

# Crash Course

BY EMILE MENASCHÉ

Cymbals have been around since ancient times, but have undergone a transformation in the last century to become the smash hit of the drum kit.

**Crash! Splash!** Whoosh, sizzle, snap: all are sounds made by the most dramatic member of the percussion family, the cymbal. Few drummers would consider their kits complete without at least three cymbals (a crash, a ride and a hi-hat). But the idea of playing a drum and a cymbal together is a relatively recent development for an instrument that traces its roots back to early civilization.

Cymbals first developed in the ancient days of Mesopotamia and Greece, when artisans first learned to combine different metals to create alloys. Cymbals were shaped and hammered by hand, probably by the same people who made armor and other metal goods.

The word “cymbal” comes from the French *cymbelle*, via Latin, which in turn traces its roots back to the Greek word *kymbalon*, from *kymbe*—“bowl.” And in fact, cymbals are bowl shaped, not flat like gongs.

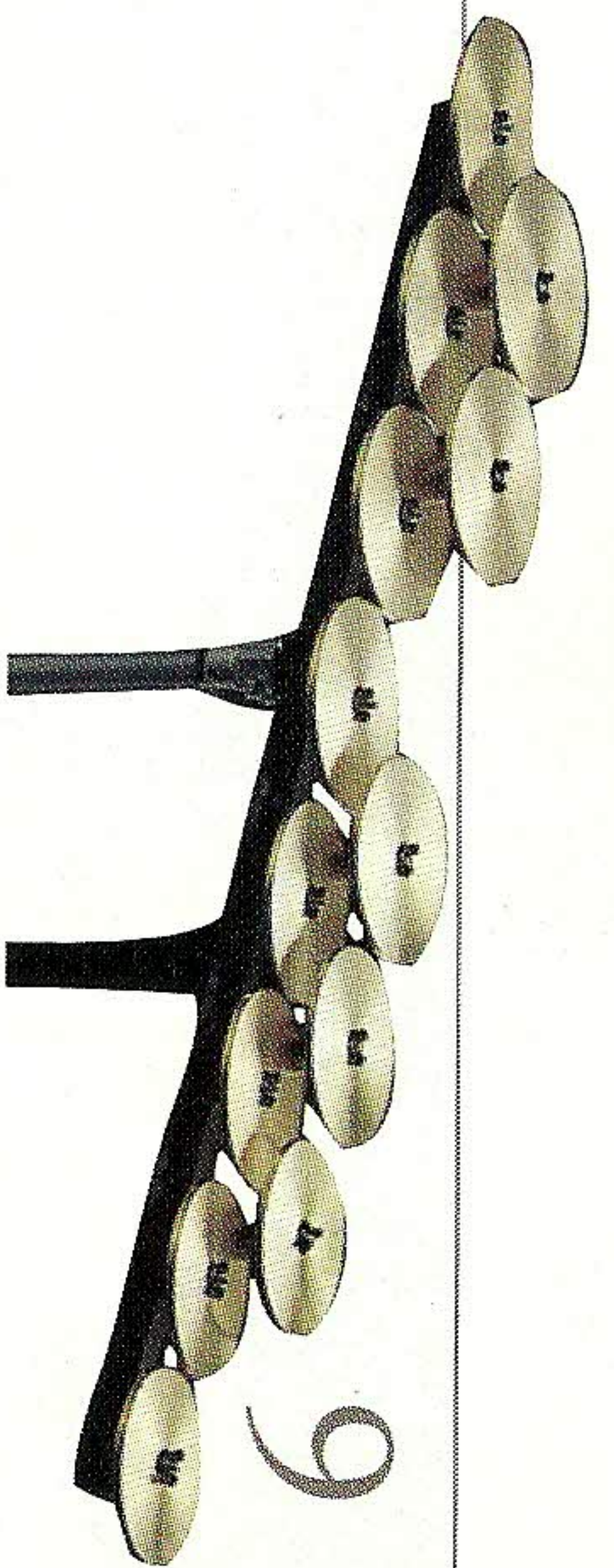
Early cymbals were small and almost bell-like, and were played with the hands or fingers. They were usually made of bronze—an alloy that combines copper and tin. According to Ken Moore, curator of the Metropolitan Museum of Art’s department of musical instruments, the cymbal was used for both musical and ceremonial purposes. “The Old Testament of the Bible mentions the cymbal players in the temple [e.g. Maccabees 4:54],” he says. “They must have been important!”

Many of these early designs are still used in some form today. *Crotales* [*cro-tahls*], small, pitched cymbals that can be played with sticks or as



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finger cymbals, are believed to have been used as early as 1200-800 BC. They are still being made today—Neil Peart recently used them on the Rush song “YYZ.”

