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SALJUQS VI. ART AND ARCHITECTURE

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The naming of an art-historical period for the Saljuq dynasty, and its demarcation according to dynastic terms, has justly been debated. Nevertheless, a notion of Saljuq art has been shaped by the constant use of this term in the literature of the past decades (Schroeder, pp. 981-86; Grabar, pp. 627-29; Hillenbrand, 1999, pp. 86-110). For Persia, convenient delineations can be drawn between the start of the 11th century, when the rule of Turkish dynasties over Eastern Persia was established, and the beginning of the Mongol invasion, which terminated the last remnants of Saljuq principalities and successor states and led to significant changes in artistic production from 1218 onwards. This periodization can be accepted for architecture and the "minor" arts likewise, although its validity remains to be discussed. It could be argued that the changes that occurred around the reign of Malekšāh (1073-92) affected the character of art in Persia more than the first Saljuq decades, in which the persistence of older traditions had been strong.

Equally, it has to be said that Saljuq rule covered neither all of Persia, the easternmost regions being independently ruled by Ḡaznavids and Ḡorids, nor did it constitute a unified state, able to enforce strict and direct control over

towns and lands. Several principalities survived or originated under the suzerainty of the Saljuq sultans, while wide rural areas were left to nomadic control. This implies that the dynastic label has little to do with the character of Saljuq art. Content and form, as they appear from the rich body of surviving objects, were developed from Persian traditions. The environment in which Persian art of the Saljuq period was produced consisted of a multi-centered landscape in which many of the cities of the Persian plateau (and of neighboring regions such as Iraq, Anatolia, the Caucasus, and Central Asia) created opportunities for artists and craftsmen. Towns of secondary importance such as Orumiya, Golpāyagān, or Gonābād, were able to attract the attention of patrons and artists. Against this background, a regional differentiation of Saljuq art seems logical. On the other hand, thestyle and iconography of objects from all over Persia appear tightly connected, which allows conclusions on specialization in the production and on the marketing of products (e. g. metal objects). Although it is possible to connect certain objects with social groups other than the ruling elite, there is no clear-cut division between courtly art and production for the broad market.

In general, the Saljuq period can be regarded as an epoch in which Islamic art and architecture in Persia reached maturity, i.e., in which techniques were developed and formal solutions were established that lasted for centuries to come. At the same time, these developments spread to neighboring regions so that the Saljuq period can count as one of the most influential phases of Persian art, which contributed much to the development of Islamic art as a whole.

The Turkish share in the largely Persian culture of the Saljuq period has still to be defined. It is clear that some iconographic motifs find their best explanation from a Turkish background. Another tendency in scholarly literature has been to emphasize the Persianate character of art in Persia through all periods. Authors tend now to avoid the extreme positions of the 1930s (Schroeder, pp. 1043-45), although there are good arguments in favor of a significant continuity from the Sasanian to the Safavid and Qajar periods, regarding architectural elements as well as iconographical motifs.

Architecture. The corpus of extant buildings is dominated by mosques, minarets, and mausolea. Secular architecture is mainly represented by caravanserais and, less frequently, palaces. Of the large centers, Baghdad, Ray, Mary (Marv), and Nišāpur were destroyed in the late Saljuq and Mongol periods to an extent that makes it difficult to gain a valid picture of urban

structures. Even in Isfahan, where numerous monuments from the 11th-12th centuries are preserved, it is difficult to imagine the Saljuq city (Golombek, pp. 18-44).

Individual classes of buildings were subject to profound changes, and new classes emerged. The mosque received its “canonical” shape which remained binding for several centuries; the madrasa is for the first time attested in written sources, although only a few traces remain, and minarets and mausolea multiplied as markers of pious investment.

Techniques and principles of design remained within a regional tradition (which is always to be seen in exchange with Iraq). Baked brick was used, at least for the prominent and structurally important parts of buildings, while mud brick was restricted to simple walls. Stone was of only local importance in a few places.

