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The Newsletter of Dar al-Athar al-Islamiyyah (DAI) is intended to share the wealth and beauty of Islamic culture contained within the extensive and comprehensive al-Sabah's collection of Islamic art, ranging from Early Islam to the 18th century, and the variety of scholarly and artistic activities associated with the collection.

The collection itself is organized according to both historical period and geographical region, and the reference library and the publications of the DAI are closely related to the collection.

The DAI has sponsored archaeological excavations in Bahrayn, Upper Egypt that date to the Fatimid period and, before the invasion, the art school associated with the Dar promoted skills in the various artistic genres that are represented in the collection. At present, our annual lecture series has been revived and is a focal point for historians and other specialists, featuring talks by prominent international scholars on various topics of Islamic art, archaeology and architecture.
The early Mamluk sultans, Baybars, Qalawun, and to a lesser degree al-Ashraf Khalil, constituted a special group of extraordinary and heroic rulers. During their reigns, they were able to channel the material and spiritual resources available to them to sustain a counter-offensive against the Crusaders and reconquer all the castles and cities they had held on the Syrian and Palestinian coasts, while simultaneously repelling many Mongol forays into Syria and subduing internal revolts and unruly neighbours. Domestically, they managed to implement, by using a distillation of the socio-political structures they had inherited or borrowed, a whole new and highly revolutionary political and military regime that was to last for two and a half centuries. They understood the importance of legitimacy and popularity in their Islamic context. To achieve both, they allied themselves with, employed, and patronised the religious and literary class, which could on occasion serve them as propagandists and apologists. They also took their civic and social duties - as they understood them - seriously. They built citadels to defend their realms, civic structures to support social and religious activities and demonstrate their piety, and mausolea to commemorate their lives and aggrandise their deeds.

These early Mamluk sultans also efficiently used the structures they built to communicate political messages and propaganda. They developed an epigraphic system which publicised the religious regulations they enacted to guarantee social order and stress their religious merits and military prowess. Carefully calibrated royal titles, sometimes prefixed by or interspersed with thoughtfully selected Qur'anic verses were directed to the general population. The inscriptions were placed in highly visible locations on the outer walls of both conquered and built citadels and towers, mosques and other religious edifices, and palaces. That these inscriptions were meaningful and their messages intentional is evident to any modern observer from the profusion in various media and all sizes and colours on every building the Mamluks endowed and every object they commissioned.

Not all visual evidence from the early Mamluk period, however, has a clear genealogy or function or is as readily interpretable as the royal inscriptions. A number of architectural and artistic innovations or revivals and sign systems which appeared in the works sponsored by the early sultans seem to us today unusual, ephemeral, foreign, ambiguous, or totally incomprehensible. They include figural or architectural representations depicting horsemen, processions, hunts, and images of sultans and amirs or of palaces, castles, and cities with trees and rivers; objects and manuscripts decorated with a unusual mix of inscriptions, stylised images of real and mythical creatures, and little-understood emblems (ranks) which may have suggested the magically induced attributes of their holders or codified their position in the Mamluk hierarchy.

These elements, which were invented, assembled or borrowed from various imported or revived modes and techniques, can only be understood as experiments, some successful and therefore lasting and some not, in the construction of a Mamluk image. They were clearly not haphazardly chosen, but deliberately appropriated by the early
Mamluk sultans to publicise their pride in themselves, their amirs and soldiers, their territorial possessions and conquests, and their confidence in the Mamluk hierarchy and state they were building. Like other cultural expressions sponsored by the same sultans these architectural and artistic signs embody their tastes, views, and mentalities, reflect their ideological and cultural attitudes, and reveal their political and military ambitions. They also try to reconcile different and often contradictory cultural and artistic traditions in the attempt to fashion a new, workable, and durable Mamluk image.

**Figural Representation**

The early Mamluks sponsored figural painting, reliefs, murals, and metalwork with figures and miniature painting, in addition to textiles adorned with images. They employed figural art not only in their private residences and illustrated books, but also in public spaces, such as royal palaces, hamams, and citadels, and in books that they endowed as public waqfs. They even used images on temporary structures or models for celebratory purposes in processions and festivals, and in a few instances, as a warning or a signal for the people to desist from some prohibited public behaviour.

The most illustrious examples of figural representation are those that adorned royal palaces and royal objects. Two palaces in the Citadel of Cairo, the first built by Baybars and the second by al-Ashraf Khalil used figural representations on their walls. Like all Mamluk royal palaces, these two palaces have disappeared but descriptions survive of their architecture, decoration, and figures.

The first palace is the one known as the Qubbah al-Zahiriyah which was perhaps the most monumental of Baybars’s structures. It was profusely decorated, with figures of the sultan and his amirs represented (swawrat, which could mean “painted”) on its interior walls. Ibn Shaddad says that the scenes represented Baybars and his amirs and review on the day of the procession (mawakib), a reference perhaps to a cycle of princely scenes. Instead of proceeding to describe the scenes, however, he cites parts of a poem by Abu al-Fityan Ibn Hayyus, a twelfth-century poet from Damascus. which he says almost exactly describes the representations on the qubbahs walls. But Baybars’s qubbah was not the first structure in Egypt to be decorated with figural representation, and certainly not the only one of its constructions at the Citadel to have them. Ibn ’Abd al-Zahir tells us that the New House, also known as the House of Gold, was decorated with representations of soldiers. The chronicler recited a poem of his own composition to praise the structure and alluded to a difference between Baybars’s choice of representation and those of his predecessors. Baybars is said to have preferred scenes of horsemen and warriors to surround him in his qa’a, unlike the rulers before him who chose to portray themselves among singers and at drinking settings, possibly a reference to Fatimid and Tulunid precedents. This structure had a reason: Baybars was a very austere ruler whose favourite pastimes were not drinking parties but hunting and turussiyah exercises.

The most famous object that illustrates this preference is the so-called Baptistere de Saint Louis. The figures on the brass basin have been identified as the great amirs of Baybars, represented individually and in a ceremonious formation around a central figure that may have been Baybars himself. They are seen in various occupations: riding, hunting or sitting in an official majlis flanked by two pages. The amir figures are divided along ethnic lines into Turks and Mongols, who formed the two dominant groups at Baybars’s court, and are represented with what appears to have been the attribute of their ceremonial office: sword, bow and arrow, ceremonial axe, and napkin.

The second example of a royal palace with figures is the audience hall or iwan attributed to Qalawun which al-Ashraf Khalil rebuilt, or perhaps only renovated, in 1293. Khalil’s iwan, Ibn al-Dawadari reports, had representations of his amirs, each
with his own emblem (rank) above his head. Although this description recalls the similar treatment in Baybars's qubbā, they were different in composition and possibly in meaning. The one sentence that describes Khalīf’s iwan says clearly that the figures were not put together in composed settings, but that each figure, representing an amīr, was set alone.

The two sets of images at the palaces of Baybars and Khalīf could be grouped together in a single category—the courtly figurative motif, the use of which was a royal prerogative. The iconography of these images was a reflection, and a condition, of the political and military contexts of the Mamluk state at that time. Baybars, Qalawun, and Khalīf followed a concept of rule that relied on the acquisition of a personal army of mamluks to maintain supremacy over other great amirs in the sultanate who also had their personal retinue of mamluks. The three sultans had also distinguished themselves in the jihad against the Crusaders, Mongols, and Armenians. The images in their structures visualised their belief in the cause they were championing and their pride and confidence in the Mamluk hierarchy they were fostering, in which their amirs played an important role.

**Mosaics**

A complementary set of themes can be read in works rendered in mosaic, a technique revived from earlier Umayyad prototypes. Mosaic architectural representations seem to have alternated in the early Mamluk royal iconography with figural representations. Only two examples survive, one complete in Damascus, and the other in a much dilapidated state at the Citadel of Cairo.

The first, the mausoleum (qubbā) of al-Zahir Baybars (1261) in Damascus, has a frieze of glass mosaic that runs around the four walls. Three of the frieze’s four sides depict architectural representations. The fourth or western side, the four corners, and the tympanums and soffits of the six windows consist of natural and stylised vegetal motifs coming out of vases, trees, cornucopias, and leafy scrolls.

The three architectural ensembles are symmetrically arranged around the centre of the wall. They depict idealised urban and rural structures in fanciful settings similar, but not identical, to those in the nearby Umayyad Mosque, and of somewhat lower quality. They lack the finesse of the Umayyad compositions and rely instead on thick outlines and large elements to fill their fields. The scene on the south wall has in its centre two superimposed arcades surrounded by a group of elongated and domed structures around a central tower flanked by naturalistic representations and framed in a guilloche pattern. The eastern wall also has in its centre two superimposed arcades and a group of structures in the rear symmetrically arranged around a central tower and flanked by two huge bowls with simplistic flower arrangements. The two ends of the field are taken up with identical architectural groups made of two long, gabled structures and a domed tower. The northern wall above the entrance has a huge tree in its centre flanked by identical groups of structures with domed towers surrounded by long, gabled buildings. These architectural representations have been explained as either an aberration or a single attempt to adopt the old Umayyad scenes outside their context. But, in 1985, a Mamluk qā’a was discovered at the Citadel of Cairo that had fragments of mosaic displaying architectural representations. This new find clearly demonstrated that the Qubbā al-Zahirīyya’s scenes were not an isolated experiment, and provided new clues to the uses and range of themes of mosaic decoration under the Mamluks. Unfortunately, only two fragments remain of the large mosaic frieze which once ran around the inner walls of the excavated qā’a. The first is so damaged that no description of its composition is possible, although it undoubtedly shows a structure in its left corner. The second displays a building flanked by trees. The structure appears to be a light, tripartite, domed garden pavilion with wide openings. Trees with unnatural large leaves appear from behind these two structures as if to suggest a feeling of depth into what is otherwise a totally flat architectural representation. But what meanings were to be read into the mosaic architectural representations above and beyond their architectural iconography? Probably pride in the territorial conquests of the early Mamluk sultans and the extent of their dominion, the desire to celebrate these conquests, and through them to assert their sovereignty and to exalt their own persons, was conveyed through the stylised architectural representations on the walls.

**Ranks**

Rank, a Persian word which literally means colour, hue, or dye, was used in medieval Arabic sources primarily to designate the insignia of Mamluk amirs and sultans. They were carved on buildings, painted on glass, wood, and pottery, engraved on metalwork, struck on coins, and embroidered or dyed on textiles.

Mamluk ranks first appeared as single-element emblems. Horizontal strips were introduced to the shields in the early fourteenth century; in the fifteenth and early sixteenth century, ranks developed into composite shields with three fields, each containing one or more signs. Most amirial ranks were denotative, displaying the codified images they had invented to represent the attributes of their offices, positions, and ideals. The rank of Qawsun (d. 743/1342) the
favourite cupbearer (saqi) of al-Nasir Muhammad, carries a cup, seen in a lamp and stone relief from his mosque built in 1336. The rank of a bundugdar, such as Aydakin al-Bundugdar, Baybars’s original master, has two stylised bows. Other ranks combine more than one insignia of office, such as the rank of Nawruz al-Hafizi inscribed on the wall of his madrasa in Damascus dated to the early fifteenth century, which has three lesser with an inkwell (emblem of the dawadar, the inkwell bearer) in the upper register and two cups in the two other registers.

The most exceptional and rarest ranks may be termed representative. They depict images of animals and mythical creatures and may have been seen as bestowing the qualities of the represented animal on the possessor of the rank. They too, appear to have been dropped from the Mamluk repertoire by the middle of the fourteenth century. Perhaps the most famous of these figures was the lion, symbol of power, protection, and invincibility, and the double-headed eagle, a mysterious figure which may have symbolized the ruler or defender of two countries. Both motifs appear in early Mamluk ranks and both seem to have been adopted from earlier, less styled uses of the same figures. A double-headed eagle (unfortunately missing its two heads) appears in the Citadel of Cairo. Amirs, too, used the same bicephalic-eagle motif on their metal bowl, boxes, and incense burners, such as the beautiful pierced globe made around 1270 for Amir Badr al-Din Baysari al-Shamsi, one of Baybars’s great amirs, whose rank might have been the double-headed eagle that reappears four times on the sphere.

