

al-Ghadir Mosque, Tehran



Project Data

Location: Mirdamad Boulevard, Tehran
Client: Donations from local Community
Architect: Jahanguir Mazlum, Tehran
Design: 1977 (begun)
Structure: Reinforced concrete
Completion: 1987

The al-Ghadir mosque project in Tehran is a recently completed complex that includes prayer halls, classrooms, library and offices. Its architect, Jahanguir Mazlum, was selected in 1977 by a group of local benefactors proposing to finance construction on a site, rather restricted in its dimensions (15.2 by 55 metres), located on a major boulevard in one of the city's modern residential neighbourhoods to the north. As a building with social as well as religious functions, such as a no-interest loan office, portions of the structure have been progressively completed and opened for use over the last seven years — the mosque being the final phase to be terminated in 1987. Constraints imposed by the tight urban site with buildings on either side shaped the architect's choice to place the main prayer hall facing south onto Mirdamad Boulevard and the social facilities to the north, easily accessible from the residential quarter. Although conceived essentially to serve the needs of the local

return to a more traditional style of building in harmony with previous Iranian civilisations and types, yet its form is unusual, reminding one almost of the pigeon towns of Isphahan. Thus, the prayer hall's height and form provides an ingenious link between the public, institutional architecture of Mirdamad Boulevard, and the lower social hall which faces the two-to-four storey dwellings behind the mosque.

Once the preliminary decisions concerning the location of the various functional parts within the volume of the building had been made, the fundamental choices resulting in the form of al-Ghadir mosque were related to ritual considerations within the framework of principles and conceptions forming the basis of Shia Islam and belief in the twelve Imams. Among these there were three main elements which have been determining factors in the environmental qualities of this mosque. These are: the *qibla*: the philosophy and symbolism of Shia thought; and, the solicitude of Muslims towards the heavens. A brief explanation of these may be necessary.

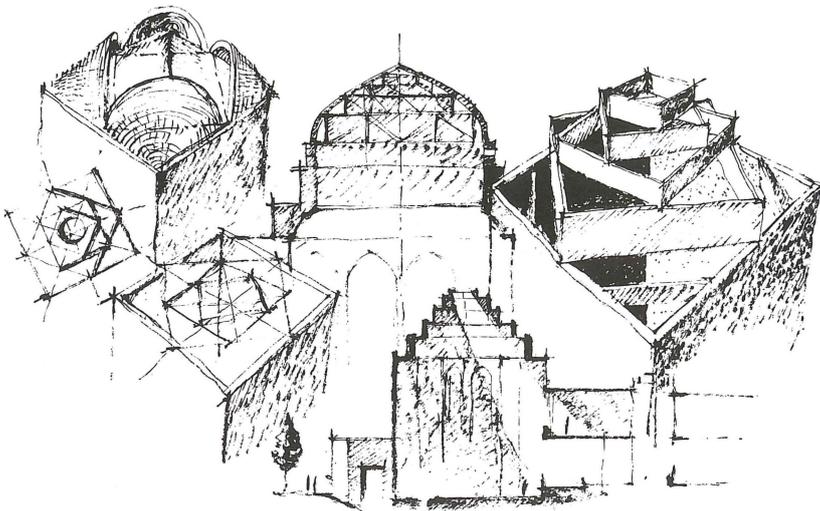
The direction of the *qibla* in the al-Ghadir mosque could not take into account in a logical way the two existing zones, one private and the other public, mentioned above. It was therefore imperative to design first the interior shape of the prayer halls, and then to reflect this in the exterior volume of the mosque. In this way, it makes it possible to distinguish its prominence in an unambiguous manner. This had to be achieved in a delicate manner, and great attention was given to this point. Satisfying this requirement became possible by blending it with the philosophy of the twelve Imams Shia thought: Where the main prayer hall takes a dodecagonal shape, one of the sides was located in such a way as to stand perpendicular to the direction of Mecca, forming the entrance and fixing the orientation of the devotees. In other words, upon entering the mosque and then the main prayer hall, the person who comes in to pray gets a progressive view of the *qibla*, becoming conscious of its presence as an independent space (as opposed to the other adjacent walls of the mosque). Thus, the independence of the *qibla*'s direction is clearly distinguishable when looking at the main volume of the building (the prayer hall and its roofing) from the outside. The extent to which attention has been paid to this criteria, through the selection of materials and



View of northern Tehran, with the Mirdamad neighbourhood (at bottom).