The one principle which could possibly be termed “Persianate” in this context is the notion of a building as consisting of masses, not of structural elements. In Saljuq architecture, the masses are sculptured to a great extent (e. g. in the northern dome of the Friday Mosque of Isfahan, the facade of the Gonbad-e ʿAlaviyān in Hamadan (Shani 1994), or on the mausoleum of Rādkān-East (Blair 1985, p. 87). A significant element in this respect are the corner columns (derived from Abbasid precursors like those on the pillars of the mosques of Samarra), which became standard as framing elements of portals and niches. A vertical tendency can be noted, but it is not as extreme as in the Il-khanid period. On the whole, the skyline of the buildings remained rather compact.

Openings are normally ogival (with two-centered or four-centered arches), while blind niches show a greater variety of arches (e. g. segmental and “Bursa” arches). Rectangular fields separated by horizontal and vertical bands are used to structure the walls. In keeping with Persian tradition, rooms are normally covered by vaults. Barrel vaults, cross vaults, and domes are combined with a variety of transitional elements. Squinches filled with blind niches and cells, as first seen in the Davāzdah Emām in Yazd (1038), were developed into a systematic order in the Friday Mosque of Isfahan (1088-89). Muqarnas made its first appearance in the transitional zone of the dome chamber in the Friday Mosque of Golpāyagān (1114-15: Godard 1936, p. 193; Schroeder, pp. 1013-14; Quchāni 1383/2004), while a muqarnas niche hood can be found in the Friday Mosque of Barsiyān (1134: Smith 1937).

In mosque architecture, the extant variety of types tends to be overshadowed by the spectacular change towards the *eyvān*-courtyard type of the Masjed-e Jāmeʿ, prefigured in Isfahan. However, the few examples of the hypostyle mosque of Damāvand (Smith 1935), the single domed square of Sangān-e Pāʾin (Hillenbrand 1971, p. 160), the Pā-manār mosque of Zavāra (Peterson 1977) with its six vaulted bays lined up in a row, and the barrel-vaulted oblong prayer hall of the complex at Buzān (Smith and Herzfeld 1935) indicate that a large number of smaller mosques and sanctuaries existed which did not follow the same type as the Friday Mosque.

In Isfahan, it is clear that the construction of the dome chamber, replacing part ofthe older hypostyle hall, preceded the insertion of the four *eyvān*s. The *qibla eyvān* may have been added a few years later, before the North, West, and East *eyvān*s followed. For the latter three, the date of 1121 is plausible, derived from a portal inscription. Given that Isfahan served as a prototype for mosques in other cities, evidence from Qazvin supports the assumption that the *qibla eyvān* in Isfahan was added to the dome chamber around 1106. To what extent the combination of dome chamber and *qiblaeyvān*was also copied in other places is difficult to determine: The Friday mosques of Golpāyagān, Borujerd (1139-45: Siroux 1947; Mehryār 1985-86) and Barsiyān each has dome chambers more or less closely modeled on those of Isfahan, but their *qibla eyvān*s in their current state cannot be dated to the Saljuq period. In the Northwest, Friday mosques with dome chambers apparently followed the prototype of the dome chamber in Qazvin (Wilber 1973; Laleh 1999), but without the *eyvān* in front. The clearest correspondence with the Friday mosque of Isfahan, in its state after 1121, can be observed in the Friday mosque of Zavāra (Godard 1936), where the dome chamber and four-*eyvān*-courtyard were erected in a single building phase, and in the Friday mosque of Ardestān (Godard 1936), where the combination of dome chamber and *eyvān* follows the architectural prototype of Isfahan very closely, while the exuberant stucco decoration goes a step further (FIGURE 1).

Friday mosques in Khorasan represent a different, although related, type: The constructions of the Saljuq period (e. g. Gonābād, Farumad, Sangān-e Pāʾin) usually have two *eyvān*s facing each other on the *qibla* axis of the rectangular courtyard, and no dome chamber. A geographic division between mosque types of the Central and Western plateau and those of Eastern Persia becomes apparent.