Various feline motifs appear in countless examples covering the entire Middle East from Azerbaijan to Egypt. Baybars’s rank is a feline passant. It adorned all his buildings, such as in Burj al-Siba (Tower of the Lions) at the Citadel of Cairo, discovered in 1985. This feline rank, which was never used again by other Mamluk sultans, may have implied power and courage, and may also have illustrated Baybars’s own name bay bars, which means “chief panther” in Turkish.

Conclusion

The practice of decorating palace walls with figural and architectural representations or using figures for ranks had been abandoned by the time of al-Nasir Muhammad, replaced by decorative, emblematic, and iconographic inscriptions. Al-Nasir Muhammad’s third reign (1310 to 1341) proved to be a turning point in Mamluk history and in the character of the Mamluk state. After nearly seventy years of almost continuous warfare, the Mamluks managed to eliminate the immediate external and internal dangers threatening its hold on all of Egypt and Syria, and had finally achieved political maturity and regional supremacy.

The ensuing stabilisation of Mamluk rule and its acceptance by most of its subject peoples led to a lessening of the Mamluk caste’s insular existence during the long, relatively stable, and highly autocratic rule of al-Nasir Muhammad. The shift to epigraphic surface articulation and the abandonment of figurative representations, along with the disappearance of many artistic and architectural trends of that period, such as the building of palaces of justice, can be viewed as a symptom of the changes brought about by the expiration of the counter-Crusade and the subsequent shift in the image of the Mamluk ruling elite.

Mamluk culture, which had remained openly foreign in inspiration and outlook at least until the middle of the fourteenth century, began, after decades of nearly separate existence, slowly to adopt some of the characteristics of the indigenous urban culture while, at the same time, some of the Mamluks’ more peculiar customs seeped into the local milieu. The process of acculturation accelerated after al-Nasir Muhammad, with the relaxation of the strict regimen that governed the Mamluks’ training during the formative period. After the tumultuous transition from the Qalawunid to the Circassian period at the end of the fourteenth century, new recruits were brought into the system at a fairly advanced age, after their character had already been formed, and they were no longer required to undergo extensive religious education before their manumission. They were also permitted to fraternise and to intermarry with the locals. Consequently, the once fiercely proud and strictly segregated Mamluks began slowly to adopt an urban culture in which few of their glorified military and political attributes were still operative. By the beginning of the fifteenth century Mamluk acculturation was discernible not only in their attitudes, tastes, and preferences, but most of all, in the little interest they displayed in jihad and the military life.
Sayyed Ali, Founder of the Moghul school of painting

Abridged from a lecture given by Prof. Assaadulla Saeed Melikian-Chirvani

Sayyed Ali, as he signed himself in his work (Mir is a title appended to his name by others when referring to him), is the single most important figure in the emergence of the Moghul school of painting in Hindustan. Curiously, however, all available contemporary sources first mention him as a man of letters known by the nom de plume Joda. To the historian Nezam ad-Din Ahmad we owe the information that he left a volume of collected poems (divan). The verses cited by historians and by the authors of anthologies point to a highly skilled poet with markedly Sufi leanings. These are echoed in his nom de plume Joda's, misunderstood by Western writers as "the recluse" when it actually describes he who is "separated" (joda) from God, and aspires to one-ness with God (tawhid). This fits well with the profound piety which eventually led the poet-painter to leave his court position to go to Mecca, where he died, according to one source.

His contemporary Bayazid Bayat, citing a distich composed and calligraphed by him, "on a grain of rice" on which he had painted a miniature scene, tells us that it was signed "Sayyed Ali". This signature matches those found in his authentic work, as opposed to attributions. The distich moreover also fits with the highly personal interplay between image and verse, full of witty irony, that characterises Sayyed Ali's miniatures. The irony even extends to the signature, concealed within the miniatures as the calligrapher's at the end of a letter quotation on a writing table (lavah).

Such is the case with two portraits that can be proven to be self-portraits on the basis of the verses, hitherto unread or misread, and the signing formulae. The first portrait, in the Sackler collection in Washington, dating from the artist's Tabriz period at the court of Shah Tahmasp in the later 1630s or early 1640, can be shown to have been executed at the same time as the drawing of a hunting scene, both of them mounted on board to form part of a paste-up album (muraqqa). This might well be the muraqqa mentioned in a short Persian treatise by Qotb ad-Din Mohammed Qeselghan in 964/ November 1555-1556, which has so far escaped attention. The second self-portrait, in the LACMA Los Angeles, shows the artist in Hindustani garb. It was, therefore, done in Lahore in 1555 AD and is the earliest datable painting of the new Moghul school founded by Sayyed Ali. He sits on a rug inscribed with a previously unread mystical distich in three cartouches. The same distich, likewise unread, recurs in the same calligraphy, arranged in the same way, on a rug depicted on a folio now cut in two halves and mounted on board in the Fogli Art Museum, Boston.

That miniature displays some idiosyncratic features which prove it to be from the same hand as the Los Angeles self-portrait, i.e. to be from Sayyed Ali's hand. At least three more pages in the famous London manuscript of Nozami's Quintet (Khamse) executed for Shah Tahmasp in Tabriz can be shown to be the work of Sayyed Ali.

These attributions are borne out by a painted page pasted on board, now in the Sackler. A minute signature, so far unnoticed, is painted into the image. Three previously unread Persian verses, painted into the image, are typical of Sayyed Ali's selection of texts. One confirms in passing his predilection for the 8th/9th century Persian poet Hafiz - shared with many Iranians and Persian speakers in Moghul Hindustan.

By contrast with this nucleus of authenticated paintings, others long attributed to Sayyed Ali, which carry signatures that are shown by their formulation to be spurious, must be left out.

In the attempted reconstruction of the oeuvre of this extraordinary figure of Iranian letters and painting, a new interpretation of Hindustan, where Persian was the language of literature, is suggested.
Features of Originality in Arab Astronomy

Abridged from a lecture by:
Professor George Saliba

Researchers into the history of science seldom mention the role of Arab science, frequently reducing it to a mere link between early, particularly Greek science and that of the European renaissance scientists and their successors. They refer to the important intermediary role of Arab science in preserving for humanity much Greek scientific material which survived only in Arabic translations, mostly done in the second and third century AH.

Errors Which Must Be Corrected

This doctrine has been upheld within Arab Islamic civilisation. Modern Arabic examples of it can be found in bookshops throughout the Arab and Islamic world. Even non-specialist books contain these ideas, along with few inaccurate additions concerning creativity in Arab science, such as the claim that the Arabs invented the zero. Since these errors are repeated in the school textbooks adopted by most Arab education ministries, this intermediary role has been sanctified and is taught to children. Consequently, Arab readers are forced to believe that Arab scientists generated or uncovered new scientific knowledge without knowing exactly what they were doing, their knowledge remaining disjointed, and never collected into a unified scientific, philosophical framework. Their only recognised virtue is that their intermediary role enabled Europe, awakening from centuries of slumber, to recover the Greek heritage and itself build the edifice of modern science.

The Europeans Have Their View - We Must Create Ours

From this and many similar doctrines, originated the explanation of how Europe managed to pass from the darkness that long dominated it to its brilliant renaissance. A new scientific mentality was created enabling it to overcome economic and political backwardness and dominate the world morally, intellectually, economically and sometimes militarily through colonisation. The Europeans have analysed their history for their own purposes. We are not obliged to imitate them. This mental formulation did not come about by chance. The presentation of the history of European intellectual development by western historians is an inevitable result of the methodology they followed, which confined itself to studying data affecting Europe directly and leading to its renaissance. From this perspective, European scientists were not required to investigate exactly how original the sciences were that Europe took from the Arabs, or their role in Arab civilisation itself. The linguistic and intellectual difficulty of this subject also discouraged them from investigating it seriously.

Instead, they generally concentrated on the broad outlines of scientific development, inserting only a curt summary of Arab sciences. It was not a matter of disapproval or rejection: it is not fair to expect historians to write the histories of their own and other civilisations at the same time. For European scientists, Arab sciences did not differ from Greek sciences since, when you look without precision, all things appear similar. By not examining Arab sciences in detail, they had no clear perception of them to inspire further study to determine their importance. They left research on the specifics of Arab scientific civilisation to those whose mother tongue was Arabic. Since the latter were involved with matters other than Arab scientific history, no one came forward to guide European scientists to the truth, or show them the importance of the role of Arab sciences in the rise, not only of Arab, but also of Western civilisation.

Astronomy and Arab Originality

Turning to the importance of studying astronomy and the subject of originality, I will concentrate on Arab astronomy because, through it, we can follow the reasons leading to its reformulation as an original Arab science. It is a mathematical science, and in mathematics 2+2 always, indisputably, equals 4. Since astronomy is mathematical, it might therefore seem difficult to recognise creativity and originality in it but we can define originality in this context according to whether or not a certain theory existed or a particular process took place before a specific period in history. Using
suring natural phenomena, there is no knowledge to discuss. Arab astronomers conducted numerous observations which led to the discovery of new astronomical facts. Furthermore, most of these observations contradicted those of Greek astronomers, notably Ptolemy. If this science criticised and rejected Greek science, how then was it an intermediary? Greek observations, for instance, led Ptolemy to believe that the sun's apogee is fixed and immovable like those of the planets, that the speed of movement of fixed planets does not exceed one degree in 100 years, that the declination of orbit of the signs of the zodiac from the equator is 23 degrees, 51 minutes and 20 seconds, and that the maximum alteration of the sun, which is closely related to the distance of the centre of its vector from the centre of the earth, is about 2.5 parts of half the parts, which makes the radius of the sun 60 parts.

The Revolution of Al-Ma'moun's Observations

All this was accepted and normal in the Greek astronomy which Arab scientists inherited. But small errors in astronomy increase in size and distance from the truth with the passage of time, and 600 years separated Ptolemy's observations from those conducted in the reign of Al-Ma'moun, which showed that the sun's apogee is not stationary as Ptolemy had said, but moves like other apogees. They also showed that the maximum alteration is not much more than two parts, and does not amount to a half as Ptolemy said; that fixed planets move very slightly, about 1.5 degrees every 100 years, not 1 degree as Ptolemy believed; and that the declination of orbit of the signs of the zodiac does not exceed 23.5 degrees, not 20 minutes more than that as Ptolemy believed.

These fixed measurements that were discovered during Al-Ma'moun's time became the foundations of modern astronomy. To this day, it is taught in schools that the declination of the Earth's diameter is 23.5 degrees, not 21 degrees, 50 minutes and 20 seconds as Ptolemy said. Since these measurements differ from those in Greek astronomy, and indeed corrected the latter, we are justified in claiming the originality of Arab astronomy. In order to prove this originality, it is not enough to say that Arab astronomers merely corrected some Greek astronomical figures, despite the importance of these corrections and their effect on future astronomical theories. Scientists often make mistakes which other scientists correct without doing original research. In this instance, Arab scientists did more than simply correct mistakes; they questioned the reasons why Ptolemy made these mistakes. This led them to new philosophical fields, to the investigation of all natural phenomena and the nature of observations, which in turn led to the standard of accuracy on which theories are based, and the errors which must be discarded. Through their investigations into the reasons for these errors, Arab scientists began to raise new questions crucial to the development of science about the scientific instruments used to observe natural phenomena, and how suitable they were for their tasks. They found discrepancies between their results and those of Greek science. They also raised the question of methodology, and began to analyse Ptolemy's methods of observation to see whether this had led to these errors. They came to discern that the practice followed may sometimes lead to errors, as can misuse of instruments. These questions indicate originality in any science, not only astronomy.

Originality in Uniqueness

The environment which encouraged astronomy, similarly encouraged mathematics and led to the creation of a new science: the calculation of time. The Greeks had nothing like it; it was invented by Islamic Arab civilisation for reasons I will explain. For similar reasons, the encouragement of mathematics led to the creation of another science: the calculation of inheritance, which also did not exist with the Greeks. Originality in science implies uniqueness - that one science uniquely creates new scientific data. This was the case with the sciences of time calculation and inheritance calculation, trigonometry, algebra, etc. which, at that time, were unique and pushed the wheel of science forward. However, factors which push forward may not always push in the right way. One scientific theory may have to be discarded as another springs up to correct its deficiencies. Despite this trial and error, "forward" in this context accords with the scientific spirit which sanctions the correction of inevitable mistakes. Only God is perfect. Human beings learn from their mistakes, and the task of science is to enable us to correct mistakes. To go forward with science is to bring to it a methodology that enables scientists to know the difference between a mistake and what is correct, and to guide others. Scientific findings and theories are always subject to re-examination, to be corrected by the scientific processes.

