BY DANNY MILES

A Crash Course in Cymbals

From the tiny splash to the mighty gong, cymbals come in many varieties and offer a world of sonic colors.

The cymbal family of instruments is deceptively simple. They (usually) have no moving parts, require no strings, reeds, or skins to produce tone, and can't be tuned by the player. But cymbals offer an incredible range of tones and play an important role in styles ranging from classical to jazz to rock.

Like so many of our musical terms, the word "cymbal" comes from an ancient Latin word: *cymbalum*, which was an adaptation of the Greek word for a small bowl. Early examples were more cup-like—and much smaller—than today's cymbals. But if you turn a modern cymbal over, you can still see its cup-like shape.

The sound a cymbal produces depends on several factors: the metal used in its construction; the cymbal's diameter and thickness; the size and shape of the bell; and the way the metal is fashioned into shape.

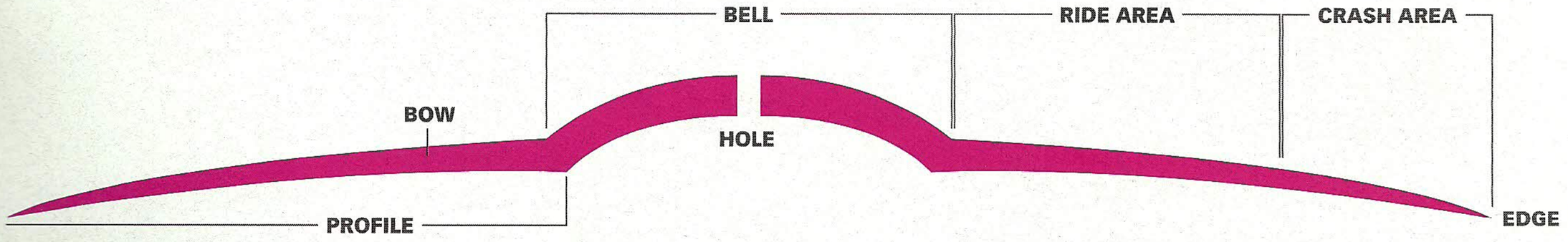
Cymbals are made of a combination of metals. Usually, copper and tin are mixed to form the alloy bronze (the exact blend of these metals varies); this mix may include small amounts of other metals, such as silver. Cymbals are also made from brass and other materials. Top manufacturers keep the exact composition of their cymbals a closely guarded secret.

The alloy is heated until liquid, then poured into and cooled in metal pots, creating a pie-shaped casting. The castings are then heated and rolled in a multi-step process, until they are the desired size and thickness. Once cooled, some "blanks" are hand-hammered to shape; others are machine-shaped and hammered. Most cymbals are also put on a rotating device called a *lathe*, which cuts grooves into the surface. The width of the lathe lines and the number and size of hammer blows influence the cymbal's sound.

There are various types of cymbals, the most common being the ride, crash, and hi-hats. Effects such as chinese cymbals and splashes are also popular. Only a few specialized cymbals are designed to produce identifiable pitches, but all cymbals have a sonic character that can lean toward higher (bright) or lower (dark) frequencies. "Brighter-sounding cymbals are practical in most situations, and are the general choice for playing louder music simply because higher pitches cut through," explains Sabian Cymbals' Wayne Blanchard. "A low-pitched cymbal tends to blend with the surrounding music, making it more a part of the overall sound rather than giving it a distinct presence."

PARTS OF THE CYMBAL A cymbal may seem like one large object, but it actually has three sections. The *edge* follows the circumference of the cymbal. The edge is the thinnest part of the cymbal, and is also known as the *crash area*.

The main part of the cymbal is called the *bow*. On a modern cymbal, the bow is tapered so that the cymbal increases in thickness as you move from the edge to the center. This is also



TYPES OF CYMBALS

ALTHOUGH THERE ARE MANY DIFFERENT DESIGNS, A MODERN DRUMMER USUALLY RELIES ON AT LEAST THREE CYMBALS—CRASHES, RIDES, AND HI-HATS—BUT MAY ADD OTHER COLORS WITH EFFECTS CYMBALS AS WELL.

