. School-girls

This 1863 print depicts scenes from the campaigns of Wilson's Zouaves, the 6th New York Infantry Regiment, from 1861 to 1863 in Florida and Louisiana. Unlike many other Zouave regiments that suffered high casualties, the 6th New York lost only 46 of its 770 members.



Infantry Regiment. Popularly known as the Fire Zouaves because most of its soldiers were recruited from the city's volunteer fire departments, the 11th New York proudly wore red firefighter shirts as part of their Zouave uniforms. And like French Zouaves, the troopers shaved their heads.

Ellsworth brought the newly drilled regiment to Washington, D.C., where it was sworn into federal service on May 7 at the US Capitol, in a ceremony attended by President Lincoln and his son Tad. That same day, Ellsworth was promoted from the rank of second lieutenant to colonel. Two days later, the Willard Hotel, a local landmark, caught fire, and the regiment of New York firefighters rushed to the scene. Without ladders, and sometimes resorting to standing on each other's shoulders to get to the fire, Ellsworth's Fire Zouaves put out the blaze and won the hearts of the city.

On May 24 the Fire Zouaves became part of the first Union force to occupy Confederate territory when they captured the river port of Alexandria, Virginia, across the Potomac River from Washington. During the fighting, Ellsworth decided to cut down the Confederate flag that flew atop Marshall House inn. The flag was an enormous two and a half by four meters—so large President Lincoln had seen it from his office in the White House. It was a fatal mistake. As Ellsworth carried the captured flag down the staircase, the inn's owner, James Jackson, met Ellsworth with a shotgun and killed him.

Fire Zouave Corporal Francis Brownell in turn fatally shot Jackson, which earned Brownell the Medal of Honor—the first in the war.

When Lincoln heard the news, eyewitnesses

Zouaves were so popular that they appeared on postal envelopes during the Civil War.



These papier-mâché toy Zouave soldiers sport the red pantaloons, blue jackets with vests and dress turbans that came to characterize the Zouave uniform—even though colors and designs actually varied widely among Zouave regiments. Eye-catching on parade, such colorful outfits only made Zouaves more visible in the field.

said he wept openly and exclaimed, “My boy! My boy! Was it necessary this sacrifice should be made?” Ellsworth's body was brought back to the White House, and his casket lay in state in the East Room.

From there the casket was taken to New York City Hall, where thousands came to pay respects to the first man to die for the Union cause. “Remember Ellsworth!” became a Yankee rallying cry, and the 44th New York Infantry Regiment was nicknamed Ellsworth's Avengers.

However, the first Zouave regiment to officially enter

the Civil War was Hawkins' Zouaves, the 9th New York Infantry Regiment, which mustered on April 23, 1861. Other states in the North and South also saw a rapid creation of Zouave units. A French-language newspaper in New York commented with pride, “*Il pleut des Zouaves*” (“It's raining Zouaves”), as unit after unit mustered up.

Each regiment dressed in the Oriental style, but uniforms varied widely depending on available fabrics and the whims of commanding officers. Some units featured the red balloon trousers, others dark blue or sky blue, and some wore the less baggy chasseur cut. Some regiments sported blue vests, others

red. Sashes could be light or dark blue, turquoise or red. Some units were known for the tasseled fez of the original French Zouaves, with wrap-around white turbans for dress wear, and others wore a variation of the French kepi, which became popular also





This jacket and fez belonged to a member of the Collis's Zouaves, the 114th Pennsylvania Volunteer Infantry Regiment. The regiment adopted the uniform of the French Zouaves d'Afrique, and it included French soldiers who had been members of French Zouave forces.

among conventional American military units of both the Union and the Confederacy.

The "Zouave craze" was so intense that tailors began creating Zouave-style uniforms for young children, and customers included President Lincoln's son Tad and General Ulysses S. Grant's son Jesse. Zouave paper cut-out dolls, coloring books and other toys began appearing in the marketplace. Women's fashions also adopted the Zouave style with embroidered jackets, short vests and other Eastern flourishes.

The Zouaves' popularity was reinforced by the spread of Europe's Romantic movement throughout the US in the early and mid-1800s, which exerted a strong influence on literature, the arts and popular culture. The dashing Zouaves, with their devil-may-care attitude toward combat, their moral enthusiasm, individualism and emotion, epitomized Romantic ideals. They also captured the essence of Orientalism with its vision of an exotic yet alluring East.

The best-known Union Zouave regiments organized out of New York, Pennsylvania, Ohio and Indiana. Among them were Duryée's Zouaves (5th New York); Hawkins' Zouaves (9th New York); McChesney's Zouaves (10th New York);

This photo of a Union officer in conventional uniform and a child decked out in a Zouave uniform, taken in Brattleboro, Vermont, testifies to the Zouave craze that swept America.

Ellsworth's Fire Zouaves (11th New York); Collis's Zouaves (114th Pennsylvania); Piatt's Zouaves (34th Ohio) and Wallace's Zouaves (11th Indiana). The most famous Confederate Zouave units, such as Wheat's Tigers (1st Louisiana Special Battalion) and Coppens' Zouaves (1st Louisiana Battalion), were set up, not surprisingly, in formerly French Louisiana. Though numerous—perhaps as many as 70,000 for the Union and 2,500 for the Confederacy—they served among vastly more numerous regular soldiers: some two million Union men and 750,000 Confederates.

Most of the Zouave units, particularly in the northern states, trained hastily in the early months of the war. Because time was short, they sometimes failed to meet European standards when it came to military training, tactical coordination and discipline—factors that had been so important to Ellsworth. Some regiments, however, excelled in drilling skills and unit discipline, such as Duryée's Zouaves, the 5th New York, which General McClellan, who had seen French Zouaves in combat, in 1862 called the best-drilled regiment in the Army of the Potomac. The popular Louisiana units—Wheat's Tigers and Coppens' Zouaves—were reported to be first rate in drilling but otherwise somewhat undisciplined.

American Zouaves adopted the battlefield tactics of their French counterparts: speed, mobility and surprise. "Zouave tactics" meant that the men attacked in rapid advances of 100-200 meters, dropping to the ground between each advance and firing their rifled muskets. This was a distinct



TOP: DON TROIANI / BRIDGEMAN IMAGES; LOWER: LILJENQUIST FAMILY COLLECTION / LIBRARY OF CONGRESS; OPPOSITE, TOP: CIVIL WAR ARCHIVE / BRIDGEMAN IMAGES; LOWER: LILJENQUIST FAMILY COLLECTION / LIBRARY OF CONGRESS

shift from the prevailing Napoleonic infantry tactics of tightly closed formations, often elbow-to-elbow in double-rank battle lines comprised of thousands of troops. However, in such formations, gun smoke drastically reduced visibility. Since gun smoke tended to rise, visibility was better for those lying on the ground. The Zouaves' desired rate of fire was three rounds per minute, but in practice it was usually less, as soldiers struggled with their muzzle-loading muskets and sought to conserve limited supplies of ammunition.

The American Zouaves were not conventional soldiers, said Thomas Higginson, a white abolitionist who served as an officer in an all-black Union regiment: "Nobody knows anything about these men who has not seen them in battle. *There is a fierce energy about them beyond anything of which I have ever read*, unless it be the French Zouaves. It requires the strictest discipline to hold them in hand." (The emphasis is in the original.)

Maj. Gen. Lew Wallace—later US



Representing smartly clad Zouaves at a re-enactment battle in 2008 in Huntington Beach, California, Civil War reenactors today help preserve the memory of the Zouave troops who fought on both the Union and Confederate sides.

minister to the Ottoman Empire and author of the 1880 historical novel *Ben-Hur*—described Zouave tactics used in the 1862 capture of Fort Donelson, Tennessee. Writing 22 years later in *The Century* magazine about the assault on the Confederate fort, Wallace explained the movements of two Zouave regiments he had led personally:

As the two regiments began the climb, the Eighth Missouri slightly in the lead, a line of fire ran along the brow of the height. The flank companies cheered while deploying as skirmishers. Their Zouave practice proved of excellent service to them. Now on the ground, creeping when the fire was hottest, running when it slackened, they gained ground with astonishing rapidity, and at the same time maintained a fire that was like a sparkling of the earth.

Zouave regiments distinguished themselves, earning high honors on

## “THE NEW UNIFORM GREATLY PLEASED US ALL”

*The Liberty Rifles is a group of historians focused on the Civil War experiences of common soldiers of both the Union and Confederate armies, and they put on commemorations reenacting battles and other wartime activities. The group's website describes how Garrard's Tigers, the 146th New York Infantry Regiment, obtained their Algerian-style uniforms. Here are excerpts:*

Serendipitously, a major event transpired that permitted the creation of the “Garrard's Tigers” uniform. For many Federal units, two-year enlistment terms were expiring. Among them were members of the notorious Duryee's Zouaves (5th New York Volunteers); however, some 325 members who had joined after its formation were still required to finish out their service. It was determined that 234 veterans of the 5th were to be transferred into the ranks of the 146th regiment. Thus, because of the influx of their veteran members, the men were re-issued similar Zouave dress to appear a cohesive regiment.

Specific details about the ensemble are mentioned in the unit's history, *Campaigns of the 146th Regiment, New York State Volunteers* (1915):

The zouave uniform consisted of large baggy trousers, blue in color, which were fastened at the knees; a fez cap, bright red in color, with red tassel; a long white turban which was wound around the hat, but worn only for dress parade; a red sash about ten feet long which was wound about the body and afforded a great comfort and warmth; and white cloth leggings (sic.) extending almost to the knees.

“It required laborious work and considerable time to adjust them properly,” a member recalled. “The turbans, especially,” he added, “caused us no end of trouble, until we found that the best way to wind them about our heads was to have a comrade circle round and round with the sash in his hands until it was properly draped about the fez cap.”

But after “much perspiring” and “considerable profanity,” dressings would become routine and simply habit, like much of army life. In one instance, Sergeant D. Marshall Porter of the 155th Pennsylvania Infantry (a sister Zouave unit) struggled to find a new uniform to fit his six-foot nine-inch build. His colonel resolved the problem by ordering the Regimental Quartermaster to issue Porter two uniforms that were made long enough into one, which thereafter presented “a most singular and grotesque appearance.” But for most, “the new uniform greatly pleased us all,” continued the writer. “Not only because of its advantages in comfort and utility over the regulation infantry uniform.” Their first dress parade held at Falmouth, Va., in June 1863 was evidently a grand display to recall. “With our Turkish trousers and our turbans, we looked not unlike the soldiers of Mahomet [sic].”



On the field at Antietam near Sharpsburg, Maryland, an obelisk honors the sacrifices of the the 9th New York Infantry Regiment, the first official Zouave regiment, mustered in April 1861. On September 17, 1862, 370 of the 9th's soldiers faced battle, and 240 gave their lives.

the battlefield. No one ever doubted their courage in the face of enemy fire. Duryée's Zouaves conducted a ferocious charge in 1863 at the siege of Port Hudson, Louisiana, losing 108 men, more than a third of their force, in one afternoon.

At Gettysburg Ellsworth's Avengers took part in the heroic defense of Little Round Top during a major Confederate assault, taking heavy casualties. Collis's Zouaves lost over half their riflemen at Gettysburg's Peach Orchard. The 2nd Fire Zouaves, fighting alongside Collis's force, also suffered grave losses. Elsewhere on the battlefield, a single Confederate enfilade volley dropped over 80 men of the 72nd Pennsylvania Zouaves, part of the famous Philadelphia Brigade.

Two Zouave regiments, the 140th and 146th New York (the latter Garrard's Tigers), fought at Sanders Field at the 1864 Battle of the Wilderness in Virginia, losing more than a third of their forces in the battle. That same year, the 33rd and 35th New Jersey Zouaves lost more than half their men during the Atlanta Campaign.

Zouave units saw combat in every major battle of the war. Difficulties in maintaining their ornate uniforms meant that later in the war Zouave soldiers sometimes had to settle for articles of clothing in conventional blue or gray. They did their best to keep the Oriental flavor of their uniforms.

In the North, the government tried to standardize the Zouave uniform, with limited success. Some conventional units that performed well on the battlefield were rewarded with Zouave garb. In the South, the Zouave uniform gradually disappeared; it was difficult enough for the Confederacy to secure the gray cloth for regular uniforms, much less expensive Eastern-style fabric.

On April 9, 1865, as General Robert E. Lee formally

surrendered the Confederate Army to the Union commander, General Grant, at the courthouse in Appomattox, Virginia, the Zouaves suffered the war's last Union fatality. Seventeen-year-old William Montgomery of the 155th Pennsylvania (part of the 5th Corps' Zouave Brigade) was mortally wounded by a Confederate artillery shell just one hour before the truce took effect.