Purely Arab Science

Originality in Arab astronomy implies that this science not only produced something new, but also discovered mistakes and guided others. This originality distinguished it from Greek astronomy, for instance, because it discovered mistakes in Greek science and indicated ways to avoid them. Astronomy, like other sciences, has two subdivisions. the first is concerned with natural phenomena which scientists monitor and measure to form the basis of their theoretical formulations, which are agreed on until new natural phenomena appear. The second deals with theory, which astronomers use to interpret these phenomena and their causes. It is rare to find two scientists in complete agreement in this area. Without the first branch of astronomy there would be no science because, without monitoring and mea-
Arab Astronomers Corrected Ptolemy

It became clear to Arab astronomers that the errors in Greek astronomy did not result from carelessness or defective instruments, but were primarily the result of shortcomings in the method of observation. Although they did not have sufficient information about the instruments Ptolemy used, they wanted to make sure that they were sound by studying the conditions of instruments in general: their quality and size, etc. Following this, new and larger instruments were invented which sources have described in detail and which inevitably had an effect in achieving results. More importantly, they proved that it was Ptolemy's methodology which had led him into error so that even if he had had the finest instruments, he could not have arrived at correct results. Their researches showed that Ptolemy's error in the declination of the sun, for example, lay in the fact that he took observations of the sun at the summer and winter solstices, when the day was at its longest or shortest. In each instance, Arab scientists realized that the extent of declination of the sun is very little, and it is difficult even for a skilled observer to measure it precisely, however good his instruments, a point noted by Mu'ayyid Al-Din Al-Dimashqi (who died in 13th century AD). They discarded Ptolemy's method and used an alternative one, involving observation of the sun in the middle of the seasons instead of at the solstices. This was a new method which had not existed in Greek astronomy.

Correcting Astronomical Dogmas

By using this new method, all the aforementioned astronomical dogmas were corrected, and modern astronomy still operates on this basis. Originality here lies in the precision followed by Arab scientists in accurately measuring natural phenomena, and in discovering methods that must be followed in investigating these phenomena in order to avoid errors. This new direction pushed astronomy forward and established it on new foundations. They also guided others to realizing the importance of instruments in observation, and to the appropriate methodology to follow to achieve knowledge. The benefits of thorough research into these matters are not confined to astronomy but extend to other sciences, particularly experimental sciences which, to this day, are still based on principles similar to those established by Arab astronomy.

In order to investigate and predict natural phenomena, astronomers usually use mathematical theories. The greater the precision of the mathematical theories used, the greater the possibility of accurately predicting when natural phenomena will happen. Mathematical theories, if they are to be useful, should remain within the normal data of the natural phenomena which have to be measured. Scientists follow two different approaches. Some believe, like the Greek astronomers, that mathematical theories are only an instrument for investigation, whose importance lies in helping to predict these natural phenomena, while others say that natural theories should be in close conformity with the natural phenomena whose occurrence they help to predict. For example, Arab scientists considered that the mathematical theories to be used in astronomy for describing the movement of an astronomical sphere should maintain the natural environment of the astronomical sphere otherwise it will become an imaginary sphere unrelated to the natural sphere.

When Ptolemy represented the movement of astronomical spheres with a mathematical theory in which one of these spheres was assumed to revolve regularly around a fixed axis, he thereby shifted from describing the targeted natural sphere to describing an imaginary sphere unrelated to the assumed natural sphere.

A Confusion Impermissible in Science

The Arabs decided that this confusion is impermissible in science. Every science, especially astronomy, must harmonize with its data. Either the sphere is real and natural, and must be described by mathematical theories whose nature does not change, or it is imaginary, in which case there is no need to describe it, since natural movements do not result from the imagination, as Ibn Al-Haitham pointed out. The condition that the results of science must be in harmony with the data, and the concentration on the importance of this harmony in all fields, was also one of the contributions of Arab scientists, notably to undo the confusion that they had inherited from Greek astronomy. How could this role be an intermediary one? They even addressed the theoretical aspects of Greek astronomy. For example, Ptolemy had said that the sphere which carries the orbits of the planets is not, by its movement, move another sphere except if the latter is within the moving sphere and not applicable to its centre. This was criticized by the Arab astronomer Muhammad Ibn Musa Al-Shakir (not to be confused with Muhammad Ibn Musa Al-Khwarizmi) in the mid-sixth century AD. He queried how this could explain the movement of fixed planets within their greater sphere, after it had been proven that their centre was in conformity with the centre of the sphere in which they revolve. He concluded that the movements which Ptolemy described in relation to the sphere of Taurus could not have occurred in the natural world around us, and that he had been speaking about an imaginary world unrelated to nature. This new methodology, whose foundations were established by scientists of the third century AD and which was adopted by subsequent astronomers in Islamic civilization at least until the end of the tenth century, was specifically a reply to the mistakes of Greek astronomy and, in turn, led to the invention of new mathematical theories and to the link between astronomy and the natural sciences which involve research on natural phenomena around us. This is the theme of modern astronomy.

Not Only Translators, Also Participants

There is no space here to go into details of the new mathematical theories of Arab astronomers which have become an area of research for historians of science in the last 100, and particularly the last 50, years. But their importance must be mentioned for two reasons:

One: These new theories appeared from the very beginning of Arab astronomy, as shown by the doubts expressed by Muhammad Ibn Musa Al-Shakir at the time when Greek scientific works were being translated. They not only translated, but also absorbed what they translated, raised doubts and answered them as the translation proceeded. This is something not found now in school textbooks. The new methodology and theoretical discoveries came at the same time as the translations and not later, as assumed by some people who claimed that translation was followed by a process of absorption, and then a creative process with everything ending with Abu Hamid Al-Ghazali.
Two: It has begun to be apparent to researchers into the history of the European renaissance that these Arab theories were the very same ones used by Copernicus in establishing his astronomical revolution. In the last few years, historians of Copernican astronomy have discovered that, in his mathematical description of his new theory of astronomy, Copernicus used only two new mathematical theories which had been developed by Arab astronomers working within the methodology described above. These two theories were originally the work of Nasir Al-Din Al-Tusi and Mu'ayyad Al-Din Al-'Uribi, both seventh century AH scientists, produced specifically as a reply to, and in refutation of, Greek astronomy. In the light of its proven originality and unique creativity, how therefore could Arab astronomy, adopted by European renaissance scientists headed by Copernicus, be regarded merely as a connecting link?

Astronomy, Astrology and the Arabs

Ptolemy, who was the author of the most important book on Greek astronomy, also wrote "The Book of the Four Treatises", which later became an important reference work for astronomers. In fact, the purpose of Greek astronomy was to serve astrology, and the Greek word "astronomos" does not distinguish between astronomer and astrologer. Islamic religious scholars criticised Greek ideas, particularly those on philosophy, which were contrary to religion, and they also criticised astrology, which they said does not accord with Islamic law since it contains many ideas rejected by Islam. During the intense debate on this, Arab astronomers were the first to differentiate between astronomy and the Islamic unbelievably false ideas of astrology, as pointed out by Abu Hamid Al-Ghazalli.

Pure Astronomy

Since the middle of the third century AH, Arabic books began to appear known as Kutub al-Hay'a (books on pure astronomy), There is no Greek equivalent of the Arabic word "hay'a". This was a new science with a new name. It meant pure astronomy, without astrology, and was a purely Arabic term, used only by Islamic Arab civilisation, operating within Islamic parameters to define the criteria which society should apply to the sciences in general. The new, pure astronomy flourished in this environment, and acquired the data described above. It is clear from these books how far the Arabs reached in developing this new science. Just as there was no Greek word for "hay'a", so also there was no Greek book presenting astronomy in the same way as Arab pure astronomy, which means that the Arab astronomers changed the subject matter of astronomy by creating pure astronomy. They took the contents of Greek books on astronomy, like Almagest and the Planisphaerium by Ptolemy, and redacted them into a new book dealing with several subjects raised by Greek science, but presented in a new way and with the new perspective mentioned above. They added new things which had not seriously interested Greek astronomy, including researches on establishing the dawn and the end of twilight (very difficult in terms of mathematical calculations), sighting the new moon and determining the direction for prayer, all unrelated to Greek science but closely related to Islam. When books on pure astronomy were written, these subjects were added to them. Thus Arab astronomers were able to develop Greek astronomy, first by separating it from astrology, and then bringing it closer to the principles of Islam. These steps complemented the theoretical measures Arab astronomers had introduced into the science such as methods of observation, harmonisation of the use of mathematics in astronomy and the aforementioned natural phenomena. All this enabled astronomers to establish a new basis for scientific formulation without their science conflicting with religion. Because of their interest in religious matters related to astronomy, they also established the new science of time calculation, which had no Greek equivalent, and later became one of the religious sciences. Pure astronomers in the later Islamic eras, like Ibn Shatir Al-Dinashiqi in the eighth century AH, worked as timekeepers in mosques.

Copernicus, Ibn Shatir and Others

It has recently come to light that Copernicus used the same astronomical theories and measurements which Ibn Shatir had included in what he called "the new astronomy" that he invented. Thus, the astronomy that arrived in Europe during the renaissance was the same science whose intellectual basis had been formed in the atmosphere of Islam. New mathematical theories were added to it in accord with this atmosphere. It was not Greek astronomy which some people claim the renaissance was trying to obtain, but the response to Greek astronomy, as noted above.

An examination of the history of Arab astronomy shows that most of the pure astronomers in the later eras were, at the same time, religious scholars. This leads us to the relationship between Islam and astronomy in particular, and pure sciences in general. Ibn Shatir, a timekeeper in the Umayyad Mosque in Damascus, was one of many theologian-astronomers, like Nizam Al-Din Al-Nisipuri, Al-Sharif Al-Irjani, Sadr Al-Sharia Al-Bukhari, Fathullah Al-Sharbani, Shams Al-Din Al-Khatari and others, who made notable contributions to both religious scholarship and astronomy and developed new astronomical theories. The works of these scientists show clearly that the Islamic religion was never an obstacle to true astronomy, only to astrology. Indeed it encouraged true science.

To sum up, Arab astronomy was an original science bred within Islamic society, which revived the emphasis on the scientific basis towards which Greek astronomy had been usual. It was reformulated as a new science separate from astrology, and was the science which reached European renaissance scientists who, in turn, benefited from it to establish new mathematical theories and, especially, to re-establish the link between natural phenomena and the practical bases on which these phenomena should be interpreted.
Kuwait City's location on the southern shore of the Bay of Kuwait has had the important effect of making it a busy harbour, in fact the best in the northern part portion of the Arabian Gulf. When Kuwait became established as an independent political entity in the mid-18th century, several shipbuilders migrated there from Bahrain, Oman and ports on the Persian Coast like兰ja and Jesim ??? check spelling ???. This formed the nucleus of a shipbuilding industry which, over the years, became one of the most important enterprises in Kuwait after pearl diving.

