

MOSAICS

AramcoWorld

2016 GREGORIAN
and
1437 – 1438 HIJRI
CALENDARS



THE MOSAICS OF KHIRBAT AL-MAFJAR

Written by **HAMDAN TAHA** and **DONALD WHITCOMB**

A few kilometers north of Jericho, at more than 12,000 years old one of the oldest cities in the world, lie the ruins of a palace with the largest and most artistically accomplished mosaic floor to survive from the ancient world. Composed of 38 intricate panels covering a space over 30 by 30 meters square, the mosaics of the audience hall and bath at Khirbat al-Mafjar (“Ruins of Flowing Waters”; also called “Qasr Hisham” or “Hisham’s Palace”) are masterpieces of early Islamic artistic design.

Dating from the first half of the eighth century, the time of the Umayyad caliphate, about a century after the death of the Prophet Muhammad, the patterns are mostly abstract, but a few use pictorial elements. Drawing from both Byzantine and Sasanian (Persian) traditions, the artists at Khirbat al-Mafjar created a new, exuberant esthetic of intricate geometric and floral motifs. Many are based on infinitely repeatable patterns, a technique that later came to be characteristic of geometric art across the Islamic world; others are based on textile arts and fresco painting.

Until recently, few of these patterns had been published. In 2010 the Palestinian Department of Antiquities and Cultural Heritage uncovered, cleaned and assessed the state of conservation of these mosaics. The floor was comprehensively photographed for the first time. A small museum opened last year, in partnership with the University of Chicago’s Oriental Institute.

The ruins at Khirbat al-Mafjar were discovered in 1894 and first excavated in the 1930s and ’40s by the Palestinian Department of Antiquities under Dimitri Baramki and Robert Hamilton. Baramki identified the patron of the site as Umayyad Caliph Hisham ibn ‘Abd al-Malik, who ruled from 724 until 743 CE. This elaborate complex stood for only a few years, however, until the audience hall and bath were largely ruined by an earthquake in 748 or 749. In the 1950s and ’60s, further archeological work and some restoration were carried out under Jordanian rule, but the site was abandoned under Israeli occupation from 1967 to 1994. Beginning in 1996 the Palestinian Department of Antiquities and Cultural Heritage revived conservation and archeological efforts.

In addition to the audience hall, Khirbat al-Mafjar included within its 60-hectare complex a large, two-story palace, a multi-room bath, a mosque, a monumental fountain, a perimeter wall and residences. It served as an occasional winter residence for the caliph, and it was part of an array of such palaces (*qusur*) throughout Syria, Jordan and Palestine that served variously as caravan stations, royal or elite residences, trading posts and security outposts. Like Khirbat al-Mafjar, many developed irrigation systems that allowed them to continue as agricultural estates.

Among its ruins, the audience hall and bath of Khirbat al-Mafjar is the best-preserved and the most striking monument. The exterior walls have 11 semicircular mosaic-tiled apses (or exedra); these half-domed structures echoed the interior’s larger

PATTERNS OF MOON, PATTERNS OF SUN

Written by **PAUL LUNDE**

THE HIJRI CALENDAR

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

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

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

This gives the lunar year 354 days, 11 days fewer than the solar year. ‘Umar chose as the epoch for the new Muslim calendar the *hijra*, the emigration of the Prophet Muhammad and 70 Muslims from Makkah to Madinah, where Muslims first attained religious and political autonomy. The *hijra* thus occurred on 1 Muharram of the year 1 according to the Islamic

“IT IS HE WHO MADE THE SUN TO BE A SHINING GLORY, AND THE MOON TO BE A LIGHT (OF BEAUTY), AND MEASURED OUT STAGES FOR HER, THAT YE MIGHT KNOW THE NUMBER OF YEARS AND THE COUNT (OF TIME).”

—Qur’an 10:5 (English by Yusuf Ali)

and higher domes, supported by 16 massive piers. This structure is unique for late Byzantine and early Islamic architecture. The walls and apses were richly covered with carved stone and stucco panels—the earliest known use of stucco in the region—and there may well have been panels of glass mosaics as well.

While the earliest examples of mosaics found in the Jericho region date to the Hellenistic, early Roman and Byzantine periods, the art of mosaic flourished particularly during the Umayyad period. Some of the finest Umayyad wall mosaics, sometimes made of glass tesserae, survive in the Dome of the Rock in Jerusalem and the Great Mosque in Damascus. Khirbat al-Mafjar shows that the mosaic tradition continued with white mosaic paving into the subsequent Abbasid and Fatimid periods.

