

An Easy Method for Understanding and Playing Polyrhythms

In the previous article, I wrote about approaching unusual rhythms at the piano, and managing coordination between the hands when one hand plays an unusual grouping, or tuplet. What if, however, you want to understand an unusual division so that you can practice and play it exactly as written? In this article, I will explain a "direct" path that you can take to unusual rhythmic divisions using more manageable rhythms.

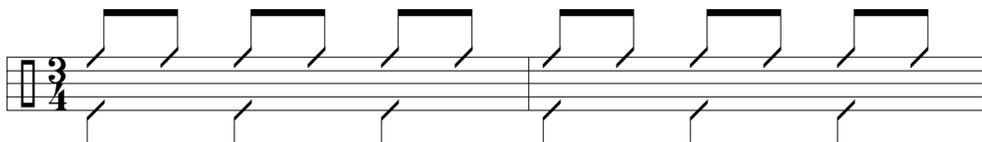
Understanding and playing polyrhythms is an important part of playing jazz, as well as other musical styles. When I first started learning and eventually teaching polyrhythms, I thought that the only way to do it was through listening, repetition, and rote learning. In other words, I thought you had to develop a *feel* for the rhythm (after you've heard it a few times) before you could play it. At some point, however, I realized that there was a way to teach and learn polyrhythms using a method that makes use of simpler rhythms and rhythmic relationships that allow you to play the rhythm exactly as it is. This article explains the method.

Using basic math, it is possible to have direct access to complex rhythmic relationships. By finding a "lowest common denominator," you can use a basic underlying rhythm to create a composite. In other words, you are relating both rhythms (which are played simultaneously) to a single meter, or count. For example, if you wanted to understand a somewhat complex polyrhythm, such as three against seven, you would need to create a measure that had twenty-one increments, or divisions. In this case, you might construct a measure of seven-four ($7/4$), and built triplets on each beat. This will give you twenty-one increments (the lowest common denominator) which will allow for equal divisions of the measure into both three and seven.

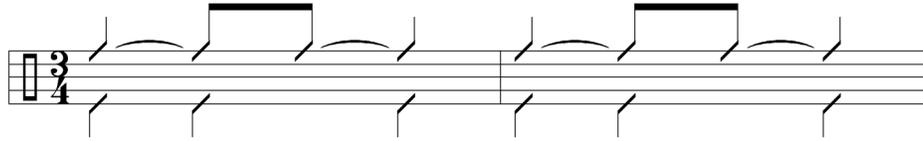
Sometimes, there is more than one way to do this. One approach (as in the above example) is to take the rhythm that moves the fastest, and use it as the basic meter on which the two rhythms will be built. In other words, if you wanted to do three against five, you could create a measure of five-four ($5/4$) and use triplets on each beat. You could also use a measure of three-four ($3/4$), using quintuplets on each beat. The first approach, however, is easier, since the divisions of each beat are simpler; the individual rhythms will be much easier to grasp.

Let's start with a simple example, *three against two*. If you want a direct way to experience these two rhythms together, there are two approaches. Since we need a measure with a common denominator of both two and three, we must divide up a measure into *six* parts. This can be done two ways: you could either pick a time signature of three-four ($3/4$) and use eighth notes (this will give you six divisions that you could organize into both two and three). Or, you could pick a time signature of two-four ($2/4$), and divide the measure into six parts using *triplets*. The first is easier since it is a little simpler.

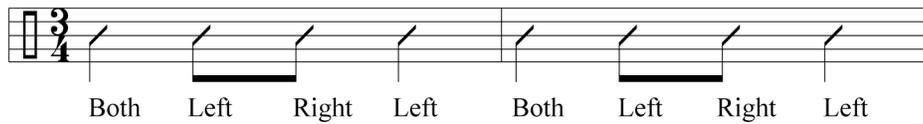
In the first case (three-four), using eighth notes we have our six divisions:



These divide the measure into two and three equal parts. The quarter note will give us the three of the polyrhythm, while the eighth note can be organized (added together) to divide the measure into the two equal parts (a quarter note plus an eighth note):