Shipbuilding in Kuwait dates back to the rule of Sheikh Jaber I (or Jaber Al-Aysh, as he used to be called then). During his reign, trade during his time became increasingly prosperous, and shipbuilders progressed from making small boats to building large commercial cargo vessels, called baghla and bateel, with capacities ranging from 100 to 400 tons. That was a major turning-point in the maritime and commercial capability of the people of Kuwait. With these ships they were able to reach the coasts of India and Yemen. In 1816, the English traveller Buckingham described Kuwait as "a great harbour", and mentioned that its merchants traded with other people in the Gulf, that Kuwaiti sailors were skilled and courageous, and that they had nearly a hundred ships of varying sizes. In 1841, the English Captain Hennell ??? Check spelling ??? visited Kuwait and described the city as representing "a condition of social prosperity", with nearly 25,000 inhabitants and about 30 baghlas and bateels which they used in continuous trade with India. They also had some 30 medium-sized ships which they used for transport in the Gulf, and about 530 small pearl-diving ships.
Kuwait: A Pole of Attraction

In the late 19th century, an important development occurred in the Kuwaiti shipbuilding industry. Kuwaiti shipbuilders designed the bouna, a transport ship, as an alternative to the ba'yah, thereby demonstrating the comparative superiority of its navigational capabilities, although it was smaller in size (about 150 tons). At the beginning of Sheikh Mubarak Al-Sabah’s rule in the early 20th century, Kuwait’s trade prospered and, along with it, shipbuilding. Kuwaiti ships sailed as far as the ports of Zanzibar, in present-day Tanzania, on the east coast of Africa. Pearl diving also flourished, attracting many workers from the desert of Kuwait and other regions of the Arabian Gulf such as Oman and Yemen. This helped the Kuwaiti shipbuilding industry to expand and prosper.

Sheikh Mubarak’s efforts to defend Kuwait, its people and its trade had a great effect on the prosperity of the country and its shipbuilding industry and resulted in many Arab families from Najd and other ports from both the Arab and Persian sides of the Gulf to migrate to Kuwait. Many of them joined the shipbuilding industry, particularly those who came from Bahrain, Oman and Larnja.

Consequently the Kuwaiti community of shipbuilders became known as the “Baharna”, a reference to the Bahraini origin of most of them. The Baharna passed on their profession from father to son, with patience and care, until they were amongst the best and most skilled shipbuilders in the Arabian Gulf and the Indian Ocean.

Kuwait City merchants respected them and had friendly dealings with them. If a merchant wanted a ship built, he would ask one of these shipbuilders to do it for him, after informing him of the type and length of base that he required. This was all that the shipbuilder or “master” needed to know. The master would then assemble a number of shipbuilding workers and start building the vessel, relying on the fund of experience which he had acquired since boyhood. The ship would grow up from the ground, plank by plank, without the master using a previously-drawn blueprint, or any planning tools like pencil, paper or ruler, an indication of! He possessed a high degree of art and skill.

The Steps for Building a Sailing Ship

The shipbuilding process, for a vessel like the bouna "Assafer", for example, involved the following stages:

1. Preparing the wood for the base (or ba’yah). Under the master’s supervision, the workers would prepare the ba’yah with their implements (the most important of which is a cutting instrument or jadoun), after placing it on wooden stands fastened to the ground (ta’our). The master fixes the line down the centre, and the warida.

2. The wood of the bow (ma’al sadr) is fitted. The ma’il is brought, its base fixed to the ba’yah, and the master determines the required angle.

3. The lock is prepared, namely the place where the base of the ma’il is joined to the ba’yah.

4. The wood for the stern (ma’il tawr) is fitted in the same way as the bow ma’il. With this, the external hull of the ship is completed.

5. The malich plank is fitted. This is the main plank used in building the external hull of the ship.

6. The charfou plank is fitted. This is the strong, thick plank which is placed in the interior of the ship above the ba’yah. Its function is to fix the malich plank more firmly to the ba’yah and prevent water from coming into the interior of the ship.

7. The khadid plank and other planks are fitted, and made firm above the malich. The degrees of inclination of all the other planks are corrected, and they are fixed firmly in place.

8. The "scorpion" is fitted. This is a piece of wood with an obtuse angle that is fixed from the inside in the place

Skilled Kuwaiti ship builders at work.
The bowdhi is joined to the mayl, so that it strengthens this joint in the bow and stern of the ship. There is a "scorpion" for the mayl in the bow, and another for the mayl in the stern.

(9) The farama and interior ribs are fitted. The farama is a wooden pattern which the master makes to determine the centre of the ship (hamla), in terms of its width and depth. It is used as a ruler to smooth the interior ribs (shalamin) in building the ship. Each master had his own farama, and each type and size of ship had its special farama. It determined the navigational specifications and also provided a base on which the planks of the interior ribs are firmly fixed.

(10) The makr plank is fixed. This is a plank about 7 cm. thick which is the frame determining the streamlining of the planks above it. It adds strength and beauty to the body of the ship. The two manzara planks and a third plank called the qaytan are fixed above it, and a final plank called the treesh, which fastens the ship securely from above like a belt. The shalamin are firmly and accurately fixed with strong iron nails wrapped in cotton threads soaked in coconut oil to protect them from corrosion by water. After that the files, a base to support the mast, is fitted.

(11) The qa'im, a straight, squared-off pole, three to four metres long, is fitted and made firm on the starboard side of the ship, and another similar one is fitted on the port side.

(12) The salbis and daramit are then fitted. The former is a thick plank on which rest the beams (sawarat) which support the interior planks of the roof. The daramit fixes the lower part of the salbis firmly underneath the qaytan plank to make it stronger.

After these steps, comes the fitting of the four main beams which are similar to those supporting the roof of a house, then the grid, the base of the small mast, then the forecastle in the bow, the noen in the stern, and the kalat in the centre of which is the steering wheel, plus several other complicated operations, without which the ship would not be complete.

After the ship is finished, a party is held onshore, at which the new ship is launched. The captains, the master shipbuilder, the workers, their sons and even their wives all attend to celebrate the launching.

Kuwaiti Ships Are Art Treasures

On board the ship, the sailors prepare with precision the navigational instruments, the mast and sails with precision to begin its first sea voyage. When the bottom of the ship is coated with lime and oil, the sailors sing a selection of traditional sea chants known as the 'marja'. Then the new ship sets out on its first voyage, heading for a port in either India or East Africa (in present-day Kenya or Tanzania).

The Australian Captain Alan Villiers, who sailed on one of these Kuwaiti sailing ships in 1939, said that Kuwaiti shipbuilders did not make any ships that we are not beautiful, and even the small boats that they made were works of art.

In a report on sailing vessels in the Gulf, Rowand, an officer of the British Royal Navy, wrote that in 1905 there were about fourteen different kinds of sailing ships built in Gulf ports. The oldest was known as a tarab, which in Persian means a net. This type has since become extinct. Another type known as a bakara, and another called a banoush, were also used in Kuwait, but ceased to be made at the beginning of the twentieth century.

The ships which were built in Kuwait were generally modified and improved versions of those that were found throughout the region. There were seven kinds of pearl diving ships: the baqara, bateel, jallab, sanbouk, shou'y, diving bhum and belem. There were cargo and commercial transport ships, including the bhum, baghla, bhum assafaar, chilli, hammal bashi and water bhum. Fishing vessels were small, like the simple and primitive warjiya, or more sophisticated, like the shou'y, belem and launch. A small rowing boat called a houri was not made in Kuwait, but used to be made in India.

However, the discovery of oil in Kuwait put an end to the prosperity of this traditional industry. Sons no longer followed their fathers to the shipbuilding yards to learn the principles of this difficult profession. This has meant that this industry in Kuwait no longer provides a secure livelihood. Thus the shipbuilding industry in Kuwait has become obsolete, and only the memory of it remains.
Antiquities in Saudi Arabia

Abridged from a lecture by:
Prof. Abdulrahman Al-Ansari

Archaeology in modern Saudi Arabia began with the Englishman St. John Philby, also known as Abdullah Philby, whose relationship with the late King Abdulaziz enabled him to travel wherever he wished throughout the Kingdom to pursue his studies. Philby was in touch with experts on ancient writing, and used to send the texts of carvings on rocks and archaeological remains which he found to a Belgian scholar called Van den Branden, who lived in Beirut and who published studies on them, which he called Thamudic texts. Philby arranged for another Belgian scholar, Jacques Rijmsmans, to visit the Kingdom in 1952, and he published the carvings that he found. This marked the first attempt to trace the chronology of the ancient southern Arabian kingdoms. By reading carved texts in Yemen and Hadramaut, scholars tried to draw up historical lists of Yemeni kings, one of which was known as "Philby's List".

The Arabian American Oil Company (ARAMCO) made a major contribution to research into antiquities in Saudi Arabia, by assembling a number of researchers to study the Kingdom, in particular the Rub' al-Khali and the Eastern Province. Henry Field carried out a survey of these two areas, concentrating on anything related to prehistoric times. The first excavation in the east of the Kingdom was
carried out by Professor Vidal at Tell Jawan, where he discovered a tomb dating back nineteen centuries before the Hijra. In it, he found a quantity of jewellery and gold artefacts.

A Danish archaeological expedition, which had excavated in Bahrain and Failaka, investigated the Taj site, which it found dated back to the tenth century before the Hijra. Unfortunately, some archaeological sites were damaged by ARAMCO employees and their families while sightseeing, as the sites were still not adequately protected. In the late 1950s, with the agreement of the late King Faisal, a two-man archaeological expedition (Winnett and Read) from Toronto University visited the northwest of the Kingdom, notably Al-Ata, Madain Salih, Tayma and Dawmat al-Jandal. They published a book which is considered one of the best works on the subject by Western scholars, and which contains descriptions, analysis and scholarly research on the history of the sites. Along with studies of the texts and pottery discovered there, with the help of the Saudi Ministry of Petroleum and Mineral Resources, Ruth Stihl visited Al-Ata and Madain Salih, where she was the first westerner to visit a valley called Wadi Akma. This was full of Lihyanite texts, but unfortunately she had no specialist knowledge of ancient Arabic writing. She attempted unsuccessfully to read them, but would have done better to follow Philby's example and provide...
The interest of Arab scholars has concentrated on Makkah and Madina since they are holy places. An example of this is Dr. Muhammad Hussein Haikal's book "Manzil al-Wa'h", about his visit to Makkah and Madina, in which he describes the antiquities and historical sites that he visited. Professor Khair Al-Zikrallah's book, "Ma Ra'ayta wa ma Sam'tt", notably what he wrote about Taif, its inhabitants, antiquities and dialects, is a valuable scholarly work. Another Arab scholar who had an influence on subsequent researchers was Rushdi Malhas, who has published a number of studies in the magazine "Al-Manhal", while Al-Azraqi's "Tarikh Makkah" is considered an encyclopaedia of Makkah antiquities from pre-Islamic times up to his day.

The visits of Western travellers had an effect on local scholars, the first of whom was probably the Islamic scholar Abdulquddus Al-Ansari. When Philby visited Madina, the Amir of that city asked Abdulquddus to show him around. This inspired him to learn about the history of Madina and its antiquities, with the result that he published a book on the subject, 'Athar al-Madina al-Munawwar', in 1933. This was the first book on antiquities by a Saudi citizen. He also made the first map of Madina's antiquities, which is still used today. Also in 1935 Abdulquddus founded 'Al-Manhal' monthly magazine (which is still published), to encourage research on antiquities and history. A generation grew up interested in research into the history of places mentioned in pre-Islamic poetry or old geography books, foremost of whom were Sheikh Muhammad Ibn Bula'lah, and later Sheikh Hamad Al-Jasir, then Sheikh Abdallah Ibn Khris. This interest led to researches into the antiquities found at these sites, and encouraged a number of people to enter this field. Sheikh Hamad Al-Jasir is regarded as a pioneer after Abdulquddus Al-Ansari in encouraging interest in antiquities, although he was not an expert in the field like the latter.

The state became interested in antiquities, which it entrusted to the Cultural Department in the Ministry of Education. A graduate of the Antiquities Department of Cairo University, Muhammad Al-Ibrahim, who acquired a BA in Islamic Antiquities in the early 1960s, was put in charge. The state also signed a contract with a Jordanian archaeological researcher, Adil Ayyash. But this new bureau was quiet and ineffective, and nobody was aware of its existence.

I returned with a doctorate in 1966, and was appointed Assistant Professor in the History Department. I humbly believe that my return was the real beginning of archaeology in Saudi Arabia as a scientific academic activity, taught and practised in King Saud University. In addition to giving radio talks and programmes about antiquities and their importance, writing in the newspapers, giving lectures to social and military clubs, and making several expeditions, I established the Historical and Antiquities Society in the Faculty of Letters in 1967, whose aims included:

To enlighten students and other people regarding history and antiquities.

To spread historical and archaeological culture in general.

To study the history of the Arabian Peninsula, and research the heritage of its civilisation in different ages.

