

ABOUT THE AUTHOR

Camille Bigeault is a drummer and musician from Toulouse, France.

A composer and multi-instrumentalist, she is known in the drum field for her ability to superimpose layers of different time signatures, creating what we call polyrhythms, and is passionate about exploring and teaching them.

Growing up in a family of musicians and immersed from a young age in the rhythms of percussion, salsa and fusion jazz, she discovered the drum set in sixth grade. Two years later, she decided to make a living out of it after first watching the Placebo DVD *Soulmates Never Die*. Camille studied at the Toulouse Conservatory with José Fillatreau and obtained her diploma, simultaneously completing a degree in jazz musicology. She became part of numerous rock, pop and fusion jazz/rock bands, later joining a Genesis tribute band, Genesya, which developed her taste for progressive rock. A versatile drummer, she has notably played in the rock opera *Le Rouge et le Noir* in 2016, and joined PV Nova et l'Internet Orchestra in 2018. She toured for top pop French artist Jenifer in 2019, and in the Mae Defays Trio from 2020 to 2022.

Camille posted her first polyrhythm performance video in 2016, which became the starting point of her pedagogical and international career. She was featured by Drum Channel in 2017 and shared her rhythmic vision at Drumeo in 2018. She has performed/taught many masterclasses, drum camps and drum festivals, both in France and abroad. Her knowledge and control of rhythm and time allows her to immerse the audience into sensations of rhythmic illusions, bringing them on an inner voyage through their perception of time.

Alongside her drumming career, Camille composes songs for guitar and voice, and creates instrumental tracks based on original, through-composed drum parts, which she plays during her drum clinic performances. Her polyrhythmic pieces also serve as a basis from which Camille creates unique and innovative musical compositions.

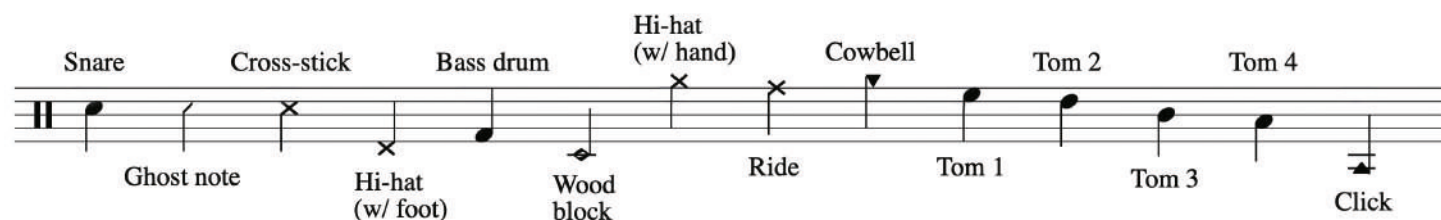
It was during the Covid-19 crisis that she assembled *The Polyrhythm Odyssey*, which is the fruit of her diverse pedagogical and personal experiences, wishing to share her knowledge with fellow rhythmicians in search of new horizons.

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NOTATION KEY



RH : Right hand

LH : Left hand

> : Accent

INTRODUCTION

Welcome to My Mind

Six years ago, I would have never imagined that the concepts you will find in this book would become the pillars of my exploration in rhythm, or that I would be so excited to share them with you. I was first introduced to the massive realm of polyrhythms in 2009 at the Toulouse Conservatory, thanks to the wonderful book by Gavin Harrison, *Rhythmic Illusions*. I am absolutely grateful to him for this book, and to my teacher José Fillatreau for having chosen it as one of the must-study drum books for his students. The lessons of *Rhythmic Illusions* slowly became engrained in my playing, and enabled me to make my own discoveries in subsequent years of experimenting on the drums. Thanks to many masterclass opportunities, I have been able to polish my understanding of these concepts and develop means of more effectively transmitting them. Teaching also helped me to compile information, ideas and educational insights, which finally led to the creation of this book. I see it as the final product of a big puzzle, which aims to allow drummers (and all curious musicians, regardless of instrument) to understand this particular way of looking at rhythm and music, hopefully inspiring in them new ways of playing and composing. In my day-to-day practice, I am still amazed by the infinite possibilities which the drums offer us. The path of drumming is for many of us a journey of wonder, dedication and excitement, and I feel very grateful and lucky to be part of it.

