

Glass, Gold, and Gold-Glasses

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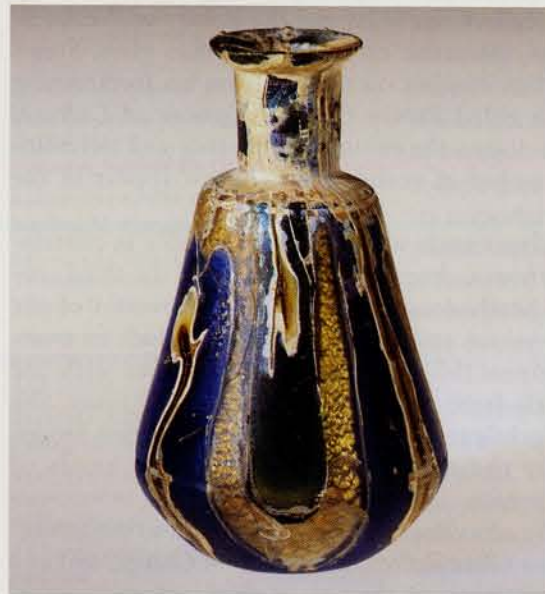


FIG. 1. GOLD-BAND BOTTLE. This bottle was made by a complex process, still not fully understood. In addition to the laminated strips of gold foil, the object has transparent blue, green, and brown stripes. Each of these stripes was made in exactly the same way as the gold, but here the stripes are opaque white glass. This reflects light that passes through the outer layers, thereby enhancing the brilliance of their colors. Probably made in Italy. Early to mid-1st century AD.

The Corning Museum of Glass 59.1.87. H. 7.3 cm

FIG. 2. BLOWN EWER WITH DECORATION. The gilded decoration is difficult to decipher. It consists of two bands: (1) on the neck, a garland consisting of stem with opposed pairs of lozenge-shaped leaves, and a band of contiguous lozenges; (2) on the body, two standing figures supporting, with both hands, vine branches that fill the entire space between them. The form recalls a group of glass pitchers signed by Ennion and silver vessels depicted in a wall painting from the tomb of Vestorius Priscus at Pompeii. More distantly, it may be compared with a silver ewer from Berthouville, France. Ennion's pitchers, the wall painting, and the Berthouville ewer all belong to the 1st century AD. Mid-1st to early 2nd century AD.

The Corning Museum of Glass 70.1.3. H. 21.5 cm



FIG. 3. THE DISCH CANTHARUS. Blown, with gilded decoration of cupids and applied "cage." The object is said to have been found in Cologne, Germany, in 1864. It passed into the collection of Carl Disch, hence its modern name. A *cantharus* is a two-handled cup. Rhineland, late 3rd to early 4th century AD.

The Corning Museum of Glass 66.1.267. H. 13.8 cm

Gold-glasses—objects with gold foil ornament sandwiched between two fused layers of glass—were the first category of Roman glass to attract the attention of antiquarians and collectors in the 17th century. The antiquarians were interested primarily because most gold-glasses were discovered in catacombs, the underground galleries where early Christian and Jewish communities buried their dead. Some gold-glasses have religious images such as pictures of Jesus and Christian saints, or of menorahs and other Jewish ritual objects. Others depict characters from pagan mythology and secular subjects such as famous sportsmen. In many ways, therefore, gold-glasses are miniature windows that reveal some of the interests and beliefs of people in late antiquity.

The first published reference to gold-glasses was in 1632, the date of a posthumous publication of the Rome-based antiquarian Boldetti. By 1716, when

Buonaruoti published a study of gold-glasses, 72 examples were known; in 1858, Garrucci listed 340 gold-glasses. The catalogue of the gold-glasses in the Vatican Library contains information on 460 objects in the Vatican and in museums throughout the world (Morey 1959).

Gold-glasses, however, are only part of the story of how Roman artists and artisans used gold and glass together. They also included gold foil in some of their mosaic-glass vessels, decorated the surfaces of glass objects with gold foil and, very rarely, added gold and silver to the batch to create the optical effect known as dichroism. All told, the number of known Roman glass objects that contain gold probably exceeds 700.