To encourage research into the history and antiquities of the Arabian Peninsula.

To encourage people to become familiar with historical and archaeological sites.

The Society had more than 200 members from the faculty, students and people from outside the University in 1969. It has held cultural seasons every year, made historical and archaeological films, organised trips both during term time and vacations, produced publications and held exhibitions of antiquities. I chose the village of Faw as our first site for excavations, which we began in 1972. The start of our excavations had a wide impact in Saudi Arabia and aroused a variety of reactions, but the state supported the success of this step. The next phase was to establish archaeology as a specialisation in the History Department. This was done in 1973, and our first batch of students graduated in 1975.

In 1978, we established a separate Archaeology and Museums Section at the University, the first in the Arabian Peninsula, with a BA course in two subjects: ancient archaeology and Islamic archaeology. Conditions for graduation...
include participation in archaeological excavations for a whole academic term. Students of ancient archaeology came to dig at Faw, while students of Islamic archaeology began digging at Al-Rabdiha, an Islamic site east of Madina, after the return of Professor Saad Abdulaziz Al-Rashed in 1979. The section now has more than twenty Saudi lecturers with PhDs from Britain, France, Germany and the United States. In addition to the BA, it began its programme for an MA degree in 1988, and for a PhD in the archaeology of all ages in 1992. The section has also published a number of books and research papers.

As a result of the work of King Saud University, the state in 1972 established regulations for archaeology. When Dr. Abdullah Hasan Masi returned and took over the Department of Archaeology and Museums, a programme for an archaeological survey of the Kingdom began. To publish the results of the survey, the annual magazine "Atlal" was launched, the National Museum in Riyadh and six provincial museums were founded, and the Department sent a number of teachers with BA degrees in history and geography to the United States and Britain to obtain Master's degrees. One of them, Hamed Abu Darak, obtained a Doctorate. BS graduates became a source of Saudi manpower for the Department, while the latter sent its employees to receive higher degrees from the Archaeology and Museums Section. Through this co-operation between the two sides, the University was designated as a member of the Supreme Council for Antiquities. Dr. Saad Al-Rashed, on loan to the University, recently took over the Department of Antiquities and Museums.

A preliminary survey of north-western Saudi Arabia was carried out in 1967, and a preliminary report on this was issued in 1970. The detailed report has not yet been issued thirty years later. In 1970 a survey of carved inscriptions in Faw was carried out and a book was published about them.

Problems we have faced include the absence of a clear historical sequence for pottery in Saudi Arabia. Since pottery is the best guide to the history of an archaeological site, we are now preparing criteria for judging the pottery of the Arabian Peninsula. Also, there are no comparative studies of the archaeological finds from numerous excavations. These two problems have delayed the appearance of the final findings on Faw village. There were negative as well as positive aspects to foreign activity in the Kingdom. Perhaps the most important of these were the names given to historical periods, such as Greek, Roman, Hellenic, Thamudic, Dilmunic and Biblical.
A visual paradigm is a mental model with form. As such, a paradigm is similar to the Jungian conception of 'archetypes' and the Platonic idea of 'hanging forms'. The idea of the Paradise Garden is one of the quintessential paradigms that is universal to most of humanity and one that simultaneously provides a specific cultural colouring to the architecture and placemaking of Islamic lands. From its ancient conceptual and mythic beginnings in Mesopotamia and ancient Persia, its incorporation into the Abrahamic faiths, with special reference to Islamic culture as a key idea within the Holy Qur'an, and as manifested in the classical gardens, architecture, arts, carpets and metaphorical poetry of diverse Moslem cultures, this theme has persisted as an ever-vital design and timeless concept of placemaking that offers itself today to be integrated into contemporary designs of our built environments. This lecture traces the historic origins and applications of the Paradise Garden concept, explores the highlights of its philosophic and theologic message and briefly illustrates a few recent applications in actual architectural and planning projects designed or realised in the Gulf region.

Historically, the garden concept in Persia had already reached a high level of development by the Achaemenid period (558-330 BC). In 407 BC, Xenophon described the royal gardens of Cyrus the Younger in that period that were set out in precise compartments within symmetrical four-quarter arrangements of water channels. In fact, the English word 'paradise' comes from a transliteration of the old Persian name of such walled gardens, pareidaeza which became paradise in Greek, paradisus in Latin and paradise in Old English.

The Sassanian Paradise Paris (221-641 AD) of Iran created magnificent garden plans of mandala or chahar bash (four garden) designs set out on the cardinal directions with palace pavilions set at the intersection of the four avenues. Precious jewel-bedecked garden carpets recapitulated the garden theme in these royal audience halls. The reiteration of the symbols of fertility and the cyclic rejuvenation of nature in such motifs as the sacred tree, sacred vine, the lotus and the garden itself perpetuated the overall idea of man's inter-relatedness with nature and the sense of hope and regeneration of life.

The early ideas of walled gardens and inward-looking courtyard gardens organically complemented the hot, arid environments of the Middle East and persisted after the advent of Islam. Allegorically, the Qur'anic Surahs describe two sets of two Paradise Gardens in detail. The promised images and elements describe four-quartered walled gardens composed of precise straight channels nourishing rows of fragrant flowers, shrubs and trees, underneath whose shadows pavilions of everlasting bliss occur. Surah XCVII reads: "In it are rivers of water incorruptible; rivers of milk of which the taste never changes, rivers of wine, a joy to those who drink; and rivers of honey pure and clear..." Based upon the Qur'anic recitations of the promised paradise, to which more than 120 specific and carefully described references are made, the concept spread east to India and the Asian sub-continent, ultimately reaching its height of development with the great Mughal garden tradition. The
Taj Mahal, the Shalimar Garden, Humayun’s Tomb and others in Pakistan and India are living testimony of this beautiful legacy. During the Timurid era, the idea spread north to Samarkand and Central Asia. Through the Arab conquests of the Levant and Egypt, the Paradise Garden spread west to the Arabian Peninsula and on to the Maghreb, Sicily, and Spain, ultimately helping to generate the original, classic French gardens. Even today, in the Court of the Lions in the Alhambra of Granada, a classic Paradise Garden, with four fold symmetry of cosmic plan, is the admiration of the world.

Theologically, this paradigm deals with the concept of a primal, timeless unity at the mythic creation of human kind in the Garden of Eden and is the promised place of the ultimate return on Judgement Day for the righteous. This concept of the eternal wish for a return to origins is evocatively phrased in Rumi’s poem "The Reed".

"Hearken to this Reed, forlorn,
Breathing, ever since ‘twas torn
From its rushy bed, a strain
Of impassioned love and pain.

"The secret of my song, though near,
None can see and none can hear,
Oh, for a friend to know the sign
And to mingle all his soul with mine!

" ’Tis the flame of Love that fired me,
’Tis the wine of Love inspired me,
Wouldst thou learn how lovers bleed,
Hearken, hearken to the Reed!

Rumi - 13th C.

Philosophically, the Paradise idea is a place of the mind where a serene sense of seamless oneness can exist between humanity, the universal and the Absolute. This particular way of viewing life and reality has been profoundly and elegantly developed in Islamic literature. One of the most widely-recognised original thinkers on this subject is the 12th century Andalusian, Muhayd-Din-ibn-Arabi, who brilliantly elucidated the concept of the Unity of Existence (Wahdat-ul-Wujud) in such works as the ‘Fusus Al-Hikam’ and the ‘Wahadat-ul-Wujud’ concept is structured on the simultaneous knowledge of two basic aspects of the Absolute: His Transcendence (Tanzih) and His Immanence (Tazhibh). Ibn Arabi maintains that various degrees of comprehension of this simultaneous knowledge of the Absolute are possible for us, ordinary human beings, depending upon our spiritual training in the unveiling (Kashf) of ultimate Truth. The Tanzih or transcendent knowledge is comprehensible through the faculty of man’s creative imagination (Khayal) whose principle instrument is intuition. This faculty in an architect or artist should generally be well-developed, but needs to be combined with, and elevated beyond, a purely temporal aesthetic level to the higher spiritual realms of consciousness. The Tazhiba, or measurable knowledge, is more easily accessible through man’s five senses and his faculty of rational discourse or reason (Aql). Reason is needed to collaborate with the intuitive imagination to generate a complementary and organically balanced perception of ultimate reality. The late scholar of Islamic thought, Professor Toshiko Izutsu, has written: "Only by combining the two concepts of Tazhiba (reason) and Tanzih (intuition) simultaneously does one generate a state or formula of ‘simultaneous perplexity’ that truly captures the essence of ultimate Truth."

The challenge, then, is the achievement of this extremely difficult and particular state of consciousness that the artist/architect and the project team must mutually attain to be able to perceive, express and manifest a truly creative and archetypal design that has universal validity. The 20th century master architect, Le Corbusier, wrote:

Architecture is a thing of art, a phenomenon of the emotions, lying outside questions of construction and beyond them. The purpose of architecture is to move us, Architectural emotion exists when the work rings within us in tune with a universe of laws we obey, recognise and respect. Architecture is a matter of “harmonies”, it is a pure creation of the spirit.
Korean Art: Its Contact with Central and West Asia

Abridged from a lecture given by: Prof. Lena Kim

Pre-historic Korean art is known to have originated with the nomad people dwelling in the Trans-Siberian Steppes, who roamed over the Eurasian plains stretching from Asia Minor to southern Manchuria. Some remote connection has been suggested linking these nomadic people with the comb-patterned Neolithic pottery which appeared in Korea from the fifth millennium BC, but a more tangible northern connection is apparent in Bronze Age artefacts with animal motifs found among the Luristan bronzes from Iran and gold objects of the nomad Scythians, now in the Hermitage Museum. Stylised Chinese derivations of these are seen in the Sino-Scythian bronzes from the Ordos region in Southern Mongolia, just north of the Great Wall. Bronze Age culture was introduced to Korea through Ordos to the Liaotung peninsula, where an early Korean state was established which spread to the Korean peninsula.

The shapes of horses, tigers or birds were further simplified in Korean bronze buckles and sword handles. The northern heritage of the horse-riding nomads also explains the Ural-Altaic origin of the Korean language and a strong shamanistic tradition in native Korean culture.

Lingering Scythian elements were found in the artefacts of the Three Kingdoms period, Koguryo (37B.C.-668 AD), Paekche (18 BC - 660 AD) and Silla (57 BC - 668 AD), but new forms were also introduced from the West and Central Asia through the Silk Road, developed after the time of Alexander the Great and activated by the expansion of Chinese territory as far west as Kashgar during the Han period (202 BC-220 AD). More cultural flows came from the West through the eastward spread of Persian Sassanian and Buddhist art from Kushan to Gupta India.

Most of the Korean examples from the Three Kingdoms period showing western connections are found among lavish burial objects including gold ornaments, items of glass, pottery and horse equipment. Many ancient Korean tombs yielded gold crowns decorated with stylised tree shapes with gold leaves and jade pendants. A possible northern connection is indicated by a very similar gold diadem found in a tomb at Tillya Tepe, Afghanistan. Archaeologists have also found a similarity between the internal structure and burial objects discovered in the earth-mounded tombs of early horse-riding settlers scattered along the plains in Al Mata, Kazakhstan and those in royal tombs in Kyongju, Silla.

Typical Silla crowns have stylised upright tree shapes and deer antlers. Prototypes displaying a more realistic rendering are found on a Scythian gold crown from Novocherkassk in South Russia, now in the Hermitage Museum. The western connection is demonstrated in the shape of the handle of a gold dagger inlaid with precious stones and glass in polychrome style similar to one depicted in a wall-painting at Kizil, Central Asia and known to be found in Borovoye, Kazakhstan and Iran. A jointed bracelet with two gold repoussé and inlaid panels and the filigree technique applied on gold ornaments show elements of West Asian metalworkmanship.

The most significant tomb findings revealing an obvious contact with western Asia are glass objects which may have been imported from the region near Syria or Sassanian Persia. Although the exact trading route is not known, most of the glass objects found in the fifth and sixth century Silla tombs are in the shapes of
bowls, ewers and bottles, and are thought to be imported items. Most of them are transparent, but some are deep blue or have blue dot decorations. An unusual glass bead, of about 3 cm. in diameter, with inlaid decoration of a human face and birds, is also known to be related to similar examples from West Asia, perhaps Syria or Iran.