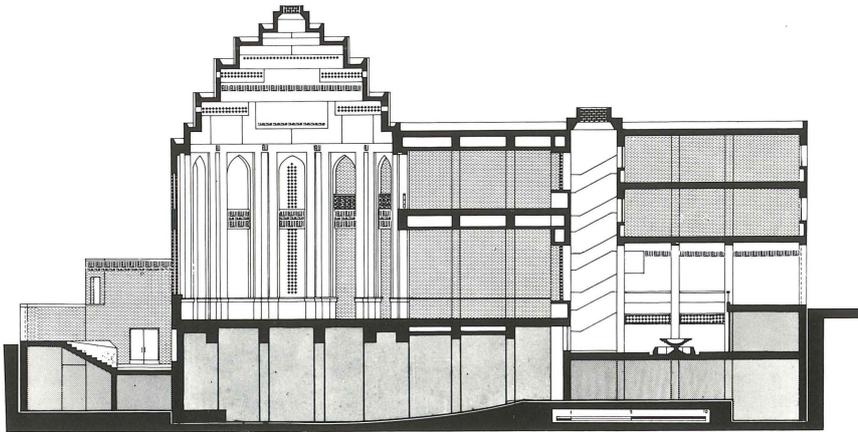
community, the al-Ghadir mosque has two aspects which give it a distinctive status in contemporary Tehran, notorious for its rapid growth and as a showcase of modernist architectural styles. The first aspect is the mosque's location on a small plot in a posh neighbourhood. It is practically hidden by the plane trees which line this wide thoroughfare, named after Mirdamad, the famous Safavid era calligrapher. Secondly, its formal aspect as a tall, twelve-sided prayer hall dressed with cutbrick and ceramic tiles distinguishes itself from the banal architecture of its neighbours. It represents a

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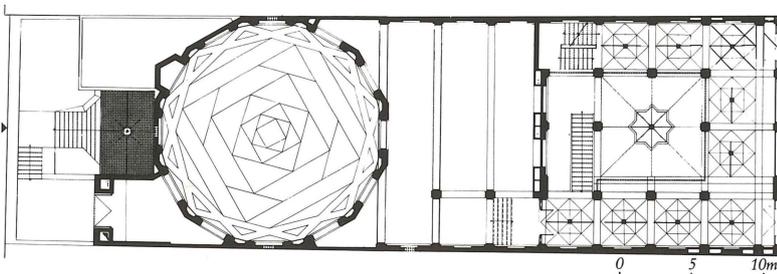


Above: Exterior view of the al-Ghadir mosque with the entry from Mirdamad Avenue.
 Left: Preparatory sketches for the structure of the dome over the prayer hall.

