



Artistic Research Report

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Title of the research: Polyrythms in Prog Music

Artistic Research Question:

*In what way can the use & understanding of polyrythms & grouped patterns enhance my musical/rhythmic abilities within progressive pop music by studying specific drum techniques * of drummers such as Danny Carey, Gavin Harrison and Thomas Haake?*

- Groove - Danny Carey, Fills - Gavin Harrison & Cyclic phrasing/morse coding - Thomas Haake

Keywords:

[polyrythms, grouped patterns, Danny Carey, Gavin Harrison, Thomas Haake, grooves, fills, displacements, drums]

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Not to be forgotten (†): Marie-Jeanne Müller-Stein, René Stoffel, Nekkel Hoffman

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Table of contents

1 Abstract	5
2 Introduction	5
2.1 Motivation and goal	5
2.2 Contextualization	6
2.3 Research question	6
2.4 Specific audiences and readers addressed	6
3 Research Process	7
3.1 First research cycle	7
3.1.1 Overview of first research cycle	7
3.1.2 Reference recording	7
3.1.3 Feedback and reflection	8
3.1.4 Data collection & data analysis	9
Desk Research	9
Case study Annotated Scores	10
Experiment	13
3.1.5 Interventions / practical application	17
3.1.6 Outcomes	21
3.1.7 Feedback, reflection and conclusion	22
3.1.8 Short description of the next research cycle	24
3.2 Second Research Cycle	25
3.2.1 Overview of the second research cycle	25
3.2.2 Reference recording	25
3.2.3 Feedback and Reflection	26
3.2.4 Data collection & data analyze	27
Media Research	27
Score Annotation	28
Experiment	31
Interviews	33
3.2.5 Interventions / practical application	35
3.2.6 Outcomes	37
3.2.7 Feedback, reflection and conclusion	38
3.2.8 Short description of the next research cycle	39
3.3 Third Research Cycle	40
3.3.1 Overview of the third research cycle	40
3.3.2 Reference recording	41
3.3.3 Feedback and Reflection	41
3.3.4 Data collection & data analyze	42
Desk research	42
Case Study / Score Annotation	43

Interview	45
3.3.5 Interventions / practical application	46
3.3.6 Outcomes	47
3.3.7 Feedback, reflection and conclusion	48
4 Research findings and outcomes	49
4.1 Documentation and explanation of the research outcomes	49
4.2 Self-assessment of the research outcomes and expert feedback	51
4.3 Conclusion	52
4.3.1. My Conclusion	52
5 Reference list	54
6 Network	55
Appendices	56
Appendix 1: List of all AV media included in report	56
Appendix 2: Critical media review	59
Appendix 3: Full feedback of Survey 1	60
Appendix 4: Full feedback of Survey 2	64
Appendix 5: Full feedback of Survey 3	69
Appendix 6: Full feedback of Survey 4	75
Appendix 7: Full feedback of Survey 5	78
Appendix 8: Full feedback of Survey 6	81
Appendix 9: Transcriptions, (annotated) scores, analyses	83

1 Abstract

My research takes place in the domain of drumming focusing on the world of polyrhythms; looking at how to integrate them in my own compositions but also how to use them in any kind of genre or situation.

As for my experience, polyrhythms and groupings are extremely effective tools to sound more musical and more interesting; expanding the realm of popular patterns without losing the essence of the role of a drummer in today's western music.

Motivated by curiosity, this research covers a 360 angle view of how to use them, focusing on grooves & rhythms - fills & Improvisation - multilayering rhythms and phrasing.

Documentation and annotation will serve AV demonstrations for practical use and the involvement of carefully selected experts and peers will provide necessary feedback to stay on track.

On a broader spectrum my findings can be translated to other players, inspire band members and open up doors for an alternative approach. Polyrhythms infused with dynamics and the right amount of dosing can sound easy and complex at the same time. This is what makes this subject not only part of a niche but can also be introduced to a wider audience. Researching mainly in the progressive rock domain, analyzing players such as Danny Carey, Gavin Harrison and Thomas Haake, my conclusions will be AV recordings and can be summarized in a 'methodical' overview.

2 Introduction

2.1 Motivation and goal

I remember going to the studio in September 2019 to record an album with my band Golden Caves. I had some drum patterns in my head that I wanted to record because I liked them and I thought they would fit the music perfectly. The nature of these ideas were polyrhythmic. After trying some stuff out the producer stopped me and said that I should simplify some of my parts because they would sound too difficult and would not add something to the songs. I do think that the producer had a valid point and it lit the fire in me to find more suitable polyrhythmic patterns. Back then I might have tried to impose something to the music which I like but does not necessarily benefit the music. The motivation to add a polyrhythmic component to the music is not something I chose randomly, trying to sound more interesting, but it's rather something that I was always interested in because of its rhythmical power and spiral flow within the music.

Here I am 2 years later (still in a pandemic) going for a second attempt at these recordings (2.0). The goal is to move away from 1 or 2 bar grooves structures and incorporate polyrhythmic melodies and gateways to look for new ways to support songs and add something new to what has already been done. I want to improve on ideas to become more recognizable as a drummer; becoming a master of myself.

2.2 Contextualization

The context of my research topic is all about the use and integration of polyrhythms in a certain musical context from a drummer's perspective. The musical context in my research is progressive pop music. This style of music is a good musical frame where I can experiment with these rhythms due to its complex and progressive nature. Yet talking with experts about the application and integration of polyrhythms, it is not an obvious necessity or even something which is familiar to them. The name already suggests a certain complexity and some people have absolutely no knowledge about it. My work makes its appliance transparent and delivers clear options to a more conventional approach (such as 8th notes and 16th notes). By gaining knowledge about how it sounds and how it behaves in a musical frame a methodical and systematic approach can be traced and written down.

Others can profit from this method and knowledge by seeing how polyrhythms can be integrated in a certain musical frame without sounding too complex or falling out of musical boundaries. Also the polyrhythms add a layer of interest to the music just as Danny Carey said in his interview. But also by asking experts for feedback and reflection I can say that it is not a favorite to everyone. For me as a musician I find it extremely exciting and fascinating and it is something I definitely will use more often in the future.

2.3 Research question

*In what way can the use & understanding of polyrhythms & grouped patterns enhance my musical/rhythmic abilities within progressive pop Music by studying specific drum techniques * of drummers such as Danny Carey, Gavin Harrison and Thomas Haake?*

- *Groove - Danny Carey, Fills - Gavin Harrison & Cyclic phrasing/morse coding - Thomas Haake*

2.4 Specific audiences and readers addressed

With this research report I am addressing all kinds of drummers. Although the musical frame that I am working in leans towards a more rock based audience there is no restriction to the outcome of applying the knowledge to different styles of music. Even for other instruments such as guitar, bass, keys and vocals, the knowledge about the use of polyrhythms can be seen as a musical extension for alternative options.

3 Research Process

3.1 First research cycle

3.1.1 Overview of first research cycle

For the first research cycle I will focus on Danny Carey's interpretation of polyrhythmic patterns. To be more specific: I want to analyze, understand and reproduce the way he uses polyrhythms in grooves and study the effect it has.

The reason why I chose this player and this subject as a first topic is because it is most dear to me. It is something that is already in my DNA of thinking and approaching music. It is something that I know inside out but never really took the time that is needed to really analyze it and reproduce in my own playing.

The second reason why I want to start off with Danny Carey's interpretation of using polyrhythmic patterns is because this will have the biggest impact on my grooves which are the foundation of my music/my reference recording.

Upcoming cycles will focus on different aspects such as drum fills and specific ways of using grouped patterns which can only be researched if the basics have a foundation. Metaphorically speaking I first start with the dough of the pizza before I put the toppings on.

3.1.2 Reference recording

My point of reference for this research cycle is a compilation of 3 tracks from the album 'Dysergy' by my band 'Golden Caves' released in march 2020. Since I'm revising an entire album I need to make a selection and decision on what I think is most relevant for the research.

(Listen here: <https://drive.google.com/drive/folders/1aFthmCry5slO3aYl6V8jZjcdNKy0JLcF?usp=sharing>)

Track 1: **Chromosome**, by Golden Caves,

Recorded between 26 of August 2019 & 26 of January 2020

Drums: Erik Stein

Bass: Tim Wensink

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerkerk

Duration: 4:21

Track 2: **Hide & Seek**, by Golden Caves

Recorded between 26 of August 2019 & 26 of January 2020

Drums: Erik Stein

Bass: Tim Wensink

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerk

Duration: 5:27

Track 3: **Samsara**, by Golden Caves

Recorded between 26 of August 2019 & 26 of January 2020

Drums: Erik Stein

Bass: Tim Wensink
Guitar: Alex Ouwehand
Keys: Elise Polman
Vocals: Romy Ouwerkerk
Duration: 5:25

The reason I chose those 3 tracks is because they form a global overview of how I approached the drum parts on the entire album in collaboration with a producer. From heavy steady rock based patterns to a more uptempo and experimental approach. The challenge is to not lose the essence of the function of the grooves and what they do in the music. I also think they are perfect examples of 1 or 2 bar related loops with either 4th, 8th or 16th right hand patterns; and that is something I want to change and move away from.

3.1.3 Feedback and reflection

From my point of view I like the drum parts that are presented in the compilation. They are well executed and fit to the music. They have a solid nature and effective role in the song. Yet they don't excite me enough and they do not catch my attention by surprise. Clear choices have been made during the recording process to work towards a well functioning end result. Unfortunately they also feel obvious to me although they feel not as the most standard options. So to summarize it: It's a good attempt for a unique playing style and it serves its purpose yet only the surface has been scratched of something that could be way more innovative, exciting and new.

The feedback¹ that I received from others was very informative. Band members found it somewhat more difficult to judge and evaluate the reference recording since they were involved in the songwriting and recording process and are used to what they hear. Taking a step back and judging it again after 2 years can be difficult.

In order to get a 'neutral' and unbiased starting point I asked my group for a more general feedback on what they expect the drums to do in music, how much my drum parts excite them and how innovative/creative they think that the drum parts are (reference recording).

Teachers, experts and producers had very interesting comments such as the absence of a signature 'vibe' in my playing, something that makes me sound recognizable (such as what John Bonham or Jeff Pocaro had) or even the fact that there is room for more complex interpretations. The feedback about a missing trademark stands out the most to me and I immediately ask myself if the integration of polyrhythms will add a certain signature vibe. I do know that I won't achieve a 'signature' style by just adding something but if I can make it sound unique and repeat it in several songs it might be the beginning of 'redefining' myself and leaving a trademark. This really connects to what I want to do.

By annotating and analyzing my reference recording I can compare my findings with transcriptions and annotations of Danny Carey's playing. I do expect getting a clear image of opposites and similarities in his and my playing that will help me to create a research strategy.

¹ Appendix 3

3.1.4 Data collection & data analysis

Before diving into a detailed explanation of the methods & strategies used during my first cycle I first want to summarize the different methods and explain the blueprint of the structured plan.

First off I start with some desk research reading interviews of Danny Carey in order to gain some information about how he thinks about using polyrhythms in music. After that I will look at some grooves of his repertoire which are relevant to my research and transcribe his drum parts. By annotating the scores as well as looking for an in-depth understanding of his playing I will apply the gained information to my own playing: this will be a self experimenting process.

Desk Research

What is described in this interview is the use of polyrhythms (such as 3 against 7) and the sort of 'Flow' it brings to the music.²

Next to the so-called 'metric discipline' Danny Carey describes the energy of the used polyrhythms as being "kinetic" and as something that keeps people interested. He also mentions that fellow musicians choose a certain flow or pulse that doesn't connect to the primary pulse while playing along with a polyrhythm. They do this without even knowing it.

All of these creative aspects help the song to take off and transition in different segments. Danny refers to this being the job of a drummer: "*playing at a higher level*".

If I put this next to my research question then this is exactly what I intend to develop and research: The use of polyrhythms in songs by creating gateways that lead to different segments. And of course study the use of its rhythmical thriving force.

A new insight that is brought to my consciousness by reading this interview is the variety of options that other musicians suddenly have if the drummer applies multiple grooves to the music. More choices are coming up for musicians to respond to and it might have a big impact on their musical creativity. At this point it is important to mention that I won't research the creative impact polyrhythms have in a songwriting process. The musical frame that I am experimenting in is fixed and won't change.

Danny also mentions several times that he is not sure if it's working or not; implying polyrhythms to the music to reach a higher level is a hypothesis ("*...he thinks...*").

In this article the song '**Eulogy**' from Tool's Album 'Aenima' has been mentioned several times due to a specific rhythm that has this polyrhythmic character. This leads me to my next research method which is doing a case study on a couple of songs, transcribing and using annotated scores.

First one to be analyzed is 'Eulogy'.

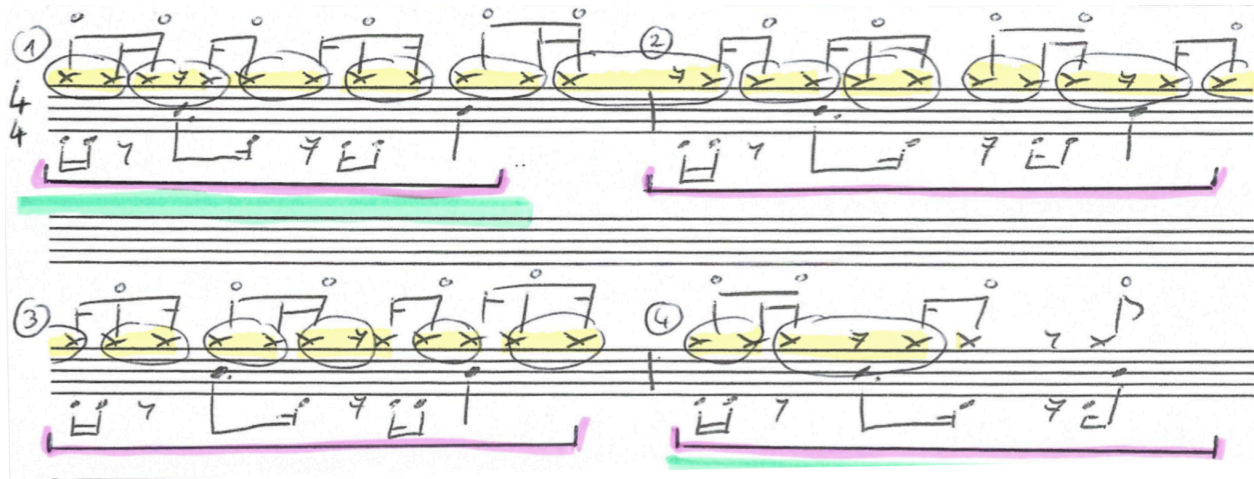
² Danny Carey, "Tool's Danny Carey", Modern Drummer, no. 12(December 2019):33

Case study | Annotated Scores

'Eulogy'³

By using 3 different colors I can exactly highlight the different parts that are characteristic for Danny's drumming. If we look at the charts we can see that the measure is 4 | 4. The pattern that I analyze is 8 bars long. The bass drum together with the snare drum pattern build a 1 bar steady loop that does not change over the course of 8 bars; except for the 8th bar which has a small variation at the end transitioning to the next part.

Example:



The steady repetitive pattern is marked with a pink marker and as you can see it doesn't change.

Next element to pay close attention to is the yellow marked pattern which is the polymeric Hi-Hat variation in relation to the main pulse (pink). The hi-hat pattern can be seen as a grouped pattern of 3 x 16th notes of which the 2nd 16th is left out. What we get is a 16th forward shifted hemiola hi-hat pattern that transitions over 3 bars before it starts again on its initial starting point. If we look at the entire beat we get a 3 bar loop. This means that it doesn't fit in the 8 bar structure. To be more precise the pattern doesn't repeat itself over a binary structure. And that is exactly what makes it so interesting and exciting. Due to its 3 bar loop character the new starting point of the pattern lays on bar 1, bar 4, bar 5 and bar 8. This is marked by the green maker (the 'cyclic starter').

One more detail is worth mentioning which adds a whole lot of depth and spiral movement to this beat and that is the accent played with an open hi-hat on the 1st note of the shifted hemiola pattern (notated with a small circle above the hi-hat). This short open hi-hat sound reinforces the polyrhythmic behavior of the hi-hat in relation to the steady 1 bar loop bass and snare pattern. It has an uplifting function and completes the cyclic 'spiralistic' effect.

³ https://drive.google.com/drive/folders/1N0LqYHFgWEiC8d_Kz3kdixqgswXjZcbZ?usp=sharing

Another song that I chose to analyze, transcribe and annotate is **'Invincible'**⁴ by Tool from the Album Fear Inoculum (2019).

Example:



Again I use the same 3 colors to mark the different characteristics of these grooves to highlight the polyrhythmic pattern, 'cyclic starters' and the basic main rhythm pattern (pulse).

The measure of this segment is 7 | 8. In the entire song the rhythm unfolds over a longer period of time but to keep it clear and transparent I decided to only transcribe the first 4 bars. The steady main rhythm is again marked by the pink marker and what we see is a 7 | 8 bass drum and snare drum pattern which can be divided into 2 equal 7 16th notes based patterns. The first half is equal to the second half. This pattern again does not change over the course of the 4 bar except for the last bar where it switches to a 9 | 16 measure.

In his right hand Danny plays a certain V-drum instrument which triggers a digital soft 'conga-like' sound. In my notation I marked this sound with a 'X' (hi-hat function) because it does play the role of a hi-hat.

The pattern played is a dotted 8th note pattern which can again be identified as a grouped pattern of 3 notes where only the first of the 3 notes is played. The dotted 8th note pattern is again marked by the yellow marker and what we can see again is that it unfolds over several bars. It transitions in a progressive way so that it does not stick to the repetitive rhythm played by the bass drum and snare drum. The green marker indicates where the pattern starts off again; meaning at which spot it lands on its initial 1. It unfolds over the course of several bars except that the 'cyclic starter' lays now in the middle of the second bar. This is due to the 16th note based repetition of how the beat is divided into 2 equal segments within 1 bar. The dotted 8 note pattern which is layered on top transforms a 1 bar structure into a 3 bar structure; after 3 bars the pattern starts again.

Let's move on to the last song that I transcribed, **'Lateralus'**⁵ by Tool from the Album Lateralus.

One would say that due to my previous findings that in this song I will discover a similar pattern of how Danny constructs his rhythms but this one has a different and new twist to it.

The transcribed part can be divided into 2 parts.

Example of part 1:



In this 12 | 8 pulse the first polyrhythm that is played is a hi-hat pattern that is grouped by 5 (2 x 16th & 4 x 8th) Played in a 12 | 8 measure it unfolds itself over 5 bars of 12 | 8 before it starts again on the first beat. As we can see I did not use any pink color to mark a repetitive basic rhythm that fits into a 1 bar 12 | 8 measure because it's not there.

