

# CHAPTER FIVE: POLYRHYTHM

## DEFINITION OF TERMS

Polyrhythm literally translated means “many rhythms” but this is a bit vague. “Polymetre” comes closer to actual meaning. Whatever you call it, it is only after conceptualization and proper practice that the complete meaning can be realized. Firstly, we need to clear up some related terms:

**Pulse** – The “atomic” unit of time which is the smallest value needed to add up to make any of the durations of notes in a piece or phrase. Also known as the *subdivision* or *grid*.

**Beat** – Regular groupings of pulse that combine and repeat to create a dominant “surge” or “step” to every bar or phrase in the music. It’s usually the beat that we’ll tap our foot to - unless it’s very fast, and then we may tap to groups of two or three beats.

**Grouping** – Additions of pulses that sum to create a note of a larger duration are called a grouping. Groupings may contain sub-groupings, such as the summation of 2 pulses and 3 pulses to make a grouping of 5 pulses. This process is the basis of *additive rhythm*.

**Duration** – The total size of a group of pulses. Also known as the *value* of a note.

**Additive Rhythm** – The rhythmic scheme that approaches rhythm from the opposite perspective to *divisive rhythm*. That is, rather than starting with a large duration (such as a whole note that fills each bar of 4/4), and dividing that progressively (usually by a division of 2, or occasionally 3), we build up groupings of pulses to create the larger durations we require.

Exercise 5-1 illustrates the *rhythm tree* - the classic model of *divisive rhythm* we’re initially taught in Western music theory. It commences with a whole note at the top and each line below halves the duration of the note above it, and contains double the number of notes to fill the same overall duration (1 bar of 4/4 metre). I have written the British and American labels for these durations on the left and right columns respectively; you can see from the latter the factor involved.

A typical phrase in divisive rhythm orders the bar into parts that are similarly organized into two halves, such as in Exercise 5-2.

Compare this with a typical phrase in additive rhythm, such as in Exercise 5-3. With a divisive approach, this example is much more difficult to sight-read. It doesn’t fall into the “normal” groupings of divisive rhythm, yet it is based on the same pulse or subdivision (16th-notes).

Can you see the order in this rather disjointed phrase? A little examination reveals groupings of 16th-notes in the following pattern:  
2+3+4+3+2 and then 6+5+4+3.

EXERCISE 5-1

The Rhythm Tree

semibreve whole note

minims half notes

crotchets quarter notes

quavers eighth notes

semiquavers sixteenth notes

This pattern of numbers in Exercise 5-3 reveals one of the primary characteristics of phrases that are additive: they can contain numerical processes. The mathematical design behind Exercise 5-3 contains an expanding-contracting sequence of numbers (incrementing by a single pulse from 2 up to 4 and back), followed by a descending (contracting) sequence from 6 down to 3. These sequences can take on a visual aspect that can be quite geometric in appearance. Such shapes are behind a particular Indian rhythmic process called *Yati*. More on these South Indian rhythmic patterns later in this chapter!

EXERCISE 5-2

Divisive Rhythm

EXERCISE 5-3

Additive Rhythm