The entire floor of the audience hall is paved with colored mosaics. The carpets—as the floor panels are called—divide the hall into circular and rectangular spaces that appear to reflect the architectural superstructure, especially the majestic circular carpet under the central dome. It is likely that the hall served several purposes, from an audience or reception area (*majlis*) to a room for social events, including musical performances, to an extravagant frigidarium, or cool room, attached to the smaller heated rooms of the bath along its north wall.

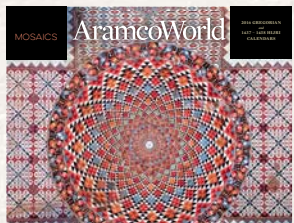
Although many Umayyad mosaics are now known in the region, none surpass the mastery of art and craft at Khirbat al-Mafjar. Here, brilliant colors were woven into common motifs to fuse into a new fashion, one that was complemented by no-less-intricate wall coverings of colored stone and stucco carvings in paneled surfaces, columns and other architectural elements; there is evidence of painted frescos on upper floors.

When photography, film and conservation studies of the floor were completed, the mosaics were covered with Geotextile and sand for conservation until a permanent, protective shelter can be built over them. Meanwhile, excavations and research continue at other places in the Khirbat al-Mafjar complex. It is hoped that with suitable protection and conservation, the mosaics may one day be uncovered for public viewing, making Khirbat al-Mafjar a prime destination for tourists and historians. 🌐

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www.jerichomafjarproject.org



On the cover: A triumph of mosaic art, this great medallion is arguably the most complex geometric mosaic of the early Umayyad period. It marks the center of the audience hall at Khirbat al-Mafjar with a mesmerizing, swirling basket pattern some 5½ meters in diameter. Presumably built to lie beneath a high central dome, the mosaic features a design of nine concentric, 24-point stars. Internally perfect in its symmetry, it nonetheless lies, perhaps idiosyncratically or perhaps intentionally to enhance a feeling of movement, a few degrees off perfect alignment with the four axes of its flanking mosaics.

PHOTO: COURTESY OF THE DEPARTMENT OF ANTIQUITIES AND CULTURAL HERITAGE

OF PALESTINE. EDITOR: RICHARD DOUGHTY. DESIGN: GRAPHIC ENGINE DESIGN STUDIO. PRINTING: RRDONNELLEY/WETMORE.

calendar, which was named “hijri” after its epoch. (This date corresponds to July 16, 622 CE, on the Gregorian calendar.) Today in the West, it is customary, when writing hijri dates, to use the abbreviation AH, which stands for the Latin *anno hegirae*, “year of the hijra.”

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

THE GREGORIAN CALENDAR

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

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

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

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CONVERTING YEARS AND DATES

The following equations convert roughly from Gregorian to *hijri* years and vice versa with one deficiency: The results show only the year in which the other calendar’s year begins. For example, 2016 Gregorian begins in Rabi’ I, the third month of hijri 1437, and it ends in Rabi’ II, hijri 1438; however, the equation’s result is 1437.

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

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

To convert a precise date in any Gregorian or hijri year, online calculators are available on a number of websites. Find them by searching “hijri date conversion.”



RABI' I 1437-RABI' II

SAT

FEBRUARY

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

2 22

King Abdullah ibn 'Abd al-'Aziz Al-Sa'ud passes away; Salman ibn 'Abd al-'Aziz crowned king of Saudi Arabia 2015

Inset: This speculative model of the audience hall shows a clerestory that would have admitted light. There are no contemporary depictions or descriptions of the hall, which was built in the first half of the eighth century and ruined soon afterward by an earthquake in 748 or 749 CE.