⁴ https://drive.google.com/drive/folders/1pFh3ovnywTmk0uqaSQc_ftMqcyUvUCaQ?usp=sharing

⁵ https://drive.google.com/drive/folders/1f8Nf0clLfa7934aj0To3G12P-006J_N?usp=sharing

The rhythm flows over the pulse of the bass guitar section. The only constant 'anchor' there is in relation to the 12 | 8 is its triplet resolution that is reinforced by the bass guitar pattern. To make sure that the pattern lands on the 1 together with the rest of the band the grouped pattern of 5 is played for 4 x 5 bars (so 20 bars in total) to transition fluently to the next part of the song.

The nature of the 2nd part is also based on a grouped pattern of 5. The hi-hat pattern is grouped in 5, meaning the 1st, 3rd and 5th note of the triplets are played before the pattern starts again on the next 8th note. The underlying bass drum and snare drum pattern has a sort of half time feel because it only repeats after 2 grouped patterns of 5 in the right hand (hi-hat). Again its repetitive function is not marked with a pink color because the full beat itself has a polyrhythmic discipline in relation to the 12 | 8. Here I mark the 'cyclic starter' more frequently than in the first hi-hat beat to show how it cycles around the 12 | 8 before starting on the 1 of the 1st bar of the 5 bar structure. Here also the rhythm that has a 5 bar length gets repeated 4 times (20 bars in total) before it transitions to the next part.

So the remarkable fact of this entire section is that there is no pink marker indicating a basic main rhythm that follows the nature a 12 | 8 measure. The entire beat is polyrhythmic in relation to the pulse of the music.

This shows how far Danny Carey pushes the envelope of using polyrhythms. It sure sounds interesting and complex but never interferes with him being a solid powerful drummer.

Now after having analyzed several songs of Danny Carey we can see where and how polyrhythms are played and integrated into his beats and grooves. The yellow color used in the annotated scores is the key color marking the applied polyrhythms in his right hand.

If we take a look at my reference recording transcriptions⁶ we can see that there is no yellow color. This is due to the fact that I do not play any polyrhythms in my right hand. So the goal is to get more '**yellow**' into my playing.

⁶ <https://drive.google.com/drive/folders/1pNtQa6nBdGDm3S76xejS8FB0kh7wvBZ0?usp=sharing>

Experiment

In order to get more 'yellow' in my playing (polyrhythms) I will try to apply the used patterns by Danny Carey and integrate them into my own playing. Looking at his charts from the previous study I can conclude that he mainly uses 3 different patterns: **1.** Dotted 8th note **2.** Hemiola **3.** Grouped Patterns of 5

Quasi/Parametric

MIDI APPLICATION

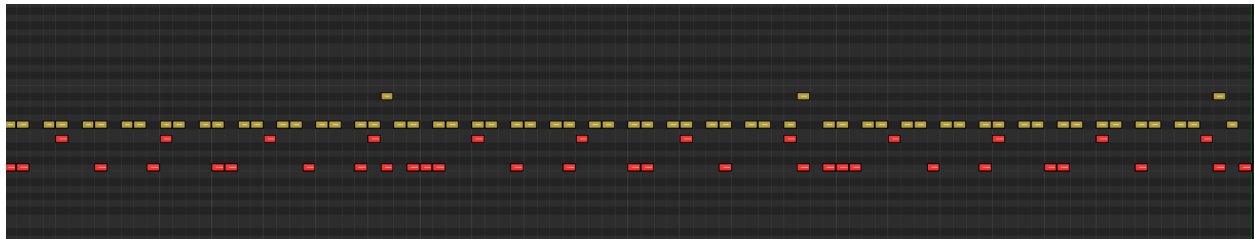
The first grooves that I start experimenting with are the grooves from the song '**Chromosome**'.

There are 2 different rhythms in the song where I know out of experience that a change can be made. In general I try to transform beats from a verse part. This is due to the fact that musically in the verse there is more room for changement; choruses are mostly more simple and straight forward and ask for a release in the tension. This suggests also that I will build up tension in the verse parts by using polyrhythms. The same concept is used by Danny Carey and other drummers or musicians in general.

Knowing my original parts really well I feel and assume which polyrhythm I can apply. For the 2 different beats played in the verses in the song chromosome I will try to apply the hemiola pattern (the same way D.C uses it) to the existing beat. But before I try to play it I will programme it as midi so I can get a sort of preview of how it sounds before starting to learn it. I do this because applying polyrhythms is something that is really difficult from a coordination point of view and takes an extensive amount of time before you can play it.

'Chromosome' variation 1 (Intro beat with hemiola pattern)

(Listen here: https://drive.google.com/drive/folders/1LCF1As9aJgCbtegtucTO4FLJ_4-oJBJ?usp=sharing)

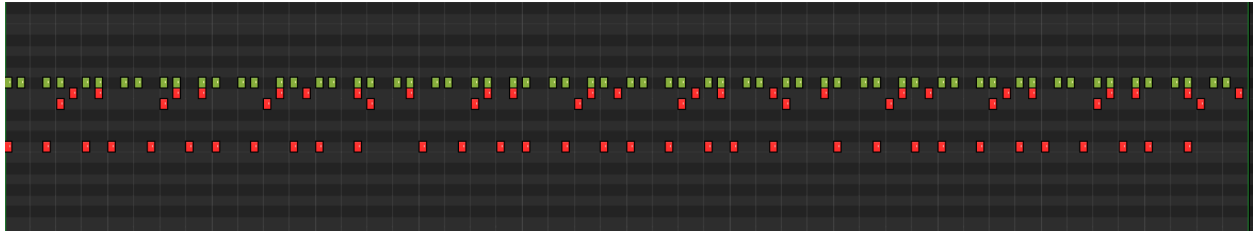


- The green blocks indicate the hi-hat pattern. The red block indicates bass drum and snare pattern (Bass drum - low, snare - high). As you can see I do not change the pattern in the snare drum and bass drum. I only change the hi-hat. Since the original part is a 2 bar loop, the polyrhythmic hi-hat (hemiola) unfolds itself over the course of 6 bars before it starts again on the 1.

Reflection: The open Hi-Hat played at the end of the 2 bar groove interrupts the polyrhythmic flow of the pattern. So rather than play it every 2 bars I might place it at the end of every 4th bar.

'Chromosome' variation 2 (Verse beat with hemiola)

(Listen here: <https://drive.google.com/drive/folders/1mS2ajaqrLkuYs9xIMLzZnbbFqm5Hk2QU?usp=sharing>)

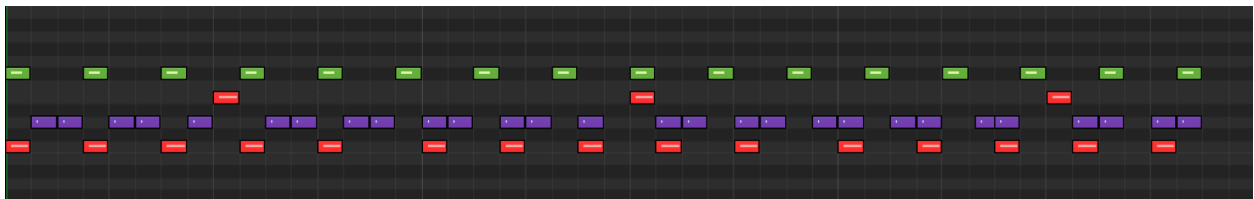


- Again I do not change the pattern in the snare drum and bass drum and floor tom. Since the original part is a 2 bar loop, the polyrhythmic hi-hat (hemiola) unfolds itself over the course of 6 bars before it starts again on the 1.

Reflection: I realized that the steady back beat on 2 and 4 flattens the beat. Although the groove becomes more dynamic and progressive it also shows that there is more that can be improved then just applying a pattern to the hi-hat.

'Hide and Seek' variation 1 Verse 1 (Dotted 8 note)

(Listen here: https://drive.google.com/drive/folders/1y3FNrJTubv9gpeCsgJCqYv2Jqa1tlk_8?usp=sharing)



- For this first groove I try out a dotted 8th note pattern. This groove has a half-time feel due to the back beat being played on the 3rd beat and enables me to fill up the gaps with ghost notes (blue blocks). The dotted 8th notes hi-hat transforms the original 1 bar rhythm to a 3 bar rhythm.

Reflection: The effect of a dotted 8 note in the Hi Hat is great. It adds a typical D.C sound to the rhythm. Yet the groove loses its weight and becomes a bit too 'nervous'.

'Hide and Seek' variation 2 Verse 1 (Grouped pattern of 5)

(Listen here: https://drive.google.com/drive/folders/1JpWjlgM3Z2EM_56JzKDcellsMji9wkQw?usp=sharing)

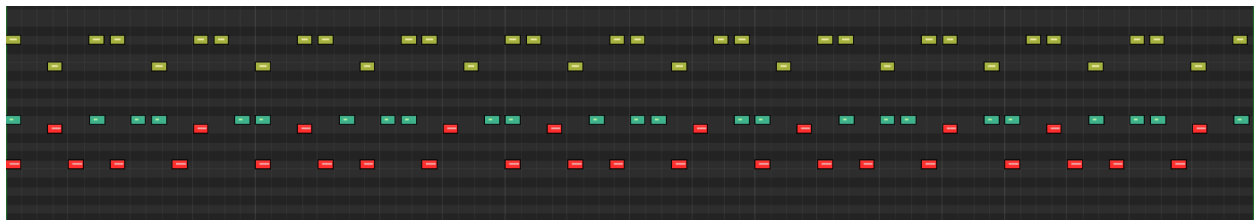


- To make sure I cover all different possibilities I also try to programme the beat with a grouped pattern of 5. This way I extend the length of this 'cyclic starter'. I now create a 5 bar pattern. The pattern I choose is 2 x 8th notes and 1 x 16th. This pattern is almost similar to what D.C plays in the song 'Laterals' with a slight twist to it that seems more suitable.

Reflection: The beat becomes incredibly complex and fast. I added a 16th note short passage in order to group the figure of 5 in the hi-hat and that makes it sound really 'funky'. Also the groove becomes really busy which is distracting. Yet placed wisely and for a short amount of time it can have a strong and surprising effect.

'Temperature' variation 1 (Grouped pattern of 5)

(Listen here: <https://drive.google.com/drive/folders/1UsSm16nRtoSrAXRwPCnH6HVwMmrScEun?usp=sharing>)



- The only choice there is (if we want to make it polyrhythmic) is the grouped pattern of 5. The green blocks at the top are the grouped patterns of 5 played in my left hand. The original 1 bar pattern becomes a 5 bar groove.

Reflection: The tom groove becomes really exciting but difficult to play. Although I feel that this beat is really exciting there is a possibility that it becomes a bit too much. An overwhelming complexity of tom sounds that may not even be clear to distinguish in the music.

CROSS REFERENCING

Interviews D.C / Case Study / Midi Experimentation

Lets see the overlapping factors between the interview of Danny Carey that i analyzed, the information gained by transcribing his parts and the information gained by applying the summarized pattern to my own grooves in a basic simplified form (filtered out of the annotated scores) as midi.

*“ So I put that on, where it's hitting every third 16th over the top of it, so it's like three over seven the whole time. The whole tune was based on a three-against-seven idea. That way it meets up every third time, but not really on the 8s of sevens that the tune is based in. But it has a nice flow over the top of it, and it keeps the energy moving forward. It makes it kinetic, I think, and keeps people interested.” (...)**“ And I thought it worked really well, so I've been trying to develop that aspect of my playing at a higher level. I don't know if it's working or not. We'll see.”⁷*

First of all the information about how D.C is using polyrhythms in his playing can easily be found by transcribing his parts. I did mark them with a yellow color so it stands out.

Second of all the behavior of the applied polyrhythms in midi behave the same way as how D.C describes it. Accents meet up every third or fifth time depending on the grouped pattern that you use. And this is what I call a “cyclic starter” in my own descriptions and annotations.

Also from a pure technical point of view it was easy to incorporate the D.C patterns. I just chose a pattern of his repertoire after transcribing 3 songs and replaced it with my 8th note pattern that I use in my hi-hat. This is still part of the data collection and it is difficult to not yet intervene too much. I wanted to hear the rough effect of just applying them. This way I can see and hear how the grooves unfold and develop.

At this point it is also important to mention that my reference recording is based on a compilation. And so my outcome and my research experimentation will be done on several songs too. This gives me the opportunity to apply the knowledge that I gain on several of my own compositions. More cases give more information and might even merge into a methodical approach. But that is something for later.

At this stage I also realize that 1 of the songs from my initial reference recording will not be part of this experiment anymore. This is simply due to the fact that while gaining already more information about the polyrhythms I feel that the song 'Samsara' is not interesting for me to be changed. That is the reason why I replaced it with the song 'Temperature'. This does not have any incident on the feedback that I already got from my survey group. The compilation is meant to have an overall view of my playing and summarize the approach I had before collecting data.

⁷ Danny Carey, "Tool's Danny Carey", Modern Drummer, no. 12(December 2019):33

3.1.5 Interventions / practical application

DRUMSET APPLICATION

Now let's get to the real work of applying all data into my playing. The midi application functioned as a try out. Let's remember the 3 main patterns. They are the key elements to transform something non polyrhythmic into something polyrhythmic: **1.** Dotted 8th note **2.** Hemiola **3.** Grouped Patterns of 5

Also, let's not forget that all decisions are made in relation to the musical frame that I'm working in. There are more options but I limit myself to the 3 versions that I could find in the songs that I analyzed.

'Chromosome' 1 (intro beat with hemiola pattern)

(Listen here: <https://drive.google.com/drive/folders/1kf985mJI9kthZTVciYFswj9itG8EiVE5?usp=sharing>)

So after learning the midi version I realized that it would be handy from a sound perspective, as well as a coordinative perspective, to install a 2nd closed HH on the right side of my drumset.

This opens up my closed body position (playing the normal hi-hat) to an open body position (playing the 2nd hi-hat on the right side). Yes this does have an impact on how you approach the drumset. But most importantly it enables me to use my left foot for an extra hi-hat sound. I can play 4 notes or 8 notes on my left foot which comes in handy while using polyrhythmic patterns on the other hi-hat. This can reinforce the down beat pulse and any polyrhythmic addition will have more room to lean on.

As I already suggested before in the midi application section the open hi-hat played at the end of the 2nd bar interrupts the polyrhythmic pattern that unfolds over 3 bars. So I decided to play the open hi-hat at the end of 4 bars. This means that the hemiola pattern can now unfold easily over 3 bars without any interruption and even starts again ('cyclic starter') at the beginning of the 4th bar.

Now there is a decision to be made: Do I continue the hemiola over its natural 3 bar sequence or do I cut it somewhere so that I get the same 4 bar structure each time?

I made the decision to fit the polyrhythm into a 4 bar structure. This decision was made because it is easier to learn and apply in relation to a more complicated option which does not add more excitement to it.

So the original 2 bar structure now becomes a 4 bar structure with a quarter note pulse on the left foot head with a hemiola pattern in my right hand that unfolds completely over 3 bar plus 1 bar extra where the hemiola starts again on the 1.

'Chromosome' 2 (verse beat with hemiola pattern)

(Listen here: https://drive.google.com/drive/folders/1GREOc_QQqCFVZLX9gOhhJS1es85unftO?usp=sharing)

Initially this beat was played left handed. With the extra second hi-hat installed I'm able to play the beat right handed; snare and floor tom are played with my left hand (which is more comfortable).

As already suggested in the midi data collection section the steady back beat flattens the beat and makes it less dynamic. So I decided to experiment with displacing the back beat but keeping the hemiola pattern in my right hand unchanged.

In the previous 'Chromosome' beat I made a decision to cut the polyrhythm after 4 bars but this time I will let the hemiola flow uninterrupted over the course of the whole verse.

I also made the decision to displace every second back beat a 16th ahead. So from the initial 2 and 4 feel the 2 stays in place and every 4 is a 16th earlier. This makes the beat less flat and more progressive. In combination with the

hemiola pattern I now create a 'transpiral' loop which keeps evolving. Also I apply an extra regular pulse in my left foot head by playing 8th notes. Just as with the previous one I do gain a more solid anchor in my rhythm which gives more freedom for polyrhythmic additions. It doesn't throw me off as much as it would do without the 8th note pulse.

'Hide and Seek' 1 (verse 1 with dotted 8 note accent open hi-hat)

(Listen here: <https://drive.google.com/drive/folders/12dox49zJLIFmDKSFfrukmteA-GK9a5jQ?usp=sharing>)

As I already mentioned in the midi data collection section, the dotted 8 note in combination with the ghost notes makes the beat too nervous and less heavy. But while experimenting with it behind the drumset I decided to keep the dotted 8th note accent in the groove and reinforce it by playing it as an open hi-hat. Let's also add all of the other 8th notes in the Hi Hat but played on as a closed hi-hat. All 8th notes are now back in the basic pattern and every 3rd one is played as an accent. This enables me to stay close to the vibe that the original part has but add an extra layer of the accented dotted 8th note. All the ghost notes are now back in their initial place where they feel more natural (filling up the 16th gaps). Actually I move back the original part but the groove becomes polyrhythmic on a more subtle level.

For this groove I am not in need of a second hi-hat. All of this can be played on my main hi-hat on my left side.

'Hide and Seek' 2 (verse 1 with grouped pattern of 5)

(Listen here: <https://drive.google.com/drive/folders/16kL5l8694UpLvmw4KyrXpzwDSPbqTEK?usp=sharing>)

For my second experiment on the same groove I added the grouped pattern of 5 (as explained in the midi data collection). Since this variation really resonated with me and had the desired effect of complexity and excitement I decided not to change it but focus on playing really accurately as simulated in the midi experiment.

'Temperature' 1 (verse with grouped pattern of 5)

Although I thought that the added grouped pattern of 5 works really great while applying it as midi I already had my doubts if it would work within the paradigm of the song 'temperature'. This rhythm took me ages to learn and to apply. Once I was able to play it I was also biased to the exciting effect it would have within the song. Yet my initial doubt became reality and it took me some time to let go of the idea even after spending an incredible amount of time to get it done.

(Listen here: <https://drive.google.com/drive/folders/1cGHoHZ0FCpJFFmaXYhoNSwl2tjmVkCR?usp=sharing>)

As we can hear on the recording the effect of the grouped 5 pattern gets lost in the music. It is very hard to distinguish the pattern from all the heavy tom chaos and to distinguish it between all the rest of the instruments. Although it is a great groove it does not add anything to the track.

I will explain shortly how the beat is constructed: To keep the essence of the groove I decided to learn the pattern with just 1 hand (right hand) and keep the bass drum and snare pattern in place. With my left hand I added a grouped pattern of 5. With this I created an immense chaos sphere which does have a tribal african vibe but has little effect for this song. I might be able to use it for something else but not in this case. I was on the point of giving up and seeing this experiment as being failed (Although I did not fail because I learned so much and solved many coordination problems).