Silla produced many high-fired grey pottery items in various animal shapes for burial offerings. Often these items have openings at the top designed for ceremonial use and their prototypes are found in early Iranian animal-shaped pottery. There is an obvious connection between them and the shape of rhythm, horn-shaped cups, cups ending in animal heads and having various forms of supporting stands. It is possible to imagine the ceremonial use of the rhythm from a well-known Chinese stone relief of the late sixth century, showing a group of West Asians (perhaps Sogdians from the region of Samarkand) drinking wine from one.

The East-West contact in Korean art is also seen in the structure of the lantern ceiling of the Koguryo tombs, where the four corners of the square ceiling shows successive narrowing down. Painted versions of the lantern ceiling are found in China in late Han tombs or on Tunhuang wall paintings, but structural examples are found further west in Bamiyan Buddhist caves in Afghanistan and its architectural prototype is found in dwelling houses in Asia Minor. Koguryo lantern ceilings are painted with symbols of the sun and the moon or flying celestial beings, suggesting that they represent heaven or the celestial world.

Contacts between the East and West were most active during the seventh and the eighth centuries in Asia. T’ang China expanded its territory as far west as Tashkent across the high passes of the Pamirs, with Koguryo General Ko Sun-ji playing an active role in these campaigns, and Korean envoys being sent to Samarkand and the capital of Sogdia. Meanwhile, the Arabs gradually gained power and moved eastward, finally stopping the Chinese expansion in 751 AD at the Battle of Talas. This event brought the Islamic culture to Central Asia and China and marks the point when the technique of paper-making was introduced into the Arab world. Changan, then the capital of T’ang China, was the cosmopolitan centre of international culture and trade. Envoys were exchanged and exotic customs introduced. All this was shared by the people of the unified Silla (660-935 AD) in Korea and of the Nara period (645-794 AD) in Japan.

In addition to the fact that Buddhist art and culture achieved dominance in Asia, many other art works reveal an international flavour. The three-coloured ceramic T’ang tomb figurines representing bearded foreigners, gilded T’ang metalwork with arabesque designs, some new forms of everyday utensils retrieved from the Anapchi pond in Kyongju, the capital of Silla, and the famous Soshoin treasures of the Great Temple in Nara, Japan, including various lacquer wares, textiles, musical instruments and mirrors all vividly illustrate the variety of precious goods that were brought from West and Central Asia to T’ang China, Korea and Japan.

Some of the decorative patterns that share common roots with the West Asian motifs are pearl-shaped roundels, a bird holding a plant in its mouth, or animals standing symmetrically on either side of a tree. Three-coloured ceramics ceased to be made in the late T’ang period in China with the introduction of high-fired ceramics but found their way westward to Central Asia and the Islamic regions.

Several Arab records of the ninth century, mostly by merchants, geographers, or postmen mention Korea and its people. In general they say that Silla is situated east of China, and has a very mild climate with fertile land and clear water and that, since the people there are so good-natured, once foreigners settle there they do not leave the country. Ibn Khurdadhbih, a postman from Samarra between 844-848 AD, mentioned the exact geographical location of Silla and its rich production of gold. The export items that were brought from Silla were silk, swords, horse saddles, ceramics, animal skins, etc., while various types of oils, spices, glass gems and horse food, etc. were imported.

Arabs engaged in active trade continuously from T’ang times onward. Koreans participated actively in trade mostly through Chinese ports on the southern coast. Records show that some Arab merchants came to the capital of Koryo in the early years of the eleventh century. After the Mongols occupied the vast area of the Asian continent and a part of eastern Europe in the thirteenth and fourteenth centuries, one would expect also some cultural exchange to have occurred in Korea. However, not many artefacts remain today to illustrate any such contacts.

In talking about the later stage of these east-west contacts, mention can be made of the imports of cobalt blue from the Islamic world (what the Chinese called “Mohammedan blue”), for the underglaze blue decoration in Chinese and Korean porcelains. Among the ritual objects still used in the court of the late Choson Dynasty (1392-1910), some ewers thought to be imported from China have an obviously Islamic shape.
Architecture: Present and Future
(A Seminar)

On December 23rd 1997, Dar Al-Athar Al-Islamiyyah organised a study seminar entitled "Architecture: Present and Future". The speakers were Dr. Nasser Rabbat, from the Massachusetts Institute of Technology, and Kuwaiti architects Dr. Ibrahim Majid Al-Shahin, Professor Farid Amin Abdal and Professor Muna Muhammad BousIFI. Those attending included a number of architecture students.

Dr. Rabbat presented a study on "Contemporary and Historical Arab-Islamic Architecture", in which he said that interest in historicism has reappeared in the Arab and Islamic world in recent decades. This was due to the influence both of the post-modernist current which calls for a return to reliance on historical identity as the source of the form and content of architecture, and of the increased interest shown by Arab and Muslim academics in national and cultural identity during the same period.

There are many trends of historicism in contemporary Arab-Islamic architecture, including romantic historicism, represented first in the architecture of the late Hasan Fathi, and plastic historicism, of which there were many practitioners of varying sensitivity and fineness of architectural taste. For example, the perceptive architect Abdulwahid Al-Wakil is a sculptor of Arab-Islamic, particularly Fatimid and Mamluk, historical forms, who refashions them as wonderful creations, although lacking clear historical support. Also, the Iraqi architect Basil Al-Bayati interprets historicism in a radical manner in his works. Many others share a scientific or rational historicism derived from the works of the later modernists, who reconcile rationalism of design and construction with historical and cultural perception.

As a cornerstone for their conception of historicism, there is agreement within all these trends to rely on a definition of contemporary Arab-Islamic architecture which allows for breadth and versatility. However, they neglect to consider the background of the definition, which depends uncritically on foundations of knowledge and history that do
not reflect modern theories locating the roots of any cultural product within its historical environment. For example, this definition fails to show the political and cultural background of the development of the concept of Islamic architecture since its appearance in the nineteenth century. It is also unable to comprehend the various contemporary meanings of the term "historicism" itself, which has become widely used in both the Islamic world and the West in the last two decades for historical, cultural and ideological reasons.

The vigorous, creative sequence of architecture in the Arab-Islamic countries, has simply been erased from the history of the development of world architecture. This did not happen all in one go, but took considerable time and effort in reconstituting and falsifying research, reaching a climax in the age of the European invasion of Islamic lands, the domination of modern Western civilization over the world and its almost total control over all aspects of artistic and cultural production, from the late nineteenth to the mid-twentieth century. From this epistemological turning-point, Islamic architecture was restricted and limited to Islamic religious culture itself. The architectural, constructional and decorative contributions -achieved by various social, political, ethnic, and historical forces in Islamic civilization were viewed as expressing only the religious and supernatural essence of Islam. The outbursts of artistic and architectural creativity which differed from the religious principles attributed, rightly or arbitrarily, to Islam were marginalized or completely eliminated from lectures on Islamic architecture on the pretext that they do not represent the general trend of Islam. Recently this restriction of the study of Islamic architecture within the historical and geographical confines of Islam -- caused by dropping it from the historical sequence of world architecture -- was intensified. In other words, Islamic architecture became the architecture of Islam only.

Dr. Rabbat then outlined the history of the concept of Arab-Islamic architecture since the beginning of the 19th century, traced its course and criticized it historically. He followed its applications in architecture until the present phase of historicism, after which he tried to trace the general outlines of historical criticism in modern Arab-Islamic architecture. He said of it that "despite the need for it, its importance, the honesty of its emotion and the warmth of its desire, it has brought nothing new that all modern European historians of architecture have not said openly from the beginning of the 18th century until the 1970s, or that was not implicitly assumed by all orientalists who studied Islamic architecture from this perspective." Dr. Rabbat concluded by saying that modern Arab and Muslim architects, by affirming the special character of Islamic architecture in their definition of its historicism, while relying on a framework that sanctifies all the assumptions of continuity in the history of Western architecture, did not in fact succeed in freeing modern Arab Islamic architecture from the special character of its culture and the limitations of the environment imposed on it. Neither did it open it up to the artistic and creative history of the world as a participatory, effective and indispensable member of the common human architectural heritage.

What is Architecture?

Professor Farid Amin Abdal gave a comprehensive definition of the concept of architecture. Referring to those who had attempted this difficult task, he said that the beginnings of the definition of architecture came in the writings of the late Saba George Shib and those of other master architects like consultant Ahmad Zakariya Al-Ansari, Ghazi Al-Sultan, Sami Ahmad Al-Badr and the late Dr. Riyadh Al-Naqib. Perhaps the fiercest upholder of truth, and at the same time the most tolerant, altruistic and self-sacrificing was the master architect, Ahmad Zakariya Al-Ansari, who was known for his firmness in spite of the suffering and hardship he endured in his pursuit of a true definition of architecture. He applied himself to removing the confusion between architecture as an art ('dira) and the engineering feat of constructing buildings (handasa 'ilm-mariya), and the confusion between geometry (handasa), as a branch of mathematics for the calculation of surfaces and shapes, and the concept of engineering ('ilm al-muharrimat).

In defining architecture, Professor Abdal probed linguistics, logic and philosophy, going back to Confucius and ancient civilizations in the Arab world and adjoining regions. He concluded with general trends in the definition of architecture in the 20th century, speculating on the identity of architecture, how and when it began, the difference between architecture and mere building, and the relationship between the structure of the human mind and architecture as an intellectual, cultural, civilising and psychological model.

He then analysed the transformations and revolutions in architecture in the industrial and post-industrial age, when those who organised industry and the economy for mass production took advantage of the industrial revolution in their attempts to "colonise architecture", as Ahmad Zakariya Al-Ansari put it. He resisted this trend of debasing architecture
by making it into a branch of engineering at a time when it was tempting to transform architecture into an instrument to promote and redesign new features for an age of regimentation of the economy and industry under the name of "Architectural Engineering" (handasa mi'mariyya). He pointed out that initially, the capitalist and communist systems were equally enthusiastic over the use of architectural engineering as an instrument in the military and civilian race to produce and industrialise.

Professor Abdul concluded that architecture is a creative activity which accords with concepts and ideas within and outside the human personality. He quoted the Swiss-born French architect, Le Corbusier, who saw the new architecture as establishing relations of harmony by means of raw materials, and said that architecture goes beyond functional needs. Architecture is flexible, with the spirit of order and unity of purpose. Architecture is excellence in relationships and dealing with quantities. Passion enables it to evoke an epic or drama from lifeless stone.

**An Intellectual and Linguistic Blueprint**

Turning to the concept of architecture in the Arab intellectual and linguistic context, Professor Abdul pointed out that many inaccurate Arabic texts and weak interpretations have contributed to removing all things Arab from what is designated architectural and civilised. At best, Arab civilisation has been portrayed as having learnt about architecture from other civilisations in the later phases of Islam. Because there was very little archaeological activity in the Arabian Peninsula, many Arab scholars accept these opinions, and do not trouble to research and investigate themselves. Dr. Abdulrahman Ghalib, the compiler of an encyclopaedia on Islamic architecture, has written: "It seems that in the Arabian Peninsula at the time of the appearance of Islam, there was no architecture in the true sense." The Kaaba itself was humble in form and material, and stood only a little taller than the height of a man. However, religious texts and literary manuscripts provide indications of pre-Islamic patterns while a framework of intellectual and sensory concepts can be found in pre-Islamic, and earlier, Arab legends. The writing of Dr. Ujaina frequently mentions the buildings and symbolic shapes of the ancient Arabs. They had what is known as the heavenly model (the higher world), the earthly model and the lower world (the underworld). Their ruined cities became known as the "homelands of the jinn" in the legend of "the land of Wa'isbar", the lost paradise, and the city of Abyar, dealt with by Yahya Al-Hamawi in his book Mu'jam al-Buldan. They are also mentioned in the dictionary: Lisan al-Arab. Religious writings from the time of Abraham culminating in the Holy Qur'an speak of, and portray, cities in the Arabian Peninsula itself, not only in Syria, Iraq and Egypt.