FEBRUARY

RABI' II - JUMADA I

SUN	MON	TUE	WED	THU	FRI	SAT
	1 22	2 23	3 24	4 25	5 26	6 27
	India's Gurkani (Mughal) Empire enters classical age under Akbar 1556	Colombian-Arab singer Shakira born 1977	Egypt's singing legend Umm Kulthum passes away 1975			
7 28	8 29	9 30	10 1	11 2	12 3	13 4
			Alhambra declared national monument of Spain 1870			
14 5	15 6	16 7	17 8	18 9	19 10	20 11
King 'Abd al-'Aziz of Saudi Arabia meets us President Roosevelt 1945			Existentialist Abdel Rahman Badawi born 1917			Archeologist Sir Leonard Woolley passes away 1960
21 12	22 13	23 14	24 15	25 16	26 17	27 18
Bangladesh Language Movement marks preservation of Bangla 1952		Aziz Ansari, actor and comedian, born 1983				Franciscus Raphelengius, Europe's first printer of Arabic outside of Rome, born 1539
28 19	29 20	JANUARY		MARCH		NOTES:
		1 2	1 2	3 4 5		
		3 4 5 6 7 8 9	6 7 8 9 10 11 12			
		10 11 12 13 14 15 16	13 14 15 16 17 18 19			
		17 18 19 20 21 22 23	20 21 22 23 24 25 26			
		24 25 26 27 28 29 30	27 28 29 30 31			



Top: Interaction among smooth curves, static squares, hub-like circles and lines that intertwine among them like thorny vines gives this detail of floor Panel 8, in the west-central part of the hall, an almost-living tension. The intricacy of this and other patterns in the hall pushed the boundaries of the mosaic artist's ability to render complex symmetry with precision; as a result, the slight deviations from mathematical perfection tend to reinforce the organic effect.

Inset: The full design of Panel 8 is shown here edged by its four surrounding panels.



MARCH

JUMADA I–JUMADA II

SUN	MON	TUE	WED	THU	FRI	SAT
FEBRUARY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	APRIL 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	1 21	2 22	3 23	4 24	5 25
6 26	7 27 Baha ad-din ibn Shaddad, historian and biographer of Saladin, born 1145	8 28	9 29 Traveler George Sandys born 1577	10 1	11 2	12 3 Palestinian-American poet and writer Naomi Shihab Nye born 1952
13 4	14 5	15 6	16 7	17 8	18 9	19 10 Abu Said Uthman III, Sultan of Morocco, ascends to the throne 1398
20 11 Tunisian independence 1956	21 12	22 13	23 14	24 15	25 16	26 17
27 18 Easter	28 19	29 20	30 21 Aerial mapping of eastern Saudi Arabia begins 1934	31 22	NOTES:	



Top: Facing east to what was once a grand entryway some 30 meters at the other end of the audience hall's main axial nave, the design of what has been designated Apse v is the most complex and visually prominent of the 11 apse mosaics. It shows one of only two purely representational images in the hall's mosaic floor: a central panel with a sprout, ethrog (citron) and knife—a motif common at the time also in Christian and Jewish structures. The radial, basket-like motif, shown here in the foreground, visually links the apse to the much larger, central basket motif under the main dome.

Inset: This wider view of Apse v shows its relationship to the axial nave, top left. Its original back wall would have been much higher and surmounted, like the others, with a half dome.



APRIL

JUMADA II – RAJAB

SUN	MON	TUE	WED	THU	FRI	SAT
NOTES:			MARCH	MAY	1	2
			1 2 3 4 5	1 2 3 4 5 6 7	23	24
			6 7 8 9 10 11 12	8 9 10 11 12 13 14		
			13 14 15 16 17 18 19	15 16 17 18 19 20 21		
			20 21 22 23 24 25 26	22 23 24 25 26 27 28		
			27 28 29 30 31	29 30 31		
3	4	5	6	7	8	9
25	26	27	28	29	1	2
Topkapı Palace opens as a museum 1924	Arabian Nights translator Antoine Galland born 1646				Heinrich Schliemann begins to dig for ancient Troy 1870	
10	11	12	13	14	15	16
3	4	5	6	7	8	9
	Dead Sea Scrolls discovery announced 1948				Ottoman architect Sinan born 1489	
17	18	19	20	21	22	23
10	11	12	13	14	15	16
			France's René Caillié is first European in Timbuktu 1828			
24	25	26	27	28	29	30
17	18	19	20	21	22	23
Mamluks admitted to French Imperial Guard 1815		Tatar literary icon Gabdulla Tuqay born in Kazan 1886	DJ and TV host Casey Kasem born 1932		Mu'awiya, founder of Ummayyad Dynasty, passes away 680	



Top: The “basket-weave mosaic” at the center of the hall is one of the most complex and visually hypnotic pattern designs known from the period. Each of its tessera is the same size, and the artisans produced their effect by gradually increasing the number of tesserae in each design element. At the center is a circular marble drain cover.