THE RIDE

Ride cymbals were developed during the big band era of the 1940s; they're used to keep the pulse, as opposed to the crash's role of providing accents. As a rule, rides are larger and heavier than crash cymbals. Diameters between 18" and 22" are common, but some rides can be as wide as 26" and as small as 8". Because of its role as a timekeeper, the ride is usually placed near the drummer's dominant hand. It can be played on the edge, the bell, or the bow.

THE CRASH

The most basic kind of cymbal, crashes can be both suspended and hand-held—sometimes the latter are known as "clash" cymbals—or paired on a hi-hat stand (see below).

Standard suspended crashes generally range in size from 14" to 18" in diameter, but they come in smaller and larger sizes. Small crashes, known by names like "splash" and "splish," are generally regarded as effects cymbals.

The crash's overall job is for accents. After the cymbal is struck, the player can let it sustain or can dampen or choke it to stop its sound.

THE HI-HAT

A hi-hat is a combination of two cymbals—the bottom usually heavier than the top—that are brought together by a foot pedal attached to a stand. Combining this pedal action with stick or brush work lets the player create a range of rhythms, including the effect known as "pea soup" because it sounds like someone saying those words.

known as the *ride area*. The bow's shape as measured from the edge to the bottom of the bell is known as the *profile,* which can range from relatively flat to much more bowl-like. All other things being equal, cymbals with a higher profile tend to sound brighter than cymbals with a flatter profile.

At the center of the cymbal is the *bell*, which is also known as the *cup*—an apt name, because it looks like a cup or small bowl. The bell can be played directly, but even when it's not, it generates many of the overtones that give a cymbal its sonic character. Bells vary in size and shape; the flat ride cymbal has no bell.