This survey of gilded glass objects and gold-glasses begins with a description of mosaic glass with "gold-band" inclusions (Fig. 1) and pieces with gold surface ornament (Figs. 2–5). It ends with a review of the



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 FIG. 4. THE DAPHNE
 EWER. Blown, with cold-painted
 and gilded decoration of Apollo
 pursuing Daphne. In Greek
 mythology, the nymph Daphne
 was the daughter of the river god
 Ladon. She spent her time hunting
 and resisted her father's entreaties
 to take a husband. The god Apollo,
 wounded by an arrow shot by
 Desire, saw Daphne and instantly
 fell in love with her. She fled from
 him and, almost exhausted, called
 out to her father to save her. As
 Apollo caught up with her, her
 prayer was answered and she was
 transformed into a bay tree.
 "Daphne" is the ancient Greek
 word for a bay tree and the myth
 explains how the name came
 about. Eastern Mediterranean,
 3rd century AD.

*The Corning Museum of Glass 55.1.86.
 H. 22.2 cm*

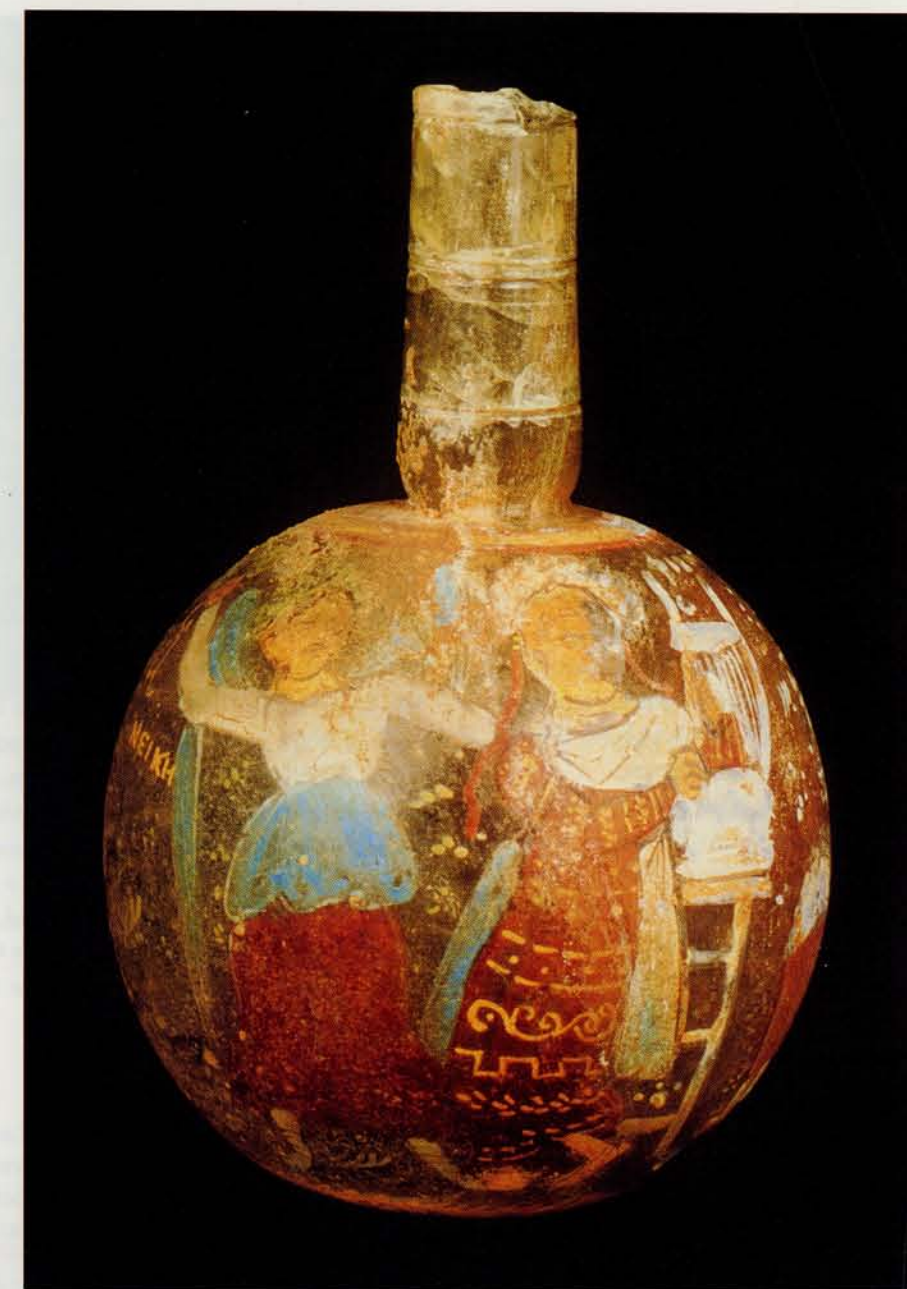


FIG. 5. DECORATED BOTTLE. Blown, with enameled
 and gilded decoration of Apollo and Marsyas. According to myth,
 the goddess Athena invented the flute, but threw it away because it
 distorted the features of the player. Marsyas found the flute and
 became a skillful player. He then challenged Apollo, who played the
 lyre, to a music contest. In one version of the story, the competition
 was judged by King Midas, who rashly declared Marsyas the win-
 ner. Apollo punished Midas by changing his ears into those of an
 ass. Here, we see an alternative version: the Muses awarded the vic-
 tory to Apollo, who punished Marsyas by skinning him alive.
 Eastern Mediterranean, 3rd to 4th century AD.

The Corning Museum of Glass 78.1.1. H. 14.6 cm



FIG. 6. MEDALLION. Painted and gilded portrait on deep blue background. The portrait is that of a woman, but the Latin inscription, ANATOLI GAVDIAS ("Anatolius, rejoice!"), refers to a man. Presumably, the woman was an important person in Anatolius's life, possibly his wife. Perhaps Italy, 3rd century AD.

The Corning Museum of Glass 90.1.3. Dia. 4.9 cm