The following pages will allow you to see through my eyes and offer you a different perspective about drumming and rhythm. Together we will explore concepts that appear complicated and unusual at first sight, such as polyrhythms, ostinatos, subdivisions, odd number groupings, and the like, so that you can grasp how they function and use them as new creative tools in your playing. This book aims to greatly improve your coordination, interdependence, and consequently, independence. It will make you see outside the box, strengthen your rhythmic and melodic creativity, and enlarge your perception of time and space. It will show you how to master and use the grids of subdivision, allow you to create ear illusions, and help you dive into the vast world of odd numbers in music. In turn, these tools will open the door to an infinite and extraordinary field of possibilities.



POLYRHYTHMS / POLYMETERS

OR WHEN DIFFERENT NOTE GROUPINGS MEET

Everything started one day in January 2016, as I was having fun on my kit. I found this melody on the toms and looped it:



(Don't forget that you also have the audio versions, which may be more meaningful for some of you than reading transcriptions.)

It was very close to this melody:



But *the penultimate 16th note* was missing, making the pattern shorter and quite original.

I first took the time to play and appreciate that melody. I realized only afterwards that it was a pattern built on eleven 16th notes. An idea grew in my mind: keeping that melody on a loop with my right hand, while being able to play whatever I wanted with the rest of my limbs. Then I found another *looped pattern* played with the feet, that blended quite well with my tom melody. Music theory-wise, we call this an *ostinato*.



This new ostinato was composed of six 16th notes. So, if we play it alongside the tom melody in 11, as their lengths differ, the two patterns start together, and then shift little by little, until they eventually synchronize on the same starting point again. This is where the magic begins: By shifting relatively one to another, our two loops are creating a whole new rhythm, a longer loop, like a song played by a duo. We call this a polymeter.



Don't worry about reading the transcription in too much detail; rather listen to the audio version to appreciate the result. What is important is to observe the way the two patterns shift relative to one another. Look at the first hi-hat impact played by the foot: On bar one, it is on the very first 16th note, and on bar two, it has already stretched and now finds itself on the second 16th note!

As I had to choose a rhythmic signature, I decided to write this pattern combination in 11/16, so that the bars could stay fixed on my tom melody. This way it is my foot ostinato in 6/16, which has a shorter length, that shifts. I could also have chosen to write it in 6/16 to stick on my foot ostinato, in which case the melody in 11 would have shifted.

Trying to write it by yourself in 6/16 can be a good exercise to make you aware of the shifts the tom melody will go through related to the foot ostinato. The correct transcription is included in the pack to download with the QR code on p.123.

NB: Here I talk about 6/16 and not 3/8 because I aim to put the accent on the composition (and the feeling) of my phrases in 16th notes, and not 8th notes.

If my two loops were based in the same number of 16th notes, they would still create one new rhythm together, but it would not involve any shifting. That could be, for example:

You already know, in theory, that the main skill needed in polymeters and polyrhythms is to be able to overlay different note groupings using a common subdivision. In this chapter, I will show you how to practice this, step by step.

A WORLD OF NOTE GROUPINGS

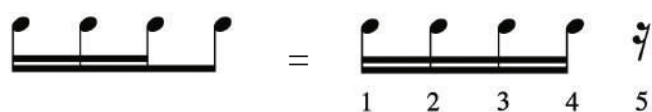
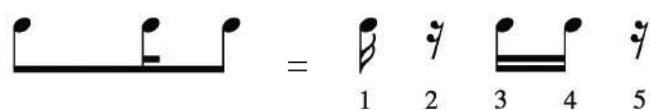
Behind each rhythm or pattern hides a group of notes. It is simply the *number of subdivisions* that makes the skeleton of the rhythm. For example, let's take this looped pattern:



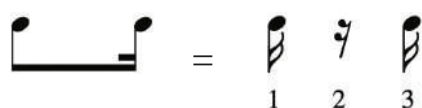
If we analyze it, it is actually the repetition of a pattern built on five 16th notes, of which only the first and the third are played:



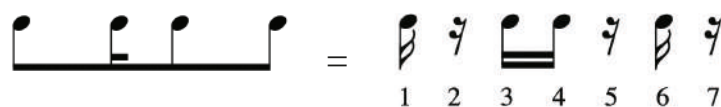
We will call this pattern a group of 5, a rhythm in 5 or a 5-note grouping. We could refer the same way to the following rhythms:



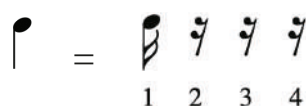
This pattern is a group of 3:



And this one is a group of 7.