### The Cradle of Cymbalization

From Mesopotamia and modern-day Turkey (which has, at various times, been part of the Persian, Greek, Roman, and later, Ottoman Empires), cymbals migrated east and west. Cymbals are seen in cave drawings in China and were widely used by Tibetans, Persians, Hebrews, Egyptians, East Indians and other cultures. Many of these early instruments were small yet heavy by today’s standards—six to ten inches in diameter—and featured a large bell (also called a *dome* or *boss*), factors that lend them a deeper tone with a more definitive pitch than most cymbals used in modern drum kits.

In Tune took a tour of the cymbals collected at the Metropolitan Museum, and encountered instruments of widely different sizes, shapes and sounds. “Most of the early cymbals were played horizontally, by rubbing them together,” Moore explained as he donned white gloves to demonstrate the motion with centuries-old Tibetan *rol mo* cymbals from the Museum’s collection. “As you can hear, they create a ‘wwoah wwoah wwoah’ sound. That’s from the air in the dome.” Instruments like this were used in Chinese Opera as well as in religious services. Moore points out how cymbals differ from another metallic percussive instrument, the gong. “Gongs are flat, so they vibrate from the center out,” Moore says. “Cymbals have a dome, and vibrate at the edges.”

In addition to ceremonial and musical use, cymbals found their way into military bands—in part because their