Not giving up and trying to find the right solution I had to create more room to be able to infuse a polyrhythm that is also recognizable. To be able to gain more space I made a choice of playing a half time shuffle with a '4 on the floor' bass drum pattern. This means also that I had to let go of any recognizable parts of the original beat. By doing so I now have a much more relaxed half time feel which still pushes the band forward. In my right hand, which is playing a

consecutive shuffle on the floor-tom, I can incorporate an accent on the second hi-hat which is in 5 (every 5th triplet). The pattern is the same that I use in **'Hide and Seek' variation 2** verse 1, which is really close to the pattern that D.C is using in 'Lateralus'. Once I got used to this new feeling I immediately realized that this is new, refreshing and has the excitement that I'm looking for.

'Temperature' 2 - Listen here:

<https://drive.google.com/drive/folders/1wToWE1Em5Cj04zbSqkOqsH2-MjeVrWKJ?usp=sharing>)

Annotated scores of the interventions

Now that I have created new grooves that have all been updated with polyrhythmic patterns using the same approach as D.C and almost exactly the same patterns, let's see how the polyrhythms appear on paper.

Remember that the goal was to get more "yellow" in the score.

In order to keep it clear I will discuss all the outcomes together. This prevents me from repeating myself too much and because the outcome is theoretically always the same. Practically there is of course a huge difference in sound between them.

To summarize we have two transformed rhythms for the song **'Chromosome'**⁸, two transformed rhythms for **'Hide & Seek'**⁹ and one transformed rhythm for the song **'Temperature'**¹⁰.

They all evolved from a 1 or 2 bar structure to a 3 or 5 bar structure before the 'cyclic starter' appears again. This is due to the polyrhythmic sequence that is added in the right hand; either played on the hi-hat, floor-tom or a combination of both.

And of course now that I use the polyrhythms I can add a yellow marker to the transcriptions.

See the examples here below:

Chromosome transcription from the reference recording:

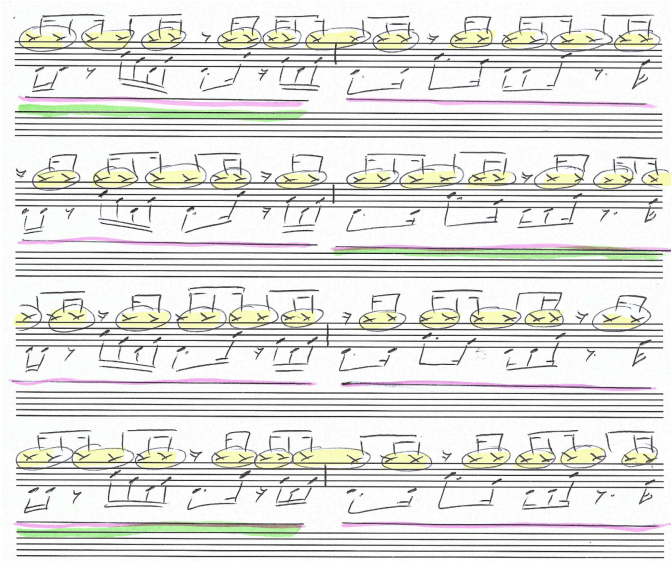


⁸ https://drive.google.com/drive/folders/1gNoiPYAch-8goan_GmrZGSP6uph8DdHE?usp=sharing

⁹ https://drive.google.com/drive/folders/1obQ194TMWgx4SwPhb_ELLdgGtQCuoltz?usp=sharing

¹⁰ <https://drive.google.com/drive/folders/1qAjqYZ7jeYv7sJkGBXLQ-m2TKTmh2VIM?usp=sharing>

Chromosome transcription of the new outcome:



Worth to mention is also that all creative choices and transformations have been made with the knowledge and understanding of what fits to the chosen songs. There was a clear limited format given, a creative box, where I had to fit the new information in. This format was on one hand a sort of limitation but also a clear path that I had to respect and follow, trying to find the perfect piece of the puzzle.

Also, all changement have been applied to grooves from verse parts. This was a conscious choice of using the TENSION & RELEASE technique. This is not an official technique but something that is mentioned quite often in music lectures or clinics; especially in Rock/Prog music. You almost always work towards a chorus section and in order to highlight it also from a rhythmic point of view you can choose to release the pressure in the chorus part by focusing on simplicity. By using the polyrhythms I do create more tension in the verse because it adds a whole other level of complexity.

3.1.6 Outcomes

The play along that I used during the recording session is exactly the same recording as the reference recording but without the drums of course.

Final outcome recording:

(Listen here: <https://drive.google.com/drive/folders/1wWUAI5J4zgCeDxmvR8VUcVtMFXRSLou0?usp=sharing>)

(Chromosome: 00:00 - 01:42) - (Hide & Seek: 01:43 - 04:06) - (Temperature: 04:07 - 06:40)

Track 1: Chromosome, by Golden Caves,

Minus 1 Track recorded between 26 of August 2019 & 26 of January 2020

Bass: Tim Wensink

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerkerk

Duration: 4:21

Track 2: Hide & Seek, by Golden Caves

Minus 1 Track recorded between 26 of August 2019 & 26 of January 2020

Bass: Tim Wensink

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerk

Duration: 5:27

Track 3: Temperature, by Golden Caves

Minus 1 Track recorded between 26 of August 2019 & 26 of January 2020

Bass: Tim Wensink

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerkerk

Duration: 6:05

Compilation 'Dysergy Final Compilation Cycle 1'

Recorded 28 of February 2022

Drums: Erik Stein

Bass: Tim Wensink

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerkerk

Duration: 06:41

Other outcomes and different possible methods:

My research approach seemed very safe, especially by starting off with the midi data collection. This way I could already see what the outcome would approximately sound like and it guided me already in a certain direction. I did this to ensure that I wasn't taking any long detours because I wanted to spend more time on experimenting and learning the grooves.

I spend my research time mostly alone playing along with the minus 1 tracks from the album. So there was no interaction with other musicians from the ensemble.

Another option would have been to experiment on polyrhythms while playing together with the whole band.

Probably musicians would anticipate and play along or differently to what I do and it might have changed their own playing. Their outcome would inspire me and guide me into a different direction. Actually D.C mentioned this in the interview that I analyzed. By using and applying polyrhythms musicians might choose a different pulse to play along. This way there would have been an active exchange between ideas and it would definitely have triggered a different outcome.

Yet I need to say that I consciously chose to work within an unchanged frame of what the band provided already. This was the challenge that I wanted to encounter and was an important factor to what I did.

3.1.7 Feedback, reflection and conclusion

My personal feedback & reflection

If I listen back to the compilation I can definitely say that I pushed the boundaries of what is possible within the chosen form. The grooves changed significantly but did not lose the essence of what their purpose was. The goal is to support the music and play to what has been composed. Within that box of set parameters I did try out many different options and managed to integrate the polyrhythms without losing touch with the original versions. Even better, for my personal taste, I managed to create something which is much more interesting to listen to and which supports and underlines the rest of the band.

The grooves merged from 1 or 2 bar structures with mostly 8th notes or 16th patterns in the hi-hat to more progressive dynamic beats that change over the course of at least 3 bars. In some cases it even changes over the course of 5 bars.

And If I come back to my research question talking about enhancement using polyrhythms I do believe that I play now on a different level. From a technical point of view as well as a musical point of view there is much more going on. Taste wise I am closer to what I like to hear of myself and I have the feeling that I am beginning to leave a trademark. I know that this is not everyone's cup of tea and some people might not sympathize with what I do but for that lets refer to the feedback given by my expert group.

Feedback from my expert group:¹¹

I will summarize most of the feedback given by my expert group but focus also on some more specific answers.

In order to gain profound feedback on the changes I made to my drum parts I edited a video with a 'before and after' comparison effect. First my expert group had to listen to the original version and shortly after they got to hear the updated versions¹². This way the changes are clear and people will straight on see and hear the difference.

I also divided their feedback into 2 sections to be able to evaluate on qualitative as well as a quantitative level.

¹¹ See Appendix 3

¹² https://drive.google.com/drive/folders/18gUIEarO1o2t1O72D5xq6R_F_nr7OfvV?usp=sharing

Qualitative feedback:

If I read through the feedback it is obvious that all transformed/updated polyrhythmic grooves are more interesting for them. Yet that does not mean that they prefer it. I can see that I split the community into 2 polarized groups. For some the polyrhythmic changes made are too busy and are somewhat distracting in relation to the music. This feedback mainly comes from band members. But they also mention that they are biased to what they are used to. I knew from the beginning on that it would be tough for them to be neutral and they also mentioned that. On the other hand I can clearly see that certain people get excited by the change and experience it as something new. It triggers them and very often they mention that it keeps them interested. In some of the feedback I can also read that people wished for a different sound or found it difficult to judge because the drum sound was somewhat too loud in relation to the music. I do want to clarify at this point that it was a conscious decision to do that. I wanted the drums to stand out so that they play a leading role.

In general I realize that you have to be somewhat biased to the love of unconventional change in order to sympathize with the use of polyrhythms. It is not everyone's cup of tea.

Quantitative feedback:

To also have a quantitative representation of what the experts thought, I let them evaluate the difference in excitement between the 2 versions (A - Original version & B - Polyrhythmic Option) from 0 - 10 (0 being no excitement and 10 being full excitement).

I know that it is really difficult and maybe even wrong to try to quantify something which is not meant to be quantified or even judged that way but I did it anyway for my own interest and the interest of the outcome.

In general both versions get rated high but I do see a slight split between the amount of people scoring high and low. Yet on a total amount of 9 people the quantitative feedback is not relevant for the outcome. Extreme differences would have been interesting to evaluate but in this case I find it irrelevant to discuss it. It is not representative.

Cross-reference:

Something which is relevant to discuss is a similar statement that I encountered between what Danny Carey said in the interview and a statement by Hans Eijkenaar.

During a main subject lesson on the 03.03.2022 my main subject teacher said the following about the polyrhythmic changes made on the song 'Temperature' (without me asking for any feedback):

"It keeps me triggered; it keeps my attention and makes the beat sound interesting. Also because the polyrhythm is slower than the usual 2 & 4 pulse. It pulls back. If you compare that with the original part this new input is by far better and more musical. It also fits the music."

This is exactly what Danny Carey also mentions in the interview talking about polyrhythms:

But it has a nice flow over the top of it, and it keeps the energy moving forward. It makes it kinetic, I think, and keeps people interested."

3.1.8 Short description of the next research cycle

In the next research cycle I will focus on a different approach on how to use grouped polyrhythms. The first research cycle was mainly about implying grouped polyrhythmic patterns creating different rhythms and grooves that unfold themselves over the course of several bars. This was done by analyzing the drumming style of **Danny Carey**.

Now that I have established a solid polyrhythmic foundation for the grooves I will now focus on grouped polyrhythmic patterns in fills by analyzing drummer **Gavin Harrison**. These grouped patterns will be applied over a shorter amount of time since they are fills but will appear more frequently in a song. So I expect a higher amount of variations that I will test on several songs of Golden Caves from the album Dysergy.

Overview:

First Cycle: Macro-Polyrhythms - based on rhythms and grooves

Second Cycle: Micro-Polyrhythms - based on fills & improvisation

3.2 Second Research Cycle

3.2.1 Overview of the second research cycle

For the second research cycle I will analyze the polyrhythmic fill approach of Gavin Harrison. This means that I intend to reproduce and get inspired by the way Gavin uses grouped patterns of 3, 4 and 5. At this point I also need to mention that I intend to include the methodical thinking approach as well as the philosophy of playing fills of Hans Eijkenaar (my main subject teacher). Most of the grouped patterns that I find interesting in Gavins playing are those that are played with an extending twin pedal. The reason I am so interested in this approach of Gavin and Hans is because the way they are playing fills has a big exciting impact on me as a listener. They draw the attention towards the drummer and the fills seem highly effective while transitioning from section to section.

When I listen back to the recorded album of Golden Caves in 2019 I realize that the fills that I played are for my own taste to secure, to 'standard' and as a listener of my own material I am wishing for something more exciting. I think I will lift up the music and songs and will add something really unique to the already existing material by doing something that doesn't fit the standard of playing regular fills or chopping. It will definitely draw more attention towards the drums and make them stand out more. Therefore I think that it will trigger the audience as well as musicians and make them more aware and excited of the role of a drummer. This new chapter of implementing polyrhythms in my playing is the topping of my pizza. Remember that the macro-polyrhythms that I researched in the first cycle was the dough/bottom/foundation; now it is time to decorate.

3.2.2 Reference recording

My point of reference for the second research cycle consists of 2 tracks where 1 of them is a loop that I took from the 'Dysergy' album of Golden Caves, 'Black Hound'. The second track I play is a song from Arianna Grande, 'Side to Side'. The reason I choose to play on a cover song that has nothing to do with the album of Golden Caves is because I am also curious how the 'micro-polyrhythms' work and function in a different style of music; to see if it is applicable and how it fits and what people think of it. If it has a positive outcome it will give me more leverage for brighter use and understanding of polyrhythms and makes the studied material less restricted to one genre.

(Listen here: https://drive.google.com/drive/folders/1H0zUq_yJz3QdRVr9Pz6BKDIXTYI9D_sl?usp=share_link)

Track 1: **Black Hound**, by Golden Caves,
Recorded between 26 of August 2019 & 26 of January 2020
Drums: Erik Stein
Bass: Max Abel
Guitar: Alex Ouwehand
Keys: Elise Polman
Vocals: Romy Ouwerkerk
Original duration: 4:21

Track 2: **Side to Side**, by Ariana Grand
Recorded
Composer, Primary Artist: Ariana Grande
Composer: Savan Kotecha
Composer: Alexander Kronlund
Composer Onika Maraj
Composer, Producer: Max Martin

Featured Artist: Nicki Minaj
Composer, Producer: Ilya Salmanzadeh
Duration: 3:47

3.2.3 Feedback and Reflection

I started pretty early already with trying out ideas of how Gavin Harrison uses groupings in fill sections. Also I need to say that some of his ideas were in a way familiar to me and I already had some knowledge of it because I saw a similarity between Hans Eijkenaars grouping method that I learned during my bachelor years at Codarts and the material of Gavin Harrison. Also the use of a twin pedal is familiar to me due to early interest in rock music. Some of the basic skills that are needed to be able to use grouping are in my repertoire. But (and here comes the reason why there is lots of room to improve) I never actually took the time to try to learn to sound better while using this method.

For me the difficult part is in learning how to apply it at the right moment with the right attitude, to catch the listener by surprise and perform it in a way that it really makes it sounds like me. To be more precise, think of timing, orchestration, sound and transparency, musicality, and statement.

If I listen back to my reference recording I realize that Gavin applies the fills really shortly and never on the 1 of the beat. I, on the other hand, am trying to make an attempt for longer phrasings with more information. This is of course a choice but I'm not sure yet if it has the same effect as the fills of Gavin. I also realize that when Mr Harrison is playing, there is absolutely no doubt in the choices he makes. The difference probably is (assumption) that Gavin is composing his fills whereas I try to improvise and make spontaneous decisions.

Therefore I intend to do lots of experimenting in my data collection.

Also by transcribing some of his fills I can gain a more detailed view of what he exactly does.

If I compare my playing to Gavins playing I can hear that I have doubts about what to play, how I play and which choices I make. That leads to an increase in speed at the end of a fill. Some combinations turn out great and some are less exciting. But that was also the goal; check myself on playing spontaneously so I can analyze all my defaults.

If I analyze my take on the Ariana Grande track I think I did pretty good in terms of using twin pedal grouped polyrhythmic fills. Combinations between shorter and longer fills are well placed in the track.

If I look at the feedback¹³ session of my peer group I can extract some focal points that I think are important to be able to improve my playing such as: trying to compose fills and not improvise, clear articulation, using a broader dynamic range, trying to eternalize the material to leave out doubts, stay in control so I don't speed up and make the fills more compact.

¹³ <https://docs.google.com/forms/d/19sxicAiUYEW2qSBuT3ayk6PG1RLyWMIQIfMjTAUCKnw/edit>

3.2.4 Data collection & data analyze

Before I start with explaining the detailed data collection as well as the methods & strategies of my second cycle I want to lay out the blueprint of my plan.

I will start by doing a desk research and dive into some of Gavin Harrison's methodical and philosophical concepts that are related to my subject. As we will see later on, Gavin has a really broad and complex knowledge about drums which he demonstrates in several drumbooks that go by the name of 'Rhythmical Illusion'. This will be accompanied by some statements and explanations during some of his drum-clinics where he will discuss the subject using odd groupings in combination with twin pedals.

After that I will look at some fills that he is playing which are relevant to my research and transcribe them and annotate the scores as well as look for an in-depth understanding of his playing. In combination with the given feedback from my peer group I will try to get closer to my goal using polyrhythmic fills, but even more importantly to perfect my own style and trade mark.

Media Research

In the introduction chapter¹⁴ Gavin Harrison explains his overall interest why he is looking for a certain complexity in his playing. The use of polyrhythms is not mentioned in this book and it also does not appear in his exercises. But this does not mean they are not part of the 'rhythmical illusion'. This book is from a certain moment in time off his career where the grouped fills do not yet appear in his method for whatever reason.

What I find inspiring and interesting about his way of thinking is that he tries to encourage the player to do something more unconventional and move away from the obvious choices; and this for the right reasons too. It is not the goal to do something clever but rather something musical that has an emotional effect.

Commonly accepted parameters of western music are in fact very inviting for the so called 'rhythmic illusions'. Polyrhythms are definitely a part of these illusions.

In this chapter Gavin talks about a 'concept' that I also mentioned already in my first research cycle: Tension & Release. The grouped polyrhythmic fills can be seen as the tension part and the drop back to the groove is the so-called 'release'. You do not need a complicated odd fill to be able to create tension but it will definitely increase the intensity of the tension.

In one of his drum-clinics Gavin goes more into detail explaining how he uses groupings.

In this video we have a very technical explanation about how he creates them and how he thinks of them but he never uses the word polyrhythms.

The way he applies them and thinks about them is through phrasing, the same as you would approach a snare drum melody where you fill in the ghost notes. In this case the ghost notes get replaced by twin pedal notes as Gavin mentions at the Pasic Drum Festival.¹⁵

This is really interesting to me because it gives me an insightful view of his way of thinking.

¹⁴ Gavin Harrison, *Rhythmic Illusions*, 1996 ALFRED PUBLISHING CO.,INC.

¹⁵ Vic Firth presents. *PASIC 2008, Double bass "patterns" in odd meter feels, Q & A*. With Gavin Harrison (Drums).

Score Annotation

Now that we have a basic understanding of how Gavin approaches these groupings, let's move on to some sound examples, transcribe and annotate the score so we get a deeper understanding of these 'micro-polyrhythms'. I chose two different videos that I want to analyze.

