



The Los Angeles Philharmonic's percussion section

The Boom & Crash of the Orchestra

From the melodic roar of the timpani to the sizzle of the splash cymbal, **orchestral percussion** adds color and power to the modern symphony.

By Ken Micallef

Where would Tchaikovsky's *1812 Overture* be without the bombast of timpani and crash cymbals? Or Mussorgsky's *Pictures at an Exhibition* without the buzzing roar of the snare drum? Or Varese's *Ionization*, one of the first pieces in Western classical music to be performed solely on percussion instruments?

The percussion section is to the orchestra what the drum set is to the rock or jazz ensemble. If you break down the component parts of the typical drum set you have the



constituent elements of the orchestral percussion section. The snare drum, bass drum, cymbals and additional percussion are the building blocks of the orchestral percussion section. They're usually augmented by tuned percussion like timpani, vibraphone, marimba, and glockenspiel.

But the orchestral percussionist's role is generally different from that of a rock or jazz drummer: Positioned behind the string and wind instruments and manned by a small coterie of players, the section is less responsible for actual

PHOTOS: ABOVE, COURTESY OF THE LOS ANGELES PHILHARMONIC; OPPOSITE PAGE, COURTESY OF THE MARIMBA TRUST

time keeping than for dynamic thrusts, color and shading.

In any one piece, the classical percussionist may be called upon to play many different instruments within the section, switching in rapid fashion. He or she may even be required to play two instruments at once—for example, playing the bass drum with one hand while crashing a suspended cymbal with the other. This requires tight choreography among the individual players in the section, each percussionist knowing in advance what is expected.

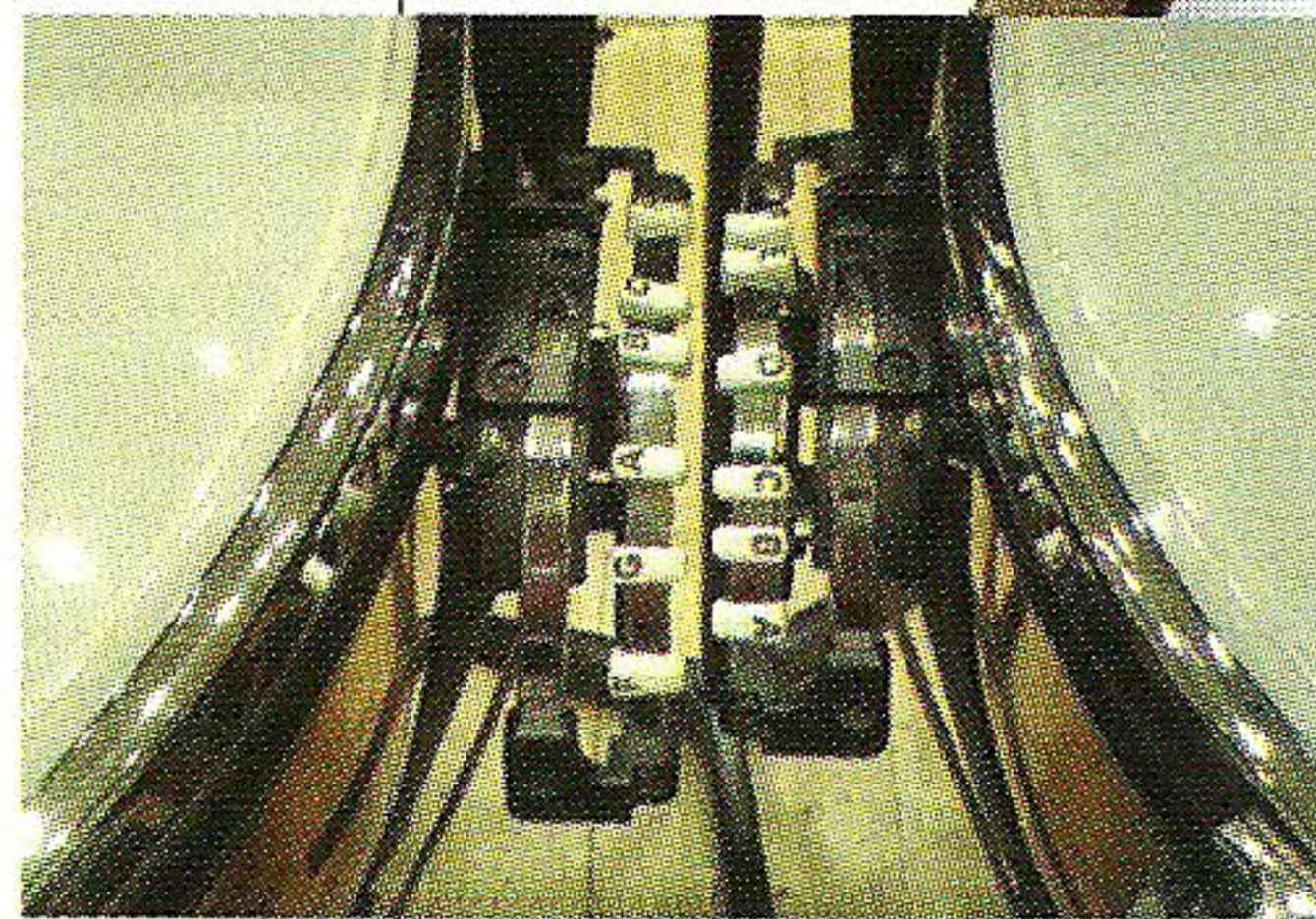
Beyond the standard instruments, the percussionist is sometimes called upon to produce sound effects such as sleigh bells, car horns, whistles, wind machines or thunder sheets—even whoopie cushions!

