Innovative Percussion Inc.

Choosing Keyboard Mallets for Percussion Ensemble Repertoire

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"It all begins with a great sound." This mantra applies universally to all musical settings in virtually all cultures. While the definition of a "great sound" may vary from one place to another, its compulsory nature remains immutable. Tone production is at the core of every musician's craft. It is the foundation on which great performances are built. Without first producing a great sound, one's ability to play musically is ultimately compromised.

Producing a great sound begins as a conceptual model derived from some cultural music context. Every musical culture has its own concept of a great sound. Consider, for instance, the paradigm for guitar players in classical, jazz, and rock & roll as it relates to tone production. It is characterized by three distinctly different sounds, all for the same instrument. The scenario for wind players and vocalists is much the same. Players of percussion keyboard instruments should be equally concerned with their sound and the "conceptual model" as defined by the musical culture. This is especially the case in percussion ensemble performance, wherein a single performance may span several genres of music. Rags, for instance, are typically characterized by a light, bright sound. Guatemalan marimba music suggests a "woody" sound like that of natural rubber. Western art music frequently explores the gamut of available sounds from vocal-like marimba chorales to brittle metallic consorts.

Every great sound begins as a concept or mental image in the mind of the performer. For percussion keyboard players, this concept becomes reality through the interaction of physical motion, stroke location, instrument construction, acoustic environment, and the mallets used to produce the sound. In other words, making a great sound requires accurately placed strokes executed with technical grace and the appropriate mallets for the music and the venue.

Mallets have much potential to vary the sound of keyboard instruments. It is the weight, mass, and relative hardness of a mallet that produces this variability. In terms of articulation, the practical range for any keyboard mallet is from the hardest material that will not damage the instrument, to the softest one that remains audible to the listener. The acoustic environment (venue) plays a large role in our perception of articulation. The percussion ensemble at Millikin performs in Kirkland Fine Arts Center, an auditorium with a seating capacity of more than 2000. Here, there is a lot of space for the sound to bounce around. Our rehearsal space, on the other hand, is a fairly small room with a low ceiling and carpet on the floor. The prolific reverberation of sound inherent to KFAC tends to temper the listener's perception of articulation. As a rule, our Kirkland performances require one-degree harder mallet than our rehearsal space, especially for marimba and vibes. Another venue where the ensemble frequently performs is the Millitrax recording studio. This space is even drier than our rehearsal space, despite its tall ceiling and maple flooring. So, if a particular marimba passage sounds good in the rehearsal space with IP240's, I opt for IP300's in the hall. If we take the same piece into the studio, I may go with IP200's, especially in the mid to lower register.

The relationship between weight and the resultant sound of a given keyboard mallet is much the same as with any other percussion instrument and its implement. Heavier mallets tend to produce a darker sound, lighter mallets a brighter one. This axiom is the result of more pronounced frequencies in the lower partials, including the fundamental, generated by the heavier mallet. Conversely, the waveform of a lighter mallet tends to contain more of the upper partials giving it its noticeably brighter sound.

Differences between mallet sounds are essentially determined by the weight, mass, and relative hardness of that which is affixed to the playing end of the mallet. Some players also have strong feelings regarding the materials used for the mallet shaft. Currently birch and rattan are the most widely used materials for mallet shafts. Personally, I prefer the sound (and feel) of rattan shafts in most instances, especially for two-mallet applications. To me, they just feel good, and I believe that they are somewhat superior in sound quality to birch. Some potential limitations of rattan are worth noting, however, in regard to four-mallet playing. This is especially true for keyboard players who use the Stevens' grip or any other grip in which the player holds the mallets at the extreme end of the mallet's shaft. Since rattan shafts have a lot more flex than birch, the looseness of feel may be problematic for some. Also, rattan shafts are often shorter in length than birch. Hence, extremely wide intervals may be difficult, if not impossible to reach.