With the end of the war, the remaining Zouave volunteer units quickly disbanded. On the Union side, where Zouave dress had persisted, thousands of uniforms were sold as surplus and later continued to appear in ceremonies and parades across America. The last Zouave regiment, a militia unit from Wisconsin, retired its garb in 1879.

Many of Ellsworth's Chicago Zouave Cadets had gone on to important posts in the Union Army during the war, and they continued to advocate their fallen commander's Zouave traditions and high standards of leadership. For their last reunion, held in November 1910 at Chicago's Wellington Hotel, eight former cadets showed up; five others were still living but unable to attend.

The spark ignited by the Zouaves more than a century and a half ago is kept alive today by the Civil War reenactor movement, made up of hobbyists and researchers across the country who represent numerous military units on both sides

(Ellsworth's Avengers are represented by a group in Bakersfield, California). These units commemorate the major events of the conflict and celebrate national holidays by staging encampments and mock battles throughout the area of the conflict—and even appearing in television and motion-picture productions. The recreated Duryée's Zouaves, for example, organized in 1971, is one of the oldest and most respected “living history” units in the country.

The rapid disappearance of the Zouave units signaled their limited long-term impact on tactical theory and organization in the US military. They were widely viewed as “elite” units, modeled on the best France had to offer. At the same time, they were transitional, a “missing link” between the armies of the 18th and 20th centuries. There were doubts over the value of their fluid, Berber-influenced guerrilla-style tactics, particularly when coupled with flashy, colorful uniforms and the emphasis on formal drilling. Clearly, however, the Zouave units generally brought out the best in their soldiers. In this sense, the Zouaves influenced the course of the Civil War, and they will long be remembered for that. ☺



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# SAUDI FILM DAYS

Written by

JONATHAN CUIEL

Photographed by

AMANDA KARI MCHUGH

As sunset gilded Los Angeles on November 3, actor Giancarlo Esposito, most recently of *Breaking Bad* fame, joined a small flock of fellow Hollywood celebrities at Paramount Studios to walk a red carpet in front of an unprecedented backdrop: the logo for Saudi Film Days, the two-day US premiere of seven short movies by seven young directors, all from Saudi Arabia. Esposito, a veteran also of three Spike Lee films who knows a thing or two about new voices in film, was as excited to meet the directors that evening as they were to meet him. “I’m here to support,” he assured them. “I have a feeling I’m going to

be blown away by what I see.”

Two hours later, sustained, heartfelt applause from some 150 people inside the plush cave of Paramount’s largest theater seemed to fulfill his prediction.

“Those were the first Saudi Arabian films I have seen,” said actress, writer and producer Karola Raimond. “I was moved. I laughed. I shed some tears. All the films had depth. Honesty.”

Variouly dramas, comedies and docu-

mentaries, each of the films was set and produced in the Kingdom, and each addresses a subject both culturally specific and universal. Director Ali Alsumayin’s *I Can’t Kiss Myself* is like a stage drama, a well-acted dialog in which a young man fixated on social media fame is challenged to rethink the consequences of his obsession. Meshal Aljaser’s over-the-top, surreal *Is Sumyati Going to Hell?* shows a Saudi family treating its Filipina maid, Sumyati, with racist contempt—except for the five-year-old daughter, who loves Sumyati and asks difficult questions. *The Bliss of Being No One*, produced by Bader Al Homoud, uses long, dialog-oriented shots to portray a grieving man’s chance encounter with an elderly Saudi hitchhiker (played memorably by Ibrahim Al-Hasawi) who turns out to excel at storytelling and deeply candid conversation—or so it seems.

With four additional shorts, Saudi Film Days worked along the lines of Sundance, Cannes and other international film festivals to give the filmmakers a chance to make industry connections and talk publicly about their movies in front of audiences that,



“A great opportunity,” director Bader Al Homoud said of the premiere screening at Paramount. “Our main goals are to make connections and to communicate our films.”



On the red carpet at Hollywood's Paramount Pictures, 21-year-old Meshal Aljaser steps up for questions about his film as, behind him, fellow directors Bader Al Homoud and Ali Alkalthami talk to the press.

in turn, could tell influential colleagues and friends. It was, in Hollywood terms, about buzz.

Arriving in Los Angeles, the filmmakers and actors were supported by Saudi Aramco's King Abdulaziz Center for World Culture, and for many of them, this was their first visit to a major film-production city. Stepping inside Paramount Studios, where generations of acclaimed directors have worked their magic, gave them an up-close look at the tools of success.

"This is a great opportunity for us," Al Homoud said. "Our main goals are to make connections and to communicate our films. They are pioneers of cinema here. We need to connect with them. We need to learn from them."

Ali Alkalthami, director of the comedy *Wasati*, loves the films of Martin Scorsese, who has made



Hollywood actor Giancarlo Esposito meets Saudi actors Mohammed Al Hamdan and Ahmed Al Arwi. "I'm here to support," Esposito said.

# SAUDI FILM-MAKERS ARE RIDING THE DIGITAL VIDEO WAVE.



**MESHAL ALJASER**  
*Is Sumyati Going to Hell?*



**ABDULAZIZ ALSHALAHI**  
*Oud*



**ALI ALSUMAYIN**  
*I Can't Kiss Myself*

five movies at Paramount; Alsumayin admires Woody Allen; Aljaser goes back to Buster Keaton for his inspiration as well to Seth MacFarlane’s television series *Family Guy*. All aspire to a day when the world knows their works as well. (To date, the best-known international Saudi film may be Haifaa al-Mansour’s 2012 Academy Award-nominated drama *Wadjda*, about a girl, her family and a bicycle.)

Despite their youth, most of the Saudi filmmakers have been riding the digital video revolution for several years. Worldwide, their country has one of the highest percentages of Internet users—it leads the world in Twitter use and YouTube views per

*From left, directors Alsumayin, Alkalthami, Al Otaibi, Aljaser and Al Homoud discuss their work with the Paramount theater audience after the November 3 screening.*



capita—and half its population is under the age of 25.

“Social media helped us a lot as filmmakers because it gave us an opportunity to connect, to find a crew, the actors, and it inspires us to make even better stories,” said Al Homoud.

In addition, the Kingdom has film clubs that screen films in private settings. All this makes for a wide audience for movies despite the absence of commercial theaters. As a co-founder also of the Riyadh-based entertainment company Telfaz11, Alkalthami and his collective of other young directors, technicians and actors produce more than 100 videos a year for an online subscriber base that numbers 12 million. Telfaz11’s popularity is but one example of the Kingdom’s “home-grown” film industry that has to date remained largely invisible to the rest of the world.

“We believe the talent they have is really something that’s worth sharing with the rest of the globe, and we can’t be in a better place than Hollywood,” said Tareq Al Ghamdi, director of the King Abdulaziz Center for World Culture. “It provides this cultural engagement, through dialog, for people to see what our young Saudis are talking about. And for them, it provides what the rest of the globe is thinking about what we’re doing. It will provide encouragement and support not only to them but to people back home to embrace filmmaking as a career, be it directing or producing or acting.”

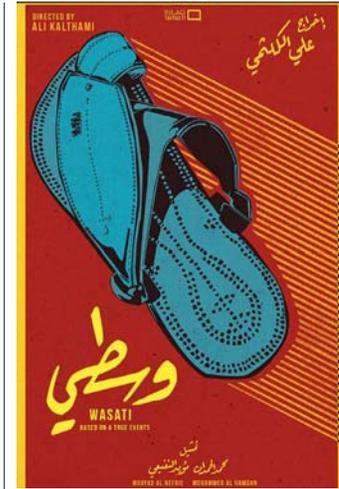
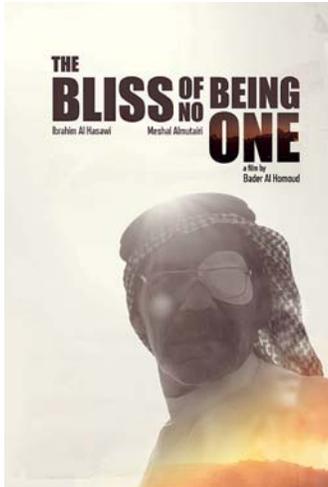
The following night, Saudi Film Days screened again a few miles away in downtown Los Angeles, at the historic, baroque-revival Theatre at Ace Hotel. This drew the urban, cosmopolitan crowd, and the lobby beforehand was a chatter of English and Arabic, as well as Spanish and Chinese.

At that evening’s red carpet, as television reporters filmed and interviewed, the directors and actors seemed relaxed and even playful, buoyed by the



**BADER AL  
HOMOUD**

*The Bliss  
of Being  
No One*



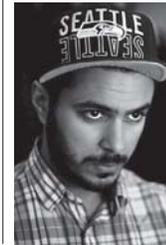
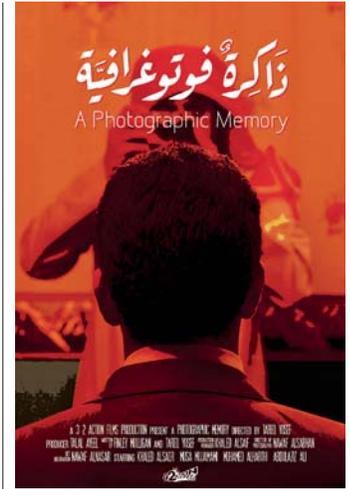
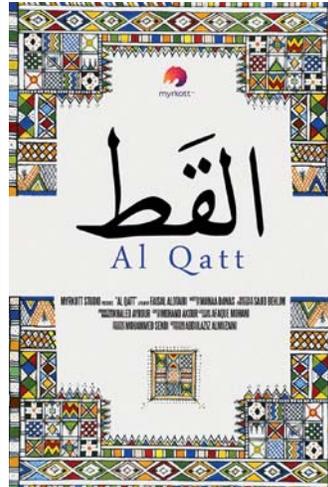
**ALI  
ALKATHAMI**

*Wasati*



**FAISAL  
AL-OTAIBI**

*Al Qatt*



**TAREQ  
YOUSEF**

*A Photographic  
Memory*

The historic Theatre at Ace Hotel hosted screenings November 4.

affirmations of press, peers, celebrities and industry insiders.

“The creative elements of these films were really fantastic,” said Esposito after the Paramount screening. “Each one had its own very specific beauty to it. There were really great messages in these films.” He was particularly taken, he said, with Alkathami’s *Wasati*, which uses humor to dramatize a serious event decades ago in Riyadh when conservative audience members shut down a theater production in mid-performance; Alkathami added a fictional character who lends the film both charm and gravitas. “I found it *really* creative,” Esposito said. “It also made it funny and poignant, and made it more personal.”

Academy Award-winning effects supervisor Craig Barron walked out effusive, too. “I thought they were extremely well-acted and well-designed,” he said. “They make entertaining films that a Westerner can appreciate, and it’s good storytelling.”

“Local but global,” Alkathami said of his approach to his films. “We’ve been working so much to get our projects out there on the Internet, and now it’s time to make a bit of an adjustment—to try cinema and do cinema. It’s a new platform, a new experience and a chance to get our films seen around the world.”

Raimond echoed him from her point of view. “Watching those films shows how much more we have in common. That’s what art is for. So it’s very important those films are shown in Europe and America.”



**Jonathan Curriel** is a San Francisco journalist who has written widely about the Middle East. He is the author of *Al’ America: Travels Through America’s Arab and Islamic Roots* (New Press, 2008). **Amanda Kari McHugh** ([www.mandakphoto.net](http://www.mandakphoto.net)) is a freelance photographer based in Los Angeles and New York who specializes in entertainment, performing arts, events and people. Follow her Instagram @dnt4gethextras and Twitter @amandakmchugh.



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*Wajda*: J/F 14

New Film in Jordan: S/O 15



Blending R&B, pop, jazz and folk, Yuna performed in Houston during her us tour last fall. *Opposite:* In November she kicked off her scarf line YunaForLosraVelda at a fashion show in Kuala Lumpur, Malaysia, with this photo posted to Instagram.

# YUNANA

IN

SONG

AND

STYLE

Written by

ANDREW

DANSBY

Photographed by

JOHNNY

HANSON

While growing up in the northwestern Malaysian state of Kedah, the first chapter of Yunalis Zarai's unlikely path to pop stardom began, she says, with her parents' Beatles albums. She started writing her own songs as a teenager, and she taught herself guitar. Then she went to law school. In between studies, she began performing under the name Yuna. In 2006 she auditioned for the televised singing competition "One in a Million" and made it to the final 40. By 2008 her songs on a MySpace page had racked up more than a million plays. In 2010, degree in hand, she set it aside for music. Blending and blurring pop, R&B, jazz and folk, all with an international touch that connects her to global audiences, she hasn't looked back.