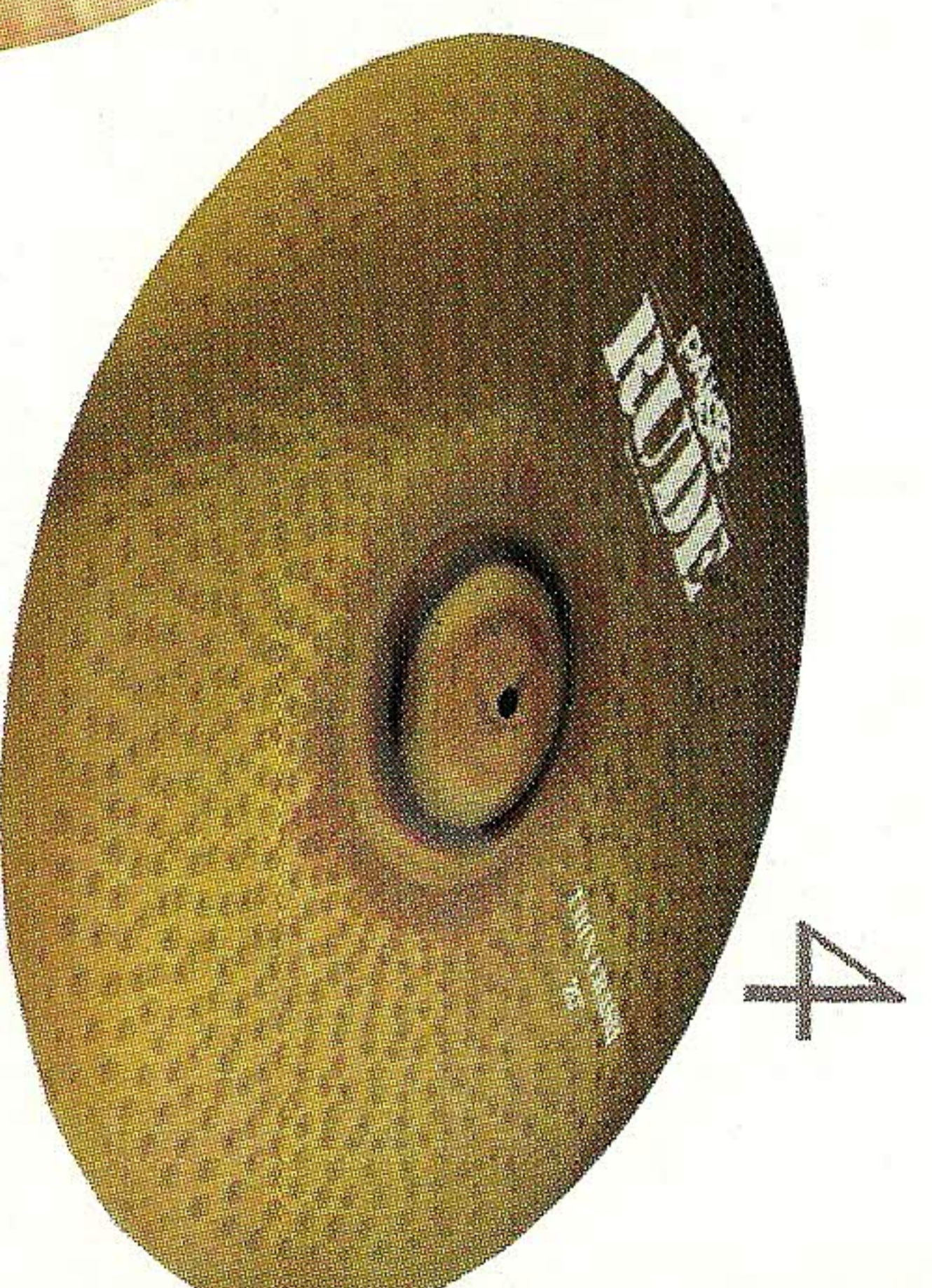
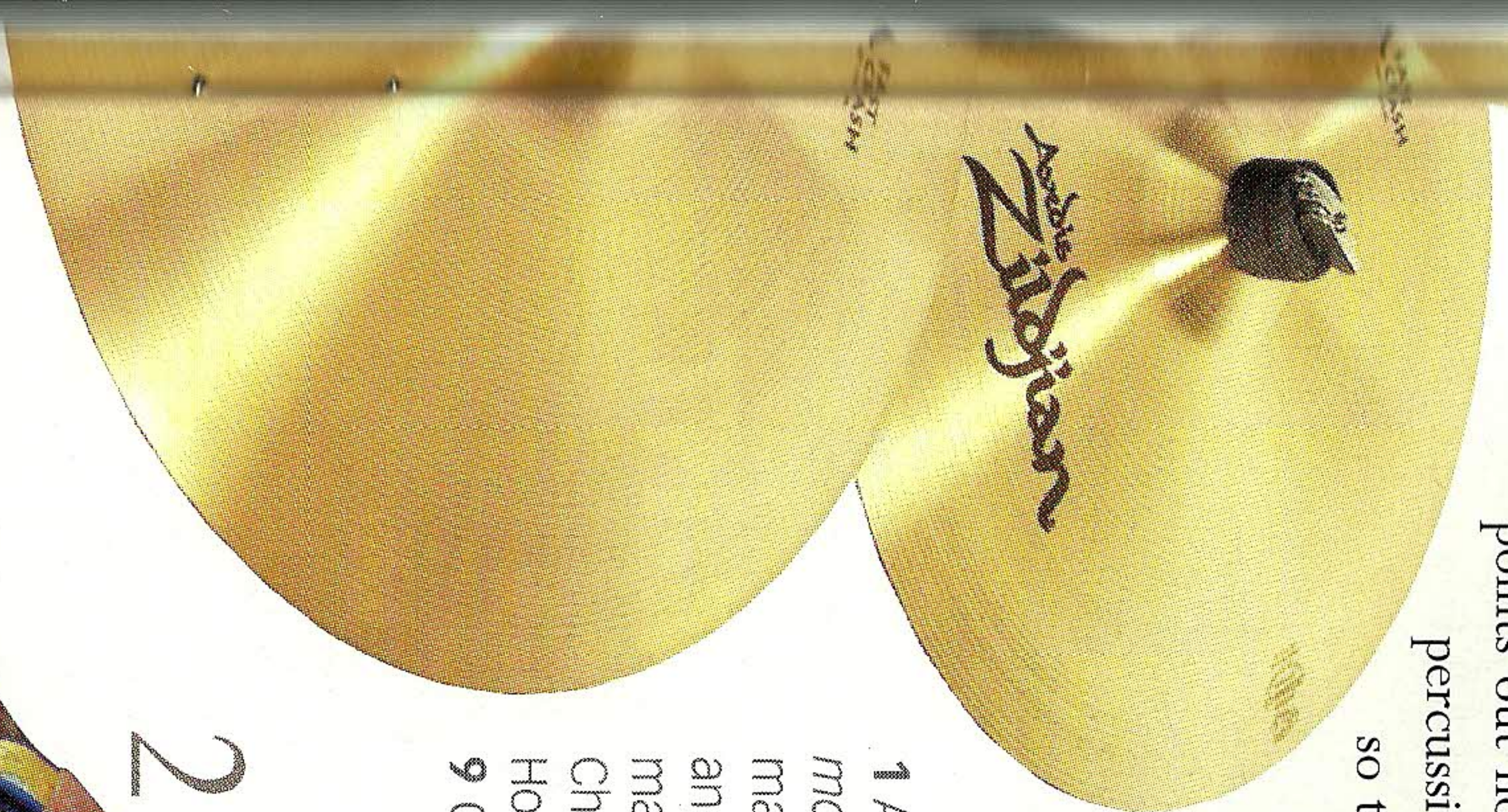
dramatic sounds intimidated the enemy. The Ottoman military bands, known as *mehterân*, are considered to be the earliest precursor to the modern marching band, included the cymbal, or *zil*. It was during the Ottoman period that the modern cymbal started to evolve.