**Architecture as an Instrument of Public Policy**

In conclusion, Professor Abdul said, "The Arabs have known architecture, as have other nations with ancient civilisations, in its broadest and most modern sense. There are many historical indications that the Arabs and the earliest Muslims knew the relationship between architecture and the concepts of justice and public policy in both peace and defence. In a letter from Imam Ali (may God honour him) to
Malik Ibn Al-Harith Al-Nakhl, whom he made Governor of Egypt, he said: "Let your consideration in building up the land be more profound than your consideration in collecting the land tax, since the latter can only be achieved through construction. Whoever demands land tax without carrying out construction ruins the country and destroys it. And very little will go right with him... Nothing with which you lighten their burden will be burdensome to you. It is a treasure that they will give back to you in building up your country, making your government popular, winning their praise and rejoicing that you have brought justice to them." (Nahj Al-Balagha, p. 436). In summing up, Professor Abdal stressed that:

1 – There is a difference between mere building and architecture. Architecture is building, but not all building is architecture. A building is a three-dimensional structure, but architecture is building combined with art and science, with multiple meanings, dimensions and volumes that reflect the multiplicity and depth of civilization itself.

2 – There is a suspicious ignorance and pretence of oblivion in our scientific circles regarding the concept of the theory of knowledge in the arts and sciences, both ancient and modern. There is even the feeling that an earlier theory of knowledge, concealed and not declared openly, effaces everything old and new.

3 – The tendency to focus on word analysis indicates an unjustified and unhealthy fear of identification and harmony with the basic feminine entity in our social essence, in the social "we" (males and females). Art, beauty, music, poetry, literature and philosophy are all concepts which are subjected to forgery, disguise and corruption, but "architecture", as a comprehensive form of human art, science and philosophy in its strict definition, unlooses the shackles from a large number of concepts that have been restricted and suppressed.

4 – The confrontation between the most dominant ancient and modern civilizations has passed through unsuccessful phases. At the beginning, we chose collision, which required us to build up a combattant male ego only. The price of this was the denial of the female essence, and the loss, thereby, of the first round. Then followed another phase, namely that of the "flight into the past".

The correct course is to affirm our collective essence through accepting both its male and female dimensions, apparent and concealed, and for us to accept with complete courage the truth of human nature in full, with all its strengths, weaknesses and contradictions.

The Particular Local Character of Architecture

Dr. Ibrahim Majid Al-Shahin spoke about the particular local character of architecture in Kuwait. At the present time, he said, Kuwait is going through a phase of self-questioning, research and debate on the identity of modern Kuwaiti architecture. In order to resolve the issue, we must understand the link between architecture, development and cultural transformation, and the direct relationship linking the indigenous architectural heritage with the influences of external civilisations.

Dr. Shahin said that a study should be made of how the influx of architects and the opening-up of Kuwait to the outside after the discovery of oil affected the inherited architectural style. He called for an investigation of how international architectural offices participating in planning major construction projects have influenced architectural trends in Kuwait. He concluded that all these interacting influences led to a transformation in Kuwaiti society and its view of the style of imported architecture. New generations of architects emerged who interacted with scientific and cultural progress, and began the search for identity. This bore fruit in a number of architectural projects which were given a local architectural identity specific to Kuwait and its historic heritage.

Architecture as a Product of Civilisation

Muna Muhammad Boursli, Deputy Director-General for Planning Affairs in the Kuwait Municipality, spoke on many points concerning the relationship between architecture and civilisation, stressing that architecture is one of the most important products of civilisation. The basics of architecture and architectural thinking are part of the heritage of civilisation because they underlie construction and general growth and development in all periods. The importance of architecture as the physical expression of how people in any society live, think and view life cannot be ignored. Architecture, in its different forms and styles, reflects life and, through it, the cultural and civilisational heritage of any people is manifested. Through the buildings and edifices of civilisation's architecture, a picture is provided which is an echo of the information and ideas which this civilisation has assembled. Whenever it is an honest and comprehensive expression of society, asserting the connection between the constituent elements of its life and the interaction between the individual and his functional needs, architecture continues through the ages with vitality, regeneration and dynamism to influence succeeding generations.
Encountering Remarkable Men: Mystics in Mughal Paintings

Abridged from a lecture by: Dr. Rochelle Kessler

The association of Muslim rulers with religious personalities has numerous precedents. The sponsorship of religious institutions could provide a ruler with a very public display of generosity and piety. The patronage of prominent Sufis and their khanqahs or hostels could even provide a means to extend and legitimate rule over a territory. As a foreign minority ruling much of India, the Moguls sought avenues to legitimate their rule over a predominantly Hindu subject populace, and establish themselves as prominent leaders within the larger Islamic world.

The Moguls emulated their Timurid forefathers in patterns of politics and piety. Following a Timurid precedent, sixteenth and seventeenth century Mogul rulers often commissioned manuscripts with religious or mystical themes, lavishly illustrated with individual or group portraits of mystics, and paintings of meetings between Mogul rulers and mystics, rulers and nobles visiting saints or their shrines.

Although surveys of Mogul art often include examples of such paintings, they have never been systematically studied as a group. I will present an overview of those produced under the Emperors Akbar, Jahangir and Shah Jahan, and biographical and historical sources which may provide insight into the commission of these works, and their functions within the complex pattern of Mogul legitimation.

Were these paintings simply propaganda and self-aggrandizement of politically astute rulers? Or do they also give insight into the genuine piety and personal beliefs of their Mogul patrons? To establish the importance of Mogul rulers' association with mystics, it is important to look at precedents set between Muslim mystics, particularly the Chishtia Brotherhood or Sisila, and pre-Mogul Muslim rulers.

Although Sufism appeared in the subcontinent shortly after the Muslim conquest in the early eighth century, it was not until the late twelfth and early thirteenth centuries that its full impact was felt, with the Suhrawardy, Firdawsi and Chishtia brotherhoods. One of the most important orders, the Chishtia Sisila, was introduced into India in 1193 by Muinuddin Chishti of Sijistan.

Teaching universalist aspects of Islam and egalitarian avoidance of religious and class discrimination, the Chishti order spread rapidly and gained many Hindu and Jain converts. They soon became the most prestigious Sufi order in India, courted or coerced by rulers who sought to associate themselves with a prominent sheikh for spiritual and temporal legitimacy. It was believed that the sheikh and his vilayet, or sphere of influence, were imbued with baraka or blessing, and could influence political and material events. Even the prosperity or decline of the kingdom might be equated with the quality of association of its ruler and a Sufi sheikh.

Early Chishtis tended to mistrust rulers and their agents, preferring to live ascetic lives and refusing land grants or income from sultans. This avoidance of royal patronage created an ambivalent relationship between Chishtian sheikhs and rulers of Delhi. For the sheikh and his Delhi khanqah, the challenge was how to live in the centre of an empire, yet resist consorting with its rulers or becoming involved in government, as some other orders had. Qutbuddin Bakhtiar Kaki, who died in 1235, was designated Muinuddin's successor and sent to Delhi. He was held in very high esteem by Ilutmish, the first king of the so-called slave dynasty, but his successor, Bahauddin, known as Baba Farid, felt the political situation was so uncertain that he should leave Delhi.

Some interesting anecdotes illustrating the belief that a Sufi sheikh's power could shape events are found in recorded sayings of Baba Farid and his most eminent khalifas, Nizamuddin Alia who, at 23, was entrusted with the Delhi sultanate and its expansion. Sheikh Nizamuddin commented that, when the Mongols besieged Multan, Sheikh Qutbuddin Bakhtiar one night gave the ruler an arrow, with instructions to loose it against the unbelievers. In the morning, the besieging host had miraculously vanished. Nizamuddin noted that, when the wilayat of Sheikh Farid ended with his death, the Mongols devastated the Punjab. According to Simon Digby, who has written extensively on the spiritual and political role of a Sufi sheikh in medieval India, the spoken words, nafas or breath of a sheikh, once uttered, had such force that the sheikh himself was powerless to reverse its course.

The ambivalent relationship of ruler and sheikh continued throughout the career of Nizamuddin, Sultans not only feared the sheikh's spiritual power, but were also suspicious that hostels might provide shelter for politically estranged people, who might be incited to rebel. According to the Siyar Ala, a biographical source compiled within a generation of Nizamuddin's death, Sultan Firuz Shah Khalji, knowing the sheikh's reluctance to meet him, planned to pay him an
unexpected call. Warned of this, Nizamuddin immediately left Delhi. During the reign of Alauddin Khilji, from about 1296 to 1316, Nizamuddin’s influence reached great heights. At the instigation of those envious of Nizamuddin, the Sultan decided to test if the Sheikh had any intention of disrupting his rule. Satisfied that Nizamuddin had no such interest, the Sultan decided to pay him a friendly visit. The Sheikh's message was sent back to Sultan Alauddin. "There is no need to come. I am occupied in deep prayer." When pressed again, the Sheikh made his final pronouncement: "The house of this weak and infirm one has two doors, if the Sultan enters by one, I shall leave by the other.

Note the influence of mystics upon Timur, the Mongol ruler from whom the Moguls claimed paternal descent. The association of Timur (Tamerlane to the West) with Muslim mystics began at an early age under the guidance of his father's spiritual adviser, the Sufi Sheikh Shamsuddin Pulaw. Illustrated Timurid manuscripts of the late fifteenth century, which symbolically allude to the association of Timur and his descendents with mystics, could have later provided inspiration to Mogul artists and patrons.

Babur, the first Mogul emperor, emphasised his family's descent from the jingizid and Timurid dynasties. This lineage was articulated in his Baburnamah and continued in biographies of subsequent Mogul rulers, often illustrated with genealogical charts. One chart shows Akbar (Babar's grandson) in the centre, taking and handing over the Timurid crown to Shah Jahan, his grandson, while the father Jahangir looks on.

According to biographical and historical narratives, in his Central Asian homeland Babur held Sufis in high esteem and was influenced by the Naqshbandi Sufi order. After establishing rule in India, Babur continued his patronage of Sufis and their shrines, and considered them of personal and political importance.

According to Babur's memoirs, within days of defeating Sultan Ibrahim Lodhi at Panipat in 1526, he moved south to Agra, making symbolically-charged pilgrimages to the tombs of significant spiritual and temporal rulers of Delhi. In his Baburnamah, he records: "On Tuesday... I circumambulated Sheikh Nizam Ali’s tomb and camped... directly opposite Delhi. That evening I toured the Delhi fortress. (This was probably the fifth city of Delhi built by Firuz Shah in the mid- to late fourteenth century, where he spent the night). The next morning, Wednesday, I circumambulated Khoja Qutbuddin’s tomb and toured Sultan Ghiyathuddin Balban’s and Sultan Alauddin Khilji’s tombs, buildings and minarets."

He mentions visits on Thursday to the tombs of Lodhi Sultans Bahlul and Iskander. On Friday, in keeping with tradition established by many Muslim rulers, Babur had the khutba read in his name. This asulate founder of the Mogul empire was no doubt well aware of the history of Delhi and its rulers, and deemed it important to make the shrine of Chisti, the so-called King of Sheikhs, the first stop in his tour. Babur followed in reverse order the pattern set by his ancestor Timur who, after conquering Delhi in 1398, ordered the khutba to be read in his name, and then visited the old cities of Delhi. Babur even brought a copy of Sharafuddin Yarali’s Zafarnamah, the history of Timur, with him on campaign. Babur's tour included three elements: a symbolic appropriation of the land; contemplation of the ephemeral achievements of past rulers; and an expression of his association with the spiritual authority of Sufis. These three items set a precedent followed by Mogul emperors Akbar, Jahangir and Shah Jahan.

Humayun, (ruled 1530-40) had to seek exile in Iran under Shah Tahmasz until 1555, and died in 1556. Humayun, Babur's son and heir, was a patron of the arts, and brought two skilled artists from the court of Shah Tahmasz Safavi to India, when he triumphantly reclaimed the Mogul throne in Delhi in 1555. Only a few paintings might be ascribed to his rule, and none depict mystical themes. Humayun was attached to the Sufi Sheikh Pulu, also known in Mogul annals as Sheikh Buhlu. According to Mogul historical accounts, Sheikh Pulu met a tragic end serving Emperor Humayun. The Sheikh was selected as a peace envoy to the camp of Humayun's brother and rival to the throne, Mir Hindal. Provoked by companions, Mir Hindal executed Sheikh Pulu in 1538 to prove that he had broken ties with Humayun.