She broke into the US music scene in 2012 with a single, “Live Your Life,” produced by singer and recording producer Pharrell Williams (of “Happy” fame) who went on to oversee her first album, *Yuna*. Last year, she released her third album, *Chapters*, and recorded a video duet of its lead single, “Crush,” with R&B star Usher that hit No. 1 in Malaysia and No. 3 on the US R&B chart. For the lead track on *Chapters*, the wistfully reflective, smoothly joyous “Places to Go,” she teamed with legendary DJ Premier of Gang Starr.

These days she lives in a place nearly 14,000 kilometers from home: Los Angeles. But through music and fashion, she is finding ways to shrink the world. Last fall she took a few minutes during her tour to talk about her unusual path.

*Chapters is a title that speaks to the ways we compartmentalize time and our lives. What's up with that for you?*

**Yuna:** I wrote about 50 songs for the album. And I started to edit them down. I wanted songs that would go together to tell a complete story about what made me who I am today. So one song is about me and my mom, who discovered I could sing. We'd never spoken about that. But now I'm older—I'm almost 30—and I think about it. Many of the songs were like that. I see life different now, and I see love different now. It seemed like a good name for the project.

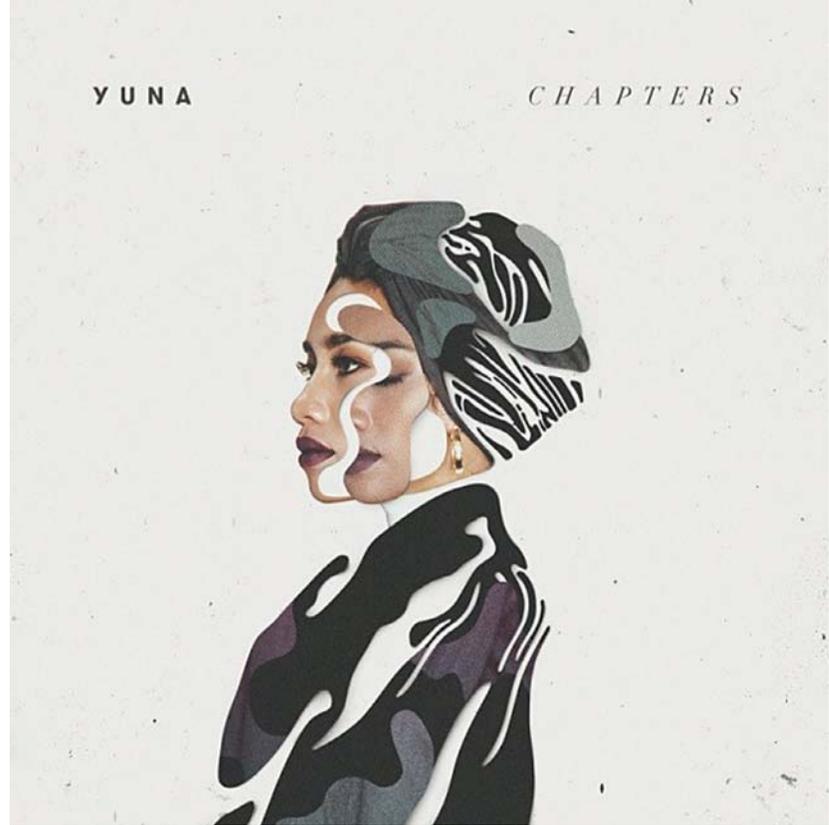
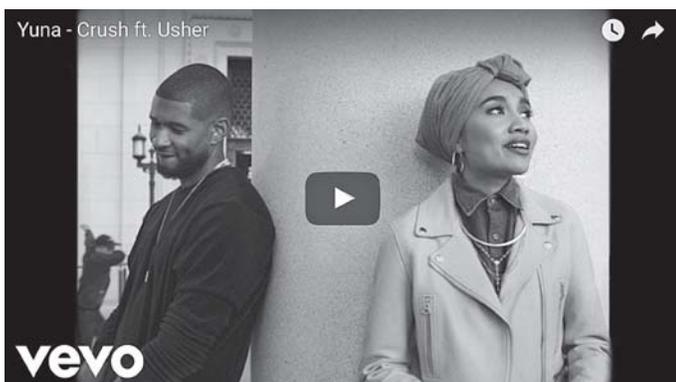
*Home seems like a difficult concept for you.*

I guess I see Los Angeles as home because it's my little hiding area, my little haven. At the same time, my family and friends live in Kuala Lumpur. So it's not a conflict exactly, but it's a point I'm still figuring out in my life. I've been in America for a while, but sometimes it still doesn't quite feel like I'm home. I feel like an outsider sometimes, which is not healthy, but I have an apartment here, and I'm making it feel like home.

*Have you noticed changes in your vocals since you've started? To my ear there's been a lot of growth, a confidence in the singing.*

I think that just comes from character-building over the years.

Her video for her hit song “Crush,” featuring a duet with Usher, has clocked close to 23 million views on YouTube.



Yuna's third album, *Chapters*, reached No. 13 on *Rolling Stone's* annual “Best R&B Albums,” and *Critic's Picks* included it as one of the year's 10 best in R&B.

When I fall in love with a TV show, it's because I fall in love with the characters. I've done this for 10 years now, and I think back to the first time I started singing. I'm the same girl, but not the same girl. The core of it is still me. There have been a couple of cycles of tours performing in front of audiences, and that has made me a better singer—and a better writer, too. So I think I'm doing things I couldn't even do five years ago. Five years ago I never would've written anything worthy of working with DJ Premier or Pharrell. These things are part of growing. They've surprised me as much as anybody. Getting to do a song with Usher—I'm really grateful. It's also involved a little luck, so I try to remain humble and respectful. That got me where I am. I didn't play by the book exactly, but I think I stayed myself.

*How was it working with DJ Premier on “Places to Go”?*

It was fun. In the beginning we wanted to make music, but we started by staying in the studio and talking about life until we got to know each other well. I was in Los Angeles; he was in New York. On that song I was singing about struggling with my career, being away from home, missing my family. Personal stuff. It was about me picking up the pieces in my life. He helped me put that all together.

*You have a line, “My dreams seem so far away,” and another, “We were meant for something bigger than this.” Taken together, they suggest a prevalent feeling of hope. Do you find that a difficult feeling to sustain?*

It really can be a challenge in that you're a real person living a real life. A normal person. I have my own problems with family or financially. Once in a while, life teaches you things that are difficult, but I've always tried to remain hopeful

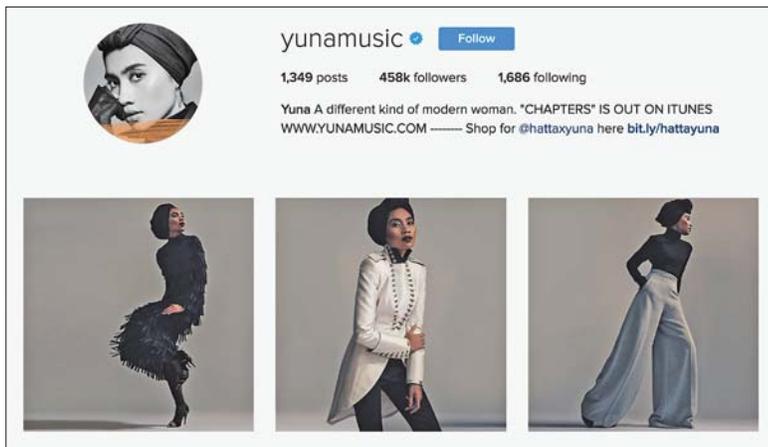
and focus on the important things. I think that's why my family is so important. I'd do anything for my parents. While writing "Live Your Life," it came to me when I was in the studio with Pharrell. He said he could feel people in the club dancing and meeting to that song, and I said, "But that's not me." I don't go to clubs. That's not part of my life. But I guess it has a hopeful tone that can mean different things to different people. I just try to write about life and share it with the world, and if hope comes out of that, I don't think it's a fantasy. I'm not the person who will sing the song about "let's live tonight, there's only tonight." I'm more interested in something you can hold onto forever, even when you're going through a rough time.

*I imagine that means a lot of listeners feel a particularly personal connection.*

It's difficult to say. I perform it every night, and sometimes the meaning goes away a little for me. But I always come back to the first time, back when I wrote it, because I know there are a few people who depend on it. I've had fans say the song helped them. I met a girl with cancer two weeks ago. I didn't know what to say to her, but she said she goes to treatment and lives life. She remains positive. So maybe that song is a small part of her staying positive.

*Now in addition to music you have the HATTA Yuna clothing line as well as the 14NVOV collection; you make jewelry; you*

Her upcoming concerts show her global reach: Philippines, UK and Louisiana, USA.



@yunamusic features both her music and fashion: She posted this series displaying her fashion-forward looks for *Ladygunn* magazine.

*are the face of Uniqlo's Hana Tajima hijab capsule collection. How did fashion become such a part of your life, too?*

I guess I've always been into fashion since I was very little. I would observe the kind of clothes that my mom would shop for. She really raised me to dress up. You know, we had just enough, never bought expensive clothes, but she would always make sure I looked stylish. She's the kind of mom who would never let me out wearing flip flops and creased shirts! So I guess I always liked having style.

*Any regrets not sticking with law?*

Going to law school definitely taught me how to be focused on my career and knowing more than just singing a song and smiling for photos. Education is important. It enriches someone's character.

*On Instagram recently you said you were having a "Smashing Pumpkins kinda Monday." What would a "Yuna kinda day" be like?*

A lazy afternoon. Slightly hot and sunny. Slow spinning ceiling fan, flowers by the window, and "Desafinado" playing on my record player.

*If life is like the title of your album Chapters, what do you hope people come away with after taking in the book that is Yuna?*

A sense of self. I want them to discover that love is a fragile thing, and it must begin within yourself. 🌍



**Andrew Dansby** (@andrewdansby) is an entertainment writer for the *Houston Chronicle* whose work has also appeared in *Rolling Stone*, *NME*, *Men's Journal* and more. **Johnny Hanson** is *AramcoWorld's* digital media editor.



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# The Islamic Roots of the MODERN HOSPITAL

Written by DAVID W. TSCHANZ

*The hospital shall keep all patients, men and women, until they are completely recovered. All costs are to be borne by the hospital whether the people come from afar or near, whether THEY are residents or foreigners, strong or weak, low or high, rich or poor, employed or unemployed, blind or signed, physically or mentally ill, learned or illiterate. There are no conditions of consideration and payment; none is objected to or even indirectly hinted at for non-payment. The entire service is through the magnificence of God, the generous one.*

—policy statement of the *bimaristan* of al-Mansur Qalawun in Cairo, c. 1284 CE

The modern West's approach to health and medicine owes countless debts to the ancient past: Babylon, Egypt, Greece, Rome and India, to name a few. The hospital is an invention that was both medical and social, and today it is an institution we take for granted, hoping rarely to need it but grateful for it when we do. Almost anywhere in the world now, we expect a hospital to be a place where we can receive ease from pain and help for healing in times of illness or accidents.

We can do that because of the systematic approach—both scientifically and socially—to health care that developed in medieval Islamic societies. A long line of caliphs, sultans, scholars and medical practitioners took ancient knowledge and time-honored practices from diverse traditions and melded them with their original research to feed centuries of intellectual achievement and drive a continual quest for improvement. Their *bimaristan*, or asylum of the sick, was not only the true forerunner of the modern hospital, but also virtually indistinguishable from the modern multi-service healthcare and medical education center.

The *bimaristan* served variously as a center of treatment, a convalescent home for those recovering from illness or accident, a psychological asylum and a retirement home that gave basic maintenance to the aged and infirm who lacked a family to care for them.

## ASYLUM OF THE SICK

The *bimaristan* was but one important result of the great deal of energy and thought medieval Islamic civilizations put into developing the medical arts. Attached to the larger hospitals—then as now—were medical schools and libraries where senior physicians taught

In the late ninth century, leading physician and polymath Muhammad ibn Zakariya al-Razi helped establish a *bimaristan*—hospital—in Baghdad staffed with 25 doctors, optometrists, surgeons and bonesetters. The illustration above, from a 13th-century European translation of Al-Razi's *Compendium of Medical Treatises*, shows him treating a patient.

students how to apply their growing knowledge directly with patients. Hospitals set examinations for the students and issued diplomas. The institutional bimaristans were devoted to the promotion of health, the curing of diseases and the expansion and dissemination of medical knowledge.