The question why the *eyvān*-courtyard type, which became the ideal of the

Persian Friday mosque for centuries to follow, was chosen despite its functional deficiencies for the liturgy of Friday prayer, has mainly been discussed in terms of Persian tradition, which succeeded against the "implantation" of the hypostyle mosque. A. Godard (1936; 1956) postulated an unbroken continuity of isolated domed buildings from the Sasanian *čahār tāq*to the Saljuq dome chambers. However, the latter can also be seen as a typically Persian element of domical vaulting, used to mark the central element of the mosque. Both the *eyvān*-courtyard and the combination with a dome chamber have been traced back to pre-Islamic and Islamic palace architecture in Persia (e. g. Firuzābād, Ctesiphon, and Laškargāh: Finster 1994, pp. 19). The borrowing of a palatial building type can probably be explained from its ceremonial function, as an architectural frame of self-representation of the ruler during his public appearances. This suits also the explicit naming of the dome chamber as *maqṣura* in the *waqf* inscription of the Friday mosque of Qazvin. The oddity that it was the Turkic dynasty of the Saljuqs (and not the Buyids with their self-created image as Persian kings) under which the Persian mosque type originated, can be sensibly interpreted from the religious politics of the Saljuqs, in which the Friday prayer held a high status. For the provincial examples, it has to be asked whether the construction of an *eyvān*-courtyard mosque was meant as a reverential gesture to the Saljuq sultan, or could be understood as sultanic pretension on the part of local rulers and governors. The hypothesis that the dome chamber of Persian mosques was meant to represent the tent of Turkish rulers (with cosmic connotations) has also been upheld by some authors.

An additional element, which was not prefigured in the palatial building type, can be found in the twin minarets that became frequent in the Saljuq period. Examples are preserved or can be reconstructed in the Friday mosques of Isfahan, Qazvin, Sāva, Gonābād, on the Emām Ḥasan mosque in Ardestān (Godard 1936, p. 298), and others. Accentuating the entrance portal or the *qibla eyvān*, the twin towers indicate the axis of the building from afar. Apart from their use in mosque architecture, the gateway character was also exploited in connection with other buildings, such as the mausoleum of Muʾmina Ḵāṭun in Nakhichevan (Jacobsthal, p. 21) and even secular buildings such as the *rebāṭ* (way station or caravansery) of Sangbast, or as an isolated monument such as Do Barār between Mašhad and Saraḵs (Kleiss 2004).

Single minarets were built on a circular plan and developed to extremely slender proportions. Their great height (examples in Isfahan and surroundings

reach 50 m) indicates that they were designed as landmarks rather than for the call to prayer. In some cases single towers were constructed without a mosque attached. The appearance varies between austerity, when decoration remains on the plain surface (Isfahan, Čehel Doḵtarān, Sin, Ziyār: Smith 1936), and the exuberance of broken outlines and sculpted friezes, as in the Ḡaznavid and Ḡurid minarets of Ḡazni and Jām (Maricq and Wiet 1959).

Intimately connected with the development of the Friday mosque is the building type of the madrasa, of which the first Persian examples are preserved in the Ḥanafite madrasa at Zuzan (Blair 1985) and in the building at Šah-e Mašhad (1165-66: Casimir and Glatzer 1971). Both buildings combine the *eyvān*-courtyard with auxiliary rooms of varying size and vaulting.

Mausolea are richly attested in the Saljuq period and, despite some standardization, unfold rich varieties. On square, polygonal, circular, and star-shaped ground plans, the general appearance is usually centralized, emphasizing its character as a tomb marker. The example of the two mausolea at Ḵarraqān, dated 1067-68 and 1093-94 (FIGURE 2; Stronach and C. Young, 1966) demonstrates that at the end of the 5th/11th century the potential of Persian brick architecture was fully exploited for the benefit, or on the initiative, of Turkic patrons. The double shell of the domes made it possible to develop both the interior and the exterior appearance in harmonious proportions. Different brick patterns decorate the eight sides of the exterior and the corner buttresses. Other examples combined an inner dome with a pyramidal or conical roof. The mausolea of Marāgheh (Godard 1936, pp. 125-60) show different approaches to the design of mausolea, which were all current at the end of the 12th century. The Gonbad-e Sorḵ(1147-48) appears comparatively “architectural” with corner columns and a system of recesses and bands. The Gonbad-e Kābud (1196-97), in contrast, treats the large body of the building like a precious object, covering the walls with a net of sculptured and colored geometric star patterns. On both buildings, the entrance is emphasized by framed niches with epigraphic decoration. The mausoleum in Rādkān-East (1205-6) combines the sculptural appearance of a gadrooned cylinder with an allusion to tent-like textile elements in the frieze under the conical roof.

