

## ART / ARCHITECTURE

## The Grandeur That Was Roman Glass

By RITA REIF

**T**O the ancient Romans, glass was magical, a commodity with star potential that was never fully realized by the Greeks. Awed by the transparency and fragility of glass, the Romans in the reign of Augustus (27 B.C. to A.D. 14) transformed its production from a craft to an industry. And the process spanned several decades, about as long it took to develop the computer in the late 20th century.

"Until 65 B.C., glass was a rarity that dazzled the ancients," said Stuart Fleming, the scientific director of the University of Pennsylvania Museum in Philadelphia. "But until that year there wasn't a Latin word for it. That's when Lucretius described glass in 'On the Nature of Things' as colorful and shining and called it vitrum."

A century later, innovative techniques, like glass blowing, had changed the look of glass, and mass production had spread its availability to 54 million Romans throughout the empire, which by then extended north to Germany, south to Egypt, east to Iraq and west to Britain.

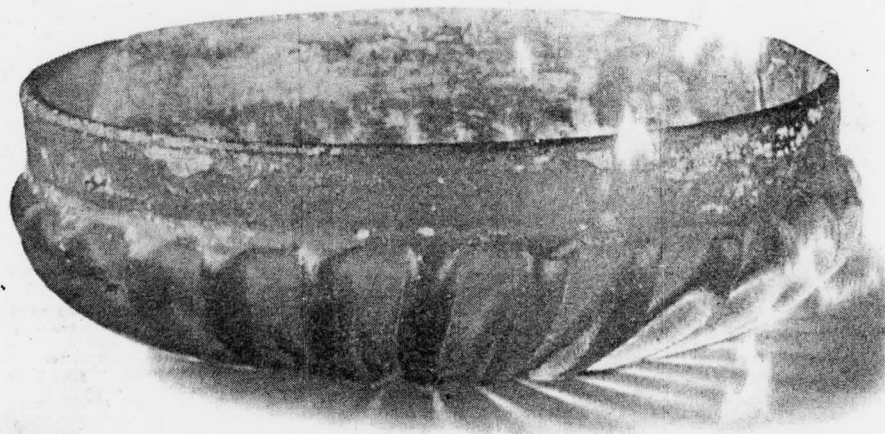
Glass had become so common and cheap that its luster as a luxury material began to dim for Roman aristocrats. To show their disdain, they used the phrase "viterra fracta," or broken glass, to mean rubbish. While the elite no longer displayed glass objects among their gold, silver and bronze

**In just a few decades, what had been a dazzling rarity became a mass-produced commodity of stunning variety.**

table decorations, most Romans continued to use glass in their homes and taverns, spurring inventive design and fashion changes well into the sixth century.

The stunning variety of glass objects in daily use at the time incorporated virtually every glass-working technique known today, as can be seen in "Roman Glass: Reflections on Cultural Change," an exhibition at the Bard Graduate Center for Studies in the Decorative Arts, at 18 West 86th Street, Manhattan, through June 11. The 200 pieces date from the first century B.C. to the sixth century A.D. and were selected from the university museum's collection by Mr. Fleming, the show's curator. It is the first

*A bowl, right, and a perfume bottle, left, from the first century A.D. and a jug, below, from the fourth century are in an exhibition of Roman glass at the Bard Graduate Center.*



Photographs by University of Pennsylvania

fumes and cosmetics that Romans viewed as necessities. Such pieces were small enough for a slave to hold in the palm of her hand while she lined her mistress's eyes with kohl and brightened her cheeks with rouge.

Many pieces glow with vibrant lusters and speckling that glassmakers did not plan: patinas left by time, soil and the chemicals in the air that clouded the surfaces of ancient works. But for the most part the pieces in this collection have astonishing clarity and unmarred bodies that reveal ribbing, dimpling, puckering and wavy patterns. These decorative effects were pressed or combed into the glass while it was still soft, or applied later after it had hardened, as is seen in a small jug with zigzag tracing at the base.

Mr. Fleming's favorite is a glittering blue bubble of a perfume bottle from the first century A.D. that resembles a Christmas ornament. It is mighty in its delicacy, a tiny form defined by a trickle of white frosting spun in a spiral from its mouth to the tip of its tail. And it was, no doubt, made by a slave — as most glass workers in the period were slaves — who would have risked a lot to create it.

"Somebody took the time to very carefully stretch out the neck and stretch out the tail," Mr. Fleming said. "If you broke an object in a Roman workshop, you probably paid for it with a lashing."

This glorious piece reveals how the most distinctive characteristic of glass, its transparency, was fully exploited right at the beginning of the industrialization of glass-making. The piece was made soon after glass blowing was invented under the Romans, probably in Judea, about 70 B.C. Step by step, glass became ever more fanciful

and decorative as innovations entered the process. Glass was first blown into a mold to create, for example, square bottles about A.D. 45. Then under Nero's colorless glass, a staple still used by wine lovers, followed by faceted glass cutting to produce glass obelisks and red rock crystal. Engraving was introduced by the second century A.D., and by the fourth century there were cage cups carved with multiple layers of decorative cut from rocks, the ultimate for glass technical virtuosity.

Fashion brought many changes in form and look of glass during the Middle period. After Constantine converted Christianity in 313 A.D. and moved Rome to the East, settling in the city became Constantine's people, Roman glass to look increasingly more Byzantine.

**"T**here was a sudden change in production of glass that is like those in cone glass exhibition," Mr. Fleming said. "Millions were produced to hold churches." Glass producers began to color back to glass: bright red, white, blue and black. The scene was pagan myths, of Heracles and Eros, for people, were altered slightly to depict Jesus. "Roman pottery and iron objects mundane to us today," Mr. Fleming said. "And the symbolism expressed in Roman gold, bronze and silver works were coveted by the wealthy now empty. But glass brings us most close touch with ancient times: we can feel comfortable with it in everyday life, just as the Romans did. We can imagine people making and breaking it and admiring it for its beauty."



exhibition of the museum's collection of ancient glass since the museum opened a century ago.

What amazed Mr. Fleming, a radiation physicist, when he first examined the museum's glass collection was the thinness and feather-lightness of so many pieces, especially those made to hold the precious per-