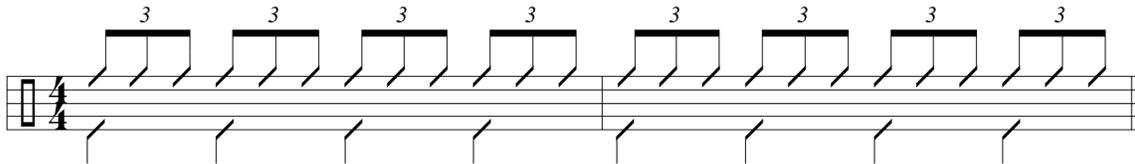


Once you have two parts that simultaneously divide the measure into two and three equal divisions, you can practice the rhythm using your right hand to play/tap the upper part (the "two"), while your left hand plays/taps the lower part (the "three"):

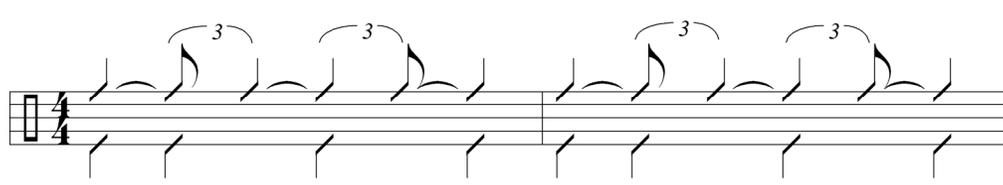


These produce a combined, basic rhythm that produces the polyrhythm.

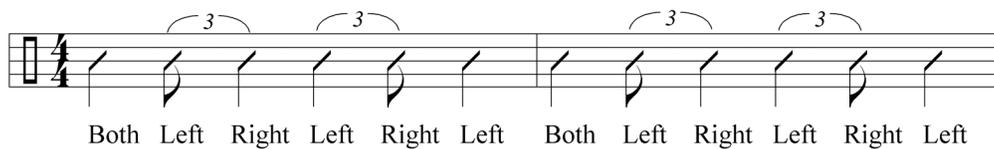
A slightly more complex polyrhythm is *three against four*. Here you will need to divide the measure into *twelve* equal parts, to allow for a simultaneous division of both three and four:



The quarter note produces the four equal divisions, while the triplets can be organized (added together) to produce the three equal parts (four triplet eighth notes):

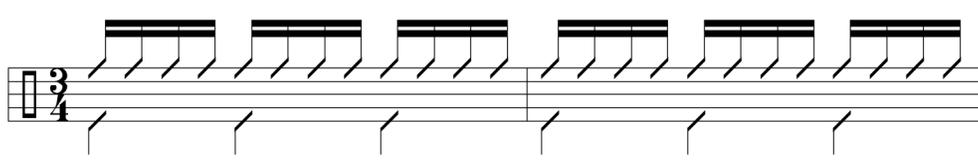


The two separate rhythms can then be reduced down to one basic rhythm that is distributed between the two hands:

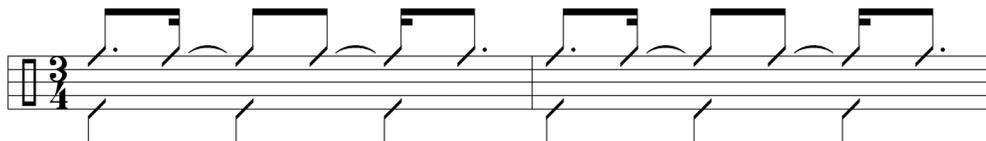


Even though the rhythm appears as *one* basic rhythm, when played between the two hands, it can be heard clearly as two separate rhythms.

