

# Polyrhythms

## A Hammer Dulcimer workshop by Bill Troxler

Polyrhythm is an important playing technique for hammer dulcimer players to master. The technique puts energy into the music and reveals the dance voice of the instrument.

All music is dependent on manipulating melody, harmony and rhythm to create and relieve tension. The creation and release of tension may be as dramatic as Canio's lovely aria at the end of the first act of Leoncavallo's opera *I Pagliacci* or it may be as subtle and simple as Part C of the fiddle tune *Rag Time Annie*. The point is that music develops tension and then releases it.

Western music relies on melodic and harmonic tools to create and release tension. Generally western music, especially western popular music, is not very creative when it comes to rhythm. George Gershwin wrote *I've got rhythm*; but the truth is, he didn't have much and many westerners don't have any at all! Rhythm is the province of Africa, the Caribbean, the Middle East, India, Southeast Asia and Latin America. In the cultures of these regions, rhythm has developed to a highly expressive, complex art form. We can borrow some of their ideas and use them in playing the hammer dulcimer.

Polyrhythm is the simultaneous playing of two or more different rhythms. On the dulcimer, polyrhythm occurs when the left and right hands play different rhythms. The most common polyrhythm pits one hand playing a two-beat rhythm against the other hand playing a three-beat rhythm.

A defining feature of a two-voice polyrhythm is that both rhythms end one cycle within the same span of time. That is what gives the polyrhythm its power. Tension is created in the three against two polyrhythm because the three-beat pattern sounds faster than the two-beat pattern. The perception of faster speed comes about because both patterns must be completed within the same time span. The tempo for both voices is identical.

The intellectual problem of putting the two lines together may seem overwhelming. It may help you to say the phrase "*hot cup of tea*". If you were sending this as a Morse-code kind of beat, it would sound like DA DIT DIT DA. The HOT and TEA are long sounds. CUP OF are short sounds. The TUBS below shows how your hands work together to create a three-against-two polyrhythm.

### 3 Against 2 Polyrhythm *Hot Cup of Tea*

Speak	<i>Hot</i>		<i>Cup</i>	<i>Of</i>	<i>Tea</i>	
<b>Right Hand Three beats</b>	X		X		X	
<b>Left Hand Two beats</b>	X			X		

The right hand is playing three beats while the left hand is playing two beats. Each box represents an eighth note. The phrase "*hot cup of tea*" is spread over six time intervals. Both the two-beat and the three-beat rhythmic patterns complete one cycle during this polyrhythm.

If your left hand is dominant, swap the hand patterns. The polyrhythm is easier if your strong hand leads on the first solo beat following the strike with both hands at the beginning of the pattern.

**4 Against 3 Polyrhythm**  
*What Atrocious Weather*  
*or*  
*Pass the Golden Butter*

Speak	<i>What</i>			<i>A-</i>	<i>tro-</i>	<i>cious</i>		<i>Weath-</i>	<i>er</i>		
	<i>Pass</i>			<i>The</i>	<i>Gol-</i>	<i>den</i>		<i>But-</i>	<i>ter</i>		
<b>Right Hand 4 Beats</b>	X			X		X			X		
<b>Left Hand 3 Beats</b>	X				X			X			

Note that the last two cells in the right hand are blank and the last three cells in the left hand are blank. These empty cells are required to complete the patterns. The right hand strikes every THIRD beat. The left hand strikes every FOURTH beat. After the final strike of the right hand, two empty time units must pass by before the next strike can occur. So, too, with the left hand. Three empty time units must pass by before the next left hand strike can occur.

**5 Against 4 polyrhythm**  
*That is all. I told you the truth*

Speak	<i>That</i>			<i>Is</i>	<i>All</i>			<i>I</i>		<i>Told</i>		<i>You</i>			<i>The</i>	<i>Truth</i>		
<b>Right Hand 5 beats</b>	X			X				X				X				X		
<b>Left Hand 4 beats</b>	X				X					X					X			

The 5 against 4 polyrhythm may seem a little more complex. Think of each cell in the TUBS as a sixteenth note to get the feel for this. This is a marvelous polyrhythm with a Latin feel to the beat.

Try writing out the TUBS for a 5 against 2 polyrhythm. On hand strikes on every 5<sup>th</sup> beat. The other strikes on every 2<sup>nd</sup> beat.

### **Demonstration, Techniques and Tunes**

*Shenandoah Falls*  
Interior polyrhythms

*Liberty*  
Interior polyrhythms

*Hawks and Eagles*  
The rhythmic heart beat of old time tunes

*Norwegian Wood*  
How polyrhythms can save a dull tune

*South Wind*  
Modulation to a minor key via polyrhythms