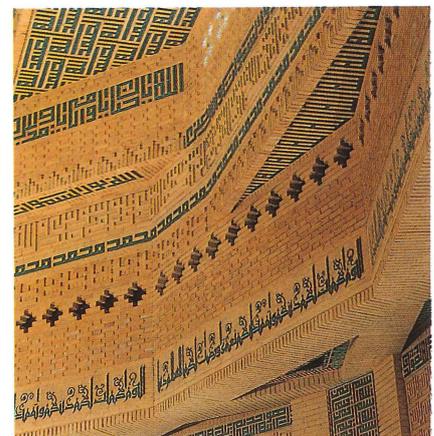
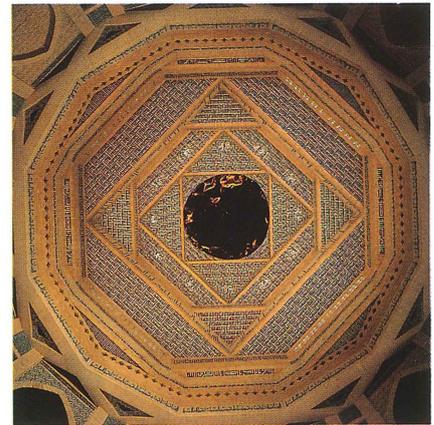
colours, constitutes the following item of the present brief report; however, in the present instance, the materials selected to cover the building in order to distinguish it in its urban surroundings should also be noted. The third principle element which played a role in determining the particularities of the volumetric plan of this mosque — and may even be seen as offering a synthesis in this regard — is the sky, and an attention to that which is loftiest. Such attention, respect and sanctity, has been translated into the architectural composi-



Section of the mosque complex, with prayer hall for men, women's prayer gallery and amphitheatre (below level). Social services are at left.



Plan of the main prayer hall (left) and its dome with the entry from Mirdamad Avenue and socio-religious building (right).

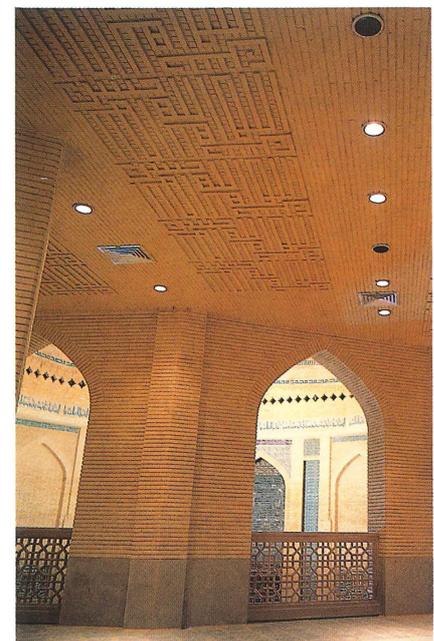


Top: View upwards into the dome with chandelier (centre). Note the natural lighting and the calligraphic inscriptions.

Above: A variety of decorative motifs on the upper facets of the main prayer hall dome.

Below: Women's prayer hall, showing the calligraphy on the ceiling which has been done in a way that faces the mihrab.

Right: The prayer hall and mihrab.