Under Akbar (ruled 1556-1593), the imperial Mogul painting workshop was established. Illustrated manuscripts of poetic, allegorical, religious and historical subject matter produced in the early Akbar period were modelled largely upon Timurid and contemporary Safavid prototypes. Usually paintings from this period were products of multiple hands working to complete a single composition. A late fifteenth century Timurid illustration, of Iskander visiting a hermit, shows a striking similarity in subject matter and composition to a Mogul painting approximately one hundred years later. Both paintings share depictions of kingly figures seeking advice and solace from hermits, and were produced to accompany poetic and allegorical texts. These figures are examples of generic types, devoid of any particular identification and, without an explanatory text, there is no way to identify the characters. In one, you have a very lush Timurid landscape, use of architectural design, and these idealised faces that were so typical in Timurid and later Safavid paintings. In the other you have basically the same idea, with the mystic and a young unidentified prince, meeting him in his rocky hideaway. This composition, a princely figure at the home of an ascetic or dervish, is repeated in several later paintings.

The depiction of long-deceased prophets and saints was left to the imagination and ingenuity of the artist. One painting dramatically illustrates the story of a Sufi who seated himself solemnly on his prayer mat which was spread upon a bed of hot coal and flames. In this painting from the Nalhat Allahs of the eleventh century Persian poet Lami, Zoroastrians and others look on in amazement at this incredible sight, that even the heat of a roaring fire must submit to the will of God.

A Mogul manuscript from 1603 is one of two known illustrated copies of Lami's text, containing biographies of 567 Sufis. Seventeen of the original 30 illustrations remain with the text, in the British Library. These illustrate a picture of a sheikh so overcome with spiritual intoxication that he picks up another mystic, spontaneously puts him on his shoulder and starts dancing around.

Another brilliantly conceived painting depicts the Prophet Elias, his head surrounded with a flaming nimbus, walking miraculously on water and pulling along a prince whom he has rescued from the sea. One of Basawan's works, circa 1593, illustrates the Sufi, Abu Abbas, rebuking a vain dervish who is very carefully stitching his mendicant's cloak, which is supposed to be a bit of cash-off clothing.

Due primarily to the influence of European works of art introduced by Jesuit priests during Akbar's reign, we increasingly observe a transformation in Mogul paintings from generic representation of rulers and mystics to a more realis-
tic style of depiction. With new artistic techniques and the concept of naturalistic portraiture, we can identify the emperor at various stages of his life in illustrated manuscripts of the Akbarnamah, written by Abul Fadi, his biographer. The Akbarnamah begins actually before his reign and many pictures of Babur and Humayun also were from Akbarnamah manuscripts.

Mogul portraiture reached its apogee under the rule of Akbar's son Jahangir, and was even further refined under Shah Jahan. In one picture, dated about 1593, we can identify young Akbar seated before the saint Baba Bilar, Akbar still wearing the Humayun-style turban. This is another way...
of recognising who these characters are, because later the turban type changed, and Akbar appears in a more rounded turban. Akbar met his venerated renunciant when his father sent him off at the age of nine to Ghazni to prove his mettle. On an earlier occasion Humayun himself had visited the hermit, and during Akbar’s stay in Ghazni he visited Baba Bilar in his cave sanctuary on several occasions.

Illustrations from Akbarnamah tests also documented many of Akbar’s visits to Sufi shrines. His pilgrimage to the shrine of Mianuddin Chishti at Ajmer in 1562 was the first of many visits, and marked the beginning of a long-standing association of the spiritually prestigious Chishtia Sufis and Mogul emperors.

According to Abul Fadi, the inspiration for this visit occurred when the emperor was hunting one evening and overheard a group of minstrels extolling the saint’s virtues in devotional songs. On his way to Ajmer, Akbar also married the daughter of Rajah Bihariyal, thereby cementing a political alliance between the Mogul court and Hindu Rajput nobles.

According to Mogul historical traditions, it was due to the intercession of a contemporary Chishtia Sufi, Sheikh Selim, that Akbar produced an heir. Illustrations from an Akbarnamah circa 1559, and a Jahangirnameh done in his son’s reign circa 1605-10, record the celebrations surrounding the blessed event. After meeting Selim Chishti, who predicted that the Emperor would have three sons, Akbar returned to court to find one of his wives pregnant. She was immediately transported to the home of Selim Chishti in the village of Sikri, where she gave birth to Akbar’s first son and heir in August 1569, named Selim in honour of the Sufi.

The decade following Selim’s birth was filled with momentous personal, artistic and spiritual occasions for Emperor Akbar. As prophesied by Selim Chishti, Akbar was blessed with two more sons. His father Humayan’s tomb was completed, and orders were given to begin construction of a new capital, Fatehpur Sikri, at the site of Selim Chishti’s village.

These events were followed by Selim Chishti’s death in 1572, and Akbar’s first encounter with Europeans. Akbar invited Jesuit missionaries to his court. In subsequent years works of art were exchanged, and his own people went to Goa and spent two or three years with the Jesuits there, learning various European techniques.

Two paintings from an Akbar manuscript document Akbar’s 1578 visit to Sheikh Farid Bahauddin’s tomb, and a meeting of Akbar and Jesuit padres at the Ibadatkhana or House of Worship at Fatehpur Sikri. Within two months following Akbar’s visit to Sheikh Farid’s tomb, the Emperor had another mystical experience while hunting. This was one of two spiritual encounters that overcame him, that were actually witnessed by other people and mentioned by Abul Fadi and other historians.

After this, Akbar halted the killing of any more animals and proclaimed that, on certain days, the slaughter of animals would be prohibited. A few months later, Akbar opened up the Ibadatkhana for the first time to representatives of all religious affiliations - Zoroastrians, Hindus, Christians, Jews and, of course, Muslims - for debates and discussions on religious and philosophical topics. Evidently the Jesuits would very carefully prepare things to talk to Akbar about. This happened also in Jahangir’s reign. The Jesuits hoped they could lure the Mogul emperor into converting to Christianity. This would also mean more trade concessions for the Portuguese, who were then trying to make inroads into India from Goa.

As a rebellious prince impatient to rule, Jahangir set up his own capital at Allahabad and began to commission his own imperial manuscripts. Following in Akbar’s footsteps, Jahangir had Hindi stories translated into Persian, such as the Yogveshah, based on a twelfth or thirteenth century Sanskrit work which focused on various concepts of Indian philosophy, and tried to reconcile a ruler’s temporal duties with his desire to attain spiritual enlightenment. This theme was obviously of great interest to many Mogul rulers.

Upon his accession to the throne in 1605, Selim took the grand title of Jahan or World Seizer. In his relatively stable empire, Jahangir had the luxury of becoming a connoisseur and patron of the arts, with a keen, inquisitive nature rivalling that of his great-grandfather Babur. Realism and naturalism in portraiture were further developed by his artists, whom he encouraged to develop their unique talents and individually design and complete an entire painting. Often these were signed. Under Jahangir we see an increased number of paintings of allegorical subjects, intimate groupings and single figure compositions. Unlike paintings specifically commissioned earlier to illustrate epic historical or poetic texts, many of these paintings were individually produced for insertion into albums (muraqqats) and interspersed with specimens of calligraphy. The interest in allegorical paintings in Jahangir’s reign increased when a new source of European art works was introduced with the arrival in 1613 of Sir Thomas Roe, the Ambassador of King James I in England. Amongst diplomatic gifts brought with Roe and subsequent European visitors were prints, engravings and paintings of secular themes, and allegorical portraits of European rulers. The introduction of this imagery gave Mogul artists yet another format to express their internal image.

Two portraits of Jahangir honouring religious personalities are in the Freer Gallery in Washington DC. In one, circa 1620, Jahangir is distributing books to orthodox sheikhs, during his Gujarat visit in 1619. Slightly earlier is the allegorical painting of Jahangir offering a book to a Sufi, identified as Sheikh Hussein of the Chishtia line. Jahangir sits with full attention to the Sheikh, and actually ignores two regal guests who stand mutely in the bottom: the Ottoman Sultan, and the King of England himself, who did not attend court - this is an allegorical painting. These paintings would have originally been produced for the enjoyment of the emperor, given as gifts to family members and worthy nobles, or sent as diplomatic gifts to other rulers. Such a gift could serve both to amaze the viewer with its obvious aesthetic appeal, and offer a more exclusive reminder of the political power, accomplishments and resources of the imperial patron.

The painter Gobadran was active in workshops under both Jahangir and Shah Jahan. Gobadran was an accomplished specialist in the portrayal of mysteries, devishes and eccentric religious figures, and rendered his figures in hues of warm ochre and brown. Basawan was one of the foremost artists, considered number four, according to Abul Fadi, in Akbar’s atelier. He also loved to render various mysteries very sensitively. Born into the workshop, Gobadran was one of Basawan’s students. And even before Basawan and Gobadran, this kind of imagery was very popular.

Some of the most compelling illustrations of mystic and Mogul meetings are those depicting Shah Jahan’s heir-apparent, Dara Shikoh. These intimate groupings usually portray the prince, an accomplished poet and student of mysticism, seated in reverent attention to the words of Sufi teachers. Diverging from the traditional Mogul Chishtia association, Dara was initiated into the Qadiriyya Sufi tradition by Mullâ Shah Barakshâ, a disciple of Mînî Mir. We have one picture,
identified as Dara with some mystics, and in another the young prince sitting in attendance with yet another unidentified mystic. We have quite a few representations – probably from contemporary sketches reproduced over and over – of both Mullah Shah and Mian Mir.

A fascinating group of paintings during Shah Jahan's reign document real and imagined gatherings of Mogul rulers with mystics. One example, now in Saint Petersburg, documents an occasion when Jahangir and his nobles attended an assembly of dervishes engaged in ecstatic religious dancing, at Sikandra, Akbar's tomb complex. Atmospherically charged, in these paintings one can almost hear the ritual repetition of holy names, dhikr, and the playing of instruments drifting through the night air. Another painting, from the Victoria and Albert Museum, does not depict Mogul rulers, but instead gathers a group of long-deceased Hindu and Muslim mystics. Eleanor Glacken identifies the setting as Aimmer, and has suggested that this painting and some from this group may have been commissioned by Dara Shikoh the prince. One could well imagine that this would be a sort of pictorial wish list for the prince, bringing together saints whom he admired and revered. He and his sister Jahanara were both initiates into the Qadiriya Silsila, and Jahanara said, 'of all the descendants of Timur, only we two, brother and sister, were fortunate to obtain this felicity. None of our forefathers trod this path in quest of God and the truth.'

I conclude with a presentation of Muslim mystics interacting with Shah Jahan. Others have often emphasised the increasingly orthodox views of Shah Jahan, exemplified by a double page painting, circa 1635, of the Emperor's celebration of the Prophet's birthday, in which nobles, scholars and 'ulama are in attendance. The very composition of this work typifies the static, formal, yet richly illustrated style of painting produced under Shah Jahan.

Other works, however, remind us that Shah Jahan had more mystical connections, at least in his early years. In another illustration of Sufis in ritual dance, from the St. Petersburg muraqqa'a, we see an ageing Shah Jahan in attendance, and an interesting mid-17th century painting from the same muraqqa'a shows the prince who later becomes Shah Jahan seated with his father Jahangir, with a group of Sufis.

This sort of allegorical painting continued, and this association with various rulers as legitimisers is even repeated when the artists of Shah Jahan would look back to Shah Jahan's forefathers. In one picture in the Chester Beatty Library, dated about 1635 during the reign of Shah Jahan, we see Sheikh Muinuddin Chishti holding a globe which represents the Earth and the Timurid crown for Jahangir.

I would tentatively suggest that much of the visual and textual evidence indicates that Akbar, Jahangir and Dara Shikoh had a very genuine and personal interest in mystical pursuits. I qualify this with the comment that the subject, which weaves together the issues of religion and politics, artistic patronage and production is a very complex one, taking much research and scrutiny to unravel its threads.