The few preserved examples of secular architecture show tendencies similar to mosque architecture. Most prominent are the *rebāṭ*s, in which practical functions were combined with elements of representation, as exemplified by the Robāṭ-e Šaraf (Kiāni 1981). Palaces from the Saljuq period in the strictsense

have not been preserved, but conclusions can be drawn from the preceding Ġaznavid examples in Laškargāh and Ġazni (Scerrato 1959; Schlumberger et al. 1976; Allen 1988). Throughout, rooms are arranged around courtyards with *eyvān*s on the main axes, and entrances receive special treatment with *pištāq*s over the arches. The frequent use of mud brick can be demonstrated in some of these buildings as well as in military architecture, where the circular ramparts of the citadel of Kāšān seem to go back to the Saljuq period.

Architectural decoration. A fascinating development took place in the techniques of brick patterns, terracotta reliefs, stucco, and glazed tile. Of wall painting, little has survived. Brick decoration was normally applied to the core of the wall in a surface layer. Bands and fields contain varying motifs, executed in bricks either of normal shape or specially cut. The latter way is exemplified by the geometric corner decoration of the Gonbad-e Sorḵin Marāgheh. Technically, this is hardly marked off against the mosaics of terracotta elements which characterize the "Ġurid" school of Šāh-e Mašhad, Herat, Čišt, Jām, and Ġazni (Sourdel-Thomine 1960; Blair 1985), but these decorations appear richer in their variation and detailed sculpturing of vegetal elements. Sculptured terracotta tiles occur also in the East, e. g. in Nišāpur or in the mosque of Gonābād. A combination of brick patterns with stucco can be found on the minaret of the Friday mosque of Sāva (FIGURE 3) as well as in the northern dome chamber of the Friday mosque of Isfahan. In stucco, the limits of the material are explored in the friezes and mihrabs of the Kāšān region and of Northwestern Persia with their impressive plasticity, created by dense placing of contrasting motifs and by undercutting (FIGURE 1). Occasionally, the sculptural effect is enhanced by separately mounted elements. The art-historical differentiation into regional schools is still at its beginning (Shani 1989), but clear connections can be made with regions west of Persia (Korn 2003). Glazed tiles appear first in the 12th century in turquoise monochromy. In the early 13th century, the palette has widened to include white and dark blue (Wilber 1939). A connection with Anatolia and Northern Mesopotamia is apparent, where glazed tiles are used at the same time in Konya, Sivas, and Diyarbakir.

Motifs and styles of decoration change from late derivatives of the post-Samarra beveled style (e.g., on the pillar capitals in the southern dome chamber in Isfahan) towards intricate arabesques and star patterns. Muqarnas appears in the early 12th century, e.g., in the squinches of the mosque of Golpāyagān and in the *mihrāb* of Barsiyān. Interlaced star patterns

abound in some stucco decorations, covering large surfaces such as in the Mausoleum of Termez (Pugachenkova 1976, pp. 22-39). Similar to the development in Fatimid art, vegetal decoration underlies a unifying tendency with the introduction of the split leaf, transforming scrolls and floral elements into arabesques. In stucco decoration, the surfaces of leaves are filled with various geometrical grid patterns, prototypes of which can be found in Samarra style B and in the mosque of Nāʾin. Arabesques are combined with geometric elements and inscriptions, either in separate fields and bands, or intertwining with each other.