The first one is a song from Porcupine Tree, 'Anesthetize' from the Album 'Fear Of A Blank Planet, 2007.

The version I chose to analyze is not the album version but a version that has been played by Gavin during the 'Modern Drummer Festival 2008'. The reason I'm analyzing this version is because it has a more complex interpretation. The drums are almost overloaded in terms of fills and use of double-bass pedals. This was probably done on purpose since the audience and festival is focused on drummers showing off their skills. This track is full of interesting fills and grooves to also impress the audience.

The fills that will follow in an annotated score are not just random fills. I filtered out those that seem interesting and that of course have a polyrhythmic nature. I looked for groups of 3 or 5.

The second video that I am analyzing is the same video that I have in my media research.

'Anesthetize (1)'¹⁶

To be able to see and highlight the polyrhythmic movement in this fill I used three different signs and colors. The red stripe is a helpline to visualize the quarter note pulse. They appear above and under the notations so it becomes more visible. The thicker yellow snake line marks the grouping that gets repeated. In this case it is a grouping of repetitive 5 notes. The blue dot marks the starting point of the grouping. Actually by just looking at the red stripes and the blue dot we can already see visually that there is a polyrhythmic sequence happening. They align only at the very starting point. You might notice that the first yellow snake starting on the 4th quarter notes of the first bar has a different orchestration as the rest. The first one consists of 4 x 16th notes followed by 2 x 32th notes on the bass drum. The rest consists of 1x16th on hand, 2x32th on the Bass Drum, 2 x 16th on hands and 2x32th on the bass drum. Although the first one is different it still represents the same grouping due to the accents played in the snare pattern.

As we can see the polyrhythmic sequence functions the same as the examples I showed in the first research cycle but then on a micro level.

The difference though is the fact that the polyrhythmic sequence does not start on the 1 of the second bar. It starts on the 4th quarter note off the first bar. So not only do we have a polyrhythm that happens but also a displacement.

Worth to mention is that Gavin has a whole philosophie/drumbook method on how to use displacement. This might be handy information for the experimenting part, knowing how to place them in a fill section.

Fact is that by an early displacement he creates a longer time frame so that the grouping can unfold. Actually it unfolds entirely over 5 beats as we can see. Meaning that if he would have continued the same grouping it would have started again on the 1 of the next bar.

'Anesthetize (2)'¹⁷

In the next fill I use again all the same colors and signs as in the previous score.

What we have here is a grouping of 3 consisting of 2 x 32th on the bass drum, 2 x 32 on the hands followed by 1 x 16th on the hands. Here you could debate about the fact that I did not mark the last 2 x 16th notes on the snare drum of the first bar. Same as in the previous score it is actually part of the fill. But the displacement would not change anything about the data that I'm analyzing.

¹⁶ https://drive.google.com/drive/folders/1fbHKSSBo9oCvioFO1CQgQjmdYnis_PjN?usp=share_link

¹⁷ https://drive.google.com/drive/folders/1hls9t14Jvwe3N1oTJcuv7yltHP-LtLb6?usp=share_link

If we look at the relation between the red striped and the blue dots we can see that the polyrhythmic pattern can unfold itself completely. On the 4th beat of the second bar the fills starts again on a down beat. A grouped pattern of 3 unfolds faster over the course of 4 beats than a pattern of 5

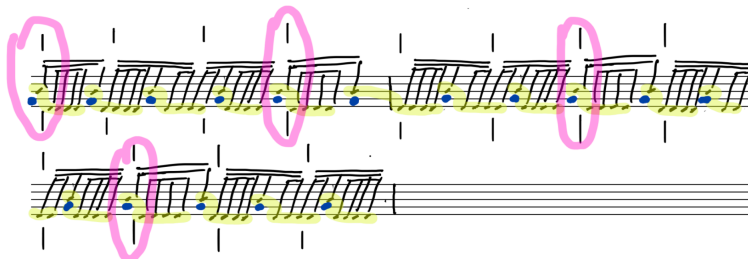
'PASIC 2018 Drum festival'

Before I start discussing the score of the material played by Gavin Harrison of the 'PASIC 2018 Drum festival' I first need to introduce the concept. In this demonstration Gavin is not playing a song or a composition. He is merely demonstrating patterns in a free form. This is the reason I chose to transcribe the demonstrated patterns by Gavin to a 4/4 pulse. Since he is explaining how he creates them or how he came up with the idea (This will be important for my own interpretation in the intervention part) by adding twin pedals to the groupings and how he never loses the down beat by combining different patterns, I thought it is a good idea to stretch the polyrhythmic patterns to show how it unfolds. It is only by knowing how they function in relation to a down beat pulse that one is able to not lose the one. So here we go:

Grouped pattern of (3) using 4 x 32th on the twin pedal:¹⁸

The grouping of 3 consists of 1 x 16th on snare and 4 x 32th on the double bass drum. The grouping unfolds over 3 bars before the cycle is finished or can start being repeated the exact same way. Follow the color Pink: The first note of the grouping hits a down beat on the 1st quarter note of the first bar, the 4th quarter note of the first bar, the 3rd quarter note of the 2nd bar and the 2nd quarter note of the 3rd bar.

If we think in terms of the basics of polyrhythms; what we encounter here is 4:3 Polyrhythm form (Relation between red & blue)



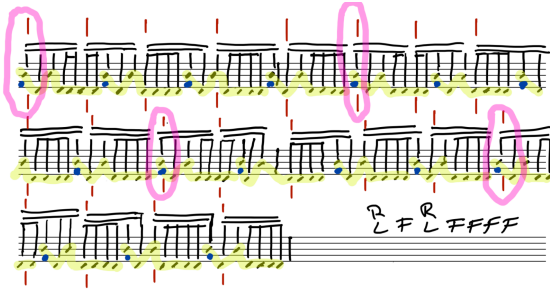
Grouped pattern of (5) using 4 x 32th on the twin pedal:¹⁹

The grouping of 5 consists of 1 x 16th on snare, 1 x 16th on the bass drum, 1 x 16th on snare and 4 x 32th on the double bass drum. The grouping unfolds over 5 bars before the cycle is finished or can start being repeated the exact same way. Follow the color Pink: The first note of the grouping hits a down beat on the 1st quarter note of the first bar, the 2nd quarter note of the second bar, the 3rd quarter note of the 3rd bar, the 4th quarter note of the 4th bar and the last bar has none.

If we think in terms of the basics of polyrhythms; what we encounter here is 4:5 Polyrhythm form (Relation between red & blue)

¹⁸ https://drive.google.com/drive/folders/1wfzC22psII-heG4FIq_-8MxL3CJ7vKt1?usp=share_link

¹⁹ https://drive.google.com/drive/folders/1gCssR1XLiX20roP8P2ywJx-2B41LTsQe?usp=share_link



Grouped pattern of (7) using 4 x 32th on the twin pedal:²⁰

The grouping of 7 consists of 1 x 16th on snare, 1 x 16th on the bass drum. 1 x 16th on snare, 1 x 16th on the bass drum and 4 x 32th on the double bass drum. The grouping unfolds over 7 bars before the cycle is finished or can start being repeated the exact same way. Follow the color Pink: The first note of the grouping hits a down beat on the 1st quarter note of the first bar, the 4th quarter note of the second bar, the 3rd bar has none, the 3rd quarter note of the 4th bar, the 5th bar has none, the 2nd quarter note of the 6th bar and the last bar has none.

If we think in terms of the basics of polyrhythms; what we encounter here is 4:7 Polyrhythm form (Relation between red & blue)



²⁰ https://drive.google.com/drive/folders/1c5LAoLEQJm_dP-luOSQ6NPxeAE6OtjM?usp=share_link

Experiment

Light re-enactment

In order to gain profound data on Gavin's fills I chose to do a re-enactment of a performance. The fills being re-enacted are the same that I used for the score annotation.

I played them for a long amount of time to really dig deep and get a deeper understanding of how they feel. The aim was to also train muscle memory in order to let the technical stuff go and focus on feel and movement. I did the re-enactment on all 3 fills that I transcribed.

My experience was that I found it quite difficult to play them at ease. I guess this is the danger of overthinking and not letting go. As you can see at the unedited version of playing the fills for a longer period of time is that I'm not actually improving a lot. This happened to all 3 versions that I did re-enact. The tempo that I chose for the re-enactment is nearly the same as the tempo that Gavin has in his videos. Hereby an analyze of the re-enactment experience:

'Anesthetize 1'²¹

In the unedited version I can see and hear (I experienced that also while playing) that I struggle more with the bar that is played before the fill then the fill itself. This has something to do with the fact that I'm not used to a certain pattern that Gavin is playing there but which is crucial to start the polyrhythmic fill on the right micro-timed level. This has some consequences for the polyrhythmic patterns that follow afterwards. I tend to vary in micro timing which makes it overall quite messy.

Yet I need to say that the grouped pattern of 5 is familiar to me and I have no problem dealing with the polyrhythmic shift that is going on. I do become aware of the displacement that is happening (meaning I start the grouped pattern of 5 earlier than the 1 of the second bar). The whole displacement and polyrhythmic pattern makes the fill feel like it is really integrated and not technical exercise.

The polyrhythmic development of the group of 5 in relation to the 4/4 pulse is very dynamic and flows well over the bar. The added displacement makes it more dynamic and integrates the fill in the groove section which makes it feel more musical and less complex, although it is complex.

'Anesthetize 2'²²

Here one can see also that in the unedited take I do not improve much over the course of time, except that I get a bit more comfortable over time. I did make an edited version for better sound quality and filter out the best takes.

I had less struggle with the first bar in front of the fill since it is more logical to me and closer to my own repertoire as a player. Yet the struggle with the polyrhythmic pattern is bigger than in 'Anesthetize 1'. This seems weird to me because a grouped pattern of 3 is mostly easier to apply then a grouped pattern of 5. This uncomfortable feeling comes from the fact that this grouped pattern of 3 has a displacement that I'm not used to. The snare drum in this fill lands on the 4th 32nd note of the first beat; and this is causing me some struggles. I usually try to play the snare drum accent in a grouping (which very often leads the pattern) on a downbeat or eighth note shift. For me as a player and listener it is hard to recognize the polyrhythmic shift if not played on a downbeat or upbeat (quarter and eighths).

²¹ https://drive.google.com/drive/folders/1LNrqBQnSIIcCp-jvpwM05u4uaTotpTth?usp=share_link

²² https://drive.google.com/drive/folders/1-UkRXQfKTK3tEtJ78tLlwjdG2eTjML-?usp=share_link

I guess Gavin is focusing more on resolution and is not concerned about the polyrhythmic shift. This makes it sound transparent and so precise.

'Grouping of 3, 5 and 7'²³

I resume my experience of the 3 different polyrhythmic fills in one feedback. The polyrhythmic shift over the course of several bars is again very logical to me; yet the struggle I encountered fast and which is very important to improve for my development is the foot fatigue: Playing 4 single double bass strokes after each other. The other fills played in 'Anesthetize 1' and '2' only have 2 singles played on the twin pedal which are easier and can be played effortlessly. The fatigue creates problems in my micro timing. I struggle and don't have enough back up in muscle endurance.

What did I learn from the re-enactment of Gavin Fills:

Focus more on resolution, displacement and less on the polyrhythmic shift. Get a bigger head room in muscle power. The displacement is a sort of way to fluently integrate the fill in my playing and it prevents me from sounding like I'm executing an exercise.

Quasi/Parametric

Now after having studied Gavin's method on how he plays fills in an odd / polyrhythmic fashion my next step will be to intertwine 2 experiment methods; the quasi experiment as well as the parametric experiment.

Since Gavin creates his own chop/fill ideas by mixing up hand patterns with twin pedals (mentioned in the desk research as well as in the score annotation) I decided to do the same with my own repertoire of fills and mix it up with some of his repertoire. At this point it is worth mentioning that my repertoire is founded by the improvisational method of Hans Eijkenaar (my main subject teacher). Hereby an overview of all groupings that I am currently playing and try using in my playing.²⁴

I took groupings and transformed them into groupings with an additional twin pedal. The same way Gavin does it. The idea and philosophy in regards to improvising or composing fills is to choose patterns which do not fit in the regular measurement and resolution. This way it creates a polyrhythmic sequence while improvising.

In order to get a deeper knowledge of how they function, feel and behave in relation to the groove I choose to take some off them and play them over the course of 2 bars. I do this without any orchestration and just play them between snare and bass drum. Now I have a clear representation of what they are.²⁵²⁶

Also, in order to be able to use these varieties of groupings in different tracks, it is absolutely important to study them over triplets²⁷²⁸. In the examples by Gavin you only see a binary resolution. Playing them in triplets (or 16th note triplets or even 32nd note triplets) changes the whole polyrhythmic behavior and the melody becomes quite different. This is the reason I also added some examples in triplets. I go a step further and do not limit myself to the parameters that I analyzed Gavin in.

²³ https://drive.google.com/drive/folders/1ly9ATx4ntASWwYq829h9dDam6RMHj00z?usp=share_link

²⁴ https://drive.google.com/drive/folders/1Dno4ZLiIq5SqxV9yc-Wx6KtC-7iB3Cyx?usp=share_link

²⁵ https://drive.google.com/drive/folders/17I5DqQuo10DYYc4vII Rgt_rssIF20eoj?usp=share_link

²⁶ https://drive.google.com/drive/folders/1iETI9OKqifxFvzZZa8kJd4r5HnTGvFET?usp=share_link

²⁷ https://drive.google.com/drive/folders/1fndKqwUuGmieSk8rqpMqX3bkd76YrU7V?usp=share_link

²⁸ https://drive.google.com/drive/folders/1sirbu_D3FhRHd538os1MLeYHevIMF-zR?usp=share_link

Next to the sound and video examples of some variations I also did a continuous trail of experimentation which was documented in a lock book²⁹. I wrote down the pattern as well as the resolution that I was trying out.

Some groups, depending if they are extended with doubles or quadruples on the bass drum, fit better to a certain tempo. But I realized that all of them have a certain sweet spot between 80 bpm and 150 bpm. Of course that represents almost the entire range of tempos used in music (slower is almost not possible but faster can go up to 200 bpm and even more) but at the beginning of starting to play them I thought the range, especially for the grouping with quadruplets on the bass drum, was much smaller. The longer I experiment with different combos (so combining them) the more comfortable and more universally applicable they seem to be. The "sky's the limit" as Martijn Vink says at a certain point in an interview that I conducted with him (Check Interview section). So a trail of experiments, which was partly at random, gave me more confidence that those newly upgraded groupings can work in different circumstances; and by that I also mean applicable in different styles of music.

In my reference recording I already asked if my experts think that the use of double bass fill also functions in Pop music (My cover of 'Side to Side' by Ariana Grande). Most of the responses were positive. Once you're able to make something sound easy and place it musically in a song you can get away with almost anything. At a certain point it is just a question of taste.

Interviews

Interview with Martijn Vink

In this interview³⁰ I was curious about a couple of main focal points such as: Improvising, composing, how to improve timing wise, mental focus etc. These were not especially questions or focal points that I had in mind but stuff that came up during the interview.

Martijn gave me technical feedback which was very informative to me. According to him the first half of my fills are good but they lose intensity in the second half. I should focus more on staying strong till the end.

The other technical aspects of how to use these groupings and what the effects of them are is quite clear. But what becomes more interesting is how to make them sound even stronger, how to make a statement and why even play them. Martijn asked me at a certain point why I played a certain fill. That of course struck me and I had to think about it. We all know that there is no easy answer for that and you definitely don't respond by saying: Well, because....etc.

The question is almost rhetorical, it should not even come; the question is the answer by itself. The mental focus as much as the meaning full statement you make by playing a fill is not something you develop by just rehearsing the ingredients but is something that really has to come from within; it is the whole reason why you're doing music. I wouldn't say also that this is off topic but rather necessary to be able to apply with 100% confidence and make a statement. All technical components are there and yes some stuff can be improved still, such as combos and timing but at a certain point it becomes secondary to what the goal is of playing a fill.

Another great statement that was made by Martijn was by referring to sport. To be more precise he referred to that feeling that basketball players have while trying to score. The moment they throw the ball they already know that they will score. Fully present in the moment and no doubt about a decision. The same works for musicians.

²⁹ https://drive.google.com/drive/folders/1AKTYfHVpVYCKrONvhe-HFYgVIVDkePOS?usp=share_link

³⁰ https://drive.google.com/drive/folders/1umtOMmaNuS_aTWuwsVwzKNJKkwauSBSF?usp=share_link

Interview with Hans Eijkenaar

In this interview³¹ I am asking Hans to get his view on Gavin playing. Is Gavin playing composed fills or is he improvising? Hans' answer to this was a 60 / 40 relation. The view on how Gavin uses his fills is important so I know in which way I can approach these fills. One thing got clear during this interview and that is the fact that Gavin as well as Hans Eijkenaar are focused on resolution and micro timing while playing fills. These elements are superior to the polyrhythmic shift that is happening while using odd grouped fills. If I reflect on my own way of playing and how I use these odd grouped patterns I am more focused on the shift than the resolution or micro-timing. And that's probably also the fact why I'm tempted to speed up at the end of the fill and sound less transparent than Gavin.

The question about improvising or composing is in that sense also important to me to be able to create something which is surprising and exciting for me as a drummer as well as for the listener. I had the feeling while watching Gavin play live at the Ziggo Dome on the 7th of November 2022 that he was reaching a ceiling point (limit). It felt like all his fills were at least 50% composed and it all felt really safe (Hans agrees on that). But this has also something to do with me as a listener and as a researcher who is processing information more cognitively and less intuitively after having studied his way of playing. I am more aware of what he is doing and I lose the excitement of the moment. This reflection on how I sense information is important and to make sure I do stay on neutral ground and don't start over judging things.

DATA Collection Conclusion/CROSS REFERENCING

If I look at all the data that I collected for this second research cycle every data processing leads me to several focus points and conclusions that I can apply in my intervention. Such as:

- the focus on micro timing and resolution
- experiment with partly composing and improvising
- shifting the melodies/displacement
- Make statements
- Play a fill if it is necessary

I extract these points mainly from the interview session but they can also be found in other research methods such as the re-enactment and the quasi/parametric experimentation.

The score annotation really shows me in detail what the material is all about; how the polyrhythmic shift happens on a micro level and how Gavin orchestrates it.

Now let's get to work and apply this finding.

³¹ https://drive.google.com/drive/folders/1FJT3tHrHeJ3E-h_tBOzfWym0wIQaHejQ?usp=share_link

3.2.5 Interventions / practical application

There are a couple of points that I considered and conscious decisions that I made to be able to improve my playing in regards to the reference recording and the data collection.

