Give Your Solos a Dose of Polyrhythmic Adventurousness
by Dennis Winge

The rhythms of Africa have fascinated Westerner's ears for many decades, and there is much already written on the subject of what makes its drumming so intriguing already. However, after hours of research, I believe a simple portrayal of a central concept on which African polyrhythms are built will be valuable not only to those interested in the specific subject of African drumming, but to any musician interested in polyrhythms. There is also a media page of video and audio to which this article will refer.

As C.K. Ladzekpo explains in the 4-part video series (part 3 of which is presented on the media page), at the heart of African polyrhythms is the 3:2 ratio of beats. Since this is the same as 6:4, this also means 6 beats per bar in 4/4. For those who don't read music, we will describe the rhythmic relationship using a simple beat map. Since the lowest common multiple of 4 and 6 is 12, we divide each bar into 12 units.

unit	1	2	3	4	5	6	7	8	9	10	11	12
4	1	&	a	2	&	a	3	&	a	4	&	a
6	1	&	2	&	3	&	4	&	5	&	6	&

If you cannot currently tap your foot in a 4 beat cycle and clap your hands in 6-beat cycle, I highly recommend you check out my other article "Feeling the 3 Against 2 Polyrhythm" because everything stems from this relationship. In the 4-part video series, Ladzekpo is asked to demonstrate rhythmic relationships several times by audience participants, who, my guess is, were trying to understand the relationships intellectually. You must be able to feel the 6 rhythm against the underlying 4 in order to really understand this set of polyrhythms.

Next, notice that the pattern of 6 notes can also be employed on the "off" beats, like this:

unit	1	2	3	4	5	6	7	8	9	10	11	12
4	1	&	a	2	&	a	3	&	a	4	&	a
6	&	1	&	2	&	3	&	4	&	5	&	6

Assuming you can do 6 against 4 already, this shift is not difficult. Notice that the two patterns line up on beat 2 instead of beat 1. For your reference, under the "building

blocks section" of the media page, I have provided excerpts of the counting of these and the other subdivisions presented in the article.

Over time, the most popular pattern became one that takes the first half of the "on" 6 and the second half of the "off" 6, as in this:

unit	1	2	3	4	5	6	7	8	9	10	11	12
4	1	&	a	2	&	a	3	&	a	4	&	a
6	1	&	2	&	3	&	4	&	5	&	6	&
pattern	1		2		3	&		&		&		&

This pattern is the most basic core of African polyrhythmic playing, at least in Ghana where the presenter is from. It also is the basic Afro-Cuban 6/8 clave pattern, as much of modern music from or influenced by Central America was, as the name suggests, a conglomerate of African and Cuban musical traditions. Spend some time getting used to clapping the pattern while tapping your foot in 4 before reading on.

From there, you should also explore the 3:4 relationship (cf. my article "Feeling the 4 Against 3 Polyrhythm), of which the map is:

unit	1	2	3	4	5	6	7	8	9	10	11	12
4	1	&	a	2	&	a	3	&	a	4	&	a
3	1	e	&	a	2	e	&	a	3	e	&	a

The important thing to note here is that there are 4 possible starting places for the "1" beat of the 3 line. It could be on the 1st, 2nd, 3rd, or 4th unit (of the 12 on the top line). If it were to start on the 5th unit, that would be the same 4-unit cycle that starting on "1" gave you, so that is why don't consider anything beyond the 4th unit. I have labeled these different starting points as "3a, 3b" etc. as shown below:

	1	2	3	4	5	6	7	8	9	10	11	12
4	1	&	a	2	&	a	3	&	a	4	&	a
6	1	&	2	&	3	&	4	&	5	&	6	&
pattern	1		2		3	&		&		&		&
3a	1	e	&	a	2	e	&	a	3	e	&	a
3b	a	1	e	&	a	2	e	&	a	3	e	&
3c	&	a	1	e	&	a	2	e	&	a	3	e
3d	e	&	a	1	e	&	a	2	e	&	a	3

Here's where the real fun (and challenge) begins. In the video from 1:01 to 4:30, Ladzekpo chooses what I have labelled as "3d" to use as a basis of his improvisation. Not only is he using this cross-rhythmic reference point as his base, but many of his patterns are doubling up the time. This requires a grid of 24 units to portray:

unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
4	1		&		a		2		&		a		3		&		a		4		&		a	
pattern	1				2				3		&				&				&				&	
3d	e		&		a		1		e		&		a		2		e		&		a		3	
doubled		a	6	e	&	a	1	e		a	2		&		3	e		a	4		&		5	e

You would start the pattern on the "doubled" line where it says beat 1 (i.e. the 7th unit) and say "1e a2 & 3e a 4 & 5e a6e&a," and do it while tapping in 4! The pattern above is greatly simplified, but it is a starting point to understanding how a simple shift of focus can add amazingly complex layers to a rhythmic structure. For your reference, I have created guide tracks over that the improvised section, counting in 4, 6, 3 (using the starting point "3d" where I just said "ta" instead of counting numbers).

Imagine being able to switch your thinking between thinking in 4, "on" 6, "off" 6, in 3 at any of 4 starting places, etc.! What an amazing array of patterns and layers you could create in your music. As an experiment, using quite a bit of help from technology, I also created a "Polyrhythmic Blues" in which the melody and some of the soloing uses the same rhythmic 'doubled' pattern we saw above. How are you going to use these concepts in your own music?