



GAČ-BORĪ

GAČ-BORĪ, plasterwork or stucco. Gypsum plaster has been used as a building material in Persia for more than 2,500 years. Originally it may have been applied as a rendering to mud brick walls to protect them from the weather, but it was soon exploited for its decorative effects, as it alleviates the bleakness of brick and rubble walls and provides a ground for applied decoration. A cheap and flexible medium of decoration, it can be secured to almost any material of construction used for exterior and interior surfaces and can be moulded, carved, and painted in a wide variety of ways. Stucco was also used for window and balcony grilles and to construct *moqarnas* (stalactite) vaults. In the hands of Persian craftsmen, this humble material reached unsurpassed heights of artistic creativity.

Gypsum, the mineral from which plaster is made, was widely available. Traditionally, the quarried gypsum was sent on donkey back to the kiln where it was burned, crushed with wooden mallets to the size of hazelnuts, and pulverized in a edge-runner mill (Wulff, pp. 124-26). Persian gypsum sets rapidly after being mixed with water, so to make it workable the mixture must be stirred constantly until it loses most of its setting power. This “killed” plaster (*gač-e košta*) is applied to walls and ceilings in several coats and does not set hard for forty-eight hours. For fine stucco work, the wet plaster is dusted with powdered talc and gypsum and then rubbed to give a high gloss. For painted surfaces, the plaster is soaked with linseed oil and coated with sandarac oil (Wulff, 1966, pp. 133-35).

Plaster, known as early as the Neolithic period, became common by



Achaemenid times. Achaemenid palaces at Persepolis had brick walls rendered with a fairly thick coat of plaster, which was often painted with earth colors, and the columns of the Treasury Hall had a plaster coating applied to a layer of reed rope coiled around the wooden core (Schmidt, 1939, p. 53). The use of plaster rendering on walls and columns developed during the Hellenistic and Parthian periods. At the late Parthian site of Qal'a-ye Yazdegerd, for example, the walls were covered with stucco moulded and carved in repeat patterns and repetitive figural compositions. Surfaces were divided into flat panels and bands of repeat designs suggestive of textile ornament, and the relief designs were painted in bright, even gaudy colors and executed in varying scales (Keall, Leveque, and Willson). This lavish use of plaster was a hallmark of Sasanian architecture, when columns were sheathed and walls encrusted with plaster that was carved and moulded in a wide variety of geometric, floral, and figural motifs, as the palaces at Tepe Hissar (Tappa Heşār) southeast of Dāmḡān (q.v.; Schmidt, 1937).

The Sasanian tradition of elaborate plaster decoration on walls and columns continued into Islamic times. Most of the polychrome stucco decoration from Čāl Ṭarkān (q.v.) near Ray, including small figural relief plaques, large-scale human and animal reliefs and statues, probably dates from the Omayyad period (41-126/661-744) in Persia (Thompson, 1976). Stucco was the ideal medium to cover the vast mud-brick palaces erected in the mid-9th century by the 'Abbasid caliphs at Sāmarrā' in Iraq, and the prestige of the capital province meant that stucco ornament was enthusiastically adopted throughout the Islamic lands. Three increasingly abstract styles (A-C) of carved and moulded ornament have been delineated (Creswell, II, pp. 286-88). In styles A and B, vegetal forms are still recognizable, but style C, the beveled style characterized by a distinctive slanted cut (Ger. *schrägeschnitt*), contains endless rhythmic and symmetrical repetitions of curved lines with spiral terminals. Carved stucco ornament in styles A and B covers most of the superstructure of the nine-domed mosque at Balk in Afghanistan (9th century; Golombek; Ettinghausen and Grabar, fig. 216). At the 10th-century Friday mosque at Nā'īn in central Persia, exuberant stucco decoration carved in styles A and B covers the columns and motifs in the six bays in front of the *mehṛāb*, and the three-tiered *mehṛāb* itself is decorated in rich relief that is almost three-dimensional (Viollet and Flury; Flury, 1930; *Survey of Persian Art*, pls. 265-69; Ettinghausen and Grabar, figs. 210-13). The beveled style is first documented in Persia in the carved stucco panel above the *mehṛāb* niche in the shrine of Davāzdah Emām in Yazd, dated 429/1037 (Ettinghausen, 1952, p.



76; *Survey*, pl. 273B). The Islamic avoidance of figural imagery in religious contexts meant that most of the patterns in mosques and tombs are geometric, floral, and epigraphic, but secular buildings, such as the 12th-century Regent's Palace at Termed, show that figural and animal subjects were also used (Ettinghausen and Grabar, fig. 306).

The tradition of carving stucco in increasingly high relief can be traced in *mehṛābs* from medieval Persia. In the finest examples, such as the *mehṛābs* at the congregational mosque at Ardestān (1135; *Survey of Persian Art*, pls. 312-24; Ettinghausen and Grabar, fig. 303), arabesques of stems and leaves on intersecting levels create a sense of movement and depth. This style continued into the 14th century, as in the superb *mehṛāb* added to the winter hall of the Friday mosque in Isfahan in 710/1310 (Blair and Bloom, fig. 12). From this period onwards, moulded stucco elements were also assembled in elaborate *moqarnas* vaults (e.g., the tomb of 'Abd-al-Ṣamad at Naṭanz, 707/1307; Blair and Bloom, fig. 11), and the effect was often heightened by painted decoration (e.g., the tomb of Gowharšād, Herāt, 1432; Blair and Bloom, fig. 62).

Elaborate stucco revetments were popular under the Safavids (1501-1732), when palace interiors were decorated with *moqarnas* and niches intended for the display of porcelains and other wares (e.g., the music room at the 'Ālī Qāpū palace, q.v., at Isfahan, early 17th century; Blair and Bloom, fig. 240). Window and balcony grilles were made of lattices cut from plaster boards and the openings filled with stained glass (e.g., Shaikh Loṭf-Allāh mosque at Isfahan, completed 1618-19; Blair and Bloom, fig. 233). From this period onwards, mirror-glass was also set in plaster in the technique known as *āṭna-kārī* (q.v.), and elaborate carved and painted plaster remained the standard decoration in fine Qajar houses and palace (Bakhtiar and Hillenbrand).

See also [GYPSUM](#); [STUCCO DECORATION](#).

Plate 1. Carved stucco hood in the *mehṛāb* of the Friday mosque at Nā'īn. 10th century.

Plate 2. *Moqarnas* vault of moulded stucco in the tomb of 'Abd-al-Ṣamad at Naṭanz, 1307.

Plate 3. Pierced stucco vaults in the so-called "music room" of the 'Ālī Qāpū palace, Isfahan. Early 17th century.



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