FIG. 7. CUP FRAGMENT with inscription made of gilded rods. In the Greek inscription, ΕΦΕCΙ / ΖΗCΙC, one letter (presumably A) is missing from the second word; evidently it became detached before the two glass elements were fused, and the maker did not replace it. The inscription, therefore, probably was intended to read ΕΦΕCΙ / ΖΗCΑΙC, "Ephesi zesaic." "Zesais" (may you live!) is a toast found on numerous drinking vessels. "Ephesi" appears to be the vocative case of "Ephesios." The latter may be a personal name, but it is also an adjective meaning "of the city of Ephesus" and so both "Ephesios, may you live!" and "Ephesian, may you live" are acceptable translations. 3rd to early 4th century AD.

The Corning Museum of Glass no. 66.1.31. Dia. 7.8 cm

four main types of gold-glasses: medallions bearing portraits (Fig. 6), vessels with inscriptions made of gilded glass rods (Figs. 7–8), vessels with gold ornament protected by blobs of colored glass (Figs. 9–10), and vessels with gold ornament in the base—the commonest type of gold-glass (Figs. 11–13). Our survey will take us from Pompeii in AD 79 to the catacombs of 4th-century Rome.

GOLD-BAND GLASSES

In and immediately after the reign of Augustus (27 BC–AD 14), glassmakers in Italy produced a wide range of multicolored tablewares and other objects, using techniques of canemaking, casting, and polishing developed in the preceding Hellenistic period. One of the specialties of the Hellenistic glassmakers was mosaic glass; the Romans imitated this, and introduced their own distinctive variants. One such product was "ribbon-mosaic" glass, in which strips of glass of different colors were fused to form a single blank, which could be reheated and molded to the desired shape. Gold-band glass is the most luxurious ribbon-mosaic glass, incorpo-

rating gold foil laminated between strips of colorless glass (Fig. 1). It was used in the first half of the 1st century AD to make perfume bottles, lidded boxes (probably for cosmetic preparations), and small items of tableware.

GLASSES DECORATED WITH UNPROTECTED GOLD FOIL

The earliest well-dated examples of Roman gilded glass come from Pompeii—they include four plaques from the House of the Gilded Cupids—and cannot be later than AD 79, when the city was buried by an eruption of Vesuvius. The earliest surviving vessels with gilded decoration include the ewer shown in Figure 2 and a vessel with a Dionysiac scene from Begram, Afghanistan, both of which probably date from the late 1st or early 2nd century.