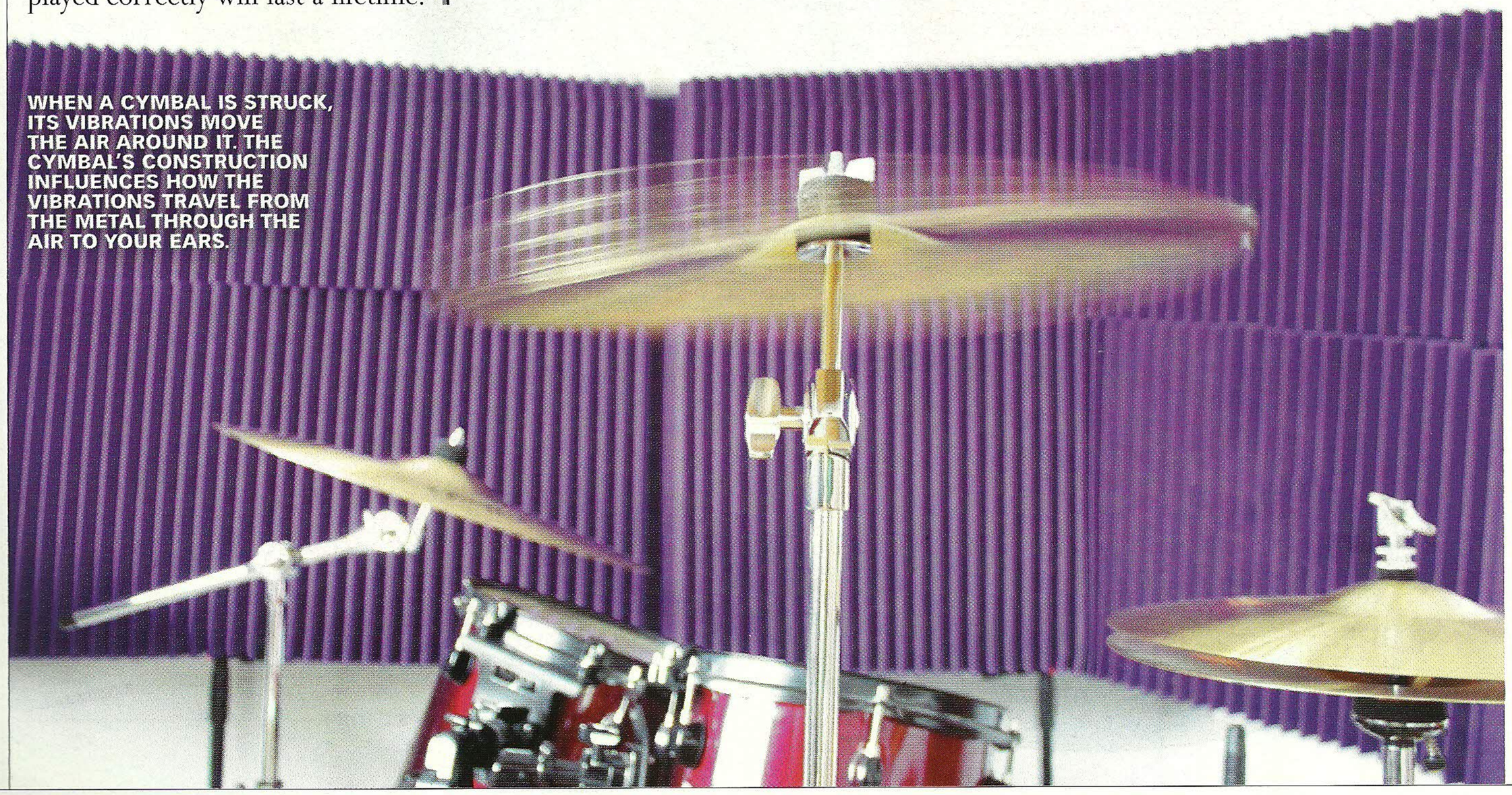
HAND CYMBALS ARE A TYPE OF CRASH, PLAYED BY STRIKING OR RUBBING THE CYMBALS TOGETHER.

PLAYING & CARING FOR CYMBALS Cymbals are played two ways: Hand and tiny finger cymbals are struck together. All other cymbals are mounted on stands and played with sticks, brushes, and mallets. The hole in the bell is used to mount the cymbal so that it can vibrate freely. On hand cymbals, straps are inserted into the holes. When mounted on a stand, the cymbal is held in place with nuts and supported with washers, which can be hard or soft. The angle, force, and position of the strike all influence the sound. The bell produces the clearest tone, while the crash area gives a long, sustaining, splashy sound.

The way a cymbal is played and mounted can also affect its longevity. "Put it on a stand fitted with a nylon sleeve on the screw threads and felts on the top and bottom," Blanchard recommends. "Don't bolt it down too tightly on the stand; let it move. Don't angle it too sharply, especially if you're playing hard. 'Slice' across the surface of the cymbal. Don't strike straight onto the edge. If sticks are 'chewed up' by the cymbal, you're hitting into the edge, and that could mean trouble. Avoid any nicks on the edge of the cymbal, as this could lead to cracking. Keep cymbals away from danger; put them in a cymbal bag or case. Play the 'right' cymbal. The louder you play, the bigger and heavier the cymbals you should consider. A suitable cymbal played correctly will last a lifetime." T

THE HOLES IN THIS O-ZONE CRASH REDUCE WEIGHT, ACCELERATE RESPONSE RATES, AND "DIRTY UP" THE SOUND.