First of all I did not change the library of vocabulary that I created during the 'micro-interventions' during the data collection. The so-called library that I came up with seems diverse and consists of fills from Gavin's repertoire in combination with transforming some groupings that I learned from Hans Eijkenaar and the ones that I came up with myself. This library consists of groupings of 3, 4 and 5. In order to create a polyrhythmic contrast to the measurement that I am playing I always choose to play a grouping that is odd to the pulse (otherwise you won't be able to create a polyrhythmic shift).

Another focus point that is quite important to consider and that was necessary to improve is the persistence of the execution; meaning that several small technical components needed to be adjusted such as: focus on resolution and micro timing.

This becomes a main focus point in order to make the fills more transparent, more effective, less heavy to listen to, more musical and mainly enjoyable.

This is something that I did practice a lot during the experimentation period. By practicing and looping these ingredients for a longer period of time I realized that I was building up a certain stamina that I needed to be able to stay in control.

The focus on shifting the starting point of the fills (before or after a downbeat) was also something that I took into consideration. This was already part of my reference recording but I did realize again how effective it was in order to sound less predictable. Gavin almost never starts his fills on the first beat of the bar as we saw in the score annotations of the song 'Anesthetize'.

One thing I decided to do differently than Gavin (or at least for the fills that I transcribed) is the fact that I mix up several groupings. Gavin mostly sticks to the plan of using one odd grouping as where I chose to mix up two different groupings within one fill. That was also a conscious decision.

All these points were part of the bigger adjustments that I made while improvising over the same track as in the reference recording. By practicing mostly these ingredients and keeping in mind the so-called mind-set points I did a second take on the same track that I use for the reference recording.

Hereby the link: https://drive.google.com/drive/folders/1IH30sDVEBzhSvGX0D6jEbd7swJBML4CU?usp=share_link

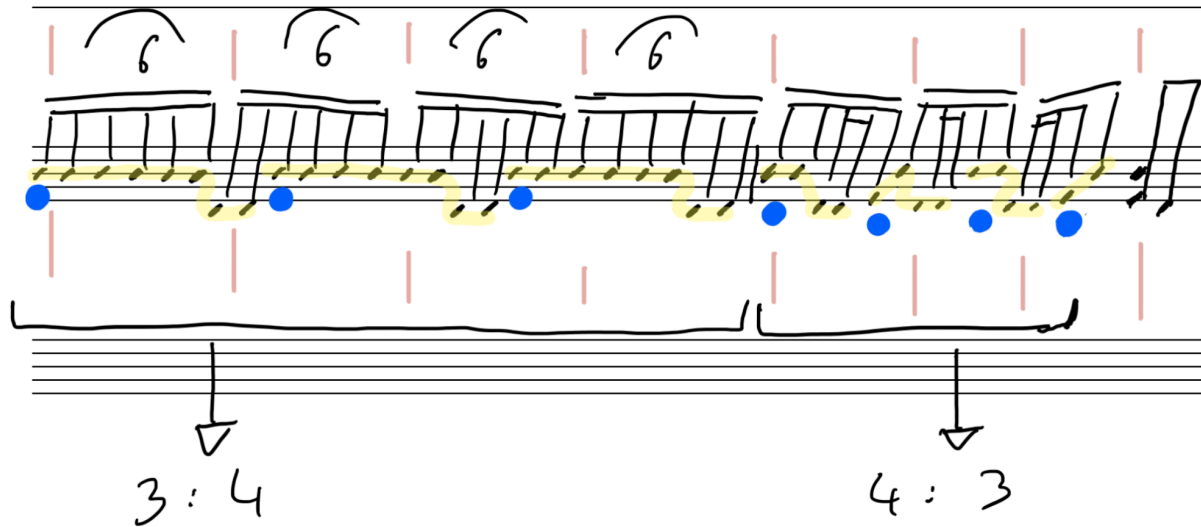
One half of the focal points were adjusted by practicing and the other half by keeping in mind that a fill should stay interesting till the very end. In my reference recording (and that was also the feedback from several experts) the fills lost their intensity in the second half.

As you can see in this second reference recording I numbered all the fills. I did this so that later my experts can react (if needed) to certain fills. But also since the experiment is not just made on one particular fill but focuses more on a certain approach and a way of doing things it gives me the possibility of filtering out a certain fill to be able to transcribe and show visually where the polyrhythmic behavior is occurring.

Lets take for example fill number 7 which occurs at 1 min 17 seconds of the second reference recording.

Example (Fill 7):

https://drive.google.com/drive/folders/1r_uwqJOvMhQKI45dVkBRTJGeOZzRCks?usp=share_link



This annotated scores shows us a couple of things:

1. I am using two different groupings. The first one is a group of eight notes and the second one a grouping of three notes.
2. Since the grouping of eight (played in 16th note triplets) is odd to the quarter note pulse I do create a 3 against 4 polyrhythmic sequence.
3. Since the grouping of three (played in 16th notes) is odd to the quarter note pulse I do create a 4 against 3 polyrhythmic sequence

3.2.6 Outcomes

The outcome track stays the same as the track in the 'intervention/practical application' section:

https://drive.google.com/drive/folders/1IH30sDVEBzhSvGX0D6jEbd7swJBML4CU?usp=share_link

This for the simple reasons that I achieved my goal and improved my playing in a way that I wanted to hear.

Looped sequence:

Track: from **Black Hound**, by Golden Caves

Recorded 5th of December 2022

Drums: Erik Stein

Guitar: Alex Ouwehand

Keys/Synth: Elise Polman

Duration 2:51

Original Track:

Track: **Black Hound**, by Golden Caves,

Recorded between 26 of August 2019 & 26 of January 2020

Drums: Erik Stein

Bass: Max Abel

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerkerk

Original duration: 4:21

Another outcome of this research cycle could have been to dig deeper into the composing abilities. I definitely focused more on being able to improvise with these groupings than composing them. If I would have chosen to compose (the same way as Gavin probably does) I could have gone deeper into details how to construct a fill and where the difference lies if you adjust minor things. This would probably have given me a smaller amount of fills (as what I have now) but would resolve into a more detailed research. This is something that can still be done but is not something that I am interested in right now. By comparing the advantages and disadvantages of composing and improvising one could see what works best for a certain style but also for a certain type of player.

Also there is a strong focus on the use of twin pedals. All patterns can be played with a single bass drum pedal (different sound and orchestration).

3.2.7 Feedback, reflection and conclusion

My personal feedback & reflection:

If I listen back to my second reference recording and compare it with the first one I can hear a big difference in how I play. First of all I think that I created the right tools (speaking about the vocabulary/library) intertwined with the twin pedal. They allow me to sound 'more progressive'. I don't think that I sound like Gavin but that was also not the intention. I just wanted to extract from his playing what I like and that was the use of the twin pedal, transparency and accuracy on resolution and the surprising effect of what the fill does to you as a listener.

I have the feeling that I came closer to an 'unconscious' vision of who I am as a player. Difficult to express it in words but it feels like I opened up a gate that I never managed to open (or at least I never took time to do so). From a purely technical point of view and more analytical perspective I think I did upgrade my fills by studying and applying the right components. Back in the days I was more impatient and used to over-study things so that I lost myself at a certain point and could not use the material because it was not inspiring anymore. In this case I think I had the right amount of digging deep but also to let go at a certain point (technical progress) and focus more on having the right mindset to apply the learned material.

Yet I also think that I left out certain options of studying such as digging deeper into the composition way of creating fills. I am sure that I could learn more about this way of playing fills but for this period it felt like I should not do it.

And If I come back to my research question talking about the enhancement by using polyrhythms I do believe that I do play now on a 'different level'. From a technical point of view as well as a musical point of view there is much more going on. It might not always be desired in music but at least I created a sort of trademark.

Feedback from my expert group:

My expert group actually confirms what I mention here above. There is definitely an improvement in tightness, orchestration and just fluidity. Although some of the fills (since there are 13 of them) are more tasteful than others. I can extract from the feedback that there is mainly a positive reaction to the incorporated Hi-Hat notes in some fills. This has something to do with orchestration and a short Hi-hat sound interruption makes the fill in itself more dynamic. Yet the experts also mention that there is still some room for improvement. Gavin has the incredible ability to make complicated stuff sound easy whereas I seem to sound complicated when doing something complicated.

3.2.8 Short description of the next research cycle

In my first two research cycles I studied material that can (as i know now) easily be implied into progressive music but also into other genres. As you probably saw by now, I also try to incorporate some experimentation on pop tracks to test if my findings and outcomes are limited to just one style or if they can be used within multiple music styles. And yes they can if they are well executed and well placed in the song.

Yet polyrhythms also have a really strong complex nature that can be expanded even more.

One player that is expanding the limits of technical complex structure is Thomas Haake from Meshuggah.

From what I know now he is going even deeper than just using polyrhythms (although he also makes use of 'classic polyrhythmic patterns'). It seems like he is using what I call a morse coding technique which has a more cyclic nature just as in Indian music (which is also known for polyrhythms). This will be part of my third research cycle. In order to create a certain freedom to experiment with this it is (I think) necessary to step out of the paradigm or creative workbox that I created for the first two research cycles which is the 'Dysergy album of Golden Caves that I recorded in 2019.

Psycho-Polyrhythms will be the name of my next research cycle. Once you hear what the guys of Meshuggah do you will understand very fast why I call it 'Psycho-Polyrhythms'.

To summon it up till now:

1st research cycle: Macro-Polyrhythms - based on rhythms and grooves

2nd research cycle: Micro-Polyrhythms - based on fills and improvisation.

3rd research cycle: Psycho-Polyrhythms - based on morse coding/cyclic phrasing & morse phrasing

3.3 Third Research Cycle

3.3.1 Overview of the third research cycle

So as I already mentioned here above, the third cycle will be about analyzing some aspects/ingredients of Thomas Haakes playing in the band Meshuggah.

The analysis and the elements will to a certain point relate more to the style of the band than only focusing on the drums. This is due to the fact that all other instruments are heavily intertwined rhythmically with the drums. Many arrangements and ideas come from Thomas and the drums play an even more important role (composition wise) then in many other bands.

I use the umbrella term 'Psycho Polyrhythms' to describe and categorize what is happening musically and technically because there is a bigger variety and freedom between micro and macro use, the possibility to arrange, compose and improvise.

There are some other terms that will be associated with this research that I will clarify at a later stage such as 'morse coding technique', 'cyclic phrasing' & 'morse phrasing'. These are just synonyms that I have created to suggest a certain way of thinking.

In this research cycle I will focus on only one part of a song that is called 'Clockwork' from the band 'Meshuggah'

Also important to mention at this point is that I will have to create more free space to experiment and be less restricted to the album 'Dysergy'.

During this cycle I will mainly focus on using grouped patterns and polyrhythms in my left hand. Remember that in the first cycle I focused on the polyrhythmic application in my right hand and the second cycle both hands.

In order to really understand what I am talking about I suggest you first watch the video of my reference recording where I will explain my thinking process.

3.3.2 Reference recording

My point of reference for the third research cycle is an explanation video of the morse coding technique. In the second half there are two short sequence-tracks where I experiment with my own version of applying this technique. Important to mention at this point is that I do my own morse coding with the groupings that I came up with during the 2nd research cycle.

(Listen here: https://drive.google.com/drive/folders/1-G_xOhln5s0r6Y2mylID7pplwyoeA6gg?usp=share_link)

Track 1: by Erik Stein,
Recorded between 26 of January 2023
Drums: Erik Stein
Midi Programming: Erik Stein
Original duration: 00:39

Track 2: by Erik Stein,
Recorded between 26 of January 2023
Drums: Erik Stein
Midi Programming: Erik Stein
Original duration: 01:11

3.3.3 Feedback and Reflection

From the moment that I knew what I wanted to do my practice and my study research was straight on in motion to build a certain skill foundation to be able to record a reference. So my reference recording is not a take that started from 0. Several intervention processes took place already. First of all I had to listen a couple of times to the 'Clockwork' track of Meshuggah to be able to decode what was going on. After I decoded some sections of the song I started straight on with practicing and made some conscious choices such as the fact that I only focused on using groupings from my previous research cycle; meaning the groupings of Gavin Harrison. All this pre-research process was necessary to track a first try on the morse coding technique. My first impression while listening back to it is that it sounds really linear. But that of course is also the style part of this genre. I am curious what I can do with this knowledge at a later stage. Maybe even improvise and use it more as fills and make the morse codes shorter and create them on the fly? (we'll see)

In the survey I received some interesting feedback from my expert group. Some of the focal point would be:

1. A deeper internalization of the codes in order to think less
2. Use single pedal (not only twin pedal)
3. More organic dynamics & more experimentation with different instruments as well as adding more flavor
4. Change & experiment with the right hand pulse

3.3.4 Data collection & data analyze

Desk research

In an interview by the well known 'loudwire' youtube channel Thomas Haake is talking about how he approaches the drums as well as how the songwriting process takes place. Since Thomas is also songwriter of the band Meshuggah and is deeply involved in the process we have to take a look at how the band works and how they all approach the music.

There are several interesting points that he is mentioning that go hand in hand with what I do and partially are also contradictory.

First of all (if we focus on the polyrhythms) Thomas explains the fact that there is always some kind of 4/4 pulse in their music and that they work with odd cycles that travel around and over this pulse.³²

This is exactly what I find interesting in his playing (and the band).

Also, he mentions the word "cycles" a couple of times. And I agree that there is some kind of cycle thinking approach in their music which suits better than the word polyrhythms. Why?

Because (as we will see later in the score annotation) these long odd segments consist of little puzzle pieces of short odd figures that create long odd segments. For example as the 15 notes segment that Thomas mentions.

Now what is interesting and also different in my approach is that I did construct and create the beats of my reference recording from a random and partly conscious decision making using small iteration cycles in order to create a long segment. And that is also how I perform them; I think of every little grouping in line. Thomas explains in detail that when they are playing they do not worry about the small iterations. They focus on the whole part. It becomes like a long melody that is recognizable to them. That approach is what makes the song sound like a normal rock song.

To be clear, the drums in the track 'clockwork' as well the way I approach them is not polyrhythmic in a traditional sense. But it does create the same illusion.

³² Loudwire Interview, Meshuggah. *The band's complex and unique writing process*. With Joe DiVita (Journalist) and Thomas Haake (Drums).

Case Study / Score Annotation

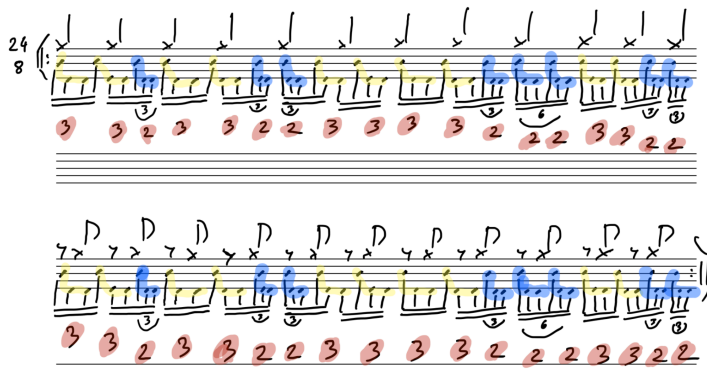
So let's take a look at this kind of weirdness that Thomas is describing.³³

The first part I transcribed is the beginning sequence of the song 'Clockworks' from Meshuggah.

We can see (yellow and purple) clearly that he is using 2 different patterns or groupings in order to play the sequence. The yellow marked notes form a pattern of 3 sixteenth and the purple marks a grouping of a time period of 2 sixteenth notes but played as 3 sixteenth note triplets. With these two groupings Thomas is making his way through the sequence. There is no indication of a quarter note pulse yet but we do get a glimpse of how he does the morse coding (Explanation of the term morse coding: you can assign the groupings of 3 and 2 to a long and short way of thinking; same as the real morse code technique: - & .)



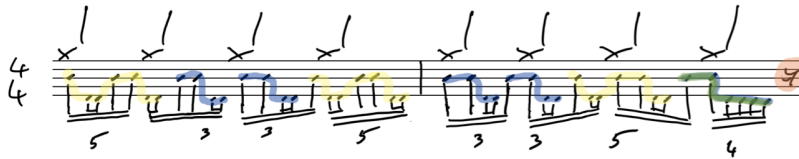
In my second annotation³⁴ we see how a morse code travels over the bars and the quarter notes. The right hand is playing straight quarter notes over the entire piece and again he uses 2 different groupings. By adding this quarter notes pulse the sequence gets a micro-polyrhythmic character. We can see the small and short cycle iteration that creates one long sequence. Interesting (Thomas mentions this also quite often) is that the morse code sequence is uneven (if we add them all up). This causes an off beat follow up of the entire sequence after the 12th quarter note, that is what I would call 'cyclic phrasing'. This is the reason why the sequence sounds even more complex.



³³ https://drive.google.com/drive/folders/1xbcMXYFr1wzyscllkwiDQiAYGU_1kvoG?usp=share_link

³⁴ https://drive.google.com/drive/folders/1qzeU0F7Aci99QSI7XwxW3qu2VXpaQQFI?usp=share_link

Now let's compare the transcript of Thomas Haake's drums with the transcripts of my reference recording.³⁵ In my first sequence we can see the resemblance with the second transcript of Thomas drum take. The difference is that I do use different groupings in order to create a sequence. But in its core it works exactly the same way.



I had to create a creative box to be able to limit myself to a couple of options on how to approach this morse coding technique. By only using groupings that I studied from Gavin Harrison I reached my goal pretty fast.

But the question arises: what to do now?

I do score pretty high in my survey and there is not much feedback from my experts that has something to do with improving the method except the fact that it can be done more precisely and that I should think less or that I should play louder if I want to sound more like Thomas Haake. But these are just (for me) small factors that can be improved easily by just rehearsing more and it becomes a bit irrelevant; it stops me from going deeper.

During the research and playing process I realized that the way I approach it now is very linear. This is something my main subject teacher also said to me. Applying it to different songs of Golden Caves becomes almost impossible because the approach is too restricted to the genre (Gent-Metal).

In order to step out of the box that I created I went back to some of the feedback that I got from my fellow experts and there are 3 points that seem interesting to me to be able to reach further:

1. use single pedal (not only twin pedal)
2. more organic dynamics & more experimentation with different instruments as well as adding more flavor
3. change & experiment with the right hand pulse

So I started off by transforming the groupings with twin pedals to groupings played with a single pedal on the bass drum. In order to get loose and free I did study them over a longer period of time and over its entire polyrhythmic phrase.

With the single pedal use I create a less aggressive sound and I can more easily play it from an improvisation point of view. This will also enable me to be less restricted to the genre of Gent-Metal.

Also by experimenting with different right hand patterns in my right hand such as quarter notes, eighth notes or one eighth note followed by two sixteenth notes I can incorporate a hint of funkyness that again makes it more applicable for different musical situations.