## THE FIRST HOSPITALS

Although places for ill persons have existed since antiquity, most were simple, without more than a rudimentary organization and care structure. Incremental improvements continued through the Hellenistic period, but these facilities would barely be recognizable as little more than holding locations for the sick. In early medieval Europe, the dominant philosophical belief held that the origin of illness was supernatural and thus uncontrollable by human intervention: As a result, hospitals were little more than hospices where patients were tended by monks who strove to assure the salvation of the soul without much effort to cure the body.

Muslim physicians took a completely different approach. Guided by sayings of the Prophet Muhammad (*hadith*) like “God never inflicts a disease unless He makes a cure for it,” collected by Bukhari, and “God has sent down the disease and the cure, and He has appointed a cure for every disease, so treat yourselves medically,” collected by Abu al-Darda, they took as their goal the restoration of health by rational, empirical means.

Hospital design reflected this difference in approach. In the West, beds and spaces for the sick were laid out so that the patients could view the daily sacrament of the Mass. Plainly (if at all) decorated, they were often dim and, owing to both climate and architecture, often damp as well. In the Islamic cities, which largely benefited from drier, warmer climates, hospitals were set up to encourage the movement of light and air. This supported treatment according to humoralism, a system of medicine concerned with corporal rather than spiritual balance.

## MOBILE DISPENSARIES

The first known Islamic care center was set up in a tent by Ruffaydah al-Aslamiyah during the lifetime of the Prophet Muhammad. Famously, during the Ghazwah Khandaq (Battle of the Ditch), she treated the

**The Nur al-Din Bimaristan, a hospital and medical school in Damascus, was founded in the 12th century. Today it is the Museum of Medicine and Science in the Arab World.**

wounded in a separate tent erected for them.

Later rulers developed these forerunners of “MASH” units into true traveling dispensaries, complete with medicines, food, drink, clothes, doctor and pharmacists. Their mission was to meet the needs of outlying communities that were far from the major cities and permanent medical facilities.

They also provided the rulers themselves with mobile care. By the early 12th-century reign of Seljuq Sultan Muhammad Saljuqi, the mobile hospital had become so extensive that it needed 40 camels to transport it.

## PERMANENT HOSPITALS

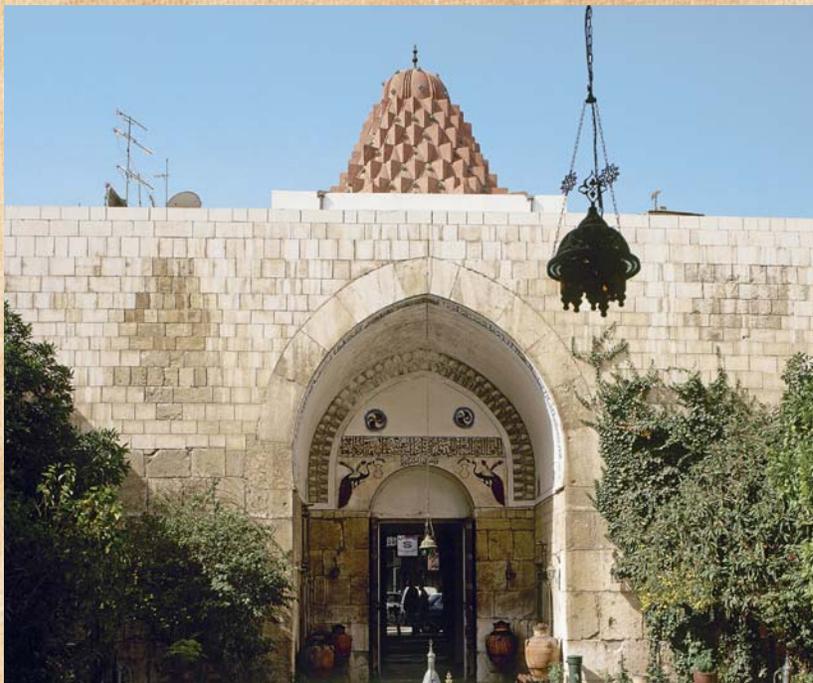
The first Muslim hospital was only a leprosarium—an asylum for lepers—constructed in the early eighth century in Damascus under Umayyad Caliph Walid ibn ‘Abd al-Malik. Physicians appointed to it were compensated with large properties and munificent salaries. Patients were confined (leprosy was well known to be contagious), but like the blind, they were granted stipends that helped care for their families.

The earliest documented general hospital was built about a century later, in 805, in Baghdad, by the vizier to the caliph Harun al-Rashid. Few details are known, but the prominence as court physicians of members of the Bakhtishu’ family, former heads of the Persian medical academy at Jundishapur, suggests they played important roles in its development.

Over the following decades, 34 more hospitals sprang up throughout the Islamic world, and the number continued to grow each year. In Kairouan, in present-day Tunisia, a hospital was built in the ninth century, and others were established at Makkah and Madinah. Persia had several: One in the city of Rayy was headed for a time by its Baghdad-educated native son, Muhammad ibn Zakariya al-Razi.

In the 10th century five more hospitals were built in Baghdad. The earliest was established in the late ninth century by ‘Al-Mu’tadid, who asked Al-Razi to oversee its construction and operations. To start, Al-Razi wanted to determine the most salubrious place in the city: He had pieces of fresh meat placed in various neighborhoods, and some time later, he checked to determine which had rotted the least and sited the hospital there. When it opened, it had 25 doctors, including oculists, surgeons and bonesetters. The numbers and specialties grew until 1258, when the Mon-

*The earliest documented general hospital was built in 805 in Baghdad.*



gols destroyed Baghdad.

The vizier 'Ali ibn Isa ibn Jarah ibn Thabit wrote in the early 10th century to the chief medical officer of Baghdad about another group:

I am very much worried about the prisoners. Their large numbers and the condition of prisons make it certain that there must be many ailing persons among them. Therefore, I am of the opinion that they must have their own doctors who should examine them every day and give them, where necessary, medicines and decoctions. Such doctors should visit all prisons and treat the sick prisoners there.

Shortly afterward a separate hospital was built for convicts, fully staffed and supplied.

In Egypt, the first hospital was built in 872 in the southwestern quarter of Fustat, now part of Old Cairo, by the 'Abbasid governor of Egypt, Ahmad ibn Tulun. It is the first documented facility that provided care also for mental as well as general illnesses. In the 12th century, Saladin founded in Cairo the Nāsiri hospital, which later was surpassed in size and importance by the Mansuri, completed in 1284. It remained the primary medical center in Cairo through the 15th century, and today, renamed Qalawun Hospital, it is used for ophthalmology.

In Damascus the Nuri hospital was the leading one from the time of its foundation in the mid-12th century well into the 15th century, by which time the city contained five additional hospitals.

In the Iberian Peninsula, Córdoba alone had 50 major hospitals. Some were exclusively for the military, and the doctors there supplemented the specialists who attended to the caliphs, military commanders and nobles.

## ORGANIZATION

In a fashion that would still be recognizable today, the typical Islamic hospital was subdivided into departments such as systemic diseases, surgery, ophthalmology, orthopedics and mental diseases. The department of systemic diseases was roughly equivalent to today's department of internal medicine, and it was usually further subdivided into



This plaque on the wall of the Bimaristan Arghun in Aleppo, Syria, commemorates its founding by Emir Arghun al-Kamili in the mid-14th century. Care for mental illnesses here included abundant light, fresh air, running water and music.

sections dealing with fevers, digestive troubles, infections and more. Larger hospitals had more departments and diverse subspecialties, and every department had an officer-in-charge and a presiding officer in addition to a supervising specialist.

Hospitals were staffed also with a sanitary inspector who was responsible for assuring cleanliness and hygienic practices. In addition, there were accountants and other administrative staff to assure that hospital conditions—financial and otherwise—met standards. There was a superintendent, called a *sa'ur*, who was responsible for over-

seeing the management of the entire institution.

Physicians worked fixed hours, during which they saw the patients who came to their departments. Every hospital had its own staff of licensed pharmacists (*saydalani*) and nurses. Medical staff salaries were fixed by law, and compensation was distributed at a rate generous enough to attract the talented.

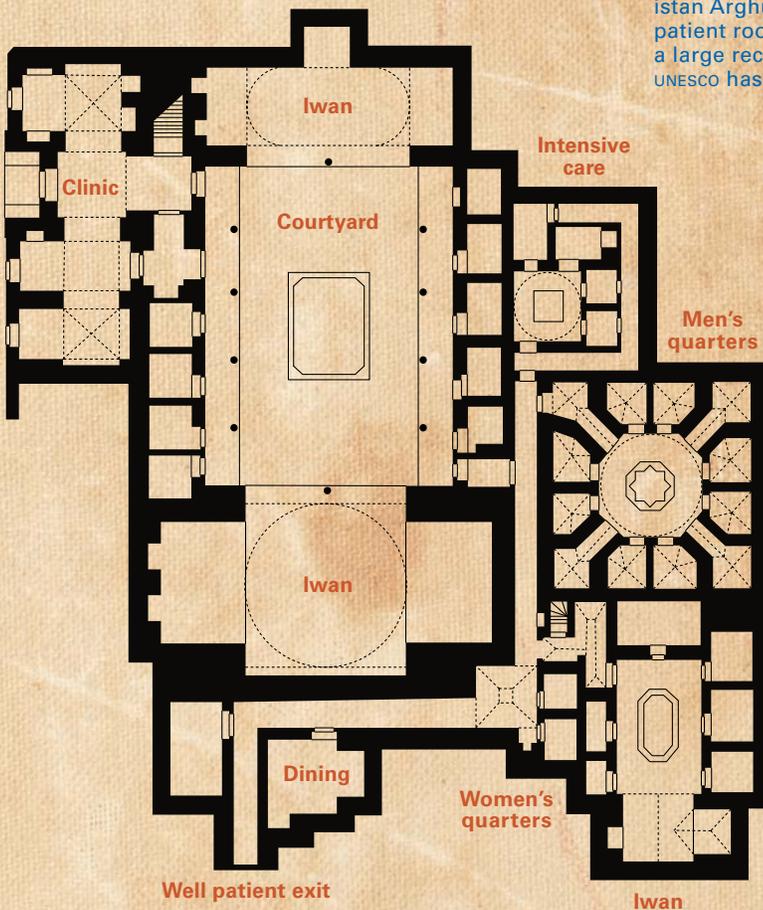
Funding for the Islamic hospitals came from the revenues of pious bequests called *waqfs*. Wealthy men and rulers donated property to existing or newly built bimaristans as endowments, and the revenues from the bequests paid for building and maintenance. To help make it pay, such revenues could come from any mix on the property of shops, mills, caravanserais or even entire villages. The income from an endowment would sometimes also cover a small stipend to the patient upon dismissal. Part of the state budget also went

With its airy, high-ceiling rooms, the Bimaristan Arghun functioned as a hospital until the early 20th century. Later, it became a museum.





Above and left: Fountains were central to the architecture of the Bimaristan Arghun: Three courtyards each held a fountain, around which patient rooms were arranged, while the central courtyard featured a large rectangular pool and well. (Since these photos were taken, UNESCO has listed the bimaristan as damaged by warfare.)



## PATIENT CARE

Bimaristans were open to everyone on a 24-hour basis. Some only saw men while others, staffed by women physicians, saw only women; still others cared for both in separate wings with duplicate facilities and resources. To treat less serious cases, physicians staffed outpatient clinics and prescribed medicines to be taken at home.

Special measures were taken to prevent infection. Inpatients were issued hospital wear from a central supply area while their own clothes were kept in the hospital store. When taken to the hospital ward, patients would find beds with clean sheets and special stuffed mattresses ready. The hospital rooms and wards were neat and tidy with abundant running water and sunlight.

Inspectors evaluated the cleanliness of the hospital and the rooms on a daily basis. It was not unusual for local rulers to make personal visits to make sure patients were getting the best care.

The course of treatment prescribed by doctors began immediately upon arrival. Patients were placed on a fixed diet, depending on condition and disease. The food was of high quality and included chicken and other poultry, beef and lamb, and fresh fruits and vegetables.

The major criterion of recovery was that patients be able

toward the maintenance of hospitals. To patients, the services of the hospital were free, though individual physicians occasionally charged fees.

In Egypt, the al-Mansur Qalawun Complex in Cairo includes a hospital, school and mausoleum. It dates from 1284-85.

to ingest, at one time, an amount of bread normal to a healthy person, along with the roasted meat of a whole bird. If patients could easily digest it, they were considered recovered and subsequently released. Patients who were cured but too weak to discharge were transferred to the convalescent ward until they were strong enough to leave. Needy patients were given new clothes, along with a small sum to aid them in re-establishing their livelihood.

