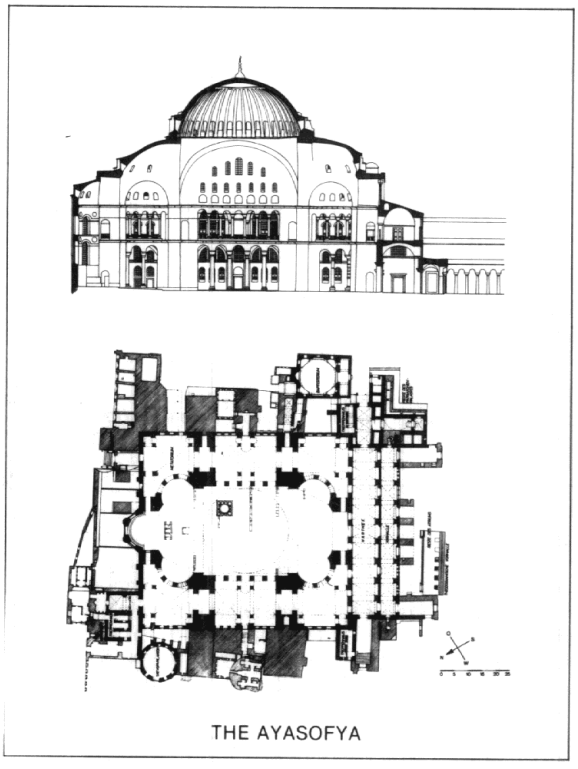
# THE ARCHITECT OF DOMED MOSQUES AS A MASTER OF PLURALISM

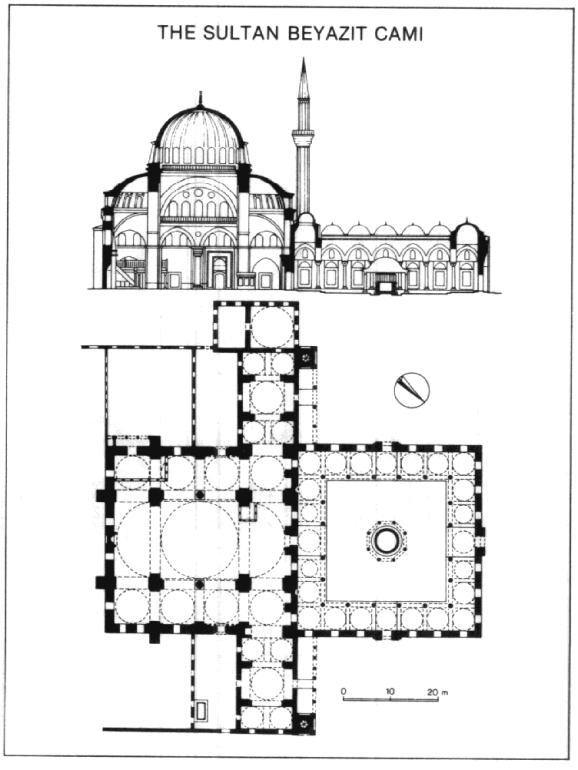
Sinan encapsuled in his great achievements the might and glory of the Ottoman Empire at its most powerful, enhancing it in a concrete expression by his mosques. He is thought to have been born in 1490 or 1491, and to have died in Istanbul in 1588, nearly a hundred. He was from the village of Agirnas, in the Gesi district of Kayseri. In 1512 he took part in the first campaign of Süleyman the Magnificent to Belgrade. Up to his appointment as architect-in-chief to the Court in 1539, when the post was vacated by Acem (Ajem) Ali, he pursued a career accompanying the Ottoman army on other important campaigns. As a result of this he had the opportunity to become personally familiar with the whole of Anatolia, Iran, Iraq, Syria, Egypt, the Balkans, Hungary and even southern Austria, and to observe these places closely. In his capacity as a military engineer, he was faced with repeated tests of his ingenuity in the course of those campaigns, and made a number of significant experiments in architecture and engineering. Until the industrial age, when technology began to change it, architecture was dominated by the use of a few major structural elements: the column, the arch, the vault and the dome. Classical Greek, Roman, Romanesque, Byzantine, Gothic, Renaissance, Baroque and many other styles all in their turn utilized these elements. The Ottomans on Byzantine soil, in the Capital they wrested from Byzantium, created a synthesis of dome architecture which raised it, through Sinan in particular, to new heights of magnificence and perfection. He worked primarily in the reign of Süleyman the Magnificent, whose respect and support he enjoyed to the full, as he did under Selim III (1567-74) and Murat III (1574-95). His achievements were to gain him historical recognition both as the master of domed architecture and as one of the leading exponents of a rare pluralism.

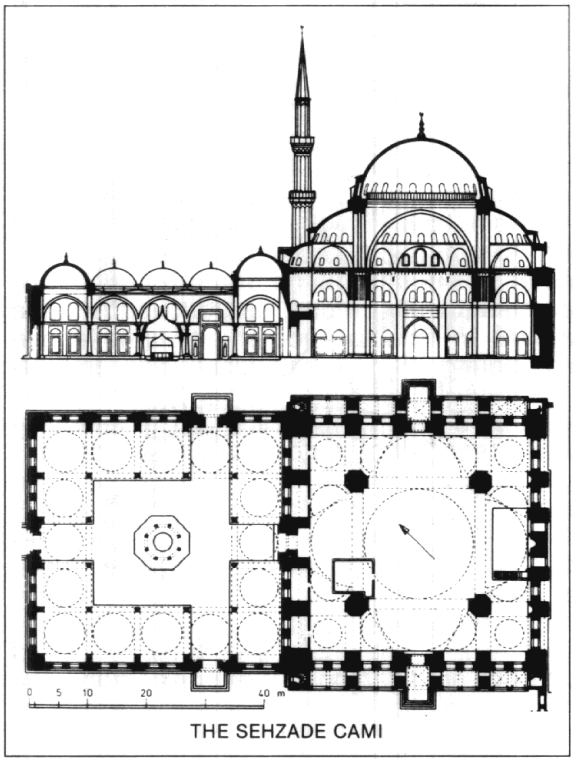
When Sinan was appointed Chief Imperial Architect, he was confronted with five categories of key works that demanded his respect and yet were also a challenge to surpass them.