(Watch here: https://drive.google.com/drive/folders/1Vu0irzgTxYZbl_JR36Pg47R3jIT3mY6T?usp=share_link)

By applying and experimenting with these two variables: 1. single pedal use & 3. changing the pulse in the right hand I automatically achieve step 2: more organic dynamics & more experimentation with different instruments as well as adding more flavor.

³⁵ https://drive.google.com/drive/folders/1Vu0irzgTxYZbl_JR36Pg47R3jIT3mY6T?usp=share_link

Now another question pops up in my head: Am I too far off from what I wanted to achieve and are we still talking about morse coding?

Yes and No.

To give an answer to my first question I want to point out that not only the morse coding technique was interesting to me but also the freedom (watching Thomas) how to play odd grouping in a polyrhythmic fashion in the left hand and right foot against a steady right hand pulse. So far so good; I'm still on the right path.

But I do intend to change my approach. This is due to the fact that it is part of a composed sequence and since it is so heavily intertwined with the musical composition it gives me a feeling of being stuck with only one thing.

So I intend to experiment with less coding and more phrasing. I would call it: **Morse Phrasing**

Interview

Stef Brooks Interview:³⁶

In order to get a deep inside look into the history of morse coding and to dig deep into the method I conducted an interview with Stef Brooks (from Textures). Beside all the technical details on how he approaches the method and his view on how Thomas Haake and other players from the scene are using it, I was mainly interested in knowing what else to do with it; like improvisation.

So during the interview I did realize that Stef has so much knowledge about this technique and how it developed and how you can apply it that I simply asked him if he is able to improvise with it?

His answer was simply a 'Yes you can off course'. By just randomly playing groupings after each other. Even together with a guitar player using the same technique you can manage to find a common ground.

While Stef Brooks is demonstrating and singing some examples I realized that everything he does had a jazzy vibe to it. He anticipated my comment of the jazzy vibe and said that the groove also stays danceable this way and that that would be the real state of the art: to be able to keep it in the groove even while throwing with complicated figures. This is something that not many metal bands are able to do while using this technique.

A kind suggestion was made by Stef to listen to the album 'Sol Niger within' from Fredrik Thorendal who plays together with drummer Morgan Agren. And as a matter of fact when I listen to this album I realized indeed that one is able to use this technique as an improvisational tool.

This is a big eye opener to me and it might help me to incorporate this technique into my playing in a way that it is also usable on the 'Dysergy' album.

³⁶ https://drive.google.com/drive/folders/1Vu0irzgTxYZbl_JR36Pg47R3jIT3mY6T?usp=share_link

Hans Eijkenaar Interview:³⁷

In my first interview that I conducted I had the chance to really dig deep in this morse coding way of thinking and extract all the necessary information. So I thought it is a good idea and take it again to a broader level and discuss it with someone who is not so familiar with the Metal/Gent genre but has a sense for complex structures as well (for my opinion) as a good drumming approach to never lose focus of the essentials and take the risk to do something out of the ordinary: Hans Eijkenaar.

In general it is interesting and learnfull to consult the 'opposition'. (Not meant literal)

As a matter of fact I realized that Hans' thinking method/concept while approaching something difficult (such as a long morse code sequence) is really similar to what Thomas Haake says in his Loudwire Interview. And that is the fact that they never approach such a sequence counting or analyzing the small iterations but only focus and remember the long phrasings/melodies. This is something I can relate to because it makes the whole sequence/song way more musical and becomes less technical. Getting lost in details makes (in my experience) stuff sound more complex and difficult.

Hans also explained that there should be a sort of hierarchy within the player. Meaning that the focus should always be on musicality and depth before adding complexity.

This is an information that I again really appreciate, respect and also can use as a musical compass in this process of using the 'morse code technique' as an improvisational tool.

Even better, it should be a perfect marriage rather than a hierarchy. This is something I can actually apply in my playing because I do sometimes lose focus of the overall and get lost in details. And that translates to my way of playing.

Interesting to know (according to Hans Eijk) is that other players (in his experience) such as the bass players use this system. By dividing sequences into small iterations they create safe points and use it also as communication vocabulary by grouping patterns into 16th notes based segments.

This is handy to know in terms of communication but also knowing other musicians react to this.

But I guess the main point of this interview which helps me in order to get better at it is to consider that the heart and pulse always has the upper hand. The pulse makes you move and headbang. This is exactly what happens if you listen to Thomas Haake.

3.3.5 Interventions / practical application

My research process now consisted mainly in looking at different approaches to apply the morse codes. My group of experts made me conscious about different technical variables to adjust and experiment with. Whereas the interviews showed me that there is a clear free space to improvise in. Of course there were also elements of reflecting about my playing and realizing that the initial method is sort of a dead end street once you're able to use it (at least for me).

In order to put all newly gained information to practice I decided to take three different track/sequences/song parts to improvise with this new technique that I came up with: **Morse Phrasing**.

As a matter of fact I also realized that the idea of improvising with the snare drum in combination with the bass drum over a regular pulse in the right hand is also something that is taught in the bachelor curriculum of the drums study. Yet my approach is a bit different since I mainly focus on applying groupings that are odd to the pulse in my right hand.

³⁷ https://drive.google.com/drive/folders/1kBWQ2_VHvakwRV0DFCkqbMln6fz5BZgJ?usp=share_link

The first track that I'm improvising on is a sequence loop that I composed myself. A looped track enables me to worry less about a song's structure and create more freedom to experiment with the morse phrasing. Furthermore there are no specific choices made except the fact that I wrote something that triggers me to play.

As I already mentioned here above, the new approach enables me to go back to the Golden Caves album and apply it. I chose the songs "Hide & Seek" & "Happy Dreams" for the following reasons: The tracks have some free space as well as a perfect tempo to improvise. "Hide & Seek" has a half-time feel whereas "Happy Dreams" is more uptempo. Watch here: https://drive.google.com/drive/folders/1VklIFbEQtf7qwwodqT994HLsaENq4ALL?usp=share_link

3.3.6 Outcomes

The outcome track stays the same as the track in the 'intervention/practical application' section:

Watch here: https://drive.google.com/drive/folders/1VklIFbEQtf7qwwodqT994HLsaENq4ALL?usp=share_link

This for the simple reasons that I achieved my goal and improved my playing in a way that I wanted to hear.

I do add a small sequence (Looped sequence 2) where I improvise with the same technique but where I do reach a higher standard of perfection (execution is better).

Watch here: https://drive.google.com/drive/folders/1-gAn7-x4AVqFMHQ-BHfNjCHf6bQN9clc?usp=share_link

Looped sequence 1:

Track: by Erik Stein

Recorded 28th of February 2023

Drums: Erik Stein

Programming: Erik Stein

Duration: 2:30

Original Track:

Track: **Hide & Seek**, by Golden Caves,

Recorded between 26 of August 2019 & 26 of January 2020

Drums: Erik Stein

Bass: Tim Wensink

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerkerk

Original duration: 5:27

Original Track:

Track: **Happy Dreams**, by Golden Caves,

Recorded between 26 of August 2019 & 26 of January 2020

Drums: Erik Stein

Bass: Tim Wensink

Guitar: Alex Ouwehand

Keys: Elise Polman

Vocals: Romy Ouwerkerk

Original duration: 6:18

Looped sequence 2:

Track: by Erik Stein

Recorded 6th of March 2023

Drums: Erik Stein

Programming: Erik Stein

Duration: 2:50

There are a couple of other possible outcomes to this subject. As I mentioned already before I also could have gone deeper in the performance of the morse codes and stick to that approach of composing and creating rhythms in that style. Yet since my expert group was not really mentioning something about that I chose to go left instead of going straight. Also my own intuition and taste in music drove me in a different direction. Being able to play freely and express myself on an improvisational level does seem more appealing to me than the composing part.

I also could have developed more groupings and a bigger repertoire for this morse coding technique. There were also aspects such as playing groupings within its natural resolution (such as groupings of 5 played in quintuplets or groupings of 7 played in septuplets, etc.) that I could have studied more (because Thomas Haake is also doing that.) but I chose not to do that.

3.3.7 Feedback, reflection and conclusion

My personal feedback & reflection

Let me start off by saying that I am happy that I found a way out of the dead end street. Although it wasn't a real dead end street, it felt in the beginning that there was not much to be gained after recording my reference point. Now using an improvisational approach, the same way I did with the micro polyrhythms, I feel that I chose the right path. The 'morse phrasing' is a technique that enables me to improvise in any kind of genre whereas the morse coding technique enables me to create the right rhythms within a certain style of music (Gent).

Listening back to the outcome I still have the feeling that I'm not quite there yet and that there is lots of improvement to be made in timing, performance and creativity.

Feedback from my expert group:

If I look at the feedback from my expert group I can say that there is a big appreciation for the fact that I did change direction in the way I apply the technique. There just seems to be more free space and possibilities. Some stuff still needs to improve in regards to volume control and effortlessness. I do agree on this and the technique needs to grow and settle in before achieving the ultimate weapon. Good to hear is that in general I apply the technique in the right way and it does fit the musical context.

But If I wouldn't layed out the connection between Thomas Haake and the stuff that I am doing now probably nobody would associate this with Thomas Haake way of playing.

4 Research findings and outcomes

As we know I focused on three main topics that are related to my research domain: **Polyrhythms**

I came up with three synonyms that summarize the outcomes of my research.

Each individual terms suggests and summarizes a technical as well as a musical concept that is related to applying polyrhythms within a creative box ('Dysergy'):

1. Macro Polyrhythms
2. Micro Polyrhythms
3. Psycho Polyrhythms

4.1 Documentation and explanation of the research outcomes

In order to get a clear understanding of the whole process and outcomes let's take a look at the image below:



This image shows us the three different stages of the research process with its main findings; categorized in the following order (From top to bottom):

1. Physical application (R.H / R&L H. / L H)
2. Musical application (Modus: Macro, Micro, Psycho)
3. Field of sub-subject (Rhythms & Grooves / Fills & Improvisation / Morse coding & Phrasing)
- (4.) Source of inspiration (influence)

These outcomes have been distilled out of my 2 year research. Mainly because the research in polyrhythms was restricted to the albums 'Dysergy'. It allowed me to stay focused and always have a practical / musical outcome. If I wouldn't have creative limitations I would have easily got lost in multiple ways and possibilities how to use and play polyrhythms.

The album was my playground with boundaries which made it easier to work towards a clear outcome. This way the technical outcome has a musical purpose.

The **macro polyrhythms** are related to grooves and rhythms. Looking at a couple of songs from the band 'Tool' I could see and hear what Danny Carey meant by adding a 'layer of interest' while playing odd grouping in his right hand on the hi-hat.. The groupings of 3 and 5 are polyrhythmic additions to the more standard hi-hat variations such as 4th, 8th, 16th, ect.

In the case of macro use, the polyrhythms can be played over a longer period of time on the right (hi-hat function).

The **micro polyrhythms** were inspired by Gavin Harrison's fills. In this case I did focus mainly on one performance of him during a drummer's festival. The polyrhythmic behavior happens in relation to the pulse of the music. This application happens over a short amount of time. Played as groupings of 3, 4 and 5 the additional twin pedal notes make the fills incredibly powerful and unpredictable.

At last the **psycho polyrhythms**, played also as groupings between the left hand and right foot against the right hand regular patterns. Actually this is the opposite of the macro polyrhythms. This technique turned out to be similar to the "jazz-comping" method. At least that is how I can apply it on the album 'Dysergy'. I started off with a morse coding way of thinking (which is more grounded in the 'Gent' style) but as it turned out this technique from Thomas Haake can be used more freely.

Next to its mathematical nature it functions as a writing/composing tool but also finds ways into improvisation. The term 'psycho' is actually more related to the style of 'Meshuggah' than the technique itself.

In order to have a piece of music that contains all of these techniques that I researched I did take the freedom to compose and write a "Drum-solo" sequence. Again just a playground to experiment and test the border of possibilities:

Watch here: <https://drive.google.com/drive/folders/14KfBG12Wcl7ap-RsszIYoJhMMIP3ST1H?usp=sharing>

4.2 Self-assessment of the research outcomes and expert feedback

Brick by brick I managed to come up with an outcome that is coherent. All three research cycles have a connection with each other. Looking back at the starting points and comparing them with the outcomes of each cycle I can see and hear a clear difference.

I also realized that my starting points (my reference recordings) were already at a high standard and the improvement laid in adjusting details. This is something I also realized while analyzing the feedback of my expert group. Each starting point (quantitative measurement) was never low. I always started (on a scale of 1-10) in the upper class. At the end of each research cycle I moved up 1 or maximum 2 points. I guess that the last 20/30% are the most difficult ones.

I think that my final research outcome provides three different methods/ways of playing that cover the essential elements of drumming but then with a polyrhythmic twist: Grooves, rhythms, fills, composing, improvising.

I focused on different elements of each player and tried to look for what triggers me the most. All of the players are so rich in their way of playing that there are different topics to focus on. For each player I choose to focus on something else.

IMPORTANT: Different drummers might do different things using the same concepts and methods. I developed an overview and a way of playing using polyrhythms that works for me.

4.3 Conclusion

If I look back at how I started the research process and how I finished it I can honestly say that I made huge steps forward in mastering the drumset. But even more importantly I do have the feeling that I got closer to a way of playing that I actually like more. I am at the highest of my own skills (yet still room to move up) and I do master the polyrhythmics skills through a method that enables me to use it at any moment in any style of music. Compact and transparent I would say.

"The more you learn, the more you don't know."

My biggest default throughout my entire professional career was to get lost in detail and to lose focus stepping in a world full of rhythmical possibilities. The limited space I created myself with my research question enabled me to stay on track and reflect, experiment, practice and experience the right amount of information that actually makes me a better player.

4.3.1. My Conclusion

*In what way can the use & understanding of polyrhythms & grouped patterns enhance my musical/rhythmic abilities within progressive pop music by studying specific drum techniques * of drummers such as Danny Carey, Gavin Harrison and Thomas Haake?*

- Groove - Danny Carey, Fills - Gavin Harrison & Cyclic phrasing/morse coding - Thomas Haake

I do think that I answered the research question. And the simple answer would be: By applying them (polyrhythms & grouped) in three different ways: Macro, Micro & Psycho.

Of course this is a short answer and it is much more complicated than that. So many different factors need to be considered such as musical frame, dynamics, instrumentation, functionality etc.

But I am definitely satisfied with the outcome and I don't think that any other approach (although there are different ones) would have been better in order to achieve my goal. There is a clear progress line and a big difference in the before and after.

I'm not saying that everything is performed to its perfection but the concept and the application is definitely right and most importantly you can hear the differences.

During the process I realized that doing such research is more fun than I thought it would be. Every step you take leads you to new findings. Very often I found myself in the beginning of a research cycle thinking that the experiment would fail and I had no clue where it would lead up to. Yet during the process you gain confidence and step by step you adjust your thinking as well as your playing approach in a way that you make stuff work. My general knowledge about polyrhythms expanded exponentially but it made me also realize that so much is possible. It's just a matter of discipline and hard work and not being afraid to change plans.

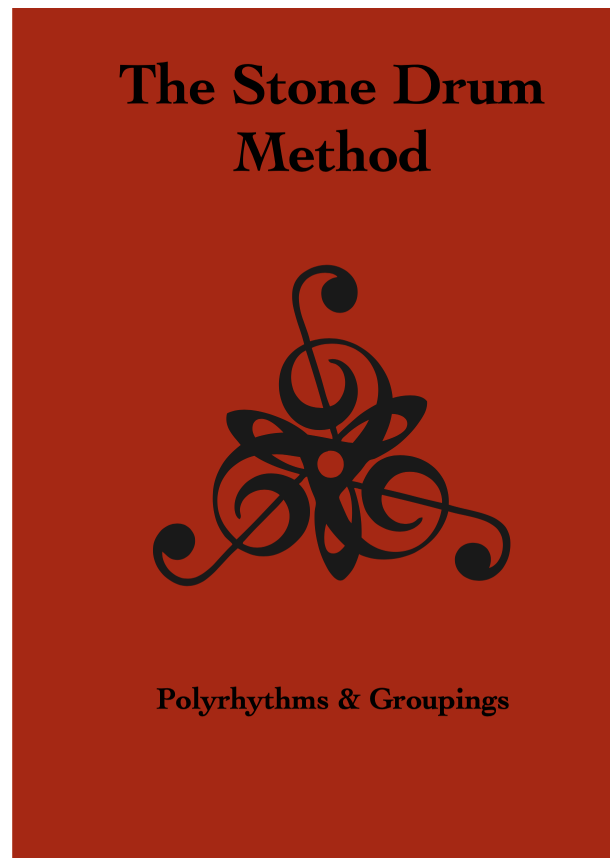
The biggest skill I acquired during this research process is confidence I guess.

There were many small steps and experiments that did not work out. I spented sometimes hours and hours of practicing and coming up with stuff that did not work out in the end. But every experiment made me become more independent and helped me resolve further problems.

I don't have the feeling that I took any short cuts or manipulated something in a way that would achieve a desired outcome.

But: My research is not finished yet.

During this 2 year master study I had so much fun researching that I will continue doing so. All of my findings will probably be put in a methodical drumbook.



5 Reference list

Cycle 1:

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Eulogy, Tool. *Aenima*. With Danny Carey (Drums), Adam Jones (Guitar), Justin Chancellor (Bass) and Maynard James Keenan (Vocals).
<https://open.spotify.com/track/0RVFjx2HwbHcl5SCSADpFP?si=65a5b6323f114dd5>
Accessed on: 17.04.2023

Lateralus, Tool. *Lateralus*. With Danny Carey (Drums), Adam Jones (Guitar), Justin Chancellor (Bass) and Maynard James Keenan (Vocals).
<https://open.spotify.com/track/7tvuLLrol0n6uYBWuFig5d?si=4b84bc4e5a6e49a8>
Accessed on: 17.04.2023

Invincible, Tool. *Fear Inoculum*. With Danny Carey (Drums), Adam Jones (Guitar), Justin Chancellor (Bass) and Maynard James Keenan (Vocals).
<https://open.spotify.com/track/2xKDKtJBLDPd7BF3VmSQOQ?si=8b94b002d5c541d3>
Accessed on: 17.04.2023

Cycle 2:

Harrison, Gavin. *Rhythmic Illusions*, ALFRED PUBLISHING CO.,INC. 1996
https://drive.google.com/drive/folders/1k2cY1pZAVQa12ArFMDOUeCCL6TZYKdVP?usp=share_link

Anesthetize, Porcupine Tree. *Fear of the Blank Planet*. Modern Drummer Festival 2015. With Gavin Harrison (Drums).
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Cycle 3:

Loudwire Interview, Meshuggah. *The band's complex and unique writing process*. With Joe DiVita (Journalist) and Thomas Haake (Drums).
https://drive.google.com/drive/folders/1jhmEuthOlprBNqPArvPSDwbWO0sSgX14?usp=share_link

https://www.youtube.com/watch?v=n4Rn6_Rjbl0&list=PLqtRbaGjKF__RFD6pv0NKJ8WTytEv9JZi&index=43

Accessed on: 17.04.2023

Clockworks, Meshuggah. *The Violent Sleep Of Reason* (Drum Playthrough). With Thomas Haake (Drums).