Inset: Complementing the 5½-meter-diameter central motif is a half-meter-wide band that provides a border for the basket-weave design. In it, a seemingly three-dimensional ribbon curls and flows around plants and other mostly organic elements.



MAY

RAJAB – SHA'ABAN

SUN	MON	TUE	WED	THU	FRI	SAT
1 24 First tanker loads Saudi crude oil at Ras Tanura 1939	2 25	3 26	4 27 Egyptian literary figure Soheir el-Calawawy passes away 1997	5 28	6 29 Pope John Paul II visits Damascus Mosque 2001	7 30
8 1	9 2	10 3	11 4	12 5	13 6 Fakhr al-Din Ma'n, a Druze Prince from Mount Lebanon, executed 1635	14 7 Djerba becomes part of regency of Tunis under Ottoman rule 1560
15 8	16 9	17 10 Luchtman, early printer of Oriental languages, registers as bookseller 1683	18 11 Magtymguly Pyragy, Turkmen poet-hero, born 1724	19 12 Atatürk begins Turkish War of Independence 1919	20 13	21 14
22 15	23 16	24 17	25 18	26 19	27 20	28 21 Ottoman Sultan Selim II, son of Sultan Suleiman, born 1524
29 22 Sultan Mehmed II takes Constantinople 1453	30 23	31 24	APRIL 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	JUNE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	NOTES:	



Top: In this detail photo, Panel 15, located in the northeast quadrant of the hall, shows a vibrant, four-point pattern of squares, crosses and octagons whose hard lines are softened by thin, flower-like bands. The effect resembles embroidery and other textile patterns. Its structure is a four-point pattern of tessellation that would in later centuries be developed in greater complexity in homes, palaces, mosques and *madrassahs* (schools) throughout the Islamic world.

Inset: From 1935 to 1948, the first excavations at Khirbat al-Mafjar were carried out by Dimitri Baramki, who is shown here, seated, posed with workers.



JUNE

SHA'ABAN – RAMADAN

SUN	MON	TUE	WED	THU	FRI	SAT
NOTES:			125	226	327	428
			Moroccan Olympic medalist Hasna Benhassi born 1978			
529	61	72	83	94	105	116
Sir Wilfred Thesiger born in Addis Ababa 1910		Turkish novelist Orhan Pamuk born 1952				Turkish-American surgeon and TV personality Mehmet Oz born 1960
127	138	149	1510	1611	1712	1813
	Süleymaniye Mosque cornerstone laid 1550		Assyrians record solar eclipse 763 BCE		Mumtaz Mahal passes away and inspires Taj Mahal 1631	First Kazakh satellite launched into orbit 2006
1914	2015	2116	2217	2318	2419	2520
	First Egyptian motion picture screened in Cairo 1907					Kahlil Gibran immigrates to America 1895
2621	2722	2823	2924	3025		
Persian polymath Nasir al-Din Tusi passes away 1274		Grameen Bank founder Muhammad Yunus born 1940				



Top: This pattern appears on both the east and the west sides of the hall's center: a design of tessellated squares, each with 24 nearly semicircular petals, each petal inset with a small flower, which produces a bouquet effect. The precision of the geometry is such that the main diagonal lines, which originate at the outer corners and meet at the edge of the circular ribbon band, form a perfect isosceles triangle.

Inset: This photo from Baramki's excavations in the 1930s shows the extent of preservation of the mosaic floor despite the ruin of the building around it. Many of the original stones used for the walls and columns were removed over the centuries for use in other buildings. Recently, the columns have been partially reconstructed to help restore a sense of the grandeur of the hall.

MAY

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

JULY

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



JULY

RAMADAN – SHAWWAL

SUN	MON	TUE	WED	THU	FRI	SAT
NOTES:			JUNE	AUGUST	1	2
			1 2 3 4	1 2 3 4 5 6	26	27
			5 6 7 8 9 10 11	7 8 9 10 11 12 13		
			12 13 14 15 16 17 18	14 15 16 17 18 19 20		
			19 20 21 22 23 24 25	21 22 23 24 25 26 27		
			26 27 28 29 30	28 29 30 31		
3 28	4 29	5 30 'Id al-Fitr	6 1	7 2	8 3	9 4
	Ottoman admiral Hayreddin Barbarossa passes away 1546	Algerian independence 1962		UNESCO declares Arab-Norman Palermo a World Heritage site 2015		
10 5	11 6	12 7	13 8	14 9	15 10	16 11
	Admiral Zheng He leads China's first "Treasure Voyage" 1405					
17 12	18 13	19 14	20 15	21 16	22 17	23 18
			Charlemagne receives elephant from Harun al-Rashid 802			
24 19	25 20	26 21	27 22	28 23	29 24	30 25
Great Fire of Istanbul 1660						
31 26		Chairil Anwar, Indonesian poet, born 1922			Turko-Mongol ruler Timur writes French King Charles VI seeking trade 1402	