In the 3rd and the 4th centuries, glasses with gilded decoration seem to have been made in at least three parts of the Roman Empire: the eastern Mediterranean, Italy, and the Rhineland. Objects said to have been found in the eastern Mediterranean and probably made there include a beaker with a Greek inscription,

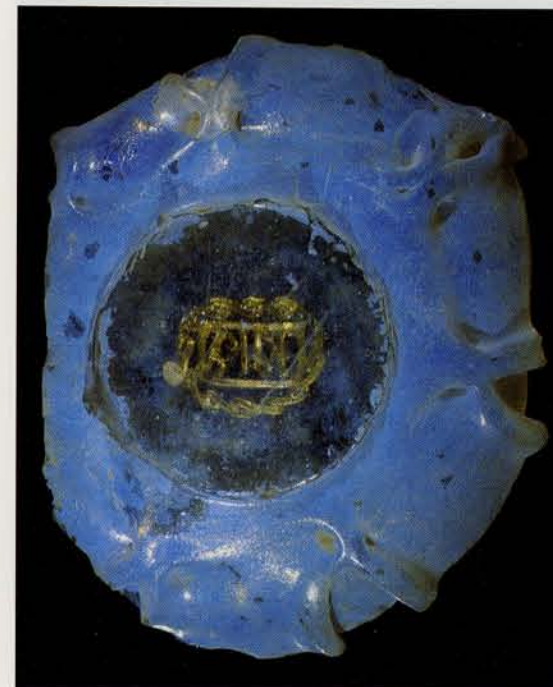


FIG. 8. CUP FRAGMENT with inscription made of gilded rods. The Latin inscription, BIBE ("Drink!"), was a common toast. It appears on a large number of glass drinking vessels. 3rd to early 4th century AD.

The Corning Museum of Glass 66.1.147. W. 7.2 cm



FIG. 9. FRAGMENT OF COLORLESS VESSEL. Blown, decorated with gold foil under deep blue blob. The figure is Daniel. In the stories of Bel and the Dragon (the latest addition to the Book of Daniel in the Old Testament), Daniel refused to worship a dragon, which the Babylonians revered as a god. Believing the dragon to be indestructible, the king gave Daniel permission to kill it "without sword or club." Daniel fed the dragon with cakes made of pitch, fat, and hair, and the monster exploded. Here, Daniel is shown holding one of the cakes. 4th century AD.

The Corning Museum of Glass 66.1.199. H. 2.4 cm



FIG. 10. FRAGMENT OF COLORLESS VESSEL. Blown, decorated with gold foil under deep blue blob. The figure is Tobias. The story of Tobias and the fish occurs in the Apocrypha, in the Book of Tobit. Tobit sent his son Tobias to recover money from a man in Rhages (Rayy near Tehran, Iran). Unknown to them, the man whom Tobit commissioned to accompany Tobias was the archangel Raphael. At the end of the first day of their journey, they camped beside the river Tigris. Tobias went to bathe his feet in the river. A huge fish leaped out of the water and attempted to swallow Tobias's foot. His companion urged him to seize the fish. Tobias did this and hauled the fish onto the bank. His companion then told him to remove the gall, heart, and liver for use as medicines, and to throw away the guts. Tobias obeyed, then cooked and ate part of the fish and salted the rest for future use. Later, Tobias used the heart and liver to cure his kinswoman Sarah, who was possessed by a demon and whom he later married, and the gall to cure his father's blindness. 4th century AD.

The Corning Museum of Glass 66.1.204. H. 2.6 cm

Gilding Glass

There are two traditional methods of gilding glass: applying the gold as sheets of foil (or leaf, which is thinner than foil) and mixing gold dust with a liquid and applying it with a brush as paint. Renaissance glassmakers in Venice used the first technique; medieval Byzantine and Islamic glassmakers used the second. As far as we know, Roman glassmakers always applied the gold as foil, presumably with the aid of an adhesive such as gum arabic. They then worked up the design by removing unwanted foil and adding details by scratching the gold that remained with a stylus. From time to time, they used gold foil in conjunction with "cold-painting" (employing the same paints that artists used on other materials) or enameling (mixing a suspension of powdered glasses that were fired at moderate temperatures and fused, and so became part of the object).



FIG. 11. FRAGMENT OF GOLD-GLASS.

The roundel encloses a horse and its rider who brandishes a whip or victor's palm in his right hand. The Greek inscriptions, $\text{ΑΟΥ} / \text{ΙΤΕ}$ and ΠΙΕΖΗΘΕC , mean "Avitus, drink and may you live [for many years]!" Presumably, Avitus was a celebrated sportsman, perhaps either a jockey, as the scene implies, or a charioteer, here shown on the leading horse of his team. Probably made in Rome. 4th century AD.