<https://www.youtube.com/watch?v=axGn6qeJHcM>

Accessed on: 17.04.2023

6 Network

Name:	Motivation:
Alex Ouwehand (AR 1 & AR2)	Band member - <i>essential for feedback since we need to perform it together. Songs were written together as well. Strong inside look at what the intention of the songs were/are.</i>
Elise Polman (AR1 & AR2)	Band member - (...)
Romy Ouwerkerk (AR1 & AR2)	Band member - (...)
Laszlo Versteeg (AR1 & AR2 & AR3)	Band member - (...)
Max Abel (AR1)	Producer - <i>produced the album 'Dysergy' - made already a choice of what needs to be played and what is good for the music - Perfect asset</i>
Arne van Rietschoten (AR1 & AR2)	Producer - <i>Good global view about what the music needs - every unnecessary part that does not contribute to the music will be left out</i>
David van Dorsten (AR 1 & AR2)	Producer - <i>Good global view about what the music needs - every unnecessary part that does not contribute to the music will be left out</i>
Hans Eijkenaar (AR1 & AR2 & AR3)	Drummer - <i>Expert in the field of looking for sth distinguishing in each player. Always a servant to the music but never too comfortable to not be exciting</i>
Tjeerd van Zanen (AR1 & AR2 & AR3)	Songwriter/Producer - <i>Critical view about what the music needs - expert in looking for the best in a</i>

	<i>composition - variety in approach and outcome</i>
Leon Blokzijl (added for the AR2 & AR3)	Drummer from the Master Program
Martijn Vink (added for the AR2 & AR3)	Drummer - Expert in General knowledge about drums
Stef Brooks (added for the AR2 & AR3)	Drummer - Expert in the 'Gent' genre (Band: Textures)

Appendices

Appendix 1: List of all AV media included in report

Cycle 1:

Reference Recording:

<https://drive.google.com/drive/folders/1aFthmCry5slO3aYl6V8jZjcdNKy0JLcF?usp=sharing>

Chromosome midi data collection 1:

https://drive.google.com/drive/folders/1LCF1As9aJqCbtegtucTO4FLJ_4-_oJBJ?usp=sharing

Chromosome midi data collection 2:

<https://drive.google.com/drive/folders/1mS2ajaqrLkuYs9xIMLzZnbbFqm5Hk2QU?usp=sharing>

Hide & Seek midi data collection 1:

https://drive.google.com/drive/folders/1y3FNRJTubv9gpeCsgJCqYv2Jqa1tlk_8?usp=sharing

Hide & Seek midi data collection 2:

https://drive.google.com/drive/folders/1JpWjlqM3Z2EM_56JzKDcellsMji9wkQw?usp=sharing

Temperature midi data collection 1:

<https://drive.google.com/drive/folders/1UsSm16nRtoSrAXRwPCnH6HVwMmrScEun?usp=sharing>

Chromosome Audio 1:

<https://drive.google.com/drive/folders/1kf985mJI9kthZTVciYFswj9itG8EiVE5?usp=sharing>

Chromosome Audio 2:

https://drive.google.com/drive/folders/1GREOc_QQqCFVZLX9qOhhJS1es85unftO?usp=sharing

Hide&Seek Audio 1:

<https://drive.google.com/drive/folders/12dox49zJLIFmDKSFfrukmteA-GK9a5jQ?usp=sharing>

Hide & Seek Audio 2:

<https://drive.google.com/drive/folders/16kL5l8694UpLvmw4KyrXpzwDspBqTEK?usp=sharing>

Temperature Audio 1:

<https://drive.google.com/drive/folders/1cGHoHZ0FCpJFFmaXYhoNSwl2tjimVkCR?usp=sharing>

Temperature Audio 2:

<https://drive.google.com/drive/folders/1wToWE1Em5Cj04zbSqkOqsH2-MjeVrWKJ?usp=sharing>

Survey 2 Video:

https://drive.google.com/drive/folders/18gUIEarO1o2t1O72D5xq6R_F_nr7OfvV?usp=sharing

Final Outcome:

<https://drive.google.com/drive/folders/1wWUAI5J4zgCeDxmvR8VUcVtMFXRSLou0?usp=sharing>

Cycle 2:

Reference Recording:

https://drive.google.com/drive/folders/1H0zUq_yJz3QdRVr9Pz6BKDIXTYI9D_sl?usp=share_link

Re-enactment Anesthetize 1:

https://drive.google.com/drive/folders/1LNrqBQnSIIcCp-jvpwM05u4uaTotpTth?usp=share_link

Re-enactment Anesthetize 2:

https://drive.google.com/drive/folders/1-UkRXQfKtk3tEtJ78tLlwdG2eTjML-?usp=share_link

Re-enactment Groupings:

https://drive.google.com/drive/folders/1ly9ATx4ntASWwYg829h9dDam6RMHj00z?usp=share_link

Experimentation G3:

https://drive.google.com/drive/folders/17I5DqQuo10DYYc4vllRgt_rsslF20eoj?usp=share_link

Experimentation G5:

https://drive.google.com/drive/folders/1iETI9OKqifxFvzZZa8kJd4r5HnTGvFET?usp=share_link

Experimentation G4 Triplets:

https://drive.google.com/drive/folders/1fndKqwUuGmieSk8rqpMqX3bkd76YrU7V?usp=share_link

Experimentation G5 Triplets:

https://drive.google.com/drive/folders/1sirbu_D3FhRHd538os1MLeYHevIMF-zR?usp=share_link

Interview Martijn Vink:

https://drive.google.com/drive/folders/1umtOMmaNuS_aTWuwsVwzKNJKkwauSBSF?usp=share_link

Interview Hans Eijkenaar:

https://drive.google.com/drive/folders/1FJT3tHrHeJ3E-h_tBOzfWym0wIQaHejQ?usp=share_link

Reference Rec. 2 Micro Polyrhythms:

https://drive.google.com/drive/folders/1IH30sDVEBzhSvGX0D6jEbd7swJBML4CU?usp=share_link

Cycle 3:

Reference Recording:

https://drive.google.com/drive/folders/1-G_xOhln5s0r6Y2mylID7pplwyoeA6gg?usp=share_link

Morse Phrasing Exercise/experimentation:

https://drive.google.com/drive/folders/1K3tCX7ANdmVdWntur4ii_na4gnyqiiTI?usp=share_link

Interview Stef Broks:

https://drive.google.com/drive/folders/1kjin3g8xdk9TWWwlEmRvMoGfRbuw6KcX8?usp=share_link

Interview Hans Eijkenaar:

https://drive.google.com/drive/folders/1kjin3g8xdk9TWWwlEmRvMoGfRbuw6KcX8?usp=share_link

Reference recording 2 (Outcome 1):

https://drive.google.com/drive/folders/1VklIFbEQtf7qwwodqT994HLsaENq4ALL?usp=share_link

Outcome 2:

https://drive.google.com/drive/folders/1-gAn7-x4AVqFMHQ-BHfNjcHf6bQN9clc?usp=share_link

Appendix 2: Critical media review

Cycle 1:

Modern Drummer - The World's #1 Drum Magazine - December 2019 - Volume 43 - Number 12, page 33
https://drive.google.com/file/d/1mSMpELlxLXSPUQBQoH_fLtd16vKBxYcK/view?usp=sharing

Cycle 2:

Gavin Harrison, Rhythmic Illusions, 1996 ALFRED PUBLISHING CO., INC.
https://drive.google.com/drive/folders/1k2cY1pZAVQa12ArFMDOUeCCL6TZYKdVP?usp=share_link

Cycle 3:

Thomas Haake, Loudwire Interview with Joe DiVita - 27th of september 2016
https://drive.google.com/drive/folders/1jhmEuthOlprBNqPArvPSDwbWO0sSgX14?usp=share_link
https://www.youtube.com/watch?v=n4Rn6_Rjbl0&list=PLqtRbaGjKF_RFD6pv0NKJ8WTytEv9JZi&index=43

Appendix 3: Full feedback of Survey 1

Find it here:

https://docs.google.com/forms/d/1ho2Jc_vX4ivaDdnkhNuolNKeZGwjKlZD96LvLhC_AEI/edit?usp=sharing

-

Max Abel - I don't, but I produced the record..!

Tjeerd van Zanen- All parts are really well played and with the right energy. But I don't hear a distinctive Erik Stein vibe. A thing to look at is trying to define your own signature feel & sound. For instance your drum part in song 1 is a John Bonham groove so I think of John not of Erik. Jeff Porcaro used a Bonham groove combined it with a Bernard Purdie shuffle and that resulted in the Rosanna groove. So Jeff Porcaro composed a specific personal groove. But drum wise on a whole you did a good job. Now good luck for your own signature.

Elise Polman - Als ik zelf naar muziek luister focus ik nooit op de drums. Het is sowieso tof om even meer gefocust naar de drums te luisteren. Normaal verwacht ik dat drums vooral het goede tempo aangeeft en functioneel is en bij rock zorgt voor stevigheid, maar ik vind de drums op Dysergy heel muzikaal en veel toevoegen aan de muziek. Dat klinkt misschien stom van een muzikant, maar ik ben zelf altijd super tekst gefocust. De sound in Samsara is heel warm en prettig en open. Het maakt dat de coupletten interessant blijven.

David van Dorsten - In the music I just heard, the drums creative expression was mostly expressed through (complex) rhythmic patterns. The keys and to an extent the guitars complemented the rhythm with more timbral sound exploration.

If I would talk in metaphors I would say the drums in these examples were rooted in the physical world, the instrument sounds the way it does because the laws of nature ultimately dictate how a beaten vibrating skin sounds. The drums created a solid foundation for the keys/guitars which in contrast sounded super-natural, the synthesised sounds could not possibly occur naturally. These two sides create an interesting tension for the listener to hear :) So primarily in this music I expect the drummer to create a solid anchor point on which, for example, the more ethereal singer can build upon.

Before I continue I would like to say, in my opinion it's for the drummer to decide how he/she would like to express themselves, may it be through complexity, minimalism, virtuosity, sound design or some other means..

If you ask for my personal wishes/expectation after listening, it's clear to me the drummer is more than capable to create interesting complex rhythms and maintain a solid foundation. What I would be interested in if it's possible for the drums to explore more super-natural sounding timbres without losing the before mentioned aspects.

Romy Ouwerkerk - I love hide and seek and chromosome drum wise. I find it difficult to hear because of the parts played by Alex and Elise. They play almost the same hits as you do. You're the most innovative in my eyes. I would like to hear beats who are a bit more repeating with 'softer' ghost notes or hidden weird patterns. Sometimes the 'extra' rhythms are played so loud (I feel that a bit in samsara) that it gets busy in the track. But you now I love Radiohead drums. So maybe Erik meets Him?

Laszlo Versteeg - First of all: All very well executed drums tracks! It's all very functional and cool. And if I weren't asked to comment the drums specifically I would not have any complaints about it. But I have to be a bitch so here it is.

Chromosome; Very good execution of this signature beat, the drums supports the song exactly like you'd expect for a song like this. But it's not excited in terms of originality. Maybe I've heard this kind of beat too many times. That's not necessarily a bad thing. The sound is technically good, and genre wise what you'd expect. But I'd like to hear something a bit more unexpected? Or maybe a bit more extreme production? More distorted?

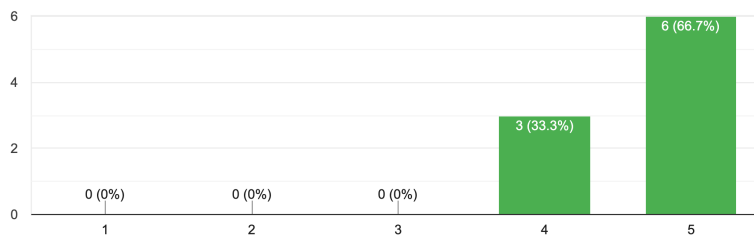
Hide & Seek; Nice rock sound! I am wondering how this would sound, with a bit more of a high pitched snare, less cymbals, more (16th) hihat in the chorusses.

Samsara; Very nice. I like the song and the drums are very tasteful. I love the room sound on this one. Makes it more sensitive for a slow song. The hihat on the off beat creates a nice flow. I'm very curious how the song develops, as well as the drums. The simpler the better on this one if you'd ask me. If I'd have to change 1 thing, I would get rid of the toms. Keep it as much like the bar of 4:06 - 4:08. Keep it as "pocket" as possible. If you need a extra sound, maybe more metal/woodblock kinda sounds. I would stay away from the tom grooves.

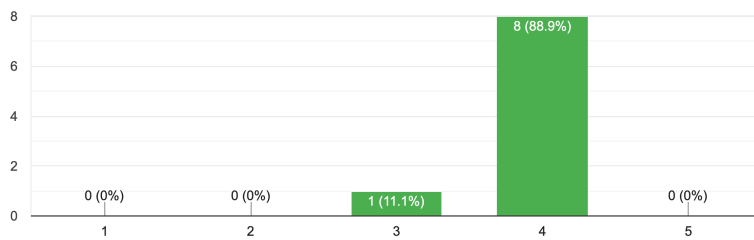
Alex Ouwehand- I've listened to these songs so many times that these drum parts are engraved into my brain and playing anything different would probably throw me off. I really love how the drum grooves are supporting the other instruments (same patterns/hits), although it would be really interesting, and maybe refreshing, to hear drum grooves going against the other instruments, or not following them as closely. Hope this helps!

Hans Eijkenaar - I think the grounded feel of the constant backbeat is a plus as well as a minus. Meaning that the sense of a 'beat' structure remains strong but the bass drum parts (in conjunction with bass and guitars) seems the main instrument to play more and to play 'over the quarter' . In my opinion the whole set could be used for variation meaning toms or efx hihat. And maybe to sometimes replace the backbeat function in that sense.

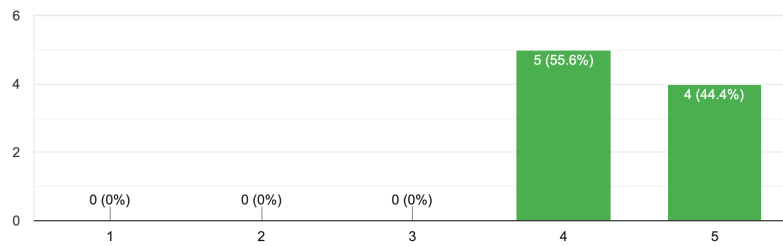
1. Are the drums functional to the music? Do they support the rest of the instruments? ('1' not at all up to '5' perfect fit)
9 responses



2. How much do the drums parts excite you? ('1' - not at all, up to '5' - very much)
9 responses

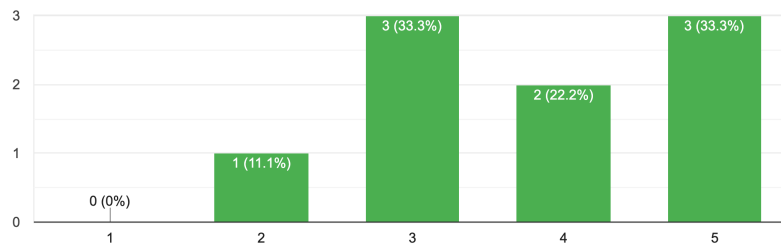


3. Rate the execution of the performance of the drums regardless the function, groove creativity & sound of the mix ('1' - badly executed, up to '5' - perfectly played)
9 responses



4. Did you hear anything innovative/unique in the drum parts? ('1' not at all, '3' standart up to '5' very unique)

9 responses



Appendix 4: Full feedback of Survey 2

Full survey: (<https://docs.google.com/forms/d/1xC4ZIfOI2c6QpZmAqgvNVj1W0cYyG1rUMzIm-XIVNpQ/edit?usp=sharing>)

Lazslo Versteeg:

- A1 is very straight forward, compliments all accents in vox/guit/bass. Although B1 is very different, the polyrhythms don't get in the way of other instruments and flows nicely with the track. Except for the second snare in the verse, that one caught me off guard (although on second listen it doesn't bother me as much)
- Really love the flow of B2, the focus on the hi-hat almost gives it a Steward Copeland vibe. Would use the pattern you play during the breakdown sparingly or improvise with it. Again, the polyrhythm of B2 feels just a bit more exciting than A2, while still remaining the groove/flow.
- B3 emphasises the half time feel of the verse a bit more, which goes great with the vocals and gives more space to the pumping bass guitar. Second half of verse 2 builds up nicely to the chorus. Overall B3 feels a bit more thought out than A3

Hans Eijkenaar:

- Version B1 adds a layer of interest with the second hihat involved. Plus, the chorus comes in more strongly cause of the absence of complexityslick A part, heavy B part, like it
- same as with other track, more impact in chorus cause of more intelligent and 'lighter' a part. The combo of poly parts on hihats and slow heavy backbeat (good snare sound by the way) gives a layered effect, hihat could be more prominent in the mix.
- In this song the effect seems to be the strongest, you've added a complete new groove to the composition, not just a variation. In A3 I find the single bar loop (12/8) to be too frequent, too fast and too much a single bar sample with too many repetitions and occurrences. In B3 you have a much longer loop of course with the benefit of the rolling kick (all 4's in 12/8)) which keeps the song going beautifully.

Romy Ouwerkerk:

- Allebei vette grooves. Shuffle feel zou ik pas in de 2de verse laten inkomen.
- 2verse 1 voor mij te druk, zou nog schelen als high hat zachter gespeeld zou worden
- 2verse 2 - super gaaf!! Die high hat. Zou t alleen niet constant doen, maar korte hints als element.
- Vind de B3 ritme eigenlijk heel tof, wel nieuws gierig als je daar je 2de high hat zou weg laten. Zou denk ik naar mijn smaak iets rustiger zijn en fijner. V1 zou ik oude groove houden. En anders met nieuwe beat zou ik pre chorus ook rustiger maken.
- 2de verse hier zou je kunnen 'hinten' naar die groove 3de verse dit zou voor mijn smaak een goede plek zijn om pas die B3 groove in te zetten en dan zou ik het denk ik tof vinden als je het pre chorus dan 3x zo agressief speelt dan het originele pre chorus. Groter contrast. Laat me even voorop stellen dat ik de oude beats ken en die al heel sterk vond! En ik het heel gaaf vind aan erik dat hij heel 'zwaar' drumt. Voor dit genre vind ik hem echt thuis horen in een Korn of mega stadion band. Hij kan dit dragen in zijn sound. Een hit bij hem is zo vol met zoveel body, maar nog steeds mega strak als een machine. Vind ik echt absurd knap!