The first and perhaps the most important was Hagia Sophia then Beyazit Mosque (1501-05) whose architect, Hayrettin, took the Byzantine monument as a guideline. Second was the Great Mosque at Bursa (1399) which resolved the multi-pillared system of traditional Arab mosques, adopted also by the Seljuks, into a multi-domed one. The Zincirlikuyu (1500) at Istanbul, an eight-domed

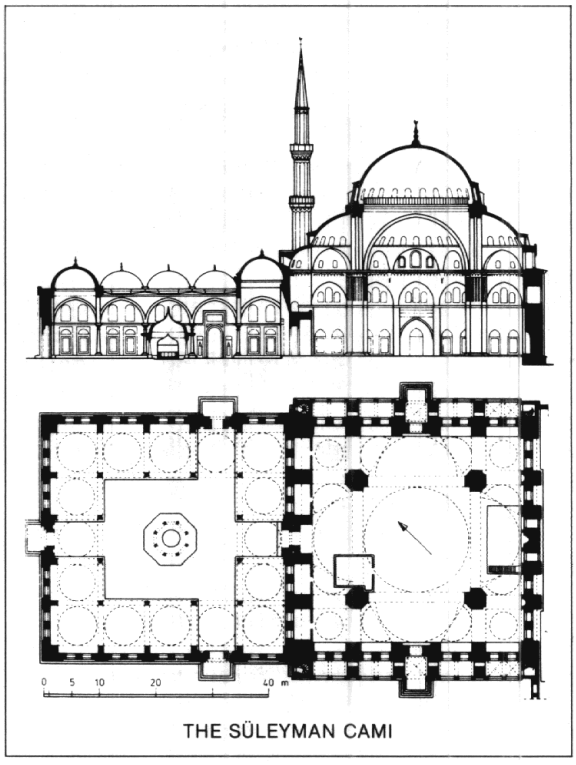


THE AYASOFYA



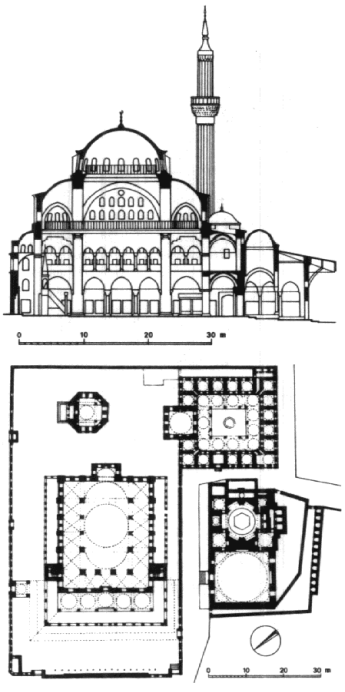



THE SEHZADE CAMI

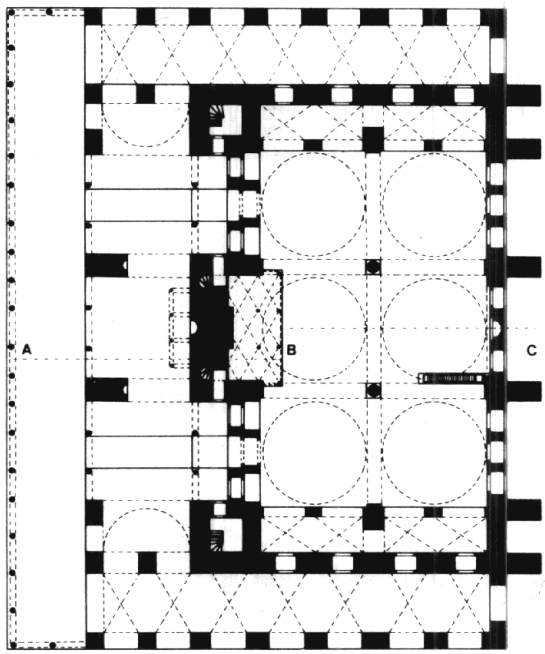


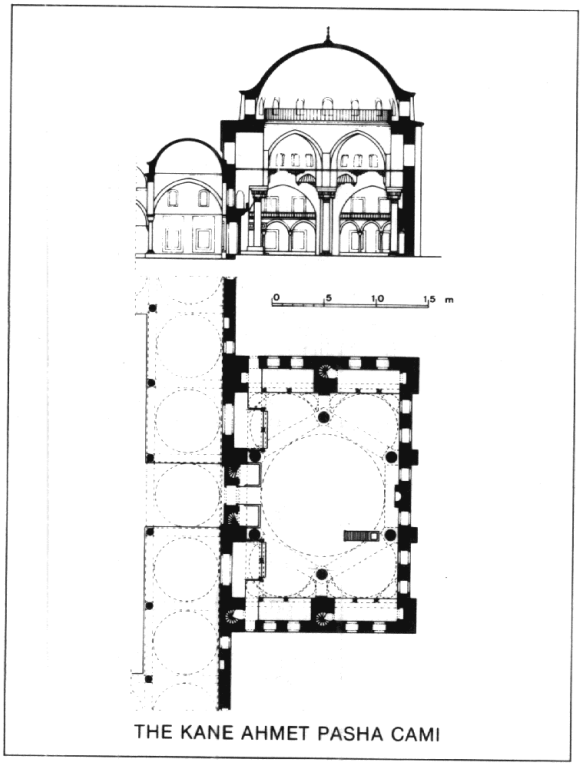

THE SÜLEYMAN CAMI

THE KILIC ALI PASHA CAMI

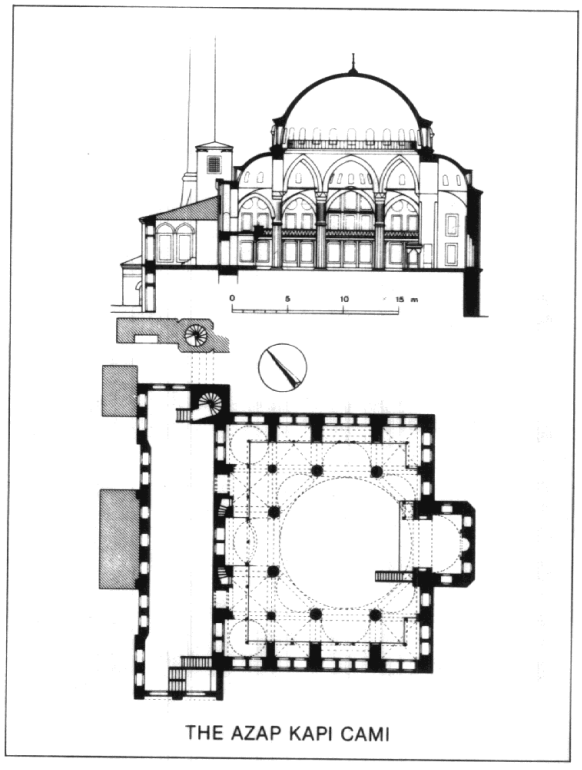



THE PIYALE PASHA CAMI

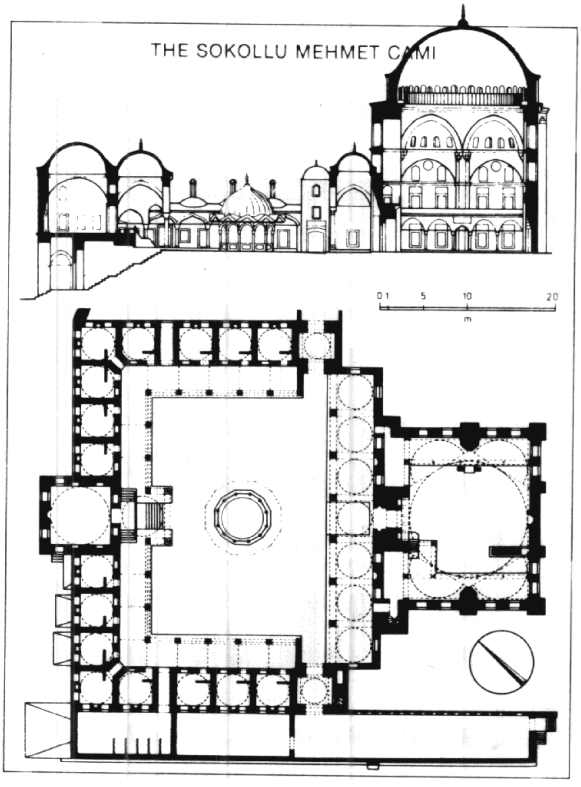


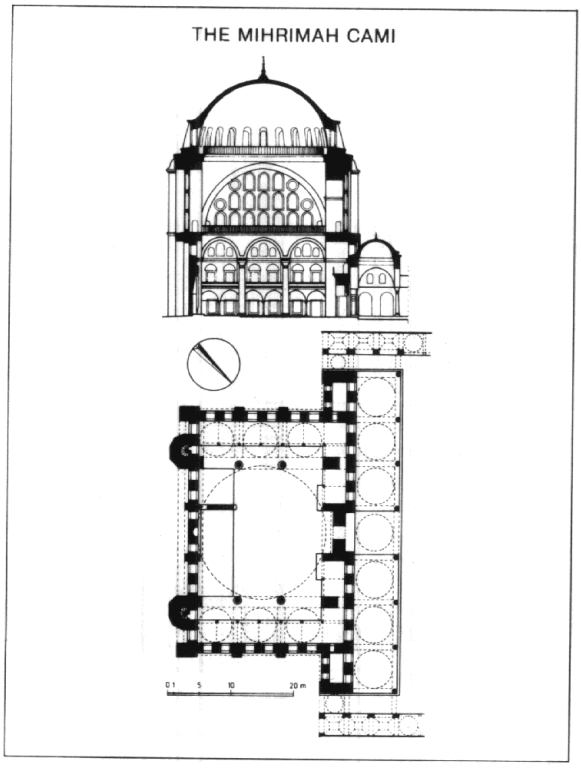



THE KANE AHMET PASHA CAMI




THE AZAP KAPI CAMI



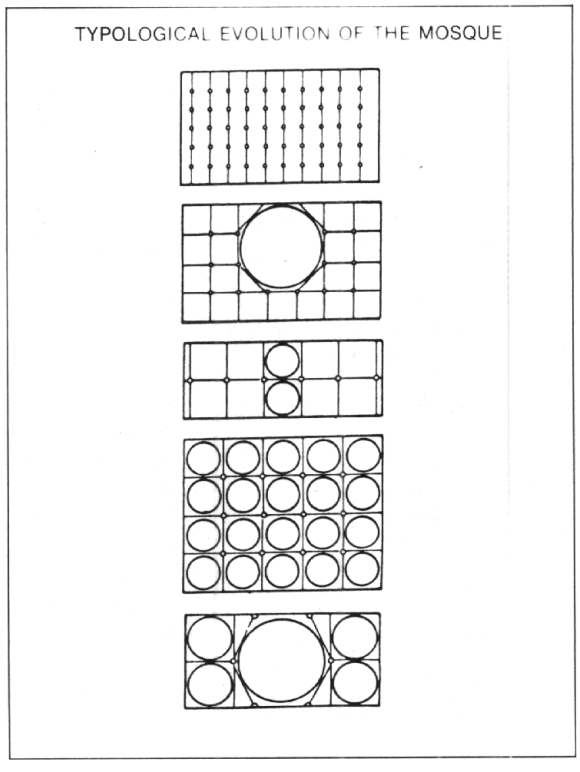



oblong may be seen as a representative of this category. The third key work was the Üçserefeli mosque (1437-47) at Edirne in which the architect succeeded in covering the huge rectangle using only two mighty piers. Fourth was the Imperial mosque in the capital, the Fatih (1462-70), built soon after the Conquest, with its rectangular prayer-hall ingeniously roofed by a central dome supported on the east by a semi-dome of the same diameter and on either aisle by three small equal cupolas. And finally appears as a challenge the famous church of Saints Sergius and Bacchus (527-536), called the small Hagia Sophia by the Turks, where early traces of the potential offered by a centralized dome sitting on an octagonal basis are strongly felt.