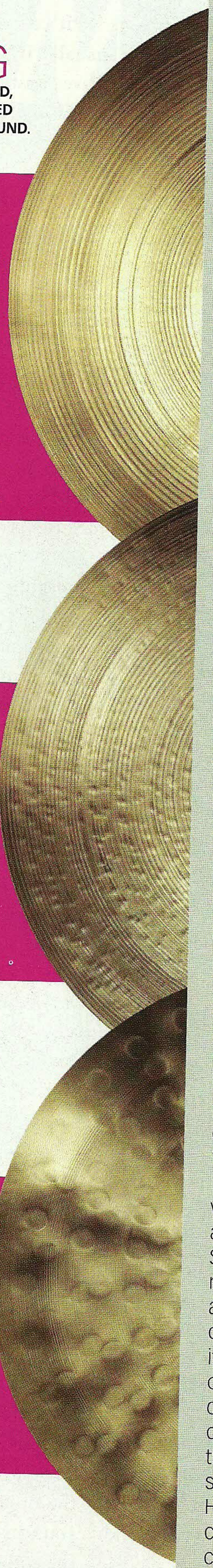
SMALL CYMBALS LIKE THIS 10" CRASH ARE USED FOR SONIC COLOR AND EFFECTS.



WHEN A CYMBAL IS STRUCK, ITS VIBRATIONS MOVE THE AIR AROUND IT. THE CYMBAL'S CONSTRUCTION INFLUENCES HOW THE VIBRATIONS TRAVEL FROM THE METAL THROUGH THE AIR TO YOUR EARS.

CYMBAL HAMMERING

IN ADDITION TO THE METALS USED, THE WAY A CYMBAL IS HAMMERED AND SHAPED INFLUENCES ITS SOUND.



SABIAN'S AA SERIES USES WHAT THE COMPANY CALLS "TRADITIONAL AUTOMATIC HAMMERING" TO PRODUCE THE BRIGHT SOUND ASSOCIATED WITH JAZZ AND CLASSIC ROCK. THESE CYMBALS ALSO HAVE A HIGH PROFILE TO INCREASE BRIGHTNESS.

NOTE THE RINGS VISIBLE ARE ON THE CYMBALS' SURFACE: THE TIGHT, EVEN PATTERN PRODUCED BY THE HAMMERS ALSO INFLUENCES THE SOUND AND THE WAY THE STICK FEELS AGAINST THE CYMBAL.

THOUGH IT'S MADE FROM THE SAME BRONZE FORMULA AS THE CYMBAL ABOVE, THIS HH MODEL IS HAMMERED BY HAND. YOU CAN SEE THE LESS REGULAR PATTERN ON ITS SURFACE.

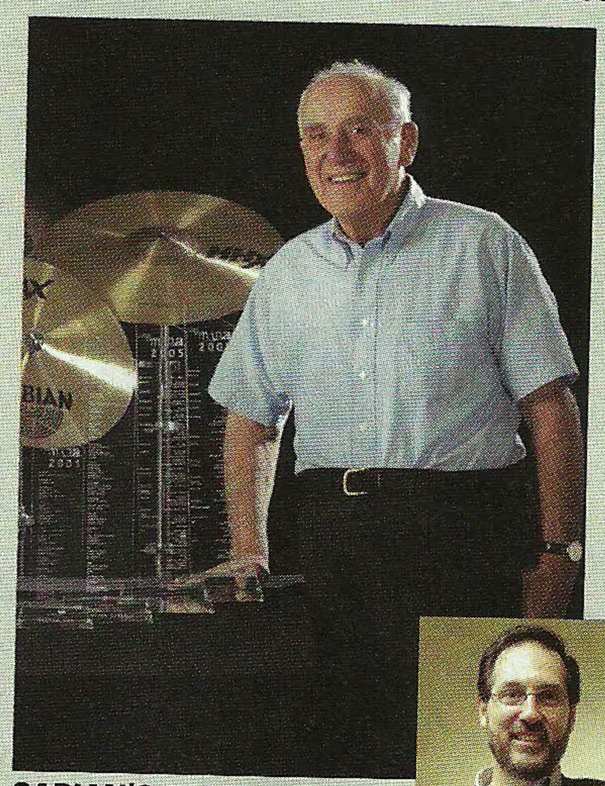
THE ADDITIONAL HAMMERING ADDS COLOR TO THE CYMBAL'S SOUND AND, COMBINED WITH A LOWER PROFILE, GIVES IT A DARKER TONE WITH LESS EMPHASIS ON TREBLE THAN THE AA MODEL.