### (im)proving Their Metal

One reason early cymbals were small may have to do with the relative weakness of the alloys used in ancient times. But eventually—as has often been the case through history—an advance in technology opened the door for musical evolution. “Bronze has always been the alloy of choice for cymbal instruments but was susceptible to breakage due to its tin content,” explains Jason LaChapelle of Zildjian, the world’s largest manufacturer of cymbals. “Avedis Zildjian the First [living in Ottoman Turkey] discovered a special method of mixing tin and copper in 1623 that allowed cymbals to achieve a high level of sound quality without becoming brittle.”



- 1 An array of cymbals of different sizes. 2 Large domed Tibetan *rol mo* produce a deep pitch. 3 Hand cymbals are used in orchestras and marching bands. 4 Rough finish and lathing techniques can give a cymbal an aggressive sound. 5 A gong, unlike a cymbal, has no bell. 6 Machine-made cymbals offer an alternative to hand-hammered designs. 7 This China cymbal uses copper as well as bronze. Note its large dome. 8 Holes and other modifications help this cymbal produce unusual sounds. 9 Crotales were among the earliest cymbals.







1. A cymbal starts out as a hunk of metal, usually an alloy of copper and tin.
2. The metal is heated and rolled.
3. The next step is cupping: the metal is heated, the cup, or bell, is formed, and then the metal is dropped into cold water to temper it.
4. Next comes the shaping and hammering. Various hammering techniques give the cymbal different sounds.
5. A lathe is used to cut grooves into the cymbals. Different patterns produce different sounds.
6. Finally, the completed cymbal is tested and prepared for sale. (Thanks to Zildjian for use of their display.)

According to Moore, the Ottoman *mehterân*'s influence on European military bands eventually brought the cymbal to the attention of the musical establishment.

By the seventeenth century, the cymbal started to make its way into European classical music. "Composer Nicholas Strungk was the first to make use of cymbals in his operatic composition of 'Esther' in 1680," says LaChapelle. "But it was not until the latter half of the nineteenth century that the cymbal started to be used widely as a serious musical instrument." Composers Berlioz and Wagner were "early adopters" of the dramatic instrument.

### Making a Splash with the Drums

Although sticks and mallets have been used on cymbals from early times, marching bands and classical orchestras generally play cymbals in hand-held pairs. That started to change with the emergence of jazz in the 1920s. "It was then that drum-set artists would use small twelve- to fifteen-inch accent cymbals to punctuate figures within the music," LaChapelle notes. "As big band music, and eventually, rock, demanded louder crash instruments, this type of cymbal started to become larger and heavier to provide better projection within these more aggressive musical genres."

By the 1940s, the ride cymbal developed. Unlike the crash, which is struck to create loud, sustaining accents, the ride is designed to keep the pulse in a steady beat.

Both the ride and crash are played with sticks or mallets, but the foot-operated hi-hat can be considered a throwback to the concept of hand-cymbals played in pairs, only here, the cymbals are positioned horizontally; the player moves them together and apart with a foot lever. "The pairing of cymbals to be played by the foot was initiated around 1925 when the low-hat, low-sock or low-boy foot device was introduced," LaChapelle says. "It was very similar to the modern hi-hat yet it was only about fifteen inches high." Soon, drum-

mers raised the low boy so that they could play it with sticks as well as the foot pedal.

As rock music put a premium on volume, cymbals got bigger and beefier. By the 1960s, rock drum kits started to grow into arrays of drums and cymbals, with many drummers looking for a range of sounds.

The factors that determine a cymbal's sound include its size, weight and shape—including that of the bell or dome. "With all other things being equal, smaller cymbals will have a higher pitch than larger cymbals," LaChapelle notes. "Heavier instruments will produce a higher pitch than lighter instruments. A cymbal with a lower profile [bowl] will generate lower overtones than that of a cymbal with a higher shape. In addition, symmetrically hammered cymbals will have more of an even blend of overtones compared with randomly hammered instruments, which have a fuller body of overtones."

Today, cymbals continue to be made by hand, although some, such as the Canadian manufacturer Sabian's AA line, are made by machines. "New technology in cymbal manufacturing has allowed a very organic instrument to be manipulated consistently in many different ways in order to produce a myriad of different sounds," LaChapelle says. "New manufacturing techniques of heating, hammering and lathing allow cymbals to achieve a level of durability that was not possible a mere two decades ago."

In addition to the crash and ride, variations include the smaller splash and splash (essentially small crashes). There are also modified cymbals: rides with rivets, cymbals stacked together to create a "trash" sound, and more. Paiste's RUDE cymbals are designed specifically for punk and hard rock. "The constant change that exists within today's popular music will continue to generate new ideas for cymbal design," LaChapelle concludes. "The consistency of today's cymbals also allows for very specific sonic characteristics within each model that can address just about any sound that the modern percussionist can think of." ¶

A hi-hat