The 13th-century doctor and traveler 'Abd al-Latif



al-Baghdadi, who also taught at Damascus, narrated an amusing story of a clever Persian youth who was so tempted by the excellent food and service of the Nuri hospital that he feigned illness. The doctor who examined him figured out what the young man was up to and admitted him neverthe-

Below is the translation of a young Frenchman's letter from a Cordóba hospital in the 10th century:

*Dear father,*

You have mentioned in your previous letter that you would send me some money to make use of it in my medicines costs. I say, I don't need it at all as treatment in this Islamic hospital is for free. Also there is something else concerning this hospital. This hospital gives a new suit and five dinars to every patient who has already got well lest he should find himself obliged to work in the period of rest and recuperation.

Dear father, if you'd like to visit me, you will find me in the surgery department and joints treatment. When you enter the main gate, go to the south hall where you will find the department of first aid and the department of disease diagnosis then you will find the department of arthritis (joint diseases). Next to my room, you will find a library and a hall where doctors meet together to listen to the lectures given by professors; also this hall is used for reading. The gynecology department lies on the other side of the hospital court. Men are not allowed to enter it. On the right of the hospital court lies a large hall for those who recovered. In this place they spend the period of rest and convalescence for some days. This hall contains a special library and some musical instruments.

Dear father, any place in this hospital is extremely clean; beds and pillows are covered with fine Damascus white cloth. As to bedcovers, they are made of gentle soft plush. All the rooms in this hospital are supplied with clean water. This water is carried to the rooms through pipes that are connected to a wide water fountain; not only that, but also every room is equipped with a heating stove. As to food, chicken and vegetables are always served to the extent that some patients do not want to leave the hospital because of their love and desire of this tasty food.

—The Islamic Scientific Supremacy. Ameer Gafar Al-Arshdy. 1990, Beirut, Al-Resala Establishment.



Depicting a scene in the hospital at Cordoba, then in Al-Andalus (Muslim Spain), this 1883 illustration shows the famed physician Al-Zahrawi (called Abulcasis in the West) attending to a patient while his assistant carries a box of medicines.

less, providing the youth with fine food for three days. On the fourth day, the doctor went to his patient and said with a rueful smile, “Traditional Arab hospitality lasts for three days: Please go home now!”

The quality of care was subject to review and even arbitration, as related by Ibn al-Okhwa in his book *Ma’alem al-Qurba fi Talab al-Hisba* (*The Features of Relations in al-Hisba*):

If the patient is cured, the physician is paid. If the patient dies, his parents go to the chief doctor; they present the prescriptions written by the physician. If the chief doctor judges that the physician has performed his job perfectly without negligence, he tells the parents that death was natural; if he judges otherwise, he tells them: Take the blood money of your relative from the physician; he killed him by his bad performance and negligence. In this honorable way, they were sure that medicine is practiced by experienced, well-trained persons.

In addition to the permanent hospitals, cities and major towns also had first aid and acute care centers. These were typically located at busy public places such as large mosques. Maqrizi described one in Cairo:

Ibn Tulun, when he built his world-famous mosque in Egypt, at one end of it there was a place for ablutions and a dispensary also as annexes. The dispensary was well equipped with medicines and attendants. On Fridays there used to be a doctor on duty there so that he might attend immediately to any casualties on the occasion of this mammoth gathering.

## MEDICAL SCHOOLS & LIBRARIES

Because one of the major roles of the hospitals was the training of physicians, each hospital had a large lecture theater where students, along with senior physicians and medical

officers, would meet and discuss medical problems in seminar style. As training progressed, medical students would accompany senior physicians to the wards and participate in patient care—much like a modern residency program.

Surviving texts, such as those in Ibn Abi Usaybi’ah’s *Uyun al-anba’ fi tabaqat al-atibb’* (*Sources of Information on Classes of Physicians*), as well as student notes, reveal details of these early clinical rounds. There are instructions on diets and recipes for common treatments, including skin diseases, tumors and fevers. During rounds, students were told to examine the patients’ actions, excreta, and the nature and location of swelling and pain. Students were also instructed to note the color and feel of the skin, whether hot, cool, moist, dry or loose.

Training culminated in an examination for a license to practice medicine. Candidates had to appear before the region’s

government-appointed chief medical officer. The first step required was to write a treatise on the subject in which the candidate wanted to obtain a certificate. The treatise could be an original piece of research or a commentary on existing texts, such as those of Hippocrates, Galen and, after the 11th century, Ibn Sina, and more.

Candidates were encouraged not only to study these earlier works, but also to scrutinize them for possible errors. This emphasis on empiricism and observation rather than slavish adherence to authorities was one of the key engines of the medieval Islamic intellectual ferment. Upon completion of the treatise, candidates were interviewed at length by the chief medical officer, who asked them questions relevant to problems of the prospective specialties. Satisfactory answers led to licensed practices.

Another key aspect to the hospital, and of critical importance to both students and teachers, was the presence of extensive medical libraries. By the 14th century, Egypt’s Ibn Tulun Hospital had a library comprising 100,000 books on various branches of medical science. This was at a time when Europe’s largest library, at the University of Paris, held 400 volumes.

Cradle of Islamic medicine and prototype for today’s hospitals, bimaristans count among numerous scientific and intellectual achievements of the medieval Islamic world. But of them all, when ill health or injury strikes, there is no legacy more meaningful. ☺



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Her hands stained from removing the nuts' moist outer skin, a young woman holds walnuts freshly harvested from the world's largest walnut forest, near the village of Arslanbob in southern Kyrgyzstan. *Opposite:* Millions of walnuts in the forest near Arslanbob are harvested each fall by families who spend several weeks at the task, including this mother and daughter.



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# W A L N U T S

*and The*

## FIRST FOREST FARMS

Written by GRAHAM CHANDLER

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On a hot, dusty day some two thousand years ago, a traveler stops on the road from Dunhuang, China, to Marakanda (now Samarkand) in Central Asia. He drinks deeply from his flask, then reaches into his sling, pulls out a walnut, cracks it on a rock and pops the kernel into his mouth. He savors the taste, cinches up his heavy packs and walks on.



Working under a 200-year-old common walnut tree (*Juglans regia*), Evsey Alexandrovsky and Evgeniy Butkov of the Uzbekistan Scientific Research Institute of Forestry gather samples to be analyzed together with those from 38 other sites from Turkey to China.

**T**his unnamed traveler would have been among countless merchants, pilgrims, soldiers and adventurers who journeyed the long stretches of the Silk Road network that spanned thousands of kilometers from China to the Mediterranean Sea between roughly 500 BCE and 1500 CE. By foot and on donkeys, horses and camels, traders carried raw materials like ivory, commodities like spices and finished goods like metalwork, supplying one of the world's first international systems of commerce. Segments of the road they followed wound through ethnic populations: Han Chinese in Xi'an, Sogdians in Samarkand and Arabs in Baghdad, for example.

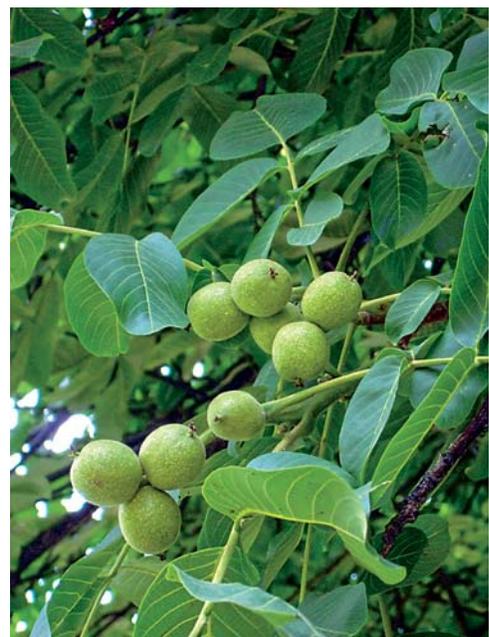
And where these trader-travelers moved, it now seems, they planted the nutritious, portable, high-calorie, long-shelf life walnut. Scientists mapping both walnut forests and languages have discovered close relationships between the two along the major Silk Road routes, evidence that the spread of walnut trees was due at least as much—or more—to humans as to nature. Their work, published in 2015 in the scientific journal *PLOS ONE*, is changing the way archeologists look at the first cultivation of tree crops and offering insight into the future management of them.

"The story of the relationship between human history and tree crops is only beginning to be told," says Keith Woeste, a research geneticist with the United States Forest Service's Hardwood Tree Improvement and Regeneration Center (HTIRC) and adjunct assistant professor of forestry at Purdue

University in West Lafayette, Indiana. Woeste was a lead member of a team of US and European researchers that undertook genetic evaluation of walnut species at 39 sites across Asia, from near Lake Van in Turkey to Taishan Mountain in northeastern China, near the city of Tai'an.

At first the team was puzzled to find that walnut's genetic diversity and variation across thousands of kilometers could not be explained by natural evolutionary means, which would have shown roughly concentric patterns, much like ripples produced when a pebble is dropped into a pond. Rather, the traits followed east-west bands. This

On walnut trees, blossoms grow into seeds, which mature to form a husk. When ripe, harvesters remove the husk to expose the hard shell that protects the seed: the nutmeat.





“Compared to what we know about the domestication of row crops, we know comparatively little about tree crops,” says Keith Woeste, professor of forestry at the Hardwood Tree Improvement and Regeneration Center at Purdue University. Woeste partnered with researchers in Italy and England to publish findings of early walnut dispersal through human cultural interaction.

pointed to the possibility that human intervention may have accounted for the spread of walnuts. A key clue pointing in that direction came not from biology, but from linguistics.

Combining genetic analysis with ethno-linguistic data, researchers from Purdue and the Rome-based Italian National Research Council (CNR) discovered a significant association between the genetic structure of walnut populations and the evolution of languages. Genetic structures even converged between Tashkent and Samarkand in Uzbekistan, where the

northern and central routes of the Northern Silk Road came together. This strongly suggested that traders carried walnuts east and west through Turkey, Iran and the Trans-Caucasus to Central Asia. It is likely they saved walnuts from the best trees, selecting those with the characteristics to produce high-quality nuts and possibly wood, and purposely planted them as long-term “crop investments.” This puts walnuts among the first known examples of planned afforestations.

More broadly, the team’s findings are changing the way scientists think about ancient human tree-crop management. Until the team began its research, studies of early crops focused on annually harvested plants like wheat or maize. “Compared to what we know about the domestication of row crops, we know comparatively little about tree crops,” says Woeste. Studying tree crops takes longer, and it is more complex because it takes so much more time for generations of trees to grow and, consequently, even more years to select for desired traits. As a result, although cultivation of tree crops and annual plants



At the Institute of Agro-environmental and Forest Biology in Italy, Maria Emilia Malvolti studies genetic samples of walnuts from across Asia.

may have started at about the same time in history, domestication of tree crops was not achieved until thousands of years after annuals, Woeste explains.

Traditional scientific thinking holds that the first domesticated tree crops—figs, grapes, dates and olives—spread along with agriculture, following the planting of annual grain crops like wheat. It made sense: “Once farming of plants that produce carbohydrates was completed, population growth became faster than ever before, and dispersals and transmission [of tree crops] were facilitated,” says Ofer Bar-Yosef, who is the George Grant MacCurdy and Janet G. B. MacCurdy Professor of Prehistoric Archaeology, emeritus, at Harvard University. “Trees appeared when farming of cultivated plants was already changing the face of the land. The addition of trees became obvious in sedentary communities.”

Scientists also concluded that because of the long lifespans of perennials, they were propagated clonally by cuttings rather than seeds. They were associated with sedentarism. And they were first cultivated in the Middle East.

But according to the recent study, the walnut appears to have had a much different trajectory. It didn't follow the spread of agricultural crops. It was propagated entirely by seed (the nuts). It was cultivated more to facilitate mobility than sedentarism. And the initial cultivation of walnut trees took place not only in the Middle East, but likely in Asia as well.

**T**he recent walnut study

began with a project launched in Europe some 30 years ago to improve the reforestation of agricultural land using noble hardwood species including walnut, whose wood is valuable as

timber. Western European governments were pushing to help save tropical forests and boost their own local production of high-quality wood. Walnut, which can be grown for both nuts and timber, also promised a degree of marketing flexibility for European farmers. European research on common walnut (*Juglans regia*) at centers like the CNR Institute of Agro-environmental and Forest Biology (CNR-IBAF) in Porano, Italy, was in its infancy at the time.