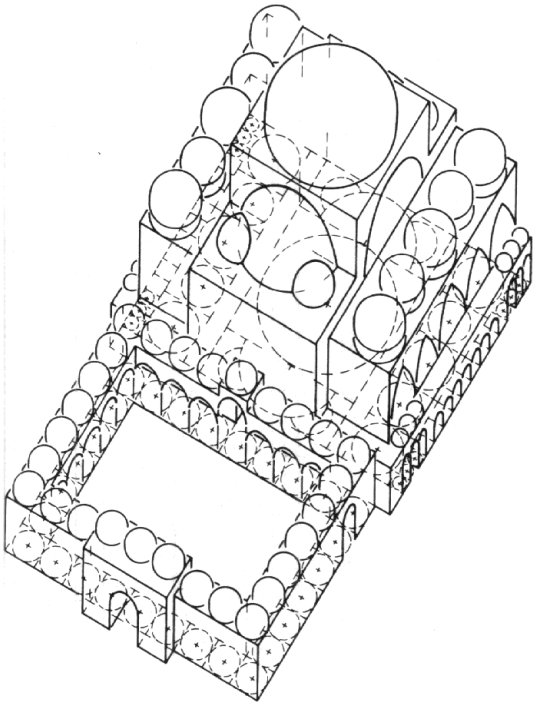
Sinan chose to confront both Hagia Sophia and the Beyazit Mosque, at the very beginning of his career in his masterful Sehzade mosque (1543-48), in which he achieved a perfect centrality in plan, volume and space by surrounding the main dome with four semi-domes and four cupolas at the corners. It was a system already used in a much simpler form in the Fatih Pasha mosque (1522) at Diyarbakir. In one sense, therefore, it was the ultimate interpretation of the system presaged by Hagia Sophia. The Süleymaniye mosque, which post-dates Sehzade by several years (1550-56), is more similar to the prototype with its rather basilical disposition, and achieves its planimetric and volumetric centrality thanks to two perpendicular axes running through the centre of the main dome. On one axis are two semi-domes flanking the dome, while the other is generated by the rhythmical disposition of the side-cupolas following an "a-b-a-b-a" rhythm. Kiliç Ali Pasha mosque (1580) a late work of Sinan, may be considered a direct confrontation with the Hagia Sophia. Here, he seeks to develop an interestingly concrete reinterpretation of the church on a smaller scale to reveal its secret, to explain its essence through a deliberate purification of its functional and structural values.