Top: Sunlight illuminates color that remains vivid in the tesserae that create this sharply zigzag pattern in Apse VII. Each mosaic piece, or tessera, measures between 13 and 16 millimeters, and most are cuboid in shape. Binding and setting the mosaic floor originally was an underlayer of compacted limestone mortar that itself lay on top of nearly a meter of three further foundation layers of ash, lime, pebbles, sand and earth mixed with rubble and shards.

Inset: Khirbat al-Mafjar was discovered in the modern era in 1894, but its origin and patronage was not known until this fragment of writing, which names Caliph Hisham (724 – 743), was found and translated by archeologist Dimitri Baramki in the 1930s.



AUGUST

SHAWWAL-DHU AL-QA'DAH

SUN	MON	TUE	WED	THU	FRI	SAT
NOTES:	127	228	329	41	52	63
74	85	96	107	118	129	1310
1411	1512	1613	1714	1815	1916	2017
2118	2219	2320	2421	2522	2623	2724
2825	2926	3027	3128	JULY 12 3456789 10111213141516 17181920212223 24252627282930		
				SEPTEMBER 123 45678910 11121314151617 18192021222324 252627282930		
				NOTES:		



Top: Three rings of tightly interwoven circles comprise the design of circular Panel 3, one of four such circular designs that lie at the centers of the four corner quadrants of the hall. Here, a set of large circles is inset with a ring of smaller circles of two alternating sizes; below it, an inner ring of circles surrounds and grows out of an eight-pointed star visible in the *inset*. A ribbon band echoes the more complex band around the hall's central mosaic; the panel's central, eight-pointed star with surrounding chevrons presages wood and tile patterns of later Islamic designs.



SEPTEMBER

DHU-AL-QA'DAH – DHU-AL-HIJJAH

SUN	MON	TUE	WED	THU	FRI	SAT
NOTES:		AUGUST	OCTOBER	1	2	3
		1 2 3 4 5 6	1	29	1	2
		7 8 9 10 11 12 13	2 3 4 5 6 7 8			
		14 15 16 17 18 19 20	9 10 11 12 13 14 15			
		21 22 23 24 25 26 27	16 17 18 19 20 21 22	First letter of Busbecq as Hapsburg envoy to Ottoman Turkey 1555	Mexican-American actress Salma Hayek born 1966	
		28 29 30 31	23 24 25 26 27 28 29			
4	3	5	6	8	9	10
			Abdul Ahad Mohmand, first Afghan astronaut, returns from Mir space station 1988	7	8	9 'Id al-Adha
11	10	12	13	15	16	17
		Queen's Freddie Mercury born in Zanzibar 1946		14	15	16
		Arab-American filmmaker Nabil Abou-Harb born 1984			Prophet Muhammad begins Hijra 622	
18	17	19	20	22	23	24
				21	22	23
			Syrian-American radio talk host Diane Rehm born 1936		Hormuzd Rassam, finder of <i>Epic of Gilgamesh</i> , passes away 1910	
25	24	27	28	29	30	
				28	29	
Lebanese-Brazilian polar explorer Amyr Klink born 1955		French linguist Champollion deciphers Rosetta Stone 1822			Kingdom of Saudi Arabia proclaimed 1932	



Top: One of the best-preserved mosaics lies in the *diwan*, a small sitting room that was entered from the northwest corner of the hall. Its mosaic design is clearly intended to resemble, if not imitate, a carpet—it even has tassels on the corners. Its diamond-pattern field is bordered by inner and outer decorative bands, much as a carpet would be; the raised seats show a further mosaic band.

Inset: Today, the walls of the diwan have been restored. When it was excavated, as shown in this photo, the room had to be cleared of the rubble of carved plaster that had fallen from the walls and ceiling. This photo also shows the diwan's inner, apsidal platform, with the Tree of Life motif, which appears in full in this calendar in December.