One major principle can be observed in the design of Saljuq architectural decoration. In general, the size of individual motifs is such that they can still be discerned when looking at the building (or the object, e.g., in the case of a stucco mihrab) as a whole. This principle is given up only on very large surfaces, e.g., on the walls of the dome chamber of Golpāyagān or on the *eyvān*of the madrasa at Zuzan.

Minor Arts. Developments similar to those described for architectural decoration can be observed in the design of small objects. Decoration extends so as to fill as large a surface as possible, and arabesques combined with interlaced star patterns and epigraphic bands constitute a large portion of the motifs. However, the minor arts go one step further and include a large repertoire of figural representations. Their iconography and their style seem to be consistent through all materials and techniques. Courtly scenes, astrological figures, animals, and fabulous beasts dominate. A certain interdependence between the different artistic branches seems clear, while it remains difficult to determine the sources ofcertain motifs.

Although surprisingly few pieces have been preserved, woodwork gives some good examples of the tendencies noted above. The *minbar* of the Friday mosque in Abyāne (1077 and later) shows some panels which retain beveled-style designs (Golmohammadi 1993, pp. 76-77). In general, the use of interlaced star patterns and of arabesques increased, showing connections with developments in Anatolia, Syria, and Mesopotamia. Examples are the pair of carved door leaves (with inscriptions containing Shi¿ite formulae) from Behbehān, in the National Museum in Tehran, or a wooden mihrab from the Ḡazni region (Bombaci 1959, pp. 15-16).

Metal objects, a typical product of medieval Persia (particularly its Eastern regions), are preserved in large numbers, but few come from archaeological

contexts. The question whether metal bowls, ewers, oil lamps, spoons, etc. belonged to the majority of households is therefore still open. “Bronze,” i.e., a quarternary alloy containing mainly copper, tin, lead, and zinc in variable proportions, is the usual material. The majority of objects were cast. It seems that hammered sheet metal was used more widely from the 12th-13th century onwards (FIGURE 4; Korn 2003). As a consequence, faceted and gadrooned shapes became common. On the other hand, masters of casting techniques looked for new challenges after having reached a peak in the openwork design of 11th-12th century objects, e.g., incense burners, lamps, and lamp stands. The group of cow, calf, and lion dated 603/1206 in the Hermitage is an example of the highest attainable technical standard.

The other major tendency in metalworking techniques was inlay (mostly silver on bronze), which became popular during the 12th century and spread from Persia to Syria in the early 13th century. The pen-case of 1148 in the Hermitage is the earliest dated inlaid object, followed by a host of others. The most celebrated of them are the Bobrinsky Kettle in the Hermitage, dated 1163, the Vaso Vescovali in the British Museum, and the pen-case signed by Šādi of Heratin the Freer Gallery (Ettinghausen 1943; Hartner 1973/74; Herzfeld 1936). Common features are the great number of figural representations, frequently with an astrological meaning, and inscriptions containing blessings for the owner, varying in style between cursive script, knotted kufic and even animated letters. Since the hypothesis of a major shortage of silver in Eastern Persia during the 11th-12th centuries can be excluded as a reason for the development of silver inlay, the move towards polychrome metalwork can be seen as a result of aesthetic demands and the tendency to produce attractive goods for a broader market (Ward 1993, pp. 71-79).

Ceramics of the Saljuq period show marked developments in technique and design. Until the early 12th century, simple earthenware vessels with slip decoration under a transparent glaze dominate. Later, significant changes concerned bodies and shapes as well as glaze and painted decoration. Tiles were now frequently used as wall decoration. From the late 12th centuryonwards, Kāšān has been ascertained as a center of production, lending its name to glazed tiles (*kāši*).