The Corning Museum of Glass 54.1.83. W. 6.8 cm



FIG. 12. FRAGMENT OF GOLD-GLASS. When viewed from inside the vessel, the roundel shows busts of Saints Peter (on the left) and Paul (on the right), each wearing a tunic and a *pallium* (outer garment). The figure standing between them, with his outstretched arms holding a wreath over the head of each apostle, is Jesus. Probably made in Rome. 4th century AD.

The Corning Museum of Glass 62.1.20. W. 9.2 cm

reportedly from Damascus, and a bottle with a Greek inscription and a group of figures, also said to be from Syria. Among the gilded glasses that seem to have been made in Italy is a beaker from Aosta, decorated with standing figures and a Latin inscription that connects the object with gold-glasses like that shown in Figure 13. The objects found and presumably made in the Rhineland include the Disch Cantharus (Fig. 3) and a similar vessel that was once in the collection at Gołuchów Castle, Poland. The molded shells on the handles of these two objects suggest that, like other vessels with molded shells, they were made in the vicinity of Cologne.

Roman objects in which gilding is combined with painted or enameled decoration are also rare. In addition to the gilding, some of the surviving examples appear to be decorated with vitreous enamels, some with unfired pigments, and some with fired and unfired pigments used together. Thus, the Daphne Ewer (Fig. 4) seems to be decorated with gilding and unfired pigments, while the bottle in Figure 5 has gilding and either enamels or, more probably, a combination of enamels and cold-painting.

GOLD-GLASSES

The first group of fused gold-glasses are medallions: small circular objects (about 4–7 centimeters in diameter), usually with a deep blue disk bearing carefully finished decoration, and a colorless cover glass (Fig. 6). The disk and the cover glass were cast separately and at least partly ground and polished. Gold foil was applied to the upper surface of the disk, sometimes accompanied by colored pigments. The picture was created and the cover glass was placed over it. The object was then placed in a kiln and heated until the glasses fused. After annealing, the top, bottom, and sides of the medallion were ground and polished.

Most of the medallions have portraits and these are sometimes accompanied by Greek or Latin inscriptions. The Greek inscriptions are believed to be in the dialect current at Alexandria, Egypt. The dialect may indicate the origin of the decorators, but it does not establish that they lived in Egypt; indeed, the Italian provenance of several medallions suggests that the decorators may have worked in Italy, perhaps at Rome. The medallions are frequently dated to the late 2nd and 3rd centuries AD, but only one is known to come from an



FIG. 13. FRAGMENT OF GOLD-GLASS. Seen from the inside, the scene shows a shepherd holding a *syrinx* (panpipe) with both hands, while his crook leans against his knee. He is watching part of his flock: three rams with thick fleeces. Running around the border is a Latin inscription, $\text{DIGNITAS.AMICORVM.PIE.ZESES.VIVAS}$. This may be translated "[Be] the pride of your friends; drink that you may live; may you live." The text could be a Christian exhortation, and perhaps it is correct to take it in that sense in view of the possible Christian associations of the shepherd and his flock. On the other hand, the shepherd is holding a panpipe (which is not a Christian attribute), and the medallion may simply depict a bucolic scene with no religious significance. 4th century AD.

The Corning Museum of Glass 66.1.37. Dia. 9.7 cm

even approximately datable context. This medallion, with a portrait of a bearded man, is still embedded in the plaster surrounding a tomb in the Cimitero di Panfilo, Rome (Morey 1959:40, no. 222). It was placed there in the 4th century.

The second group consists of fragmentary vessels with, at the center of the floor, a short inscription in a circular or rectangular frame (Figs. 7, 8). The inscription and the frame are made of colorless glass rods (about 0.1 centimeters in diameter) which were softened in a flame, bent into the desired shapes, gilded on the upper surface, then attached to the parison employed to form the base of the vessel. The gilded rods may be accompanied by dots or lines of blue, green, or red pigment. Subsequently, the object was probably completed by a process similar to that described by d'Escurac-Doisy (1959:60–62; see also Kenneth Painter in Harden 1987:266–67). A second parison, which eventually became the body of the vessel, was inflated against the first parison, making contact in the area of the decoration, and the ensemble was fused. In the final stages of manufacture, the first parison was cut down and shaped to make the base and the footring, and the second parison was cut down and shaped to form the wall and the

rim. In some examples, the presence of minute bubbles between the foil and the upper layer of glass confirms that the ornament was applied to the upper surface of the base and not to the lower surface of the floor; the bubbles were trapped when the second parison was pressed against the decorated surface.