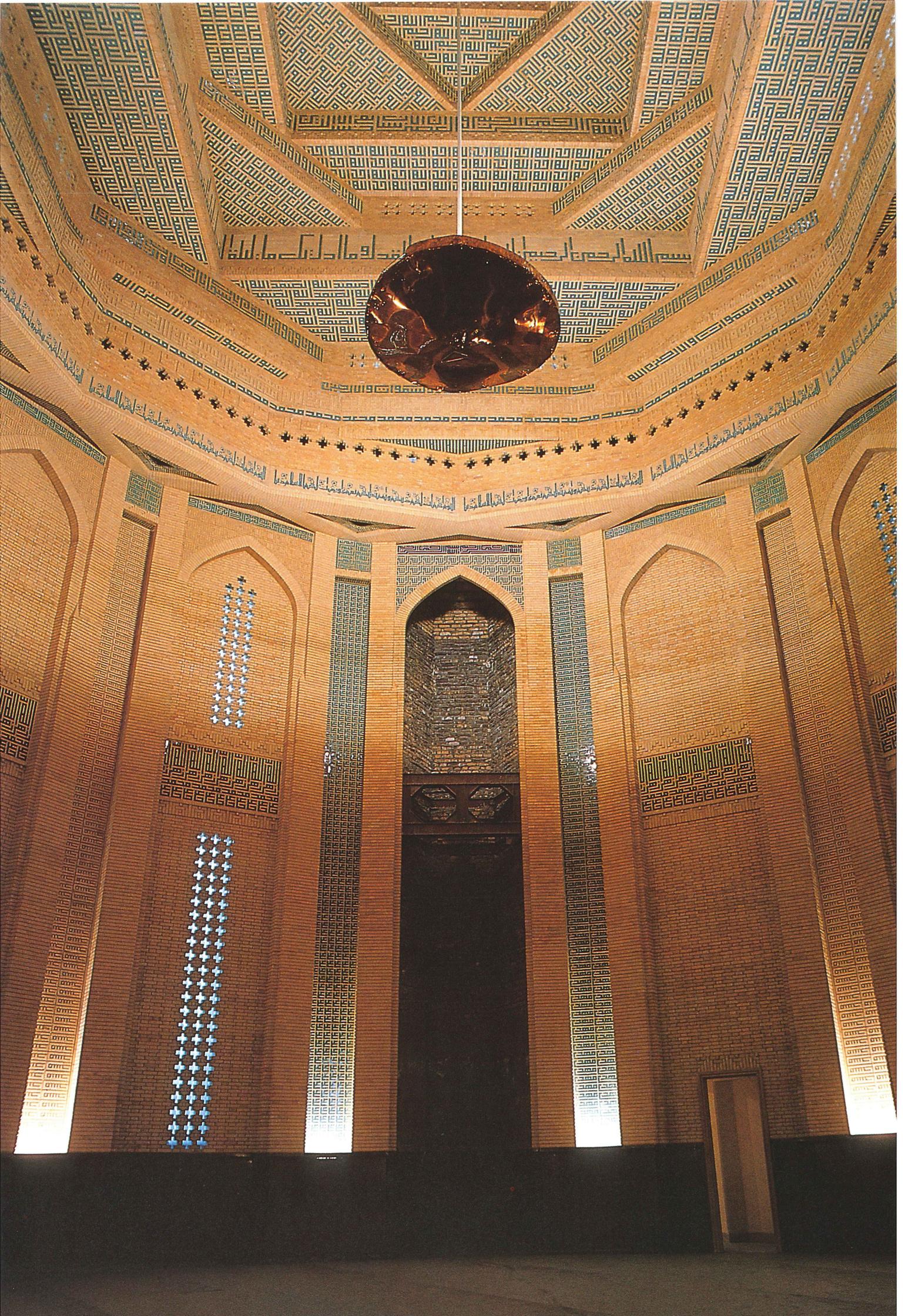


tion and given shape to the main space of the mosque. Attention is drawn to the 12 decorated, illuminated sides facing the sky, respect is elicited for the selected verses of the Holy Koran relating the connection between God and man, and a sense of sanctity of space created wherein one can only reflect upon sublimation. All have been kept in mind in determining the form of the mosque; and where the volume of the elevated *mihrab* protrudes from its main body, it arouses the same feelings of attention, respect and sanctity in the passers-by.

The feelings are also reinforced, whether among the passers-by or those seated within the mosque, by the unusual interpretation of the dome form, which displays a new idea and role. This "dome", set above the dodecagonal prayer hall and conforming with certain fundamental choices related to the situation of the *qibla* and the symmetrical shape of the prayer hall it covers, gradually evolves from perimeters of 12, then 8, 4 and finally 4 smaller sides which was a device traditionally used to make the transition from a square to a circle. In this case, the roof is not ultimately a spherical dome; the sequence of rotated square forms allows light to filter downwards at

the corners, whereas the corners were traditionally solid and served a structural role. A symmetrical arrangement of openings provides light for all the interior surfaces, whether vertical or in broken planes. The fragmentation of successive surfaces rising into and forming the roof makes for a calculated "perspective" — particularly when seen from the outside — which is aimed at drawing attention aloft to the sky. Thus, an essential, time-honoured Iranian concept of covering vast surfaces by means of a dome has been followed, albeit relying on contemporary techniques and materials. In designing and constructing the dome of this mosque, the full range of technical know-how, such as the insulation methods commensurate with the climatic conditions prevailing in Tehran, or the possibilities afforded by the utilisation of steel in the transmission and compensation of shear stresses, has been respected.