Elise Polman:

- B1 is ten opzichte van A1 interessanter. Maar het is wel wat drukker. Op een gegeven moment vind ik het te veel in het couplet en raak ik uit de flow. In A1 is het er veel ruimte en gaan de ritmes lekker met de gitaar mee. Dat zit ook nog in B1, maar de rechter hand die op een rechter hi-hat? speelt wordt voor mij een beetje te veel. In volume klinkt hij op mijn koptelefoon ook wel een beetje hard, dat kan een mix ding zijn natuurlijk!

Een combinatie van beide zou misschien wel tof zijn, bijv eerst A1 en later B1, bijvoorbeeld in het tweede couplet.

- B2 in couplet wel tof maar ook weer wat te veel wat mij betreft. Dan zou ik ook hier weer voor een combinatie van A2 en B2 gaan, afwisselend met elkaar of per stukje opbouwend van A2 naar B2. Vanaf 6.28 heel tof met de gitaar samen. Het chorus de double bass vind ik niet zo tof. Maar ik ben over het algemeen geen fan van double bass haha. Maar het is too much. In de bridge heel tof die hihat in B2, daar is op die plek ook ruimte voor. Zodra de zang komt fijn dat je het daar rustiger houdt, afwisselend met het nieuwe patroon. Vanaf 8.08 zou het mss juist tof zijn om em helemaal door te zetten tot de opbouw van 8.10.
- Deze was lastiger! Maar ik vind B3 in de verses wel beter dan A3! Het geeft meer ruimte! Alleen de RH hihat (?) twijfel ik een beetje of dat vanaf t begin niet te veel is. Maar lastig omdat je er ook zo op focust :) Gaaf accent 11.20 en 12.00 in B3. 13.07 doe je in B3 de snare dubbel snel, vind ik tof! maar misschien nog gaver als ie begint op de tekst Too far too long in 13.13 want daar zou ie mooi samen vallen. De snare werkt in B3 op 12.12 met de die snelle baslick tof! Daar twijfel ik ook btje over de Hi-hat rechts. Die baslijn is gewoon zo gaaf dus daar mag aandacht naar :)

Alex Ouwehand:

- Ik denk dat B1 al too much info is voor het intro. Na het refrein past het beter maar dan synct het weer niet lekker met de gitaarpartij. Het flow-ed niet goed genoeg voor mij.
- B2 ik vind het een coole partij maar te druk. Ik zou dit patroon toepassen zodra de zangphrase voorbij is, dan ontstaat er wat meer ruimte. Die groove op je 2e hi hit vind ik wel gaaf! Refrein: double basspatroon zou ik 1x doen op een speciaal moment! Bridge: Super gave partij ook hier zou ik je moment kiezen om het te doen en niet iedere 4 maten dan blijft het bijzonder. Vanaf 7:41 zou ik wat meer rechttoe rechtaan spelen want alle instrumenten spelen daar iets minder om meer ruimte over te laten voor de zang.
- Ik vind je partij super gaaf maar ik mis de rollende trein die maar blijft gaan. Ik zou nog graag een versie willen horen waarbij je echt goed in de mix zit want nu hoor ik vooral drums en het is moeilijk te beoordelen of het goed blend met de rest van de instrumenten. Anyway je weet hoe conservatief ik ben en dat ik altijd mijn oprechte mening geef. Neemt niet weg dat ik je een waanzinnige drummer vind en dat ik het te gek vind om met jou in deze band te spelen ;)

Tjeerd van Zanen:

- A1 is very well played but to my opinion & taste misses adventure and a complementary rhythm part to the vocal melody. B1 is also very well played but the drum part has more attitude and a more interesting rhythmic approach and a complementary rhythm part to the vocal melody
- The same answer as I gave to the first question. A2 is very well played but to my opinion & taste misses adventure and a complementary rhythm part to the vocal melody. B2 is also very well played but the drum part has more attitude and a more interesting rhythmic approach and a complementary rhythm part to the vocal melody and is more playful.
- The opposite answer as I gave to the first two questions. A3 is very well played and the drum part has a lot of attitude and a interesting rhythmic approach and a playful complementary rhythm part to the vocal melody. B3 is also very well played but the drum part misses attitude and a complementary rhythm part to the vocal melody. In comparison to A3, B3 sound more stiff to me

Arne van Rietschoten:

- Because both these versions are less processed (mixwise), I found the polyrhythmic version more interesting! It's more complicated but I like it, It's also more fun to watch because it has more energy. The original drumbeat is very simple, and that works better with a polished sound I think. So in this (live) situation I prefer B1. I don't know if I'd feel the same with a processed record sound.

- The original drumbeat in this song is already very interesting. The way the verse started in B2 (dotted 8th open hihat pattern) took a bit too much attention. The hihat pattern in the following section was very cool and does work great. (The one at your right, the Chinese(?) thingy). It's great. The double bass drum fills in the chorus could be very cool occasionally (not too many). And I really, really like the double time feel later in the chorus. Overall I like B2 the most. It's more fresh.
- The first verse has a bit too much toms for me (A3). The pattern could work, but maybe with other sounds (rim-sounds or percussion). Something a beat more breathy / lighter / higher. The second verse is awesome. The moment you start playing double time. I like the first verse of the B3 more. Because it's a bit less heavy on the toms. But the double time part of A3 works better. Overall I tend to like B3 the most. Though they both have it's strengths.

Max Abel:

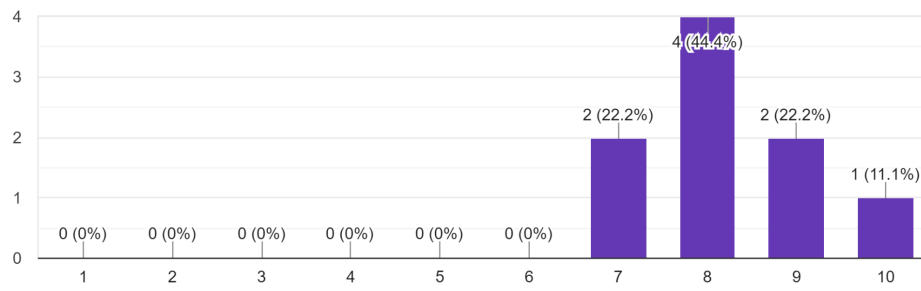
- I always think that in the first place, a drum part should support the song in the best possible way. So if the polyrhythmic version would support the song the most, i would rate that one higher. In this case, i think the polyrhythmic version becomes to much a thing of it's own and therefore distracting from the song. (Second verse groove is cool though on it's own) A1 feels way more logical (and groovier) to me.
- Kind of same story as above. B2 feels a bit forced, where A2 fits logically with the other instruments. Concerning the 3 over 4 hats: there are no other elements in the music that do this, so I don't really see the point of doing this (other than to show off your polyrhythmic skills! :D)
- See previous answer: why add such a specific rhythmic element like a 5 over 4 hihat when there's nothing else in the music that asks for this? Apart from that, i think the original groove is 'complicated' enough, and very cool already. I do think the half time snare placement makes for an interesting variation.

David van Dorsten:

- A1 is very cool, for me it has a slight "Pop predictability" feel, which I don't necessarily find a bad thing! B1 for me has more "movement" (especially at the start). I got a little bit more excited, it grabbed my attention because of the creativity of the beat. The Kick pattern for instant made me think of the vibe Massive Attack creates with their beats.
- Funnily enough de verses of A2 gave me a similar feeling as B1. B2 verse 1 started a little bit too disorienting for me in an unpleasant way. When the hihat pattern started on the right hihat, I found that extremely cool though!
- To be honest this was an extremely close call for me. Maybe I feel A3 to be slightly more "rigid" than B3. Would be interesting to hear B3 more mixed with the rest of the music to hear all the interesting rhythmic still hold up in the context of the song!

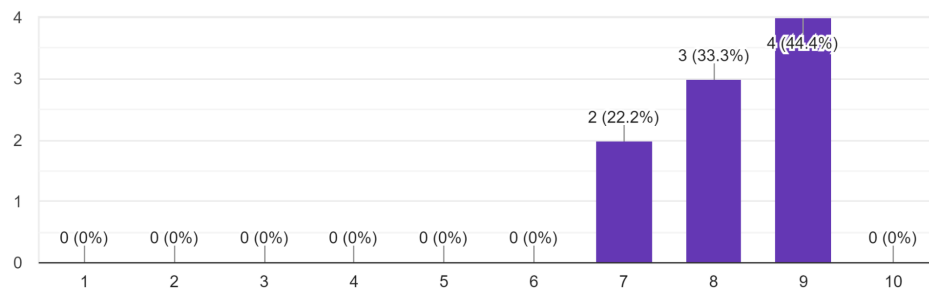
A1 - Original version -

9 responses



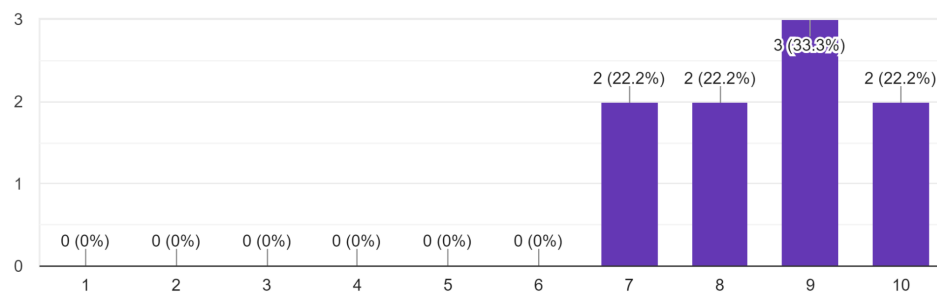
B1 - Polyrhythmic Option -

9 responses



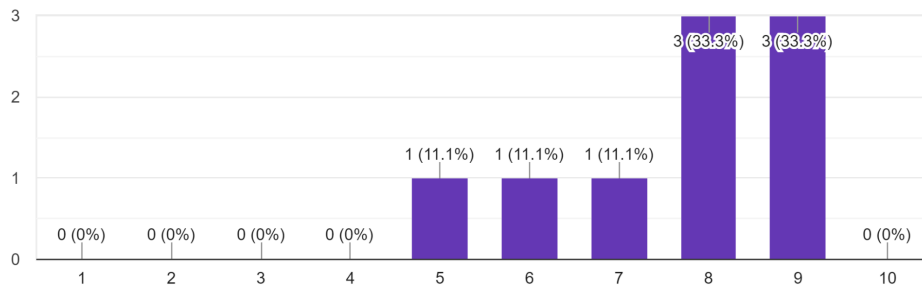
A2 - Original version -

9 responses



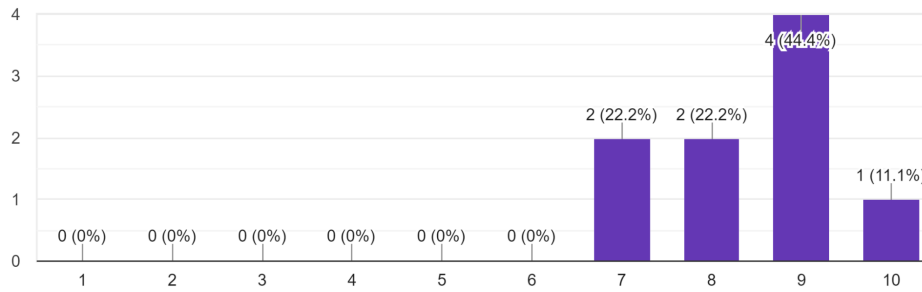
B2 - Polyrhythmic Option -

9 responses



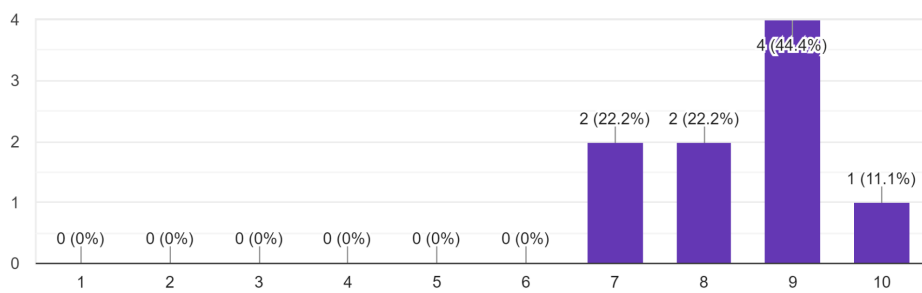
A3 - Original version -

9 responses



B3 - Polyrhythmic Option -

9 responses



Appendix 5: Full feedback of Survey 3

DO YOU HEAR THE CROSSOVER BETWEEN GAVIN H. AND ME?

Martijn Vink	Yes I hear that you've studied Gavin's approach
Stef Broks	yes i do , but can you say what is really the corssover
Leon Blokzijl	Yes! I can see you're applying for example groups of 5 in fills that Gavin does as well. Including incorporating the double bass in those fills!
Elise polman	yes
Stef broks	YES. The composed double bass/hand coordination that is levels ahead of the Portnoy stuff. Gavin takes the "old-school" Portnoy/prog stuff to a mathy level :)
Laszlo Versteeg	Ja! Bij je eerste voorbeeld koos je nog voor jou signature fill lage tom naar hoge tom, bij de volgende voorbeelden meer hoog naar laag.
Romy Ouwerkerk	Yes, quick and fast tom use, not so much symbals in the fills which I like.
Arne van Rietschot	In the Golden Gaves track not. In the Ariana Grande track yes.
David van Dorsten	YES (and I think it's dope as hell ;))
Alex Ouwehand	Ja en nee, en dat bedoel ik positief. Je bent geen clone. Maar ik hoor zeker wel invloeden in je spel.
Hans Eijkenaar	yes I do. I can see the influence and I also see another perspective on similar types of improvisation.

IS THERE SOMETHING GAVIN DOES "BETTER" OR "DIFFERENT" IN COMPARISON TO HOW I APPLY IT? THINK OF MUSICALITY/TIMING/SOUND ETC

You're fill approach is looser than Gavin's	Martijn Vink
yes different is the frasing, timing , sound ,	Stef Broks
Maybe when Gavin plays an idea it is a little more refined and clearer articulated, so that you can hear exactly what he does. So that's about the exact placement of every note (including all the small ghost notes). And maybe he uses a broader dynamic difference between his ghost notes and the main notes of a fill/groove.	Leon Blokzijl
Ik heb het idee dat hij snelle ritmes meer gebruikt als fills en jij die snelle ritmes/fills meer implementeert in je drumpatroon.	Elise polman
The difference between beats and fills is not se big with Gavin. In that way the fills make more sense to the rest of the music.	Stef broks
Gavin plaatst korte fills soms midden in het rondje om noten te accentueren, niet alleen als	Laszlo Versteeg

overgang naar de volgende herhaling. Niet beter of slechter, anders.	
Sound - Gavin Harrison his snare sound almost sounds like one of his toms. His fills are quicker and more compact, then Eriks fills. Which I like more from Gavin. In the third video, Erik his fills are quicker and more like Gavins. Gavin seems to play more 'rhythm notes in his fills, I think. And Gavin uses more dubble bass. I like the compact/quick fills a lot. Sounds really in control and creates peace and calmth in the song. Which I like. And when he hits an a symbol to lay attention one the one, it just hits me harder.	Romy Ouwerkerk
Golden Gaves track: In this video i feel your fills are sometimes a little bit rushed. Ariana (lekker) Grande track: Good playing. Sound is a little bit too roomy, and snare pitch a bit too low for this kind of music in my opinion.	Arne van Rietschot
It's hard for me to tell, mostly because my brain is not wired like a drummer. I do think in the examples you showed from 'Anesthetize' the composition itself "allows" space for the fills to become complex melodies in themselves on top of pretty simple guitar/bass/keys melodies. Your playing has more of a improvising on a loop feel. Not necessarily less good, just less integrated in the whole composition.	David van Dorsten
Gavin klinkt net wat vloeiender in de fills imo. Qua Groove zijn jullie beiden consistent. Gavin komt ook net wat beter uit met z'n fills imo. Er zit bij hem een soort swing/swung in alsof het effortless is dat mis ik bij jou, op deze opname, soms wel een beetje.	Alex Ouwehand
To be honest I think that the fills that Gavin performs are more purposeful and serve the music slightly better in this recording, it is always easier to listen to fills within a 'song' than to compare them to fills played anywhere over a loop, thus the pop song I like better as an example of what you are doing. The main thing I notice is that if you are slightly 'off' or 'early' in terms of timing the effect gets to be much less. In Gavin's case (not to discourage you at all) he is always relaxed and I find his complex fills somewhat logical.. Furthermore, his fills tend to be somewhat melodic and tend to incorporate no cymbals, giving it more of a virtuoso feel towards and end note. (crash)	Hans Eijkenaar

APPLICATION OF THE DOUBLE BASS IN POP MUSIC. DOES IT FIT?

It all depends, if it's done tastefully I wouldn't know why it wouldn't fit	Martijn Vink
yes	Stef Broks
It could fit! But I think it should be used delicately, so less emphasized and more used as a decoration of a broader fill concept. Maybe it is nicer if you don't hear that it comes directly from a heavier type of music (metal/fusion). But I'm not sure how you would do that, haha!	Leon Blokzijl
Was me niet opgevallen dat je dat had gebruikt in die laatste track	Elise polman
Yes, it's actually asking the same question as "does these extensive/outspoken fills belong in Pop? If the answer is yes, double bass can be in there. The more pumped-up the music is, the better it blends I guess.	Stef broks
In fills heel cool, kan wel snel te druk worden. In grooves altijd goed rekening houden met de bass.	Laszlo Versteeg

Super awesome! First off al you drum this song amazing!! I love it!!! It's constantly interesting and give an extra push! It's fits for me. The only thing I don't like that much, but that's my taste is the triplet feel dubble Bas. But the rest in incredible!	Romy Ouwerkerk
Yes sometimes it can work. If the sound is good. But maybe not too much. In studio recordings most of the time not.	Arne van Rietschot
I think it fits FANTASTICALLY	David van Dorsten
In de poptrack vind ik de dubbele bass niet veel toevoegen. Voor mij weegt de plaatsing van de hits op de cymbalen en de Toms veel zwaarder (als we het over Gavin hebben)	Alex Ouwehand
yes it does completely fit, giving it more horsepower and less predictability. well performed by both Gavin and yourself.	Hans Eijkenaar

ARE THE FILLS WITH DOUBLE BASS MUSICALLY PLACED IN THE TRACK? OR IS IT OVERLOAD? ALSO CONSIDER THAT I'M IMPROVISING. IT MIGHT BE A LOT OFF FILLS IN