OCTOBER

DHU-AL-HIJJAH-MUHARRAM 1438

SUN

MON

TUE

WED

THU

FRI

SAT

NOTES:

SEPTEMBER

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

NOVEMBER

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

1 30

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

Syrian-German American Steve Jobs passes away 2011

Merieme Chadid, first Arab woman at South Pole, born 1969

Abd al-Rahman III begins reign as Amir of Córdoba 912

Hulagu, founder of Ilkhanate, born 1218

Turkish novelist Elif Shafak born 1971

Rimsky-Korsakov's *Scheherazade* premieres in St. Petersburg 1888



Top: A corner detail of the circular medallion in Panel 5, in the southeast corner, shows its best-preserved section. The scalloped shell pattern is unique among the hall's designs, and unusual also for showing seven elements rather than four, six or a multiple of those numbers.

Inset: In addition to the unique shells, Panel 5 has typical entwined circles in the center, but the outer portion has a unique pattern based on squares with a single rope and leaves.



NOVEMBER

SAFAR-RABI' I

SUN	MON	TUE	WED	THU	FRI	SAT
OCTOBER	DECEMBER	1	2	3	4	5
1	1 2 3					
2 3 4 5 6 7 8	4 5 6 7 8 9 10					
9 10 11 12 13 14 15	11 12 13 14 15 16 17					
16 17 18 19 20 21 22	18 19 20 21 22 23 24					
23 24 25 26 27 28 29	25 26 27 28 29 30 31					
6	7	8	9	10	11	12
Moroccan-American DJ Cheb i Sabbah passes away 2013						
13	14	15	16	17	18	19
Thomas Erpenius, first chairman of Arabic at Leiden University, passes away 1624						
20	21	22	23	24	25	26
Tatar poet and activist Mehmet Niyazi passes away 1931						
27	28	29	30	1		
	Oldest Philippine mosque, built in 1380, made national shrine 2006					

Bollywood star Shah Rukh Khan born 1965

Stratford Canning, British ambassador to the Ottoman Empire, born 1786

For first time since 1492, 'Id al-Adha marked officially in Spain 2010

Haidar Taleb Erabeh begins world-record 11-day journey across the UAE on a solar-powered wheelchair 2010

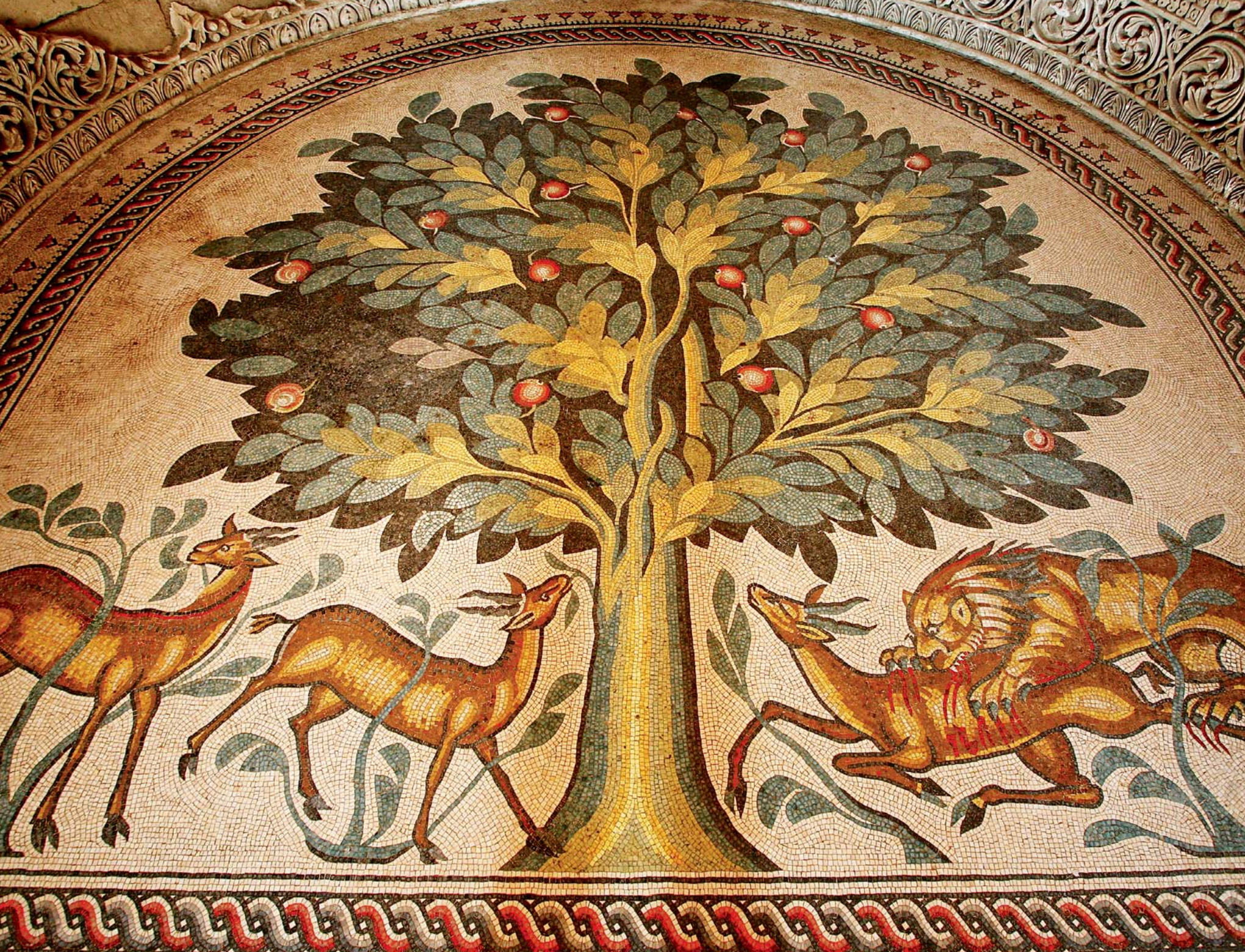
Carter and Carnarvon open King Tut's tomb 1922