Ernst Egli finds the Piyale Pasha mosque (1573) incompatible with Sinan's style, although in our opinion it is as successful as many other of his works.It is an original reply to the multi-unit, multi-domed Great Mosque type, and particularly to that of Bursa. The Piyale Pasha is innovative in the sense that the structural elements, for example the buttresses, are expressed on the exterior, the pendentives being particularly visible on the outer shell. In addition, the building is surrounded on three sides with exterior arcades which compliment the mass in a way deserving of Sinan. The interior space is expanded by galleries which are quite unusual for mosques of this type. When compared with the Zincirlikuyu mosque (Istanbul, c. 1500) the superiority of the Piyale Pasha is immediately apparent. Another feature unusual for this type is the placement of the entrance, two doors arranged symmetrically flanking the main axis, rather than a single door on the main axis, commonly used in a mosque with this plan and spatial system. It serves to take weight off the sanctuary axis, to provide those entering the mosque with an unusual perspective on the interior, and to make circulation to and from the prayer-hall less disturbing.

The Üçserefeli mosque in Edirne (1447), built a short time before the conquest of Istanbul can be described as the last stage of the traditional hypostyle mosque, derived from the Seljuk and multi-piered Arab mosque type. The Mosque is an oblong with a superstructure consisting of a central dome 24 m in diameter, flanked on either side by two diagonally disposed smaller domes, sup-