To begin conserving genes for future breeding programs, Italian researchers sought to discover and evaluate the DNA of walnut in three regions: the Middle East, Central Asia and northeastern China, where common walnut is indigenous. (Its exact origins remain uncertain.) The results surprised everyone: The genetic diversity of walnut was much lower than anticipated. This was alarming, for it raised the possibility that walnut was at high risk from disease or climate change. The DNA data also indicated that the walnut might actually be native to Europe. These were not just academic questions, for the answers have consequences for conservation,

breeding and an understanding how plants adjust their range in response to environmental change—and their relationship to humans.

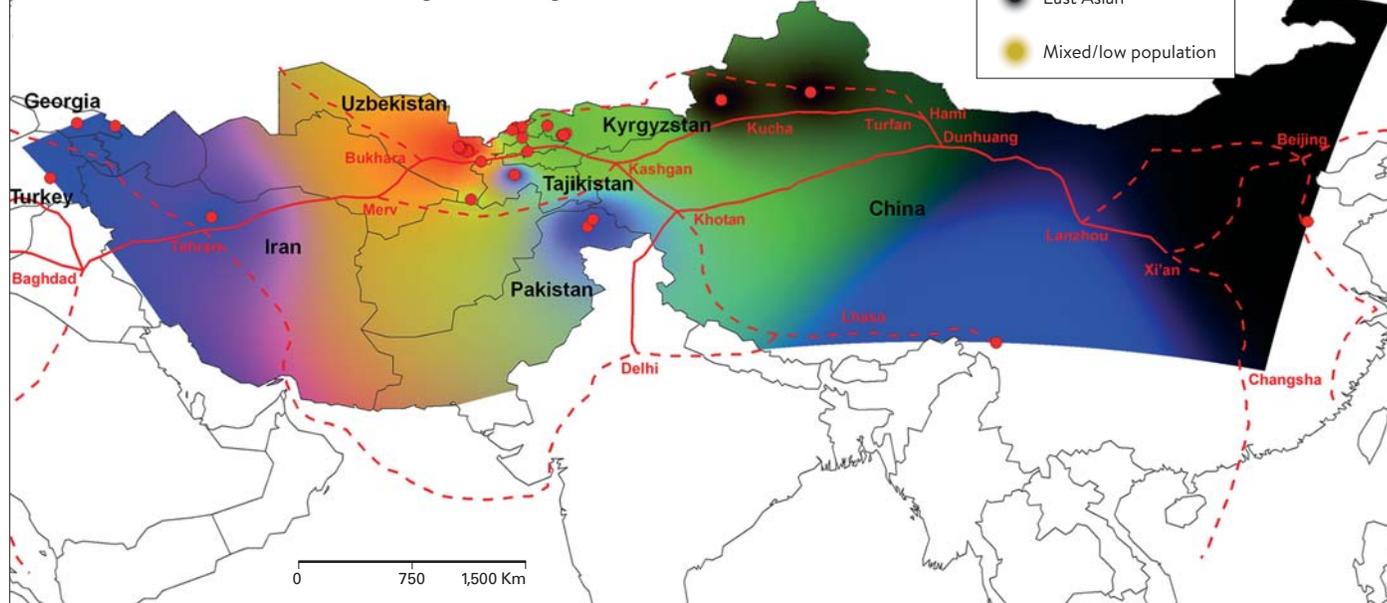
With a lifespan of some 200 years, walnut trees such as this one near Arslanbob can grow to majestic sizes, sometimes exceeding a meter in diameter and 40 meters in height. But with eight years from seed to production of nuts, the selective breeding of walnut trees is a task of generations.



and an understanding how plants adjust their range in response to environmental change—and their relationship to humans.

Despite their limited sampling of walnuts from Asia, the scientists reckoned that Asian walnuts might be a valuable reservoir of genes relating to adaptation to climates, pests and diseases. They were coming to believe that Asian walnuts could be the key to the trees' future and that conservation programs were required to preserve the genetic variations still present in Asia and Europe. (Common walnut is native only to Asia, but other species are native to the

# GENETIC DISTRIBUTION of the COMMON WALNUT (*Juglans regia*)



Delimited by the data collected from the study's 39 sites, this map shows the distribution of the four major genetic pools of common walnut from western Anatolia to northeastern China.

Americas—black walnut, for example.)

This led to fresh questions: *How much* have humans affected walnut genetic resources? And how much of the evolutionary history of walnut is connected to human history? Inquiries like these were not easy to address with 1980s genetic research technology. Moreover, access to most of the walnut ranges of south-central Asia was restricted politically.

As the region gradually opened in the 1990s, scientists formed new collaborations to share genetic samples from walnut forests there. One such linking, in 2011, partnered CNR-IBAF, HTIRC and the Earth Trust in Oxford, England; in 2014, CNR-IBAF's sister entity, the Institute for Archeological and Monumental Heritage (CNR-IBAM) in Potenza, Italy, joined to research the relationship of the walnut's genetics to the area's history and culture.

In its native range in Asia, common walnut thrives in isolated stands surrounded by arid lowlands, mountains and highland steppes. The team sampled and analyzed walnut populations—most of them previously unstudied—in China, Kyrgyzstan, Uzbekistan, Tajikistan, Pakistan, Iran, Turkey and Georgia. The locations spanned eight mountain ranges: Tien Shan, Gissar, Zaamin, Nurata, Pamir, Himalaya, Alborz and Trans-Caucasus.

To investigate the human variable in the genetic equation, the team examined the 10 dominant languages around the

sampled sites: Chinese-Mandarin, Uighur, Tibetan, Kyrgyz, Northern Uzbek, Tajik, Urdu, Persian-Iranian, Georgian and Turkish. The team broke these down into linguistic phyla (major families), branches and subgroups.

Findings were striking: The evolution of major regional languages correlated with the spread of related walnut genetics. This strongly suggested that travelers along the trade routes were planting forests as long-term food supplies.

**P**lant DNA analysis is complicated. In his Purdue office, Woeste walks me through the team's work to figure out the genetic makeup of the walnut. Intense and ebullient, he explains how they pulverized walnut leaves in a machine called a bead mill, and then "amplified" the extracted DNA in a machine that uses lasers to "read" it. "It's the same technology forensic scientists use to make 'DNA fingerprints' of criminal suspects," he says. The team used specialized software to analyze and interpret "neutral genetic markers," which are bits of DNA that evolve fairly rapidly. Repeats of these are the "microsatellites"—the tell-tale output that "helps us differentiate individuals and populations from those more distantly related," Woeste explains.

The equipment to amplify specific regions of DNA—those that identify particular characteristics—didn't exist at the

time of the original walnut project. And without the cost reductions resulting from work to map the human genome, the development of GPS technology to locate sample locations precisely, and advances in computer processing to handle the billions of bits generated, the project couldn't have been carried out.

Still, Woeste says research like the walnut study often gets the technological hand-me-downs. "Most of the funding today goes to medical and human genomics," he explains. "What we are using now came 20 years ago in human genomics. Who is really interested in walnuts?"

In Porano, Italy, more than 8,000 kilometers east of Indiana, there are scientists who are very much interested.

In the classically Umbrian Villa Paolina, I meet CNR-IBAF Director Angelo Massacci and lead walnut researcher Maria Elena Malvolti. Massacci explains that as well as undertakings like the walnut project, the group is working on others to "improve agroforest species' tolerance to climate change." This, he says, links the walnut project to the social importance of CNR-IBAF's research, funded by both universities and industries.

The next day Malvolti takes me to the genetics laboratory to meet one of the lead researchers, Paola Pollegioni, and archaeologist Stefano Del Lungo, who oversaw the ethnolinguistics of the study.

Pollegioni explains the parallels between genetics and culture that are central to the project's conclusions. "Language is a cultural marker, like microsatellites are markers for genetic diversity," she says. "If you speak the same language and are culturally similar, generally you eat in a similar way. And so you plant similar foods."

Then she talks about the concept of barriers, mostly geographic features like mountain ranges and deserts. "What is a barrier for humans and language is also a barrier for walnut," explains Pollegioni. "People can't interact, and walnuts can't naturally exchange pollen or seeds."

She points to one of the project's maps. It shows five significant South Asian barriers, and different colors signify different walnut gene pools. The green one, for example, includes China, and barriers here are the Karakorum Desert and the Himalayas. Heavier lines represent stronger barriers, like the Hindu Kush Mountains that separate China from Afghanistan, that also form the boundaries of languages. "For example, in China the word for walnut is identical in the east part and the west during the Han Dynasty," she says. This corresponds to the similarity in the distribution of walnut genetic data that the team found. The Han Dynasty covered most of eastern China and lasted roughly four centuries, until 220 CE, spanning much of the early Silk Roads era.

Del Lungo explains they found that where few or no great barriers exist, words for walnut are similar across languages. For example, the variations of the word walnut in Kazakh, Kyrgyz and Uzbek, all Turkic languages, change slightly with their respective renderings of *jañgaq*, *jangak* and *yong'oq*—all of which have arisen from the Old Turkic *yaq*, meaning near. On the other hand, the earliest designation for common walnut in ancient Chinese-Mandarin, in a region geographically separated from adjacent Kyrgyzstan by the Kakshaal Range, is far different: *hú táo* ("foreigner's peach"). In Pakistan, separated from China by the 7,700-meter-high Hindu Kush, it's *akhrot*. Among Tajiks, it is *gerdoo*. Afghans and Turkmens

Outside her home near Nanchong city, in southwest China's Sichuan province, Eld Li Suying dries walnuts. It is here where, thousands of years ago, nomadic Indo-European and proto-Turkic tribes helped spread walnuts to eastern China and westward, across the deserts and mountains as far away as Turkey.



adopted *g'oz* and *hoz*, from the Old Persian *gawz*. In Arabic, walnut is *juz*.

“Our analysis of barriers,” he adds, showed that they “coincided with large differences in human language,” and that, conversely, “similarities in human language over large geographic areas facilitated the dispersal of walnut and its introduction to new habitats.”

Simply stated, just as geographic barriers nurtured independent cultures and languages, so also did they block the natural spread of walnuts. “Our research did not specifically address *when* the geographic and linguistic barriers were crossed to introduce walnuts and walnut planting,” explains Woeste. “There are tantalizing hints, however, based on the linguistic evidence and our knowledge of human movement [and] conquest.”

Nor can the team be certain at this point what traits in walnuts the early travelers were looking for in making their selections for planting. Pollegioni speculates that “they had to pick ones with a thin shell and larger size ... and also maybe for taste.” But because walnuts do not cross-pollinate, “every time you use seeds to propagate, it is easy to lose an interesting characteristic,” she says.

“Because domestication starts with wild trees, what they did in Asia was to save the natural plot, at least what we think is the natural plot, and collect the seeds from selected trees with characteristics to develop new varieties,” Pollegioni explains. “Because there is no difference between wild and domesticated, we just use the term ‘natural.’”

Results of projects like the walnut-research effort are turning the spotlight on the term “domestication” itself, especially as it

applies to tree crops. To many scientists, it isn’t well defined.

It is distinct from cultivation, explains Woeste, “which implies selection and use but not in a way that fundamentally changes the relationship between another organism and humans.” For example, wheat is domesticated because there is no such thing as wild wheat. “In fact, if you let wheat plants try to go wild, they will die,” he says. “A domesticated plant is a plant that has forsaken evolution apart from human intervention and, in the process, become a different thing.”

This is why he prefers the term “afforestation” when it comes to walnuts. “It was afforestation followed by cultivation in some locations, and where walnut was previously found, it was probably cultivated and encouraged to reproduce. Cultivation can include afforestation.”

Although walnut’s strong, lustrous and workable wood may also have contributed to its dispersal, planting and maintenance, the researchers see little evidence that the afforestations were also for timber production. “Remains of walnut wood in the archeobotanical record are rare,” says Malvolti.

**T**hanks to technological advances, the past decade has seen an intensive uptick in studies that improve understanding of crop domestication and diversification. But much of the work continues to focus on annual crops, particularly cereals. That leaves out perennial crops—notably nut- and fruit-tree species—that often have diverse life histories and reproduction systems and are likely to evolve in ways distinct from annual crops.

“The generations of domestication [required for trees to

In the village of Khypsta, Georgia, a woman makes *churchkhela*, a traditional Georgian sweet of threaded walnuts, hazelnuts and raisins dipped in fruit juices and dried to produce a long, thin candy. The recent study shows that walnuts found in this area of Georgia are genetically similar to varieties in western China.



evolve] is a big reason for this lack of attention,” says Malvolti. Although it appears that “humans began domesticating annual crops and trees at roughly the same time, the number of crop generations of human selection and improvement differs greatly for annual versus perennial plants.” Hence, she reckons, humans are not anywhere near the same milestones with understanding trees as for the annual crops.