In selecting the construction materials, whether for the interior spaces (such as the main prayer hall) or in view of achieving the exterior appearance of the body of the mosque, care has been taken to follow a path of simplicity and purity, and to avoid combining commonplace, purely eye-pleasing colours. In this re-





A prayer hall. Note the calligraphy on the ceiling and walls.

gard, it seems useful to note a few points.

The structural frame supporting this mosque is comprised of metal and reinforced concrete, which in some parts assumes a pre-eminently functional nature, while in others it is compounded with an aesthetic, symbolic function. What should be emphasised is that the *structure* of the al-Ghadir mosque follows its *form*, and this is hardly apparent either to its non-architect users or architects generally. In reality, the structural system acts as a support for the limited range of materials placed upon the vertical, horizontal, slanted, or occasionally curved surfaces of the edifice. Among these, in decreasing order of importance are bricks, tiles, granite slabs, glass and metal. Simplicity and purity of expression was a pervasive concern.

Bricks form the vertical outer and inner sheathing almost everywhere. Patterns are created through modulated hollow spaces within flat areas and are either protruding or recessed motifs combining bricks and tiles. These patterns visible throughout the building whether on wall surfaces, under the intersecting roof sec-

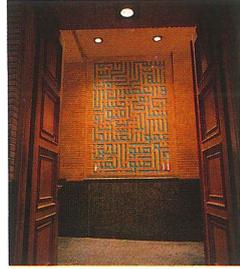
tions, on the protruding and recessed elements indicating the *qibla*, or on the coverings of some of the main beams in secondary areas, are compositions derived exclusively from Kufic (linear) calligraphic shapes. Nowhere in the entire building does one find traditional, or even modern, geometric or floral patterns; the inscriptions expressing selected verses of the Koran are uniformly set in a modular system based on the thickness of bricks and mortar, and comprised of cut bricks and blue tiles.

Light and Sound within the Mosque

The interior of the *mihrab* is covered in its entire height, and over its multiple facets, with golden surfaces based on a 6 millimetre module. It is entirely covered with a repetitive composition of the word "Allah", through the small interstices by which light shines into the mosque. The same lighting system has been utilised — on different scales — elsewhere in the building, for example the corridors, stairways and landings. It should be remembered — from the section dealing with the environmental specifications and location of the building — that al-Ghadir mosque is situated in an area with considerable automobile traffic,

the din of which is incompatible with the needs of concentration and prayer. To resolve this, daylight is brought into this main prayer hall from above by way of slots located in the outer shell. It shines through thick crystal which acts as soundproofing and reaches the interior through similar slots incorporated amid the calligraphic decoration on the twelve walls of the hall. The artificial lighting system operating at other times also produces indirect light via the same slots, as well as by a chandelier inside the dome. Finally, the uneven surfaces of the cut bricks which break up the angles of the dodecagonal prayer space contribute to its acoustical qualities.

Solving the transmission of structural stresses while at the same time drawing the viewers' attention towards the sky was common practice in the past. Satisfying both these needs has been achieved in a novel way in al-Ghadir mosque: instead of following the regular, symmetrical division implemented in the past, the stresses are here transmitted in a freer manner to the lower levels, and to the vertical elements, as awareness of the sky is attracted by means of surfaces at progressively increasing distances, dimensions, and refinement.



Above: Calligraphy executed with cutbricks on the wall behind the platform of the amphitheatre.

Left: Entrance hall to the amphitheatre.

Left, below: Staircase and the decorative inlay with cut blue tiles.



Jahanguir Mazlum, born in 1930 in Yazd, is a graduate of Tehran University. He is a celebrated craftsman of architectural models in Iran, having executed scale reproductions of large complexes and monuments for private as well as State clients. Mazlum held important positions in government housing and planning administrations in pre-revolutionary Iran, in addition to practising architecture. He collaborated with Mandala Associates during that period, and has since then been responsible for an extension to the former Iranian Centre for Management Studies (Imam Jaffer Sadegh University).