THE SPATIAL ARTICULATION OF SINAN'S MOSQUE: 1. THE SEHZADE CAMI; 2. THE SÜLEYMANIYE CAMI; 3. THE RÜSTEM PASHA CAMI



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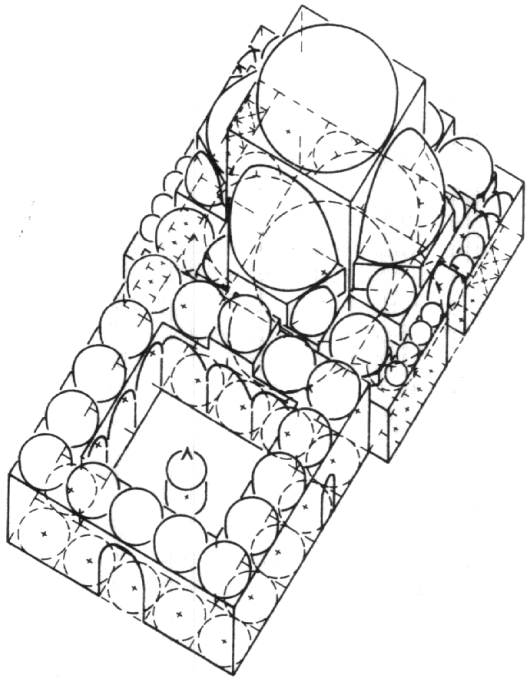

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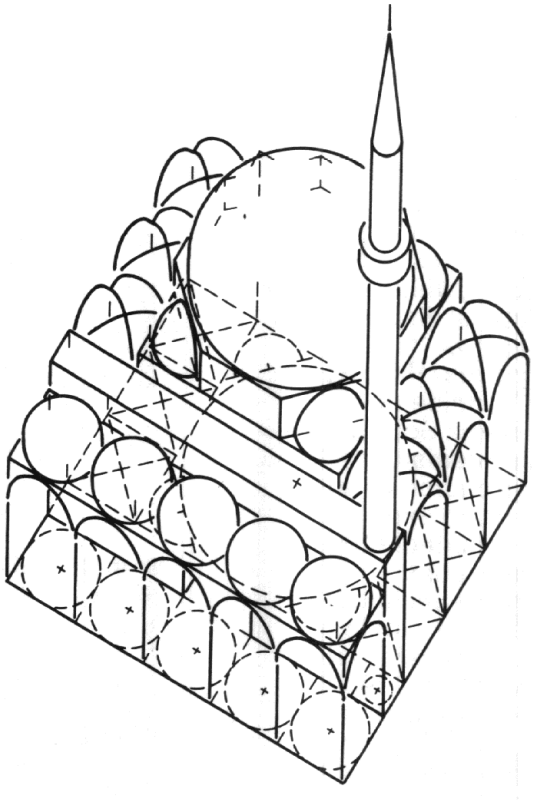

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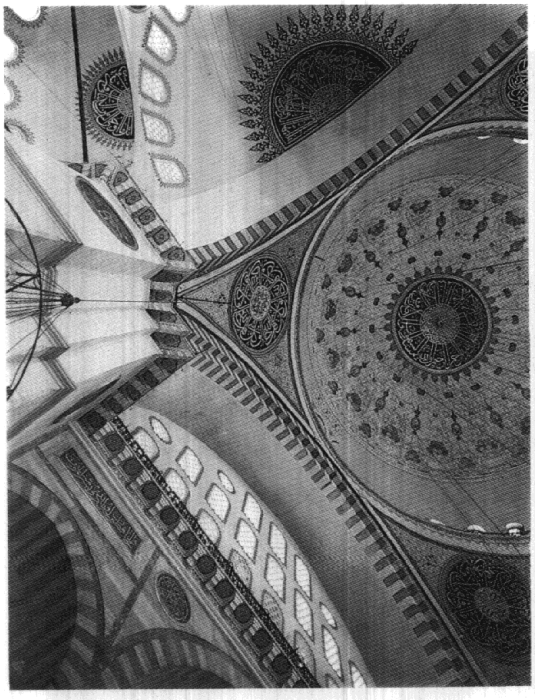
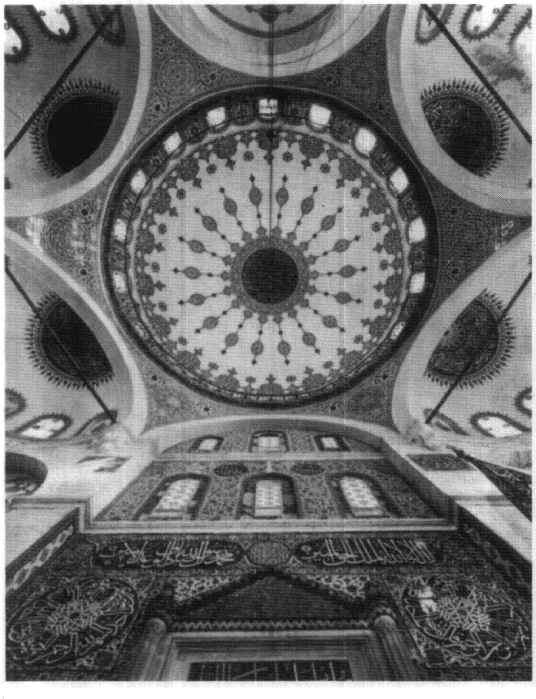