“Typically, the domestication of perennial species has resulted in fundamental changes in the mode of reproduction, like clonal propagation,” Malvolti notes. For example, “olives in their native state are virtually inedible by humans. So propagating olive trees is a vegetative process. Successful trees are not grown from seeds, but rather from cut roots or branches buried in the soil and allowed to root, or they are grafted onto other trees. This allowed farmers to select and multiply rare types that had traits they valued—like lots of oil, large fruit size and non-bitter fruit. Thus all that is needed is to find a single, unusual type that you really like, and it can be propagated continuously.”

Bar-Yosef thinks when it comes to the word “domestication,” people get too attached to it. “Forget about domestication,” he says. “You had to grow wild cereals 800 years to get 60 percent of a field in domesticated yields, maybe 1,000 years to get them fully domesticated. [Early farmers] didn’t know genetics so they had to do it for a thousand years before the genetics changed enough.”

Even optimistically, a walnut tree takes eight years to bear its first



During the harvesting of walnuts near Arslanbob, it is the men of the family who usually climb the trees and shake their branches, releasing the walnuts to the forest floor where women and children collect them.

Bags of walnuts are left on a makeshift pallet during the harvest season in Arslanbob. To pay for leasing a section of the forest, families leave half of their yield behind for the forestry department. In a good year, one family can harvest two to three tons.



fruit. That would mean, in theory, it would take 8,000 years before walnut genetics would change to the point of domestication. Yet to be useful to humans, the walnut does not need to be domesticated. There are other instances of humans caring for trees in their natural state. “The habit of tending trees by hunter-gatherers is well recorded, for example in the Ituri Forest” in the Democratic Republic of Congo, Bar-Yosef says. “The same could have happened with walnuts or other species of trees that do not require a mutation to become domesticated.”

**G**enetic manipulation (GM) could

change that. In December 2015, scientists at the University of California, Davis, sequenced for the first time the genome of a commercial walnut variety. That could drastically shorten breeding cycles and help select for desired traits like insect and disease resistance and drought tolerance.

Although this looks attractive, says Charles Leslie, director of the Walnut Improvement Program at the university, “walnut is a crop that’s marketed internationally, particularly in Europe, Japan and Korea—places that have a lot of pushback against genetic engineering.”

And GM won’t help in determining walnut’s role in ancient human tree-crop management. What is needed is to sample a truly isolated natural walnut population for comparison—perhaps from a highly circumscribed area such as Bhutan, where



a “pure“ form of walnut may have evolved without external influence, Woeste says.

“We think we have the genetic tools available now to learn a great deal about how tree crops have changed over time,” he continues. “My hope is that new technologies will allow us to extract DNA from very old samples that we can analyze, much as people have extracted DNA from Neanderthal bones. This will give us an unprecedented look back in time to see what kind of walnuts people grew and used thousands of years ago.”

Bar-Yosef maintains that the matter of origin must also be settled through research. “Once they were planted and dispersed, you can find them in various regions, connected or not,” he says, noting the importance of the “communication roads”—the “Silk Roads”—highlighted in the walnut projects findings.

And beyond walnuts, the relationships of people to propagation may not be unique. Researchers have studied the genetics of other nut crops prevalent in the region like hazelnut and pistachio, but haven’t yet written papers about the relationship between “human cultural history and the genetics of their favorite crop,” says Woeste.

Meanwhile, the walnut project is expanding west to understand “how humans have altered walnut over time in Europe,” says Malvolti. The research will also look into “how

walnut adapts to new environments—including manmade environments—and what more we can learn about how, when, where and why humans came to use tree crops.”

As at its origins, the work is less about the mysteries of past human relationships with walnuts and more about new research directions worldwide. Challenges include developing alternative tree-cropping methods to reduce the devastating impact of the exploitation of tropical hardwood forests and finding techniques to enable nut and other crops to survive emerging conditions of climate change.

Our hungry Silk Road traveler who stopped to crack a walnut two millennia ago was probably unaware that his humble sustenance might mean anything to the future of humankind. That is, unless he was saving some of his snack to plant a new forest along his way. 🌍



**Graham Chandler** ([www.grahamchandler.ca](http://www.grahamchandler.ca)) writes about archeology, aviation and energy. He received his doctorate in archeology from the University of London and lives in Calgary, Alberta.



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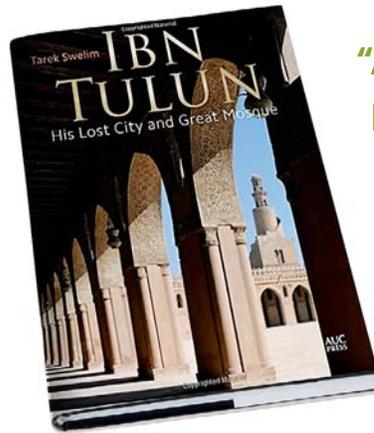
Pistachios: N/D 13  
 Hazelnuts: S/O 14  
 Silk Roads: J/A 88



# REVIEWS & RECOMMENDATIONS

Without endorsing the views of any of the authors, the editors encourage reading as a path to greater understanding.

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**“Ahmad Ibn Tulun started to build his mosque; he said he wished to build a structure that if Misr [the metropolis] was burned down it would survive, and if it were inundated it would survive.”**

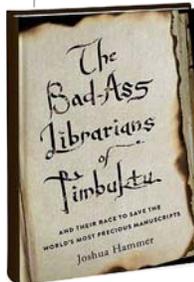
—Ibn Duqmaq

### Ibn Tulun: His Lost City and Great Mosque

Tarek Swelim. 2015, AUC Press, 978-9-77416-691-4, \$49.95 hb.

This elegant, richly illustrated volume covers the history, architecture, folklore and cultural significance of Africa’s “longest surviving” mosque. Built by Abbasid Governor Ahmad Ibn Tulun between 867 and 879, it was the centerpiece of his new city of al-Qata’i, northeast of Fustat, the earliest Arab settlement in Egypt (both now part of Cairo). Tarek Swelim comprehensively documents the building’s “glorious architecture,” focusing on its elegant inscriptions, pointed arches (among Egypt’s first), famed scroll-shaped minaret and more. He also examines periods of neglect, e.g., during the Crusades of the 13th century when Mamluk sultans had their hands full elsewhere, and restoration, such as the work undertaken early in the 20th century by King Fuad. Filled with modern and historical images, maps and illustrations, including 3-D renderings of the structure throughout its history, the book’s design provides visual context for the mosque’s important role in the history of Egypt and Islamic architecture.

—TOM VERDE



### The Bad-Ass Librarians of Timbuktu: And Their Race to Save the World’s Most Precious Manuscripts

Joshua Hammer. 2016, Simon & Schuster, 978-1-47677-740-5, \$26 hb.

Joshua Hammer visited Abdel Kader

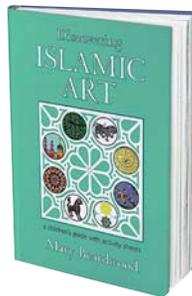
Haidara in Mali several times over a decade to craft a story about how the young man preserved, protected and saved a fabulous collection of ancient Islamic and secular manuscripts. Designated the guardian of his father’s extensive collection upon his death in 1981, Haidara grew to appreciate their value. Funded by Saudi Arabia and Kuwait, he travelled for years throughout the Sahara and along the Niger River seeking out and salvaging tens of thousands more texts on behalf of the Ahmed Baba Institute in Timbuktu. The collection eventually totaled 377,000 manuscripts in 25 libraries and conservation centers

in the capital, Bamako. In 2012, al-Qaeda in the Maghreb seized control of Timbuktu and northeastern Mali. Haidara knew the irreplaceable manuscripts faced destruction, so he and his fellow librarians hatched a high-risk plan to spirit the entire collection to the safety of the capital in the southwest. Dodging militants’ checkpoints, intrepid drivers smuggled out 270,000 manuscripts in metal trunks; 100,000 more went by donkey cart and boat. Not one was lost.

—GRAHAM CHANDLER

images, including photographs of artifacts and sketches that reveal the building blocks of Islamic art: geometric patterns, arabesques and calligraphy. The book invites young readers to take an active role in learning through a variety of hands-on activities. In addition to graphic organizers that help readers consolidate their learning, it is filled with word hunts, decoding activities and even spaces for students to draw their own pictures using the motifs they are reading about. Readers who engage as actively as this book invites them to do will learn a great deal.

—JULIE WEISS

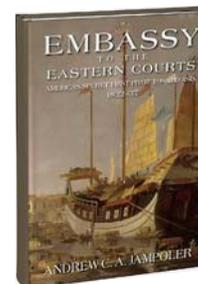


### Discovering Islamic Art: A Young Reader's Guide with Activities

Mary Beardwood. 2015, Medina Publishing, 978-1-90933-904-0, £10 pb.

This thin volume presents young readers with both the basic

elements of Islamic art and the historical and cultural contexts in which they developed. Created by a former teacher, it is educational and fun. The text is interspersed with an abundance of



### Embassy to the Eastern Courts: America's Secret First Pivot Toward Asia 1832-37

Andrew C.A. Jampoler. 2015, Naval Institute Press, 978-1-61251-416-1, \$44.95 hb.

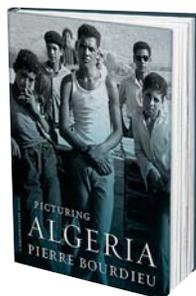
After the American Revolution, the maritime

trade of the us was naturally concentrated in the Atlantic, Caribbean



and Mediterranean basins. But, surprisingly, there were secret official American overtures as early as 1832 to establish trade relationships with far-off Asian powers. Edmund Roberts, a New Hampshire shipowner, undertook secret diplomatic missions at the behest of President Andrew Jackson to build commercial relationships with Oman, Siam (Thailand), Cochin China (southern Vietnam) and Japan. This meticulously researched book covers Roberts's two voyages to Asia in 1832-34 and 1835-37. His first resulted in trade treaties with Siam (under King Rama III) and Oman (under Sultan Sayyid Sa'ïd). His negotiations with Cochin China were unsuccessful. Roberts returned to the region the following year. His second series of talks with Cochin Chinese leaders bore no fruit and, reaching China proper, he was unable to negotiate with leaders due to the onset of an illness that led to his death in 1836. He was buried in a small East India Company cemetery in Macao. He never reached Japan. But his diplomatic missions and treaties with Oman and Siam opened the door to America's expanding role in Asia in the years to come.

—ROBERT W. LEBLING



**Picturing Algeria**

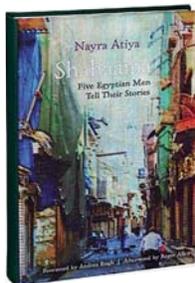
Pierre Bourdieu, Franz Schultheis and Christine Frisinghelli, eds. 2012, Columbia up, \$75 hb, \$30 pb.

Anyone interested in one of the most influential social scientists of

our day, Algeria, colonialism or documentary photography will benefit from *Picturing Algeria*, first published in French in 2003. The book revolves around some 150 photographs that Bourdieu took in Algeria in the late 1950s. Thematic sections deal with the effects of war and societal crises, Bourdieu's notions of "Habitat and Habitat," gender and poverty. In each, excerpts from Bourdieu's writings speak to rather than about the accompanying photographs. These sections are bookended by a 2001 interview with Bourdieu, a sequence of imagery and an essay by Frisinghelli. The effect is a cumulative exploration of Bourdieu's approach to research, his insights into the effects of disloca-

tion and disruption, and his views on the role he plays as the man behind the camera.

—LEE LAWRENCE

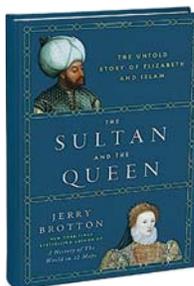


**Shahaama: Five Egyptian Men Tell Their Stories**

Nayra Atiya. 2016, Syracuse up, 978-0-81563-434-8 hb and 978-0-81561-061-8 pb, \$49.95 and \$19.95.

In 1982, Nayra Atiya wrote an award-winning oral history, *Khul-Khaal: Five Egyptian Women Tell Their Story*. This is the follow-up, based on interviews she recorded with Egyptian men in the same period and titled *Shahaama* after an Arabic word for doing the honorable thing. As Atiya tells it, personal circumstances and losing the original recordings for several years held the book back until now. The men, interviewed in their middle age, came of age under Gamal Abdel Nasser, the grandparents of the youth of Tahrir Square. There is optimism in their stories that one doesn't hear much today. But this is a limited view: With the exception of a fisherman, the men come from Egypt's then middle class. They are of different religions, a calculated decision on the part of the author, although religion as a source of political tension is not addressed. Nonetheless, these stories are compelling slices of life, depicting personal lives of 20th-century Egypt, particularly the early 20th century when the men talk of their childhoods.

