



## CRYSTAL

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**CRYSTAL** (*bolūr* “crystal, rock crystal”; see crystal, rock; also *ābgīna*, lit. “like water”; *šīša* “glass”), originally a type of fine glass developed in England in the 17th century and owing its special clarity and brilliance to the high refractive index of lead oxide in the metal; the term is often applied to fine glass in general. Beginning in the mid-19th century crystal objects were imported in quantity to Persia.

Until that time the glass produced in Persia had consisted of mold-blown, free-blown, and cut wares made with a traditional technology that had originated in late antiquity; the quality of these wares declined in the later Middle Ages, but production revived again in the Safavid period (907-1145/1501-1732), stimulated by imports of Venetian glass and the presence of foreign craftsmen who transmitted Italian glassmaking techniques. Jean Chardin noted that in the late 17th century an Italian craftsman had introduced European methods of making glass at Shiraz. Extant examples in many museum collections attest that mold-blown and free-blown glass were produced in the Venetian style in Persia during this period, and the popularity of such vessels is documented by illustrations in contemporary manuscripts, though it is often difficult to tell whether it is the Italian originals or Persian imitations that are represented. This manufacture continued through the early 19th century (Charleston, pp. 22-23; Diba, p. 191).

The 19th century was the great period of European glass manufacture. Production methods were standardized, and patterns and techniques were rapidly diffused across national boundaries. Important developments included



the fashion for large sets of matched tableware and the introduction of such large composite objects as fountains and furniture (A. Polak, pp. 185-98). As diplomatic contacts with Europe were resumed under the Qajar dynasty (1193-1342/1779-1924) and the Persian court and aristocracy were increasingly exposed to European novelties, the traditional taste for glass vessels and other objects (Chardin, VIII, p. 376; cf. Charleston, p. 20) stimulated the importation of fine European crystal (Binning, II, p. 277). Mirror work also proliferated on architectural surfaces (see *āina-kārī*), and polychrome glass windows (*orosī*, lit., “Russian,” referring to sash windows) appeared in palaces and fine residences; the quality of both impressed the most critical European travelers (Binning, II, p. 229). These fashions were usually initiated at court by means of diplomatic gifts. One English embassy presented to the Qajar ruler Fath-‘Alī Shah (1212-50/1797-1834) in February 1812 a number of “very beautiful cut-glass chandeliers and lustres” (Ouseley, III, p. 72). Often the latest products of European glassworks were chosen for such gifts; for example, Robert Binning reported having seen a glass fountain in the Golestān palace in Tehran during his visit in 1266-68/1850-52 (II, p. 229). In a portrait by the court painter Aḥmad, dated 1232/1822 and formerly in the British embassy in Tehran, Fath-‘Alī Shah is shown seated beside a water pipe (*ḡalīān*) with a fine glass base of a type associated with Bohemian production of the late 18th and early 19th centuries (Charleston, pp. 16, 17 fig. 6; cf. p. 18 fig. 7).

The first wares to be imported from Europe in the 19th century were of cut and gilded clear glass; soon, however, the Ottoman glass factories at Beykoz near Istanbul were supplying these items, as well as imitations of French opaline (*bārfatan*) glass (Bayramoğlu, p. 57). By the 1820s the elaborately decorated and tinted glass of Bohemia had come to dominate both European and Near Eastern markets; the Bohemian manufacturers were particularly successful in adapting their products to Near Eastern tastes, exporting a distinctive ware that was both colorful and ornate. In fact, they maintained aggressive sales organizations throughout the region and even established a network of local factories as well (Kamal, p. 182). Merchandise was shipped overland through the Ottoman cities of Smyrna (Izmir) on the Turkish coast and Aleppo in northern Syria, then to Persia via Tabrīz (Lukash, esp. pp. 5-7; Schmitz, pp. 18-20). For example, the British consul K. E. Abbott reported that in 1282-83/1866 Russian glass arriving at Tabrīz represented nearly 20 percent of the total value of Russian imports and that Bohemian glass represented nearly 10 percent of the value of all imports from the rest of continental Europe. These figures indicate the great popularity of glass in Persia at that time.



In the same year Russian glassware of inferior quality was shipped via the Caspian port of [Astarābād](#) (*Amanat*, pp. 244-48).