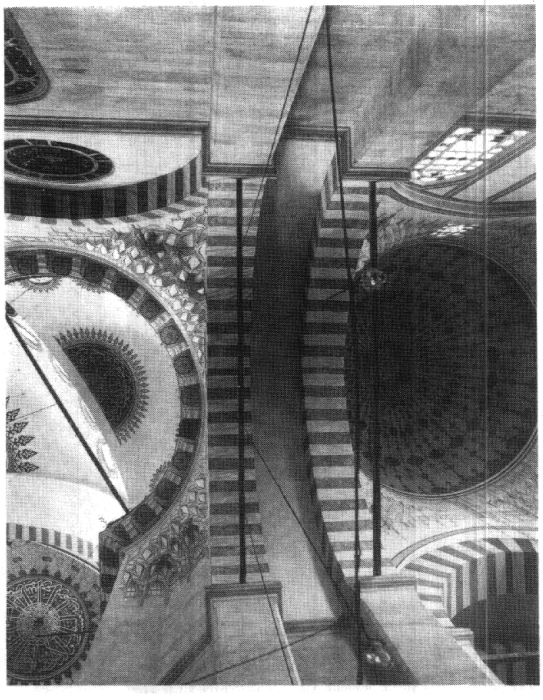
THE DOME OF THE SÜLEYMANIYE

THE DOME OF THE SÜLEYMANIYE

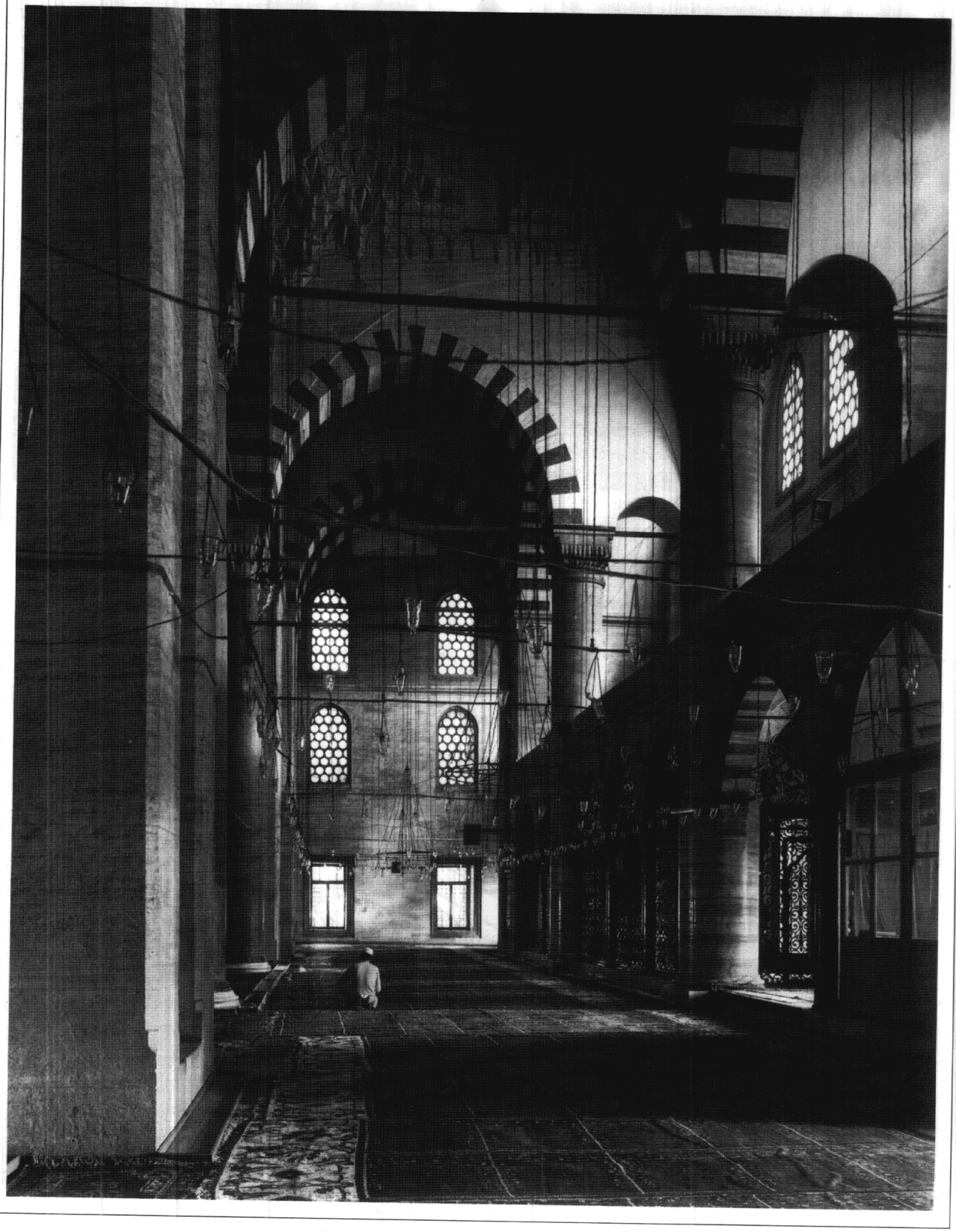
THE DOME OF THE SOKOLLU MOSQUE



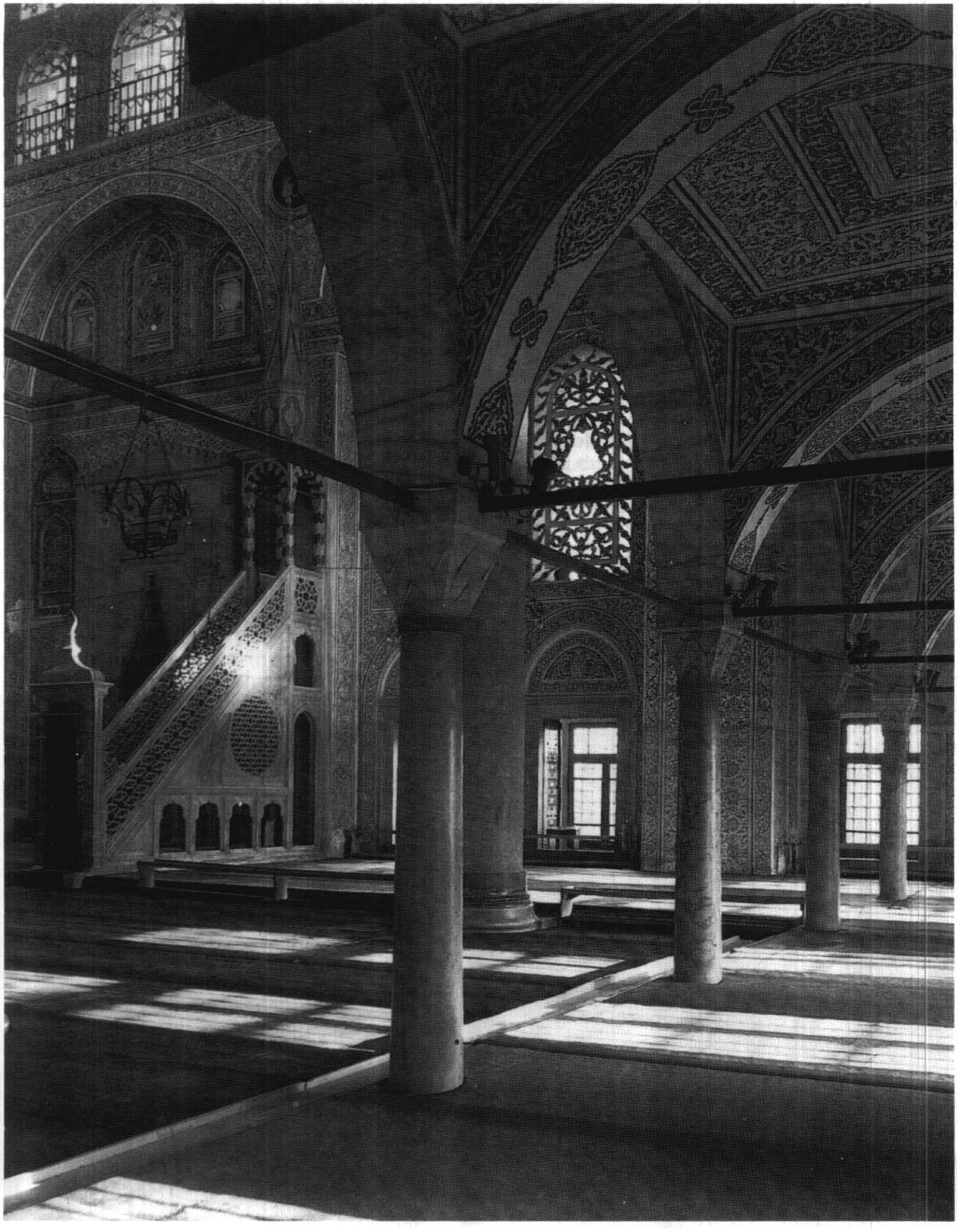
THE DOME OF THE SÜLEYMANIYE



SIDE WING OF THE SÜLEYMANIYE



THE INTERIOR OF THE MIHRIMAH SULTAN MOSQUE

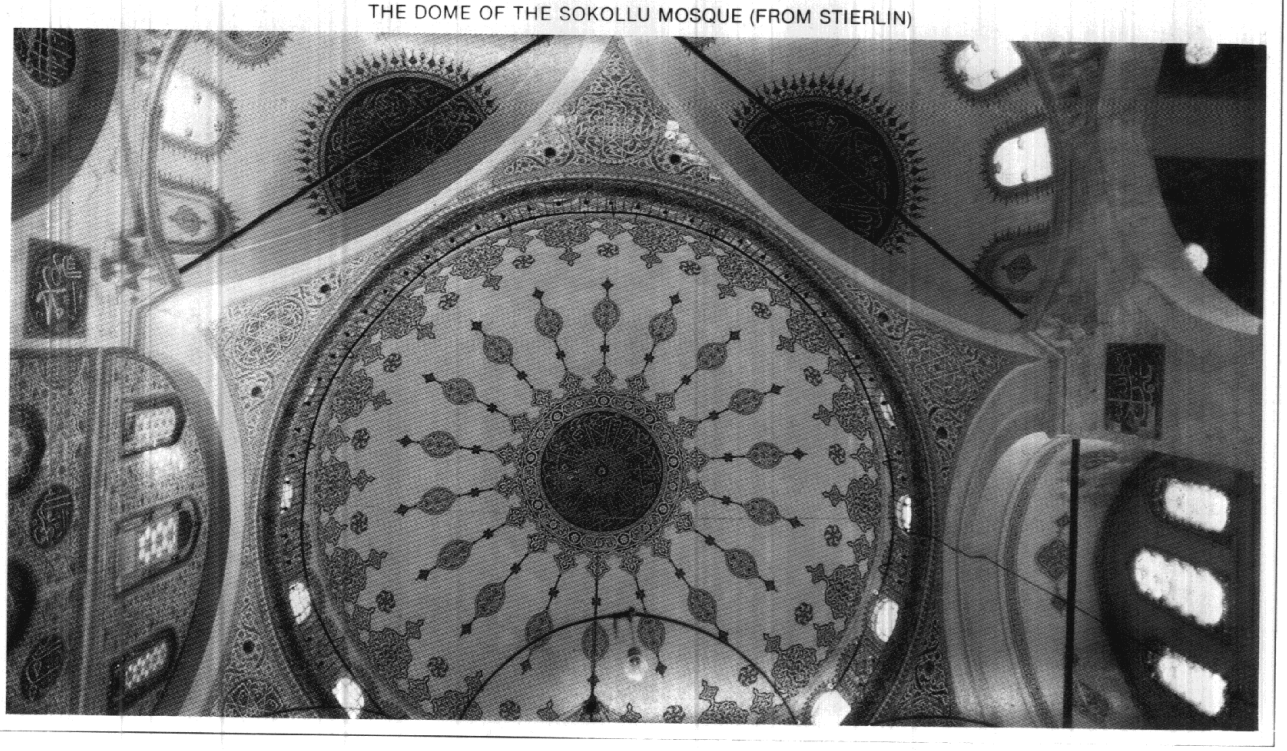


ported by a hexagonal system including only two free-standing piers. Thus compared to the earlier mosques, the interior space here is relatively unbroken. Sinan was to apply this system almost identically in his Sinan Pasha mosque (1553-55) with some changes — higher arches and thinner piers — and then develop it in the Kara Ahmet Pasha (1554-55), Molla Çelebi (1561), the Sokollu (1570-71) and Atik Valide (1583) mosques at Istanbul, and in Semiz Ali Pasha (1561-65) at Babaeski, in which he incorporated innovative features both in space and volume, adding small semi-cupolas to the corners of the main domes as a suppositive element.