NOTES:



Top: One of the most visually striking of all the apse panels is the electrically high-contrast, four-point pattern of Apse VIII. Its seemingly premature ending, at the edge of the interwoven pattern of the floor runner mosaic of Panel 29, which adjoins on its other side the textile-like pattern of Panel 27, highlights the eclecticism of the hall's mosaic art.

Inset: The center of Apse VIII shows skillful control of color gradations to create its shimmering effect.



DECEMBER

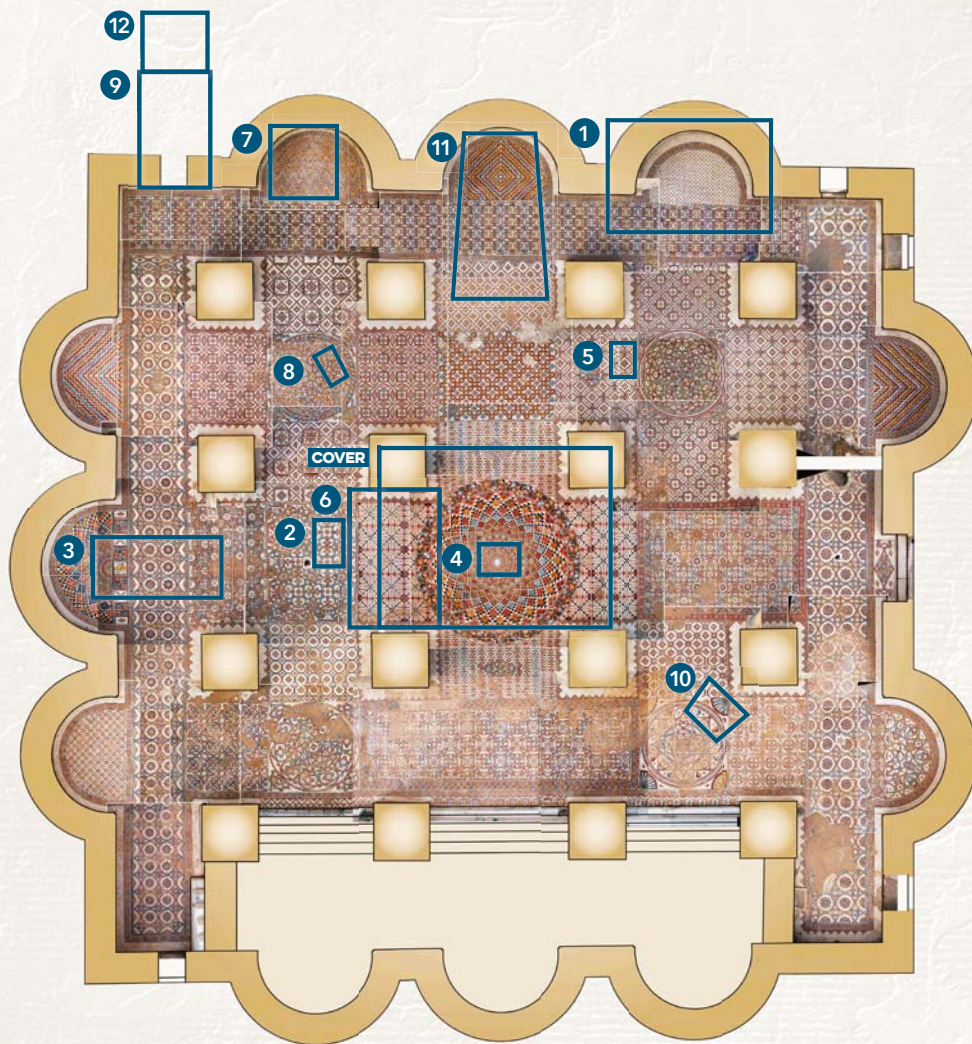
RABI' I—RABI' II



SUN	MON	TUE	WED	THU	FRI	SAT
NOTES:		NOVEMBER	JANUARY 2017	1	2	2
		1 2 3 4 5	1 2 3 4 5 6 7		3	3
		6 7 8 9 10 11 12	8 9 10 11 12 13 14			4
		13 14 15 16 17 18 19	15 16 17 18 19 20 21			
		20 21 22 23 24 25 26	22 23 24 25 26 27 28			
		27 28 29 30	29 30 31			
4	5	6	7	8	9	10
	Sam Khalifa, only Muslim of Arab descent to play in Major League baseball, born 1963				us President Jefferson hosts iftar for Tunisian guest 1805	11
11	12	13	14	15	16	17
Egyptian novelist Naguib Mahfouz born 1911	Kyrgyz author Chingiz Aitmatov born 1928	Edge of Arabia finishes inaugural exhibit of Saudi artists in London 2008				18
18	19	20	21	22	23	24
		Morocco becomes first country to recognize us independence 1777	Rock star Frank Zappa, son of a Greek-Arab Sicilian, born 1940		Zaynab (Zenobia), queen of Palmyra, Syria, born 245 ce	25
25	26	27	28	29	30	31
Christmas	Abdul "Duke" Fakir of Motown group Four Tops born 1935		Sir Muhammad Iqbal suggests two-nation theory for India and Pakistan 1930		Verdi's Aida premieres in Cairo 1871	2