Russian glass, though less renowned than that from Bohemia, was often of very high quality. Some of it was inspired by Bohemian examples designed for export to Persia, and the imitations were so close that they are often difficult to distinguish from the originals. In response to increasing Persian demand for luxury goods, in 1267/1850 the prime minister, [Mīrzā Taqī Khan Amīr\(-e\) Kabīr](#), sent six Persian artisans to Moscow and St. Petersburg and two to Istanbul to be trained in various crafts, including the manufacture of crystal. Upon their return in 1270/1853 a certain Āqā Raḥīm Eṣfahānī established a cut-crystal factory in Tehran (*Ādamīyat*, pp. 391-92; tr. Issawi, p. 293). It is difficult to determine how successful the venture was eventually, although, according to the German physician Jakob Polak (II, pp. 179-80; cf. Issawi, p. 274), factories for the production of glass for daily use were flourishing in Qom and Shiraz in 1282/1865. Mīrzā Ḥosayn Khan Taḥwīldār Eṣfahānī listed (p. 105) two large glassmaking factories (*šīšgagari*) among the local industries of Isfahan in the late 19th century. According to him, early in the reign of Nāṣer-al-Dīn Shah (apparently as a result of Amīr Kabīr's patronage), they produced water pipes, tulip-shaped candlesticks (*lāla*), and large lanterns (*mardangī*) that were difficult to distinguish from foreign products without close examination (cf. *Ādamīyat*, p. 392). Nevertheless, most observers seemed to agree that the finest glass still came from abroad. A factory established in Tehran around 1276/1859-60 under the supervision of a certain Monsieur Valanj produced excellent crystal, but it soon went out of business, owing to the lack of raw materials, as did two other factories founded respectively by [Ḥājj Moḥammad-Ḥasan Amīn-al-Ẓarb](#) in 1305/1887-88 and a Belgian company called Société Anonyme Belge des Nationales en Perse in 1306/1888-89 (*E'temād-al-Saltāna*, p. 102; *Jamālzāda*, p. 93; Issawi, pp. 305-06).

The fashion for glass in the European style reached its height in the late 19th century, when the Tehran *bāzār* was filled with cut crystal from France and Austria (Curzon, *Persian Question* II, p. 330; d'Allemagne, III, p. 136) and the royal art gallery in the Golestān palace was lit with enormous chandeliers and candelabra (Binning, II, pp. 229-30). Other favorite objects included covered and uncovered sweetmeat dishes, cylindrical beakers with inset gilded rims, rose-water sprinklers, and mugs; particularly characteristic were decanters with pyriform bodies, long necks encircled by glass rings, and pointed stoppers, in which wine and fruit drinks (*šarbat*) were served. The bases of



water pipes were particularly popular and came in a variety of shapes: footed or unfooted, with globular or faceted columnar bodies and long necks (often mistakenly identified in the literature as vases).

Although some pieces were of transparent crystal, cut and gilded, rich colors were preferred for both opaque and transparent glass; transparent ruby glass was particularly prized, and the most popular combinations were white, red, and blue. A dazzling array of techniques was used in conjunction with intricate designs. The coloristic and jeweled effects were ideally suited to the 19th-century Persian interior, which was no less ornate than its Victorian counterpart. Faceting, elaborate cutting, engraving, gilding, and painting were all appreciated, but the most popular technique was undoubtedly layered, or cased, glass, in which the outer layers were cut away in patterns to allow the contrasting colors of the inner layers to show; in Persian this technique is known as *do pūsta* (double-skinned) or *se pūsta* (triple-skinned), depending on the number of layers thus exposed. Standard designs included porthole and leaf, flower heads, and lozenges; some pieces were also decorated with beads of opaque enamel, which lent a jeweled effect. Painted designs included portraits of rulers and European beauties, floral bouquets, and cityscapes. In general, the scale of the designs was large and imposing.

A number of pieces inscribed in Persian with the names of patrons and dates make it possible to document the arrival of this style at least from the 1860s (Schmitz, pp. 1-11; Diba, p. 189 and fig. 1). Some with painted portraits of Nāṣer-al-Dīn Shah (1264-1313/1848-96) attest its continued production, as do illustrations in dated manuscripts, for example, a copy of *Alf layla wa layla* produced at Nāṣer-al-Dīn Shah's court by a team of forty painters under the supervision of Abu'l-Ḥasan Khan Ġaffārī (Ṣanī'-al-Molk between 1269/1852 and 1274/1859, as well as lithographed books of the period (Schmitz, pp. 7-8).

By the reign of Moẓaffar-al-Dīn Shah (1313-24/1896-1907) cheap painted imitations (Diba, p. 190 and fig. 4) and glassware decorated with small leaf patterns characteristic of the early 20th century signaled the end of this chapter in the history of Persian glass.



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