Redefining "Sustain" and the Roll

The dilemma of the decay in percussion

By William James

For years, percussionists have been trying to create the illusion of a sustained sound. The spectrum of instruments and sounds in our family is incredibly wide. The one thing they all have in common is a decay in the sound after the attack. Some are immediate and some last longer, but none remain constant in sound and definitely don't intensify in sound after the attack. Instruments that sustain in a similar manner are the guitar, harpsichord, harp, and piano.

We have all faced the dilemma of wanting a sustained sound on any number of percussion instruments; unfortunately, this article does not have any new solutions. My intent is to discuss the idea of a sustained sound, our instrument's characteristics in creating it, solutions we have come up with to counteract these characteristics, and changing the way we think about a sustained sound and the roll.

For some context, let me explain where my obsession with sustained sound began. During my junior year of college I lived with several brass players. There was always a conversation about music and what recording you *had* to listen to. I learned just as much from them as I did any teacher on how to play musically. We would listen to recordings and listen to the same phrase over and over, and we would talk about what made it so great.

When I would get back to my practice room, I would try to mimic phrases I had heard, especially in Bach transcriptions, and I would always struggle with it. It was then that it really hit me: "I'll never be able to play Bach the way I hear it in my head." In my head I heard Bach with crescendos and diminuendos seamlessly strung together—notes leading into other notes and coming away from others. On the marimba or vibes, we just can't do that the way string or brass players can. And why? Because we can't sustain the way they can. This was a *huge* blow to me. No matter how much effort I made, I just could not sustain and crescendo into another note. My brass player roommates found this to be very entertaining and would ask me, "How is your sustaining going?"

Despite my depression I still managed to enjoy playing Bach and learned how to play musically using the assets my instrument did have. All instruments have their weaknesses; we just have to learn how to maximize our strengths and manage our weaknesses.

The most common solution to playing a sustained sound on any percussion instrument is to play a roll. There are essentially three types of rolls: single-stroke roll, double-stroke roll, and buzz or concert roll. Some instruments can use the roll effectively to create an illusion of a completely sustained sound. A single-stroke roll on timpani, bass drum, or suspended cymbal, for example, can sound truly seamless. A buzz or concert roll on snare drum can also sound completely sustained. These are a few exceptions to the norm.

Most percussion instruments can use the roll to create a tremolo sound, thus implying a sustained sound. While this can be an effective way of "sustaining," we have to realize that a tremolo has a rhythmic quality and is different than a seamless, sustained sound. This is where percussionists can get into trouble, especially when transcribing works written for other instruments. Percussion instruments like the xylophone and marimba cannot play a truly sustained sound. A marimba with really soft mallets in a room with a lot of resonance can come close; however, there is still an underlying pulse to the sound. This isn't a bad thing; it is just what it is, and we have to understand that.

This is especially important for composers and transcribers to understand, as the musical intent of what they are writing has to match the abilities of the instrument. Let's look at some of the standard percussion instruments and the capabilities each has to create a sustained sound.

SNARE DRUM

The snare drum is the most unique instrument in our family when it comes to this topic because it has the widest range of potential. The snare drum is one of the quickest decaying instruments we have and yet, with good technique, we can make it sound fully sustained. Manipulating the rebound of the stick so that it strikes the drum multiple times in one stroke allows us to multiply the potential number of strikes at such a rate that the ear perceives the sound as smooth and consistent. This buzz or concert roll is one of the more difficult techniques to master, but is used very effectively throughout the solo and ensemble repertoire.

The double-stroke roll is the snare drum's version of the tremolo. Born out of the rudimental style of drumming, it has a very rhythmic pulse, as the stick strikes the drum two times for every stroke. This creates a nice sustained sound, but with a rhythmic underlying pulse. In rudimental and other styles of playing this is used effectively to establish a pulse or groove.

The last option on snare drum is the single-stroke roll, whichis used in some solo repertoire but mostly in drumset playing. The single-stroke roll is another version of a tremolo, but is usually played with no relationship to the tempo being performed. Buddy Rich and others used this technique very effectively in soloing and at a speed that is superhuman! The snare drum is one of the only instruments that can very effectively use all three options.

TIMPANI

The timpani are one of the few instruments that can make a truly sustained sound using a single-stroke roll. Granted, the tighter the tension of the head, the more difficult this will be to achieve, but it is possible. Timpani are also one of the few instruments where you can change your articulation using different strokes with the same mallet. Using a legato, slower

stroke will cause the mallet to engage the head but not stay on it very long and thus cancel out the vibrations. This will create a much more seamless roll. When playing an extremely soft roll, a double-stroke roll can be used very effectively. Some have argued that composers have used tremolo notation to indicate a double-stroke roll and trill notation to indicate a single-stroke roll.

Stroke types and articulation on timpani are also very important because the player has to frequently alternate between rhythmic notes and rolls. In order for a rhythmic passage to be clear, the timpanist must use a harder stick and articulate stroke. In order to play a good roll, the player must alter that stroke and technique to allow the drum to vibrate more freely. The timpanist can also play the note on a smaller drum with a looser head to make the roll sound more sustained after the rhythmic passage. This is all much easier said than done, but is very possible. Most of these technical ideas can also be applied to the bass drum, as it has very similar physical qualities.

MARIMBA

Playing a roll on the marimba can be very effective, but we have to realize musically what its purpose and capabilities are. A marimba roll is a tremolo. We are sustaining a note, but in a rhythmic way. If your goal is to play a chorale like a brass choir, you will not be very successful. I am not trying to discourage rolling on marimba or even playing Bach chorales; we just have to accept the limitations of the instrument and know there will be a rhythmic quality to our performance.

To compare our instrument to others, vocalists can increase the intensity, vibrato, and richness of sound as they crescendo. On marimba, composers use different roll types (double lateral, independent, and hand-to-hand) as well as varying speeds to give "sustained" notes more depth. Many of Bach's works that were written for sustaining instruments were also played on harpsichord (a non-sustaining instrument). Ornaments were used to create the illusion of a sustained sound, much like we aspire to on marimba.

There are several other techniques used on marimba to solve our sustain problem. She-e Wu and others strike a note or chord and then lightly roll after the strike to cause the decay to last longer. This works because the listener cannot hear the light strikes of the roll, and thus it sounds sustained, rather than rhythmic. Composers have employed minimalist techniques and use rhythm to sustain a chord or idea. Michael Burritt's "The Offering," and many other works, are great examples of writing a choral and using rhythm to "sustain" the chords. While the sound is not sustained in the traditional sense, the repetitive rhythm over the same chord keeps the chord in the listener's ear longer.

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CONCLUSION

Minimalist composers such as Steve Reich, John Adams, Philip Glass, and others have used percussion throughout their compositions. One of the reasons percussion works so well with their music is our instruments' ability to have a relatively quick decay. This means rhythms can be articulated extremely well—finally, a positive to our dilemma of not being able to sustain! They see the strengths of our instrument and use those rather than asking our instrument to do something it can't do. For example, Reich's "Four Sections" for orchestra uses repetitive patterns on vibes and marimba to establish a rhythmic ostinato, but also harmonically play the notes of a chord. The pattern stays the same, but the notes change, and thus the harmony changes. This use of rhythm gives the piece an intrigue that simply sustained sounds do not have.

There are unique instruments and techniques that do produce a truly sustained sound. Using a bass bow on the vibraphone or crotales allows us to create the same sustained sound a string player has. The lion's roar and wind machine are other percussion instruments that naturally have the ability to sustain. While these instruments can sustain, they limit us physically in our ability to play quickly or change instruments quickly. I am sure there are others, but these instruments are the exception to the rule.

While I may not be able to crescendo through a note the way I would like, our instrument has such unique assets to contribute musically in other ways. I can give up the ability to sustain to play with the rhythmic intensity a Shostakovich snare drum part has. I'll trade the ability to play one note at a time for the ability to play four. Understanding what the word "sustain" really means and how our instrument is able to successfully create it is vital to our ability to express ourselves musically.

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