Twelve objects with gilded-rod inscriptions are known. A bowl found in a grave at Farrobo, near Rfo de Moínhos in Portugal, is the only specimen from a datable context; the latest associated object was made around AD 240–260. The use of gilded rods, however, invites comparison with a group of objects, the date of which is fairly well defined: the "Masterpiece" and related vessels from the Rhineland. The Masterpiece, an imposing bottle decorated with gilded glass rods and trails of opaque white, opaque red, and translucent deep blue glass, was found in a 3rd-century grave in Cologne. Similar objects, also with gilded rods, have been found at Cortil-Noirmont, Belgium, associated with objects datable to around AD 200; at Nijmegen, Netherlands, dated to around AD 250–300; and in another grave at Cologne, associated with coins of which the latest was issued by Galerius Maximianus as caesar (AD 295–305). It appears, therefore, that throughout the 3rd century, luxury glass-


es were decorated with gilded rods that were heated until they became soft, then bent into intricate shapes. Until more precise information becomes available, we must conclude that vessels with inscriptions made of gilded rods may date from any part of that century.

The third group comprises fragments of vessels decorated with gold foil roundels under colored blobs (Figs. 9, 10). The British Museum possesses fragments of a 4th-century colorless glass bowl decorated on the outside with three horizontal bands of small gold-foil roundels alternating with two bands of even smaller gold-foil rosettes, all of which are covered with blue and bluish green circular patches that were applied as blobs of molten glass. The roundels, which were viewed from the inside of the bowl, contain figures and scenes from the Old and New Testaments. The object was found at Cologne, Germany. Although no other large fragments of this type are known, one hundred or more individual roundels, presumably from vessels, probably exist. The most prolific find-place appears to be Rome and its environs; 46 examples are in the Vatican Library, 5 are in other collections in Rome, and 1 is in the museum at Ostia.

Finally, we have the largest group of all: roundels (usually about 8–11 centimeters in diameter) with grozed edges (Figs. 11–13). Indeed, these are the objects that spring to mind when the term “gold-glass” is mentioned. A large number of gold-glasses have been recovered from Roman catacombs, where they were set in plaster surrounding *loculi* (niches used for burying the

dead). These finds led Aus'm Weerth (in 1878) to suggest that gold-glasses were made as roundels to be used exclusively to decorate graves, an hypothesis revived by Haevernick in 1962. Vopel (in 1899), on the other hand, argued that the roundels are the bases of vessels for general use. Vopel's suggestion that the roundels are parts of vessels is supported by the fact that many of them have footings and a few even retain parts of the wall. Indeed, in 1720 Boldetti illustrated an almost complete bowl decorated with a roundel depicting Saints Peter and Paul. Gold-glasses, therefore, occupied the same position on the floors of bowls as the inscriptions made from gilded glass rods.

Most gold-glasses of this type are assigned to the 4th century AD, although none come from precisely datable contexts. It is possible, however, that four examples with figures identified as *pastor Damas* or *Damas* refer to Pope Damasus (r. 366–384). Another gold glass, inscribed *Pompeian et Teodora vibatis*, may depict Barbarus Pompeianus, *consularis* of Campania in 333, or Iusteius Pompeianus, who was suffect consul in the early 4th century. A sixth example, inscribed with the names *Orfitus et Costantia* may refer to Memmius Vitrasius Orfitus, prefect of Rome between 354 and 359 (Cameron 1996).

After the 4th century, glassmaking declined in most parts of the Roman Empire and many of the more elaborate techniques were abandoned. Among the objects that ceased to be, even in Rome, were gold-glasses. 

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GLOSSARY

Anneal: to cool glass gradually to room temperature

Batch: the mixture of raw materials (often silica, soda or potash, lime, and recycled glass) that is heated in a pot or tank to make glass

Blank: an object that has been formed but not yet finished

Canemaking: the construction of canes—sticklike lengths of glass formed by bundling groups of rods of different colors so that they form a pattern when seen in cross section, and fusing them

Dicroism: an optical property that makes glass appear one color when seen by reflected light and another color when light shines through it

Fusing: (1) the process of melting batch; (2) heating pieces of glass until they bond; (3) heating enameled glass until the enamel bonds with the surface of the object

Grozed: having the edge trimmed by clipping with a metal tool

Parison (French, *paraison*): a partly inflated mass of glass on the end of a blowpipe