

# MOVING ON UP? \$\$\$

Flutists, instrument makers, and scientists cannot agree how much the metal used in a flute changes the tone. Many experiments have tested the sounds of gold, silver, and platinum flutes, but the results are not conclusive. Years ago William Kincaid of the Philadelphia Orchestra selected a platinum flute, as did his teacher, George Barrère. In fact, Edgard Varèse even wrote a piece for solo flute, *Density 21.5*, for Barrère to play on a platinum flute (the title refers to the density of platinum). Jean-Pierre Rampal, and Severino Gazzeloni perform on gold flutes. French flutist and teacher Marcel Moyse played on a nickel-silver flute, dispelling myths that only flutes made of precious metals can produce beautiful sounds.

The tubing of sterling silver flutes generally comes in three thicknesses: .014", .016", and .018". Smaller walls are thought to create a brighter sound, while thick tubing has a darker sound. Gold flutes are usually made of 9K or 14K red or yellow gold after flutemaker

Some special features of gold or platinum flutes are available on less expensive flutes than gold or platinum instruments by using silver keys and rods (called the *mechanism*) with gold or platinum tubing. A headjoint made of gold or platinum can be used with a silver flute. Silver headjoints come with gold crowns or gold lip plates. The crown and lip plate don't affect the sound of the instrument but look glamorous, especially if they are engraved.

A silver headjoint may have a gold riser (the inside wall of the embouchure hole, where the airstream first enters the tube). The metal of the riser may change the sound, and many flutists choose this option.

Another important factor in the sound quality of a flute is hand-crafted parts. On professional flutes the headjoint is always hand made, and almost everyone agrees that the cut of the embouchure hole influences the flute sound. Flutemakers use various types of undercutting on the embouchure hole.

## How Much For Gold, Glitz, and Glamour?

William Haynes determined that 18K gold was too soft for flutes. Some flutists believe that gold flutes have warmer sounds and are more responsive than silver flutes and have a powerful low register when compared to silver flutes. Flutes made of 9K gold are somewhat brighter than 14K gold flutes but are not as bright as silver flutes. Platinum flutes have a powerful projection and wide dynamic range that some flutists find heavy and hard to play.

The Powell Flute Company has recently developed a special blend of gold and silver to form a metal called aurumite. These have a layer of gold fused with a layer of silver. Aurumite flutes are available with the gold layer on the inside and the silver layer outside, and reverse aurumite flutes use silver for the inside layer and gold for the outside layer. Some find that this blend of metals combines the warmth and richness of gold with the articulation and projection of silver.

Undercutting refers to the angle at which the riser wall slopes from the opening of the embouchure hole to the inside wall of the headjoint. The size and shape of the embouchure hole affect sound production. Generally, the embouchure hole is slightly oval in shape. The headjoint tapers slightly from the crown to a larger open end. The degree of taper changes the tone quality.

Everyone agrees that the most important factor is the person who blows into the tone hole. On any flute two players do not sound the same. The concept of good flute tone in the mind of the flutist will cause thousands of tiny changes in the embouchure and other muscles in an effort to match the sound in the flutist's head. Beyond this truth, most flutists believe that when shopping for an instrument we should find an instrument that produces a sound that is enjoyable and easy to play.