The use of frit (stone paste) made it possible to attain a nearly white, hard body similar to Chinese porcelain. The difficulty of handling frit ware on the wheel led to a frequent use of molds. At the same time, openwork also became popular. Monochrome turquoise is perhaps the most frequent glaze of the

Saljuq period. It was used for vessels of all sizes and for figurines (horsemen, miniature houses, etc.). Equally widespread were underglaze polychrome wares, frequently with vegetal motifs in cobalt blue and black. A spectacular development was reached in luster decoration (Allan 1973). The technique of painting with metal oxides on a cream-white glazed ground, and reducing the oxides in a muffle kiln to their metallic state with reflecting effects, had been developed to a high standard in Abbasid Iraq and in Fatimid Egypt. Of the late 12th-early 13th century production centers of luster wares, only Kāšān has been identified with certainty, while earlier attributions such as Ray have been proved incorrect (Watson 1985). The motifs were frequently emblematic representations (e. g. of animals) and scenes with human figures, which possess an atmosphere of representation or of pensive and poetic intimacy. Inscriptions scratched on painted bands contain poetic or religious verses.

Perhaps even more expensive than luster were the so-called *minā'i*or *haft-rangi* ceramics, with multi-colored painted and gilt decoration on a cream-white, light blue, or green glazed ground. Figural representations dominate; the scale of the figures is normally small so that narrative contents (from historical or epic narratives) are sometimes represented (FIGURE 5).

Painting has probably been subject to the greatest losses. With few exceptions (decoration and epigraphic bands), only scarce remnants of monumental painting give an impression of what must have existed. The life-size guards in the throne room of Laškargāh probably had counterparts in other examples in the decoration of residential architecture. A comparison between the inscription band in the domed mausoleum of Sangbast, with its sharply pointed letters on a background with a waved tendril (probably around 1106), and the decoration of Robāṭ-e Šaraf indicates that painted decoration showed the same stylistic tendencies as stucco (FIGURE 6).

The beginnings of Persian miniature painting in the early 13th century can be seen in the famous copy of *Varqa va Golšāh*in the Topkapi Sarayi (Mélikian-Chirvani 1970). Scenes with several figures are frequently arranged in a horizontal strip, on a flat plane. In figural style and spatial organization, the illustrations show some affinities with those on the *minā'i*beaker in the Freer Gallery with scenes from the story of Bižan and Maniža (Simpson 1981). However, the color and tendrils of the background give some of the *Varqa va Golšāh*scenes a surrealistic atmosphere. Immediate connections with book painting of the so-called Baghdad school are lacking, and neither is there a direct continuity in Il-khanid painting. From these neighboring regions and

periods, conclusions must be drawn about the character of the lost works of painting under the Saljuqs.

BIBLIOGRAPHY

J. W. Allan, *Persian Metal Technology, 700-1300 AD,*London, 1979.

Idem, *Nishapur:Metalwork of the Early Islamic Period*, New York, 1982.

Idem, *Islamic Metalwork. The Nuhad Es-Said Collection*, London, 1982.

Idem, “Abūʾl-Qāsim’s Treatise on Ceramics,” *Iran*11, 1973, pp. 111-20.

T. Allen, “Notes on Bust,” *Iran*26, 1988, pp. 55-68; 27, 1989, pp. 57-66.

S. Blair, “The Madrasa at Zuzan: Islamic Architecture in Eastern Iran on the Eve of the Mongol Invasions,” *Muqarnas* 3, 1985, pp. 75-91.

M. J. Casimir and B. Glatzer, “Šāh-i Mašhad, a Recently Discovered Madrasah of the Ghurid Period in Garchistān (Afghanistan),” *East and West* N. S. 21, 1971, pp. 53-68.

R. Ettinghausen, “The Bobrinski ‘Kettle’: Patron and Style of an Islamic Bronze,” *Gazette des Beaux-Arts*24, 1943, pp. 193-208.

B. Finster, *Frühe iranische Moscheen. Vom Beginn des Islam bis zur Zeit salᵃūqischer Herrschaft*, Berlin, 1994.

Idem, “The Saljūqs as Patrons,” *The Art of the Saljūqs in Iran and Anatolia. Proceedings of a Symposium held in Edinburgh in 1982*, ed. R. Hillenbrand, Costa Mesa, 1994, pp. 17-28.