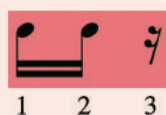


This simple quarter note is actually a group of 4 of which the first 16th note is played!



Be careful not to confuse note groupings and exceptional beat subdivisions! A rhythm in 3 is NOT necessarily applied on a triplet subdivision, and a triplet subdivision is NOT a group of 3 (because it is only a subdivision, and not a rhythm). You can absolutely find a rhythm in 3 on a quintuplet subdivision, or a rhythm in 4 on a triplet subdivision (which, for that matter, we will develop later).

For instance, here is a rhythmic pattern in groups of 3 in its basic form:

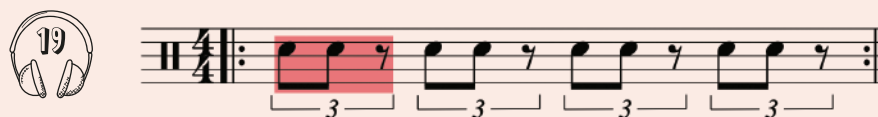


The same pattern looped in a quintuplet subdivision context:



You can of course play groups of 3 in triplets or groups of 7 in septuplets, but that is not automatic nor imperative (and most of all, this will not create any shift)!

The same group of 3 looped in a triplet subdivision context (which doesn't create any shift):



Most of the rhythms that prevail in our Western culture today are groups of 3 or 4, which we are very familiar with. This is because our grooves rarely stick out from the frame of beats in 4 (binary), in 3 or in 6 (ternary), and that all of our playing lines up around these same beats, which structure our rhythms and act as a common thread.

The goal of this chapter is to learn to use polyrhythms (which actually amounts to knowing how to combine different note groupings) to get out of this frame.

You will find a note grouping page on the next page. It lists some patterns of different note groupings, including a few we are going to use frequently throughout the method. You can tear off this pre-cut page to use it as a bookmark, so that you always have these references handy.

Groups of 1 and 2 are not mentioned here. I am writing all the 16th notes on purpose so that the number of subdivisions each pattern is based on can be visually clear. Play them repeatedly on a pad, mentally singing the grey subdivisions.

To save time, I will often use short cuts and call a group of 5 “5s,” a group of 3 “3s” etc.

Let's get acquainted with these groupings while applying them in a Western culture “classic measures” context. This way, you will be able to concretely use polyrhythms/polymeters to enrich your grooves and give them more flavor.

You can listen to the following examples to get an overview:



THREE TO FOUR LIMBS IN DIFFERENT GROUPINGS

Now let's get back to one limb at a time, each playing one different grouping. The possibilities are so numerous, with unique results every time!

Here is a three-limb example, with a tom melody in 14 played with the right hand. This melody could be broken down into 8+6.

The diagram illustrates the combination of three different limb patterns to create a three-limb example. It is structured as follows:

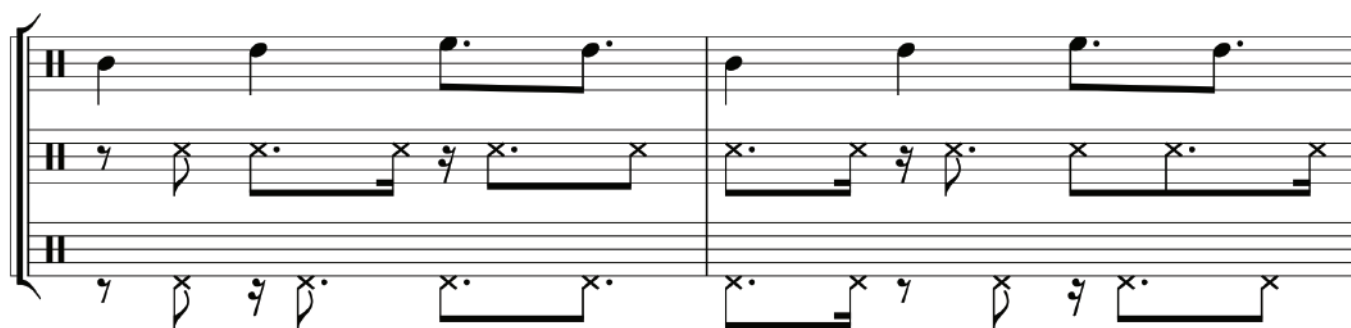
- Tom melody in 14:** A musical staff in 14/16 time with a red background. The melody consists of eighth notes: $\text{♩} \text{♪} \text{♪} \text{♪} \text{♪} \text{♩} \text{♪} \text{♪} \text{♪} \text{♪} \text{♩} \text{♪} \text{♪} \text{♪} \text{♪} \text{♩}$.
- Hi-hat foot in 3:** A musical staff in 14/16 time with a yellow background. The pattern consists of eighth notes: $\text{♩} \text{♪} \text{♪}$.
- Cross-stick in 5:** A musical staff in 14/16 time with a green background. The pattern consists of eighth notes: $\text{♩} \text{♪} \text{♩} \text{♪} \text{♪}$.

These three patterns are combined (indicated by plus signs) to create the final three-limb example (indicated by an equals sign).

Three-limb example: A musical score for three parts: Tom melody, Cross-stick, and Hi-hat, all in 14/16 time.

- Tom melody:** The red background pattern from the first staff.
- Cross-stick:** The green background pattern from the third staff.
- Hi-hat:** The yellow background pattern from the second staff.

The final score shows the first 14 measures of the combined pattern, followed by a second 14-measure section where the patterns are rearranged.



Written from the perspective of the tom melody in 14s. As the two other groupings are in 3 and 5, we will need $3 \times 5 = 15$ bars in 14/16 to resolve the three note groupings together. You will find the other bars in the pack to download with the QR code on p.123. I wrote it in 14/16 and not 7/4 because I don't wish to imply a bar division in quarter notes.

In a polymeter involving three limbs, you still have your fourth limb remaining. You can choose either to freely improvise with it (which, I grant you, will require even more work), or to play a fixed pattern based in a different group of notes. In this last case, it becomes a polymeter involving four limbs. That is the maximum most of us can do as human beings. The exception being, of course, if you'd like to try adding another line on top using your voice! We could transform our previous rhythmic song into a four-limb polymeter, for example by adding a [kick in 4](#):



Tom melody

Cross-stick

Hi-hat

Kick



You will find the other bars and the full polymeter video in the pack to download on p.123.

You will notice that my feet are actually playing a 3:4 polyrhythm. Try inverting the feet so that your kick plays the 3s. This will completely change how we feel the entire pattern!



At this point, you should feel free to create your own “rhythmic songs” with the patterns and melodies that spark your interest!

Some will say that a specific *musical context* in which to play polymeters is hard to find, although we can find it musically satisfying when we hear the drums alone. When I experiment with these superimpositions of groupings, the one thing I am inspired to do is to *create* the matching musical piece!

In closing of this chapter, I would like to show you a three-grouping polymeter I frequently play in my masterclasses. This polymeter was used in one of my recent attempts as a base for a progressive rock musical composition. During the process, what I found most difficult is the fact that in composing, we have to choose and settle on musical ideas, when harmonic and melodic possibilities are so endless that one always feels that it is possible to find better and more beautiful solutions. The way your toms are tuned will induce a melody on which you could define harmonies. You could add a bass line that would fit your foot pattern. Guitars strumming could match your snare accents... all of these elements could be the backbone to your unique musical compositions!

“Anatman,” composition based on a polymeter involving a tom melody in 14, a foot ostinato in 5 and the snare playing different groupings in a row:



The videoclip is available to watch here:



The video and transcription of the original polyrhythm are included in the package.