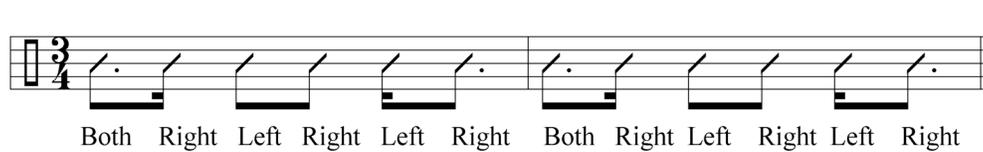
Another way to produce the same 12 divisions in a measure is to use three-four (3/4) and divide each beat into sixteenth notes:



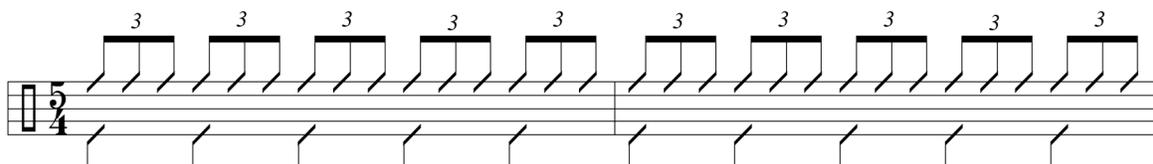
The three quarter notes produce the three equal divisions, while the sixteenth notes—organized (added together) as dotted eighth notes, consisting of three sixteenths each—simultaneously produce the four equal divisions:



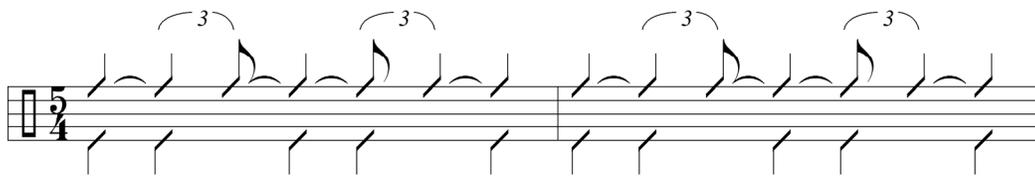
The rhythms can then be reduced to one basic rhythm, and practiced and played with both hands producing the polyrhythm:



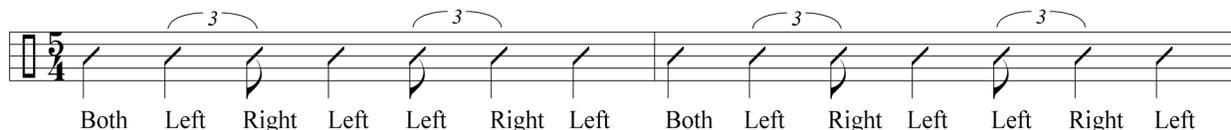
Let's take a look at a more complex polyrhythm, *three against five*. Here we would use a five-four (5/4) time signature. By using triplets, which divide each beat into three equal parts, we produce a total of 15 divisions that we will need for the separation of the measure into equal divisions of three and five:



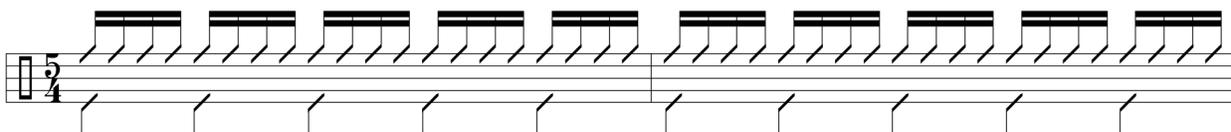
Once we have these divisions, we can keep the quarter notes as is for the five equal divisions. We can then organize the triplet eighth notes in a way that will produce three equal divisions of the measure, consisting of *five* triplet eighth notes each:



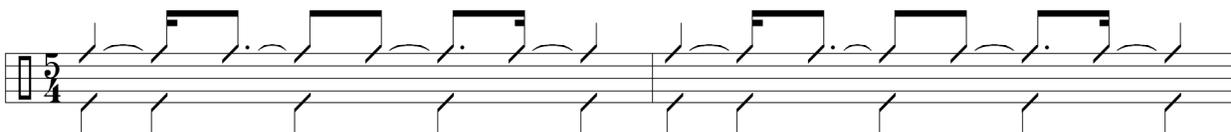
Once again, these parts can be reduced to one basic rhythm and the rhythm can be practiced and played with both hands producing the polyrhythm:



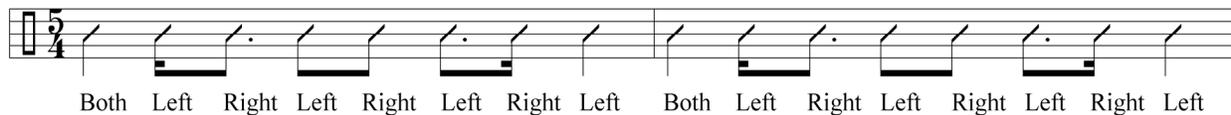
To produce a polyrhythm of *four against five*, we would again use a basic time signature of five-four (5/4), this time dividing each beat into four equal parts. This gives us the 20 total divisions we will need to accommodate the equal division of the measure into both four and five:



As in the above example, we can keep the quarter notes as is for the five equal divisions. The sixteenth notes can now be grouped (added together) into values of five, producing the four equal divisions:

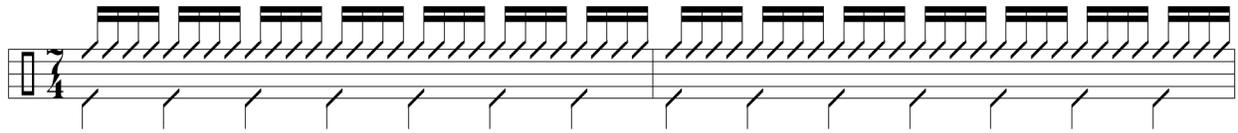


Both parts then reduce to the example below, which can be practiced and played by both hands producing the polyrhythm:



The reduction of the two rhythms to one simply involves removing the ties. Nevertheless, you must be sure to distribute the reduction correctly between the hands so that one of the original rhythms is played entirely by one hand, while the other rhythm is played entirely by the other hand. Keep in mind, as well, that each of the two rhythms can be played by either hand. In other words, the upper part can be played by the right and the lower played by the left, *or vice-versa*. Practice both versions.

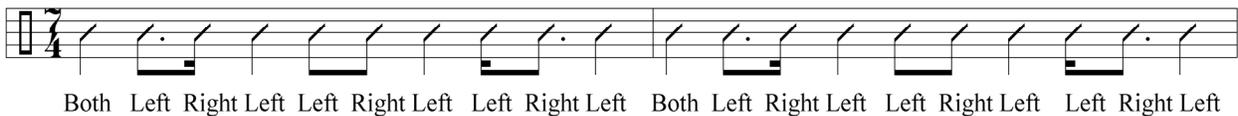
The last example we will look at is *seven against four*. Here, divide the measure into the twenty-eight divisions you'll need to produce the divisions of both four and seven:



The quarter notes produce the divisions of seven, and the sixteenth notes, organized (added together) in groupings of seven, produce the four equal divisions:



Both parts then reduce to the rhythm below, which can be practiced and played by both hands producing the polyrhythm:



Both Left Right Left Left Right Left Left Right Left Both Left Right Left Left Right Left Left Right Left

One benefit of this technique is that as a pianist or keyboardist, not only will you begin to understand and play polyrhythms, but when you practice the reductions you will also improve your reading of rhythms and your coordination.

The technique above is useful for many of the more common polyrhythms you are likely to find in most styles of music. Polyrhythms such as five against seven, seven against nine, and nine against eleven, however, are unwieldy, given the large numbers of divisions you will need to divide the measure into both of the rhythms. These are unusual and uncommon. Nevertheless, if you become familiar with these same groupings of five, seven, nine against simpler divisions such as two and four, you'll be able to gain access to the more unusual rhythms against each other.

The skill of being able to interpret a particular polyrhythm lends itself to many variations and applications. For example, once you've mastered three against four, you'll be better able to handle half-note and quarter-note triplets in 2/4 and 4/4, quarter-note triplets against quarter notes, eighth-note triplets against eighth-notes, groupings of four eighth-note triplets in 3/8, 6/8, 9/8, and 12/8, groupings of four quarter-note triplets in 3/4, 6/4, 9/4, and 12/4, and other rhythmic and metric relationships.