Top: Although the audience hall mosaics can be interpreted both as echoes of the past and harbingers of the geometric patterns that in later centuries became associated with the highest expressions of art in Islamic lands, one of the finest mosaics at Khirbat al-Mafjar is pictorial: The Tree of Life, which lies in an apse at the focus of the diwan. The motif harkens back to Roman and Byzantine examples, but was here executed with unique mastery. It shows a lushly fruited tree, under which two gazelles graze peacefully—a common motif in mosaics and frescoes throughout the region and southwest into Egypt—while on the right, a lion attacks a fleeing gazelle. “The composition and technical perfection of this mosaic, its range of coloring, and the intensity of its scene make this carpet the chief wonder of the arts at Khibat al-Mafjar,” wrote Taha and Whitcomb.

Inset: The ruins of the audience hall are marked by the partially restored columns visible to the left. Although the mosaics were covered for conservation until a permanent, protective shelter can be built over them, excavations, research and conservation continue at other locations amid the palace, mosques, baths, residences and agricultural estate at Khirbat al-Mafjar.



THIS COMPOSITE FLOOR PLAN offers a visual guide to the largest preserved mosaic floor from the ancient world: The early-eighth-century mosaics of the audience hall at Khirbat al-Mafjar near Jericho, Palestine. Beginning with number 1 for January, each numbered box shows the location of the photograph for its corresponding Gregorian month.

PHOTO: COURTESY OF THE DEPARTMENT OF ANTIQUITIES AND CULTURAL HERITAGE OF PALESTINE



1952

2015

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

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