One other important characteristic of a mallet's sound is its presence. Presence is a measure of a mallet's ability to project the instrument's sound. We have all witnessed performances where the player seemed to have the right hardness of mallet, but somehow the sound just wasn't projecting with sufficient clarity. An opposing scenario would be one where the clarity of sound was too prominent– the performance of a marimba chorale, for instance, where the desired *arco* effect is diminished by the clarity of impact sounds. A mallet's presence is, in part, affected by its weight. Heavier mallets tend to project with greater clarity. Furthermore, in the case of wrapped mallets, the material used to encase the core and how tightly it is subsequently wound has a considerable effect on the mallet's ability to project sound.

Currently, cord and yarn are the two most common materials used to wrap mallets. Soft yarn that is somewhat loosely wrapped, such as the **Ford Series** mallets, tends to have the least presence of those in the IP line. To me, the 801's and 802's create a sound that is as close to the human voice as the percussion keyboard can produce. The 803's and 804's are a bit bubblier, something like a harp. The **Soloist Series** mallets have a little more presence (and weight). If you're on a budget, these are extremely versatile mallets. IP240's will work for just about anything. The **Moersch Series** are a beautifully rich sounding mallet with the added bonus of an acrylic-style core. Much like a wind instrument, the sound seems to get brighter as volume increases. Their increased weight provides a husky sound that carries to the back of the auditorium, too. With the tight yarn wrap of the **Rosauro Series**, one can expect to get a somewhat thinner sound. They're lighter than the Moersch, but they can be very articulate and project well. I especially like these for vernacular music settings such as jazz, pop, and world music. The unwrapped **Ensemble Series** 260 & 360 are excellent mallets for situations requiring extreme clarity and projection. They work well on vibes and are also a good choice for the "Bethancourt" sound on marimba.

In general, I don't pay much attention to the designation of mallets as either "vibraphone" or "marimba." There are certainly some compelling reasons as to why these labels exist. But as a rule, I'm more interested in how the mallets sound. So-called vibe mallets can prove to be an excellent choice for marimba, xylophone, chimes, and almglocken. The same is true of yarn wrapped marimba mallets. It really depends on what kind of sound you're looking for. The **Rattan Series** 201, 301, and 251's do, however, deliver a very conventional vibraphone sound. They are of ordinary weight and hardness, and feature a mushroom shaped head to facilitate mallet dampening. The RS 301's are an excellent choice for younger players on a limited budget. Some of my other favorites include the **Casella Series** 1004, 1005, and 1006's when a darker sound that projects well is needed.

For xylophone applications, the **James Ross Series** offers a wide range of musical sounds. I like the weighty 904's when the moment requires a full, rich sound. The 906's are very close in terms of weight and relative hardness, but are a bit brighter. The 902's and 905's are much lighter. The 902's are the classic ragtime mallet. They are also effective for moderately scored ensemble settings and are great for passages with extreme dynamic contrasts. The 905's are brittle and penetrating. Their light weight and extreme hardness lends a metallic quality to the xylophone's sound. The 901's and 903's offer a rich sound (they're heavy) with lesser degrees of articulation. The James Ross Series mallets also work well on bells and crotales. If you're just going to buy one pair, either the 904's or the 902's is an excellent choice.

Since its inception, Innovative Percussion has proven to be more than just a brand name, but rather a philosophy that has guided product development for over 10 years. By asking the right questions of the right people, IP has managed to amass one of the most diverse offerings of sticks and mallets in the marketplace without compromising quality or availability. Their commitment is not just to products, but also to people, as evidenced by their generous support of educational initiatives across the U.S. Making a great sound is truly the foundation on which great performances (and great companies) are built.

Brian Justison *is the Assistant Professor of Music and Coordinator of Percussion Studies at Millikin University. His responsibilities include directing the chamber and world percussion ensembles and teaching courses in percussion pedagogy and drum set styles. His performance credits include the: Illinois Symphony and Chamber Orchestras, Canadian Brass, and the Brass of Illinois. Brian has also performed with a variety of leading jazz, Latin, and pop artists and he is currently the drummer for the Jane Hartman trio. Mr. Justison is active as an adjudicator and clinician throughout the Midwest. He is currently the president of the Illinois chapter of the Percussive Arts Society.*