The rectangular planned mosque with central dome, one flanking semi-dome and row of three cupolas on two opposite sides as in the old Fatih mosque was taken up by Sinan in his somewhat more sophisticated Mihrimah mosque at Üsküdar (1547-48), where the paired cupolas to right and left of the main dome are replaced by one large semi-dome, and the free-standing supporting piers are spaced closer to the *qibla* wall so as to allow for a more unbroken interior than one finds in the Üçserefeli mosque.

Sinan's experiments with the octagonal support system, begun with Rüstem Pasha, were to reach fruition in the Selimiye, built between 1567-74, in which he achieved a masterful synthesis of domed structures. One early example of the dome-on-octagon of particular note is the Byzantine church of Saints Sergius and Bacchus. Certainly the use of the pendentive was eventually to lead to the development of the perfect octagonal transition system from square base to circular drum, as in the Hadim Ibrahim Pasha mosque (1551). But the true baldachin dome on an octagon was to emerge, beyond the Rüstem Pasha, in the Selimiye. While the dome system of Saints Sergius and Bacchus is defined by the eight free-standing piers supporting it, with a two-storey ambulatory surrounding the central space between the pier system and square-planned outer shell. In the Selimiye the outer shell again encloses the octagonal baldachin although with more subtlety, and in the final analysis, without total structural integration. Sinan's long experiments with the key elements of domed structures, namely the dome, pendentive and support members provided him with the

THE DOME OF THE SOKOLLU MOSQUE (FROM STIERLIN)



facility to evolve a synthesis of these elements in a totally rational structural support system which was both the ultimate solution and at the same time relatively uncomplex in conception. Transitional elements as semi-domed squinches and concave pendentive-like features provide a delicate rhythmical balance to the support system which appears to bear a dome of no visible weight. Hence a space which is static in plan is invested with an astonishing dynamism. The relationship between the outer shell and the inner baldachin is defined by a series of structural levels easily recognizable on the exterior, which have an elevating effect on the mass of the structure. One might almost say that the still-tight bud of the Saints Sergius and Bacchus is, in this work, allowed to blossom to its full.

After the great achievement of the Selimiye, undoubtedly the most successful work of its kind, an appropriate work to close this communication the Sokollu Mehmet Pasha mosque at Azapkapi, Istanbul (1570-71), which can be described as the more "mannerist" sibling of the Selimiye. It presages the highly-skilled later mosques of Mesih Mehmet Pasha (1585-86) and Nisanci Mehmet Pasha (1588-89), and further, sheds light on the most notable mosques of later periods also based on the octagonal support system such as those of Laleli and Eyüp. Constructed almost in parallel to the Selimiye, the Azapkapi mosque can be described as a highly-skilled, even complex, or more correctly, sophisticated work.

Just as the churches of Saints Sergius and Bacchus and the St. Vitale of Ravenna, roughly contemporary to each other, shared the octagonal system with the dome supported, by semi-domes so the Azapkapi mosque has eight semi-domes springing from below the drum, of the main dome, which is supported by six free-standing members and the two corners of the *mihrab*. The ones on the perpendicular axis are not so marked, and those on the diagonal are the smallest. Always with such a baldachin, the major problem is how to reconcile the outer shell with the inner nucleus. In the Azapkapi mosque, the solution is sought in the most appropriate form for the transitional area which inevitably emerges between outer and inner shell. Sinan covers this area with a system of cupolas and vaults, providing a system which is one of his finest strokes of genius.

Apart from those of his works in which Sinan successfully took to task the major works already in existence in Bursa, Edirne and Istanbul, there were others in which he sought for extremely interesting architectural solutions, such as the Rüstem Pasha (1561), the Mihrimah at Edirnekapi (1562-65) and the Zal Mahmud Pasha (1575-80) mosques where he developed three different sophisticated ways to roof an oblong. Rüstem Pasha's plan consists of an octagon inscribed in a rectangle, the dome resting on four semi-domes in the diagonals with side-aisles covered by vaults. For Mihrimah, Sinan chose again an elongated rectangle with a mighty central dome on pendentives, and placed three cupolas on each side-aisle. The Zal Mahmud Pasha mosque is another remarkable oblong-experiment. The massive dome-arches spring on the east from supports in the wall itself, on the west from thick, rather stubby pillars. Galleries, supported on an arcade run round three sides, while the walls rise to the full height of the dome drum.

These examples suffice to demonstrate the pluralist approach of Sinan. His was an attitude free of dogma, which led him to evaluate in his own terms the great works of the past, surpassing them in his own framework, while at the same time making creative contributions on several levels to architecture.

Sinan perceived architectural creativity as being totally free from any preconceived dogma. This attitude, and his unremitted search for innovative solutions and synthesis, are for us the finest professional paragon.

Bulend Özer

All the line drawings are taken from: H.J. Sauermost, W-Ch. Von der Mülbe, *Istanbuler Moscheen*, München, 1981.