ANOTHER DESIGN USING THE SAME B20 BRONZE FORMULA (20 PERCENT TIN, 80 PERCENT COPPER, TRACES OF SILVER) IS THE HHX MODEL, WHICH IS SHAPED WITH RAW, LARGE HAMMER MARKS. THE DESIGNERS CHOSE THIS HAMMERING STYLE ALONG WITH THE CYMBAL'S HIGH PROFILE TO LET THE SOUND PROJECT WITHOUT BEING AS BRIGHT AS THE AA MODEL. THIS CYMBAL IS INTENDED FOR MODERN HARD ROCK DRUMMING.

A CYMBAL MAKER'S STORY

THE CYMBAL HAS its origins in many cultures, but the cymbals used in Western music not only originated in one region—modern-day Turkey—but come largely from one family.

In fact, the two largest cymbal makers in the world—Zildjian and Sabian—are both owned and run by members of the Zildjian family. Avedis Zildjian I (the first) started his own cymbal company in Istanbul in 1623. At the time, the city was the capital of the Ottoman Empire, which controlled much of the Middle East, North Africa, and Eastern Europe. His heirs have been making cymbals ever since. The family brought this tradition to the U.S. in the 1920s.



SABIAN'S ROBERT (ABOVE) AND ANDY ZILDJIAN

Boston native Robert Zildjian (left) started working in the family business as a teenager in the '30s. He thought he might want to be a college professor. However, an adviser who knew of the family legacy urged him to commit himself to working with his father and brother.

After serving overseas in the Army during World War II, Robert sought the solace of the Canadian wilderness for its natural beauty and abundant hunting and fishing. At the time, high taxes made it very expensive for American companies like Zildjian to export products to the 54 countries that made up the British Commonwealth of Nations—including England, Australia, Canada, and South Africa. To sell cymbals in these countries at a competitive price, the company decided to build a cymbal factory near Robert's favorite hunting grounds, just across the U.S. border in New Brunswick, Canada. Cymbals made in Canada could then be sold *from* a Commonwealth country to other Commonwealth countries, avoiding the high tax.

Robert, his brother, and his father ran Zildjian for many years. Robert would travel the U.S. and the world selling Zildjian cymbals. He met with countless artists and music store owners and formed important relationships with cymbal buyers. But after his father died, it was decided that Robert's brother would be president of the company. In 1981, Robert chose to leave Zildjian and create his own cymbal company. To get started, he traded some of his ownership in Zildjian for the Canadian factory. He named his company Sabian by combining the first two letters of each of his children's first names—"Sa" from Sally, "Bi" from Billy and "An" from Andy, who is now the company's president.

Andy, a drummer, joined the family business in 1986. He enjoyed working in the company warehouse and factory, but like his father, Andy also loved to get out on the road to visit the music stores that promote Sabian cymbals and the artists who play them. Technology has changed much about the music instrument business since Andy started working at Sabian. But even as his company is constantly developing new cymbals, new manufacturing techniques, and new sounds, the core of its cymbal-making continues to be a unique combination of metals and craftsmanship that dates back centuries. And although digital sampling of cymbals has become common, this tradition still makes the acoustic cymbal special. "A cymbal creates a spectrum of sound that's too big to truly replicate electronically," Andy explains. "The multiplicity of a cymbal's sound and the shimmer it makes has yet to be accurately captured. Hitting a cymbal in different places, or using different parts of the stick, creates different sounds. This can only be done, so far, with a real cymbal." *–Paul Irwin*