A. Godard, “Notes complémentaires sur les tombeaux de Marāgha,” *Āthār-é Īrān*1, 1936, pp. 125-60.

Idem, “Les anciennes mosquées de l’Iran,” *Āthār-é Īrān*1, 1936, pp. 187-210.

Idem, “Ardistān et Zawārè,” *Āthār-é Īrān*1, 1936, pp. 285-309

Idem, “Les anciennes mosquées de l’Iran,” *Arts Asiatiques*3, 1956, pp. 48-63, 83-88.

J. Golmohammadi, Art. “Minbar. 2. Architectural features: The Arab, Persian and Turkish lands,” *EI2,* vol. VII, Leiden 1993, pp. 76-79.

L. Golombek, “Urban Patterns in Pre-Safavid Isfahan,” *Iranian Studies* 7, 1974, pp. 18-44.

O. Grabar, “The Visual Arts, 1050-1350,” *The Cambridge History of Iran* V, Cambridge, 1968, pp. 626-58.

E. J. Grube, *Islamic Pottery of the Eighth to the Fifteenth Century*, London, 1976.

W. Hartner, “The Vaso Vescovali in the Brithish Museum. A Study on Islamic Astrological Iconography,” *Kunst des Orients* 9, 1973/74, pp. 99-130.

E. Herzfeld, “A Bronze Pen-Case,” *Ars Islamica* 3, 1936, pp. 35-43.

R. Hillenbrand, “Mosques and Mausolea in Khurāsān and Central Iran,” *Iran* 9 1971, pp. 160-62.

Idem, “Saljūq Monuments in Iran: I,” *Oriental Art* 18, 1972, pp. 64-77.

Idem, “Saljuq Monuments in Iran II: The ‘Pir’ Mausoleum at Takistan,” *Iran* 10, 1972, pp. 45- 55.

Idem, “Salğūq Monuments in Iran III: The Domed Masğid-i Ğāmiʿ at Suğās,” *Kunst des Orients* 10, 1975, pp. 49-79.

Idem, “Saljūq Monuments in Iran [IV]: The Mosques of Nūshābād,” *Oriental Art* 22, 1976, pp. 265-77.

Idem, “Saljuq Dome Chambers in North-West Iran,” *Iran* 14, 1976, pp. 93-102.

Idem (ed.), *The Art of the Saljūqs in Iran and Anatolia. Proceedings of a Symposium held in Edinburgh in 1982*, Costa Mesa, 1994.

Idem, *Islamic Art and Architecture*, London/New York, 1999.

E. Jacobsthal, *Mittelalterliche Backsteinbauten zu Nachtschewân im Araxesthale,* Berlin, 1899.

D. James, *The Master Scribes. Qur'āns of the 10th to 14th centuries A.D.*, Oxford, 1992.

M. Y. Kiāni, *Yādgārhā-ye Robāṭ-e Šaraf*, Tehran, 1981.

W. Kleiss, "Zwei islamische Bogenbauten in Nordost-Iran und in Afghanistan," *Al-Andalus und Europa zwischen Orient und Okzident*, ed. Müller-Wiener et al., Petersberg, 2004, pp. 297-302.

L. Korn, "Datierung durch Metallanalyse? Kunsthistorische und naturwissenschaftliche Methoden zur Einordnung ostiranischer Bronzeobjekte," *Tribus* 52, 2003, pp. 118-65.

Idem, "Iranian Stucco 'Out of Place'? Some Egyptian and Syrian Stuccos of the 5-6th/11-12th Centuries," *Annales Islamologiques* 37, 2003, pp. 237-60.

H. Laleh, "La Maqṣūra monumentale de la Mosquée du Vendredi de Qazvīn à l'Epoque Saljuqide," *Bamberger Symposium: Rezeption in der islamischen Kunst: vom 26.6.- 28.6.1992,* ed. B. Finster, Chr. Fragner, H. Hafenrichter, Stuttgart, 1999, pp. 217-30.