—ALIA YUNIS



**The Sultan and the Queen: The Untold Story of Elizabeth and Islam**

Jerry Brotton. 2016, Viking, 978-0-24100-402-9, \$28 hb. (Published in the UK as *This Orient Isle*.)

In 1570, with Catholic Spain and Rome breathing down her Protestant neck, Britain's Elizabeth I turned to her enemies' enemies, Morocco and Ottoman Turkey. The treaties and trade deals she struck with these sultanates infuriated her Continental rivals while enriching Tudor England with "exotic commodities from Islamic lands that included cotton, rhubarb, currants . . . and intricate textiles, as well as the Moroccan sugar," which Eliza-

beth consumed "in such copious quantities" that it blackened her teeth, writes historian Jerry Brotton. As "Sultana Isabel" (her Moroccan title) dispatched envoys to major Muslim capitals, "Tudor fascination with the Islamic world" infused English culture with clothing and carpets "after the Turkish fashion" and influenced the works of Marlowe and Shakespeare (e.g., *Othello*), among others. This engaging book challenges the East vs. West paradigm, articulated by later English writer Rudyard Kipling, that "never the twain shall meet!"

—TOM VERDE



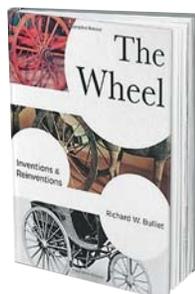
**Talking Through the Door: An Anthology of Contemporary Middle Eastern Writing**

Susan Atefat-Peckham, ed. 2014, Syracuse up, 978-0-81563-347-1, \$34.95.

The title begs the question: Is the

American door through which writers of Middle Eastern origin must pass open or closed? By the lights of how editor Atefat-Peckham anthologized these pieces, the answer depends on the curiosity of each reader. Some may like immigrant-identity poetry more than short fiction set in the old country, or gentle family memoir more than esoteric philosophical fragments inspired by the 11th-century poet Ibn Hazm. So, by that measure, there is something for everyone—works by native-born and immigrant Americans, be they Jewish, Christian or Muslim. Widely published writers like Naomi Shihab Nye share pages with lesser-known authors. The strongest piece may be a thoughtful travelogue by Pauline Khalidas about her return to Cairo as an adult a quarter-century after leaving as a child. "No clear distinctions," she writes about her self-consciousness at a beach among Alexandrians and Europeans, torn in half over what to wear and what to say. "*Egyptian-Not Egyptian*," is her emphatically italicized answer.

—LOU WERNER



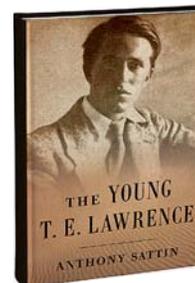
**The Wheel: Inventions & Reinventions**

Richard W. Bulliet. 2016, Columbia up, 978-0-23117-338-4, \$27.95 hb.

Ask anyone to name humankind's greatest invention

and most respondents will say the wheel—it transformed society forever. In this well-illustrated volume, Richard Bulliet cogently argues that wheels really weren't all that revolutionary: Unlike the horse or the elephant, they needed even terrain to work well, they broke down and they required motive power. And he challenges the generally accepted belief that wheels evolved from simple rollers in Mesopotamia some 5,500 years ago. He proposes they were born in the mines of the Carpathian Mountains in Central Europe half a millennium before that. He presents and explains little-known facts that will intrigue technology buffs, and doesn't forget the psychological aspects of wheel culture, addressing, for instance, European (male) aristocracy's initially derisive attitudes toward riding in carriages. Significantly, he directly tackles the theories of prominent scholars like Stuart Piggott and Jared Diamond on the origins and early applications of wheel technology, which will surely stimulate lay readers' thinking and spark debate among academics.

—GRAHAM CHANDLER



**The Young T.E. Lawrence**

Anthony Sattin. 2015, W.W. Norton & Company, 978-0-39324-266-9, \$28.95 hb.

British journalist Anthony Sattin tells the lesser-known, yet compelling story of "Lawrence of Arabia." Lawrence's

love of medieval history and Crusader castles led him in 1908, at age 20, to the Levant, igniting a passion for Arab culture. When he was 26, Lawrence wrote to his mother that he had spent so much time in the Middle East he would "have such difficulty in becoming English again." Sattin cites Lawrence's affinity with locals to help explain his character. "He is our brother, our friend, and leader," said a young Arab who worked with Lawrence at a dig at Carchemish in Syria from 1911 to 1913. "He takes such an interest in us and cares for our welfare. We love him because he loves us." By 1919 Lawrence was known worldwide for his involvement in the Arab revolt against the Turks. Questioned about that, he confessed to a purely personal motivation: "I liked a particular Arab very much and I thought that freedom for the race would be an acceptable present." Sattin's extensive use of letters and diaries, as well as accounts from Lawrence's close friends, offer new insights into the man behind the legend.

—PINEY KESTING



# EVENTS & EXHIBITIONS

## CURRENT / MARCH

Highlights from our searchable listings at [aramcoworld.com](http://aramcoworld.com)



**Painting Across Generations**, featuring works by Palestinian artist and scholar Samia Halaby, Syrian artist Safwan Dahoul, Sharjah-based artist Thaier Helal, Damascus-born artist Tammam Azzam and Iranian artist Afshin Pirhashemi, showcases some of the recent developments in art that are steering a new wave of painting in the Middle East. This selection of artists represents a multigenerational lineage of ongoing experimentation in the region. Halaby, for example, demonstrates how colorist compositions can recreate the sensations of nature, while Azzam emphasizes the formal properties of painting to approximate the devastation of the Syrian war as he documents the human toll of the conflict. Ayyam Gallery, **Beirut**, through March 31.

## CURRENT / APRIL

**The Heritage of the Old Kings: Ctesiphon and the Persian Sources of Islamic Art** looks at the vast landscape of some of Iraq's most important ruins, south of Baghdad, and its legacy in Islamic arts and culture. Dominated by the monumental vaulted hall of the royal palace, the Taq-e Kesra, the city today is an emblem of the grandeur and downfall of the Persian Sassanid empire, which for centuries competed with Rome and Byzantium. In the seventh century CE, however, the conquests by Arab armies changed the balance of power. Culturally, too, a transformation took place, and from it emerged some of the first of what is today called "Islamic art." Belonging as they do to a cultural legacy that is shared between Iraq and Iran—and that is also under threat—the exhibit raises timely questions for the present day. Pergamonmuseum, **Berlin**, through April 2.

**One God and Three Religions: Religious Tolerance in the Land of the Nile** sheds light on coexistence in Egypt of the three monotheistic religions—Judaism, Christianity

and Islam—from the beginning of the Roman era until the Fatimid Caliphate in the 10th century CE. This coexistence brought forth fine arts representing the daily lives and religious beliefs of societies at the time, which led to the acceptance of others and their differences. The exhibition includes a number of panels that reflect the religious concepts and the links among the three faiths, in addition to their mutually intertwined influences. Bibliotheca Alexandrina, **Alexandria**, Egypt, through April 15.

**Kader Attia: Reflecting Memory**, by the internationally acclaimed French-Algerian artist, is based in part on his research in the collections of Northwestern University's Herskovits Library of African Studies and interviews with university faculty across several disciplines. Conceived as an installation, the exhibition features collage, sculpture and an extended film-essay. Taken as a whole, the works expand on Attia's long-term exploration of trauma and repair of the body and of society and probes the legacies of colonialism, slavery and xenophobia in our time. Block Museum of Art, **Evanston, Illinois**, through April 16.



## Embroidered Tales and Woven Dreams

presents a "peoples' history" of the Silk Road through the traditionally embroidered textiles found along the ancient trade routes through Central Asia and the Near East. Here are masterpiece examples of traditional local weaving and embroidery, as well as examples of the finer fabrics available from the ports of Cambay and the markets of Samarkand. In a sense, the handwoven, embroidered articles on display are stitches in the tapestry of the Silk Road, presenting a record of the colors of natural dyes, patterns, motifs and the trade of woven cotton, wool and silk. The exhibition brings together several collections that highlight the abstraction and sophistication with which these pieces were made. Guest curator Marian Bukhari tells the story of the communities who embroidered the history of the Silk Road, presenting the context for their art. The Brunei Gallery, School of Oriental and African Studies, University of **London**, through March 25.

*Ikat chapan* from Samarkand, 1920-1930.



**Drawing in the Diaspora:** *Comic Art & Graphic Novels* by Leila Abdelrazaq. Leila Abdelrazaq's comics and illustrations fuse art and activism. Her experiences as the daughter of a Palestinian refugee have informed her work throughout her artistic career, shaping her subject matter and storytelling. The exhibition includes original illustrations from her zines and comics, including her debut graphic novel, *Baddawi*, about her father's coming-of-age journey in a refugee camp, and her short comic *Mariposa Road*, which ties the struggles of undocumented immigrants with the imprecise nature of Palestinian citizenship. Her other works focus on political movements in Chicago and across the us, from the fight to free Rasmea Odeh to the #Arabs4BlackPower network. Arab American National Museum, **Dearborn, Michigan**, through April 19.

#### CURRENT / MAY

**Reverberating Echoes:** *Contemporary Art Inspired by Traditional Islamic Art at the Graduate Theological Union* (GTU)'s Doug Adams Gallery highlights the work of seven American artists of diverse interests, backgrounds and training. Inspired by traditional Islamic art, their works echo historic esthetic concerns, often advancing human knowledge and understanding by experimentation with new technologies. Traditional concerns focus on the spatial dimension and the effects of light on form, the

association of Arabic language and script with revelation, and patterns in the plane, exploring the nature of two-dimensional space. Drawing upon a shared Islamic visual heritage of calligraphy, floral ornament, geometric pattern, architectural forms and figural imagery, contemporary works selected for this exhibition include both traditional media (such as glazed ceramics, woven textiles, works on paper and carved wood) and new technologies (such as dye sublimation, 3-D printing, computerized design and LED projection). GTU, **Berkeley, California**, through May 26.

#### CURRENT / JUNE

**Secrets of the Sea:** *A Tang Shipwreck and Early Trade in Asia* brings the precious contents of a shipwreck discovered off Belitung Island in the Java Sea to us audiences for the first time. The remarkable cargo of spice-filled jars and more than 60,000 ceramics was produced in China during the Tang dynasty (618–907 CE), and it included luxury items of gold and silver. Selected objects illustrate the story of the active exchange of goods, ideas and culture in Asia more than a thousand years ago. The exhibition sheds light on how this discovery—one of the most important archeological revelations of the 20th century—has changed the way we understand ninth-century Asia. Asia Society of **New York**, through June 4.

**Splendours of the Subcontinent:** *A Prince's Tour of India 1875–76*. On November 8, 1875, Albert Edward, the Prince of Wales, arrived at Mumbai (formerly Bombay) in India for a four-month tour of the subcontinent. Traveling the length and breadth of the country, he exchanged gifts with more than 90 rulers, returning to Britain with a ship full of bejeweled swords, shields, jewelry, caskets and vessels that are now part of the Royal Collection. The exhibition recounts this extraordinary historical event through some of the beautiful gifts from parts of modern-day India, Pakistan, Nepal and Sri Lanka, displayed alongside watercolors and photography from the tour. Cartwright Hall Art Gallery, **Bradford, UK**, through June 18.

#### COMING / MARCH

**Shahzia Sikander:** *Parallax* presents the internationally recognized artist's immersive 15-minute, 14-meter-wide video animation melding her contemporary take on Indo-Persian miniature painting with 21st-century digital technology that she created for the 2013 Sharjah Biennial. The multichannel installation, composed of hundreds of digitally animated images taken from Sikander's watercolor, gouache and ink paintings, and featuring atmospheric music and sound by Chinese-born international composer Du Yun, fills the entire Henry R. Luce Gallery. The work focuses on the Strait of

Hormuz—the narrow passage where the UAE, Saudi Arabia, Oman and Iran almost meet, and where a fifth of the world's oil passes. The area's historical tensions inspired *Parallax*, whose drawn elements come together to create dissonance and disruption. **Honolulu Museum of Art**, March 16 through July 30.

#### COMING / APRIL

**The World Made New** explores five artists' reconceptions of history and landscape, including works by Turkish artist İz Öztat. Their diverse narrative practices blend autobiographical details with personal mythologies of birth, transfiguration and constructed identity. Islands, markers and symbols are recurring motifs. Ritual and performativity emerge as points of connection. The viewer is taken on a journey through the natural environment and human society fraught with disorienting coincidences, displacement, rupture and imaginative leaps. Pi Artworks, **London**, April 7 through May 20.

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