▶ TIMPANI

One instrument that the orchestra employs rarely used in jazz, rock, and R&B is the *timpani*, or kettledrum. Identifiable by its large copper bowl construction and broad flat head, the timpani (which is actually plural; a single drum is called a *timpano*) produce a full, round, low-pitched tone that is often felt as well as heard. Timpani came to Europe via the Ottoman Turks in the 14th century, and, like many percussion instruments, were used by the military. The Hungarian cavalry would carry them on their horses into battle! It wasn't until the 18th century that these powerful, pitched drums became standard members of the orchestra.

Timpani are played with a slim pair of sticks, called mallets, which are covered on their ends with cork, felt or leather—each material gives a different sound. The basic timpano consists of a drum head, typically made of plastic, stretched over the copper bowl and affixed to a hoop. This hoop is held in place by another hoop, which is controlled by *tuning rods* attached to a foot pedal or chain. Timpani heads are sized based on the dimension of the hoop, not the bowl. For example, a 33" bowl may require a 35" head. Most orchestras use a set of four timpani (usually 32", 29", 26" and 23"), primarily played by one timpanist. Other members of the section may chip in to play parts on the timpani, but the timpanist sticks solely to his namesake instrument.

The drums are set up in an arc around the performer. North American and French timpanists set their drums up with the lowest drum to the left, German and Austrian players prefer the opposite. Likewise, some players use the French grip where the hands



Above: The Majestic Prophonic Timpani
Inset: Timpani tuning gauges

are perpendicular to the head; others prefer the German grip, where the hands are parallel to the head. Regarding the actual strike, the best tone is achieved approximately four inches from the drum's rim. Damping is another important technique: The timpanist uses his or her fingers to quickly reduce (or stop) the drum's vibration after striking it with the mallet.

▼ SNARE DRUM

The orchestral snare drum is very similar to the rock or jazz snare, differing only in its dimension. Orchestral snares typically measure 5.5" x 14" (they can be much smaller) and are made out of brass, bronze, copper, wood or even fiberglass or composite. The snare gets its name from the collection of stranded metal wires (the snares) stretched across its bottom head. When the drummer strikes the top, *batter*, head, the snares on the bottom head vibrate to produce the drum's characteristic snares may be turned off with a lever. Striking the rim and head simultaneously produces a loud fire-cracker like effect called a *rimshot*.

Snare drums were originally used by the Swiss military in the



Left: Ludwig snares

15th and 16th centuries, and even today Swiss marching bands are renown for the complexity of their snare drum sections. Snare drum language is built on the rudiments, which have percussive names like flam, ratamacue, paradiddle, flamadiddle, ruff, drag and flam-tapadiddle. Mastery of the rudiments is required as is the ability to read the standard drum study books by Morris Goldenberg or Benjamin Podemski.

Snare drum sticks are thicker than timpani sticks, with a pronounced bead at the end used to strike the drum. These sticks are typically made of maple, birch or hickory.

▼ BASS DRUM

The big brother of the orchestra, the bass drum can produce a thunderous boom or a subtle thud, and it responds quickly to changes in technique. Unlike in rock music where the bass drum plays in a steady pattern, the concert bass drum is used to punctuate key moments in a score (often along with a crashed cymbal). The minimum size of the concert bass drum is 32" (high) by 12" (deep), and all bass drums feature a large wooden shell with two heads (typically calfskin or plastic), each held in place by a wooden hoop that is tensioned via rods

Below: Yamaha bass drum
Right: Zildjian hand cymbals



Mallet-Making Maestro

Drummers know the Vic Firth name because it's associated with one of the most popular brands of sticks in the world, but the man behind the company is a great percussionist in his own right.

The son of a musician, Everett "Vic" Firth grew up in Massachusetts and started out playing the cornet like his dad. But by the time he was in high school, Vic had turned his attention to arranging and playing percussion (including vibes and drumset) and was leading his own big band. While still studying music at the New England Conservatory and at Juilliard, Firth joined the Boston Symphony Orchestra (as its youngest member). He remained there for more than 50 years, most of those as principal timpanist. Unhappy with the quality of commercially available sticks and mallets, Firth—who's also a noted educator—began making his own in 1960. They caught on with his students and retailers started demanding them. His company now makes more than 12 million sticks a year.



into metal lug casings. Large wing nuts or heads at the end of the rods are used to tune the bass drum, though typically not to a definite pitch. For the most resonant sound, the bass drum is usually positioned vertically, and is played with mallets that have much larger striking ends than those used to play timpani. The composer Amadeus Mozart added the deep, booming sound of the bass drum to the orchestra in 1782.

▲ CYMBALS

Another Turkish import, cymbals are made of brass and vary in size from splash (6") to crash (22") to ride (24"). Orchestral cymbals are either suspended on a rack and struck with a single stick, or held by hand straps and played in pairs. The cymbal produces an incredible array of sounds: fearsome crashes, delicate pings and sizzles, and even chimelike, almost harmonic notes when glanced on its side with the shank of the stick. Mallets can be used to create cymbal rolls that evoke waves and other effects. **T**

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