A. Maricq and G. Wiet, *Le Minaret de Djam: La découverte de la capitale des Sultans Ghorides (XII-XIIIe siècles)*, Paris, 1959.

A. S. Mélikian-Chirvani, "Le Roman de Varqè et Golšâh," *Arts Asiatiques* 22, 1970, pp. 1-262.

Idem, *Islamic Metalwork from the Iranian World, 8th-18th Centuries*, London, 1982.

M. Mehryār, "Masjed-e Jāmeʿ-e Borujerd," *Āṯār* 10/11, 1364/1985-86, pp. 77-165.

S. R. Peterson, "The Masjid-i Pā Mināŕ at Zavāra: A redating and an analysis of early Islamic Iranian stucco," *Artibus Asiae* 39, 1977, pp. 60-90.

G. Pugachenkova, *Termez – Šahrisjabz – Khiva*, Moscow, 1976.

ʿA. Qučāni, *Bar-rasi-ye katibehā-ye Masjed-e Jāmeʿ-ye Golpāyegān*, Tehran, 2004.

U. Scerrato, “Summary report on the Italian Archaeological Mission in Afghanistan. II) The two first excavation Campaigns at Ghazni, 1957-58,” *East and West* 10, 1959, pp. 23-55.

D. Schlumberger et al: *Lashkari Bazar: Une résidence royale ghaznévide et ghoride,* Paris, 1976.

E. Schroeder, “The Seljūq Period,” in A. U. Pope and P. Ackerman (eds.), *A Survey of Persian Art,* Oxford, 1938-39; repr. Tokyo, 1967, vol. III, *The Architecture of the Islamic Period*, pp. 981-1045.

R. Shani, “On the Stylistic Idiosyncrasies of a Saljūq Stucco Workshop from the Region of Kāshān,” *Iran* 27, 1989, pp. 67-74.

Idem, *A Monumental Manifestation of the Shi'ite Faith in Late Twelfth-Century Iran: The Case of the Gunbad-i Alawiyān, Hamadān,* Oxford, 1996.

M. S. Simpson, “The Narrative Structure of a Medieval Iranian Beaker,” *Ars Orientalis* 12, 1981, pp. 15-24.

B. A. Širāzi, “Masjed-e Jāmeʿ-e Ardestān,” *Āṯār* 1, 1359/1980, pp. 6-51.

M. Siroux, “La mosquée Djum’a de Bouroujird,” *Bulletin de l’Institut Français d’Archéologie Orientale du Caire* 46, 1947, pp. 239-58.

M. B. Smith, “Material for a Corpus of Early Iranian Islamic Architecture: I. Masdjid-i Djum’a, Demawend,” *Ars Islamica* 2, 1935, pp. 153-71.

Idem, “The Manārs of Iṣfahān,” *Āthār-é Īrān* 1, 1936, pp. 313-58.

Idem, “Material for a Corpus of Early Iranian Islamic Architecture: II. Manār and Masdjid, Barsīān (Iṣfahān),” *Ars Islamica* 4, 1937, pp. 7-40.

M. B. Smith and E. Herzfeld, “Imām Zāde Karrār at Buzūn, a dated Seldjūk Ruin,” *Archäologische Mitteilungen aus Iran* 7, 1935, pp. 65-81.

J. Sourdel-Thomine, “L’art ḡūride en Afghanistan. À propos d’un livre récent,” *Arabica* 7, 1960, pp. 273-80.

D. Stronach and T. C. Young Jr., “Three Octagonal Seljuq Tomb Towers from Iran,” *Iran* 4, 1966, pp. 1-20.

R. Ward, *Islamic Metalwork*, London, 1993.

O. Watson, *Persian Lustre Ware*, London, 1985

D. Wilber, "The Development of Mosaic Faïence in Islamic Architecture in Iran," *Ars Islamica* 6, 1939, pp. 16-47.

Idem, "Le Masǧid-i Ǧāmiʿ de Qazwin," *Revue des Etudes Islamiques* 41, 1973, pp. 199-229.