

POLYRHYTHMS

Polyrhythmic applications that have stood the test of time. Part One in a series...

History lesson by Norman Weinberg.

POLYRHYTHMS HAVE been around for centuries. Throughout history, composers have written (and musicians have played or sung) music that incorporates polyrhythmic ideas as an important structural force. From the very beginning of rhythmic notation (around 1250 A.D. for all you history buffs), composers had the means to divide a given amount of time into either two or three equal parts. Rhythms that were divided into three equal parts were called "perfect" and

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those divided into two parts were "imperfect." Composers would "color" their music by using black ink for notes with three divisions and red ink when they wanted imperfect divisions.

The reason for this little history lesson is to assure you that polyrhythms are nothing new. Many rhythmic experiments went on in the 14th and 15th centuries that would curl your hair if you had to play them today! Then something happened. It has been said that Western music went the direction of tonality and harmony (in structure and design) while Eastern music moved toward the exploration of rhythm. In many musical cultures, the concepts of

chords and harmony are practically non-existent, and rhythm is the primary element.

Today's music is a world music. There is no doubt that "legit" composers and popular composers have been influenced by cultures from around the globe with rich rhythmic traditions: Steve Reich, Phillip Glass, George Crumb, Sting, Paul Simon, and Frank Zappa to mention a few. With so much emphasis being placed on rhythm, it's important to understand polyrhythms.

During the course of this series, we'll discuss how polyrhythms work, how they are played, and offer a few examples of how you can incorporate polyrhythms into your own playing and compositions.

What's a Polyrhythm?

As you might expect, the term "polyrhythm" simply refers to the juxtaposition of two or more rhythms simultaneously in a piece of music. In the strictest sense almost all music is polyrhythmic. Whenever two musicians perform anything except a unison melody, there will be two rhythms occurring at once. To be a little more specific, most people use the polyrhythm label when talking about music which has two or more metric divisions occurring within the space of a beat or a measure. You'll see how this all works in a bit. For right now, let's jump in...

The most well-known (and used) polyrhythm is called "3 against 2." Take a look at **Figure 1** and you'll see three ways that this polyrhythm can occur in

a single bar of 4/4 time. The first measure is an example of eighth note triplets against eighth notes. The third and fourth measures are quarter note triplets against quarter notes and half note triplets against half notes. In each measure, you can see that the triplet version of a note value sets up the three

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divisions, while the non-triplet or "normal" note value sets up the rhythm with two divisions. So, how do you go about playing these polyrhythms?

To make this explanation a little easier, let's tackle the second measure first. In this bar, there are three quarter note triplets and two quarter notes in each half of the measure. To break any polyrhythm down to its performance divisions (a performance division is the level of subdivision necessary to play and count the polyrhythm correctly), you need to do a little math. Don't worry, this math is very simple.

The only calculation is in finding a common denominator. That is - if you can remember back to your junior high

days – you need to find a number that is divisible by three (the quarter note triplets) and also divisible by two (the quarter notes). One easy way to do this is to multiply these two numbers together. Pull out your pocket calculator, punch in the numbers, and you should end up with the number “6.”

The next step is to figure out what type of note value would give six attacks for each half-measure. How about eighth note triplets? The last step in mastering this polyrhythm is to count eighth note triplets (the performance division). Playing every other syllable will divide the section into three parts, and playing every third syllable will divide the section into two parts.

Take a look at **Figure 2**. In the first measure, you see all of the eighth note triplets. The second measure has “x” note heads on every other note (giving three divisions per half note), and the third measure has “x” note heads on every third note (giving two divisions per half).

Figure 3 shows how you might use this 3 against 2 polyrhythm for a beat pattern on the drumkit. The bass drum will be playing three notes for each half measure. The snare drum (even though it is only playing one of the notes) provides the two division feel. For a little variation, you might try opening the hi-hat on various parts of the beat (the “o” markings in the example), and see if they reinforce the three or the two division feelings.

In fact, if you leave out the hi-hat and play only the bass drum and snare drum, you’re performing the classic 3 against 2 rhythm. To complete the “two” feel, just add another snare drum stroke on the first and third counts of the measure.

If you want to use this polyrhythm in fills around the kit, first try playing the quarter notes on different toms while leaving the quarter note triplets down on the bass drum. Then switch the rhythm around by playing the quarter notes with the bass drum and moving the quarter note triplets around the toms. Try playing **Figure 4** to get things started.

Once you get comfortable with playing quarter note triplets against quarter notes, you can work out the 3 against 2 polyrhythms for the other two measures in the first figure. As a hint, the measure with eighth note triplets will have to be broken down into sixteenth note triplets in order to accurately play six divisions for each count.

Even though we’ve been talking about the 3 against 2 polyrhythm in 4/4 time, this particular polyrhythm seems most at home in 6/8 time. The reason is

quite simple: Each measure of 6/8 contains six eighth notes. These eighths can be grouped as three notes plus three notes, thus dividing the measure into two equal parts (3+3), or as three groups of two notes each (2+2+2).

Notice in the first two measures of **Figure 5** how the 3 against 2 feeling can be achieved with nothing more than accents. In the second measure of the example, the bass drum divides every measure into two equal parts while the accents on the snare drum divide the same amount of time into three parts. Try playing the accented notes on different toms and using patterns like these for fills (the other measures in the example). As you may have noticed, putting

two bars of 6/8 time together actually gives you a single measure of 4/4 containing eighth note triplets. This means that you can use these accent ideas for music written in common meter as well as in 6/8 or even 12/8 time.

See if you can create additional fills and time patterns that use the 3 against 2 feel. You might try playing quarter note triplets on your ride or hi-hat, while keeping the straight 4/4 feeling on the bass drum and snare.

Next time, we’ll take a look at a less common polyrhythm: 4 against 3. Until then, experiment, be creative, and try new things. After all, that’s what composers and musicians were doing in the 14th century! ®

Figure 1.



Figure 2.



Figure 3.



Figure 4.



Figure 5.



Norman Weinberg is an Associate Professor of Music at Del Mar College in Corpus Christi, Texas and serves as the principal timpanist with the Corpus Christi Symphony Orchestra. He’s had a love affair with electronic percussion instruments for several years.

All examples in this column were produced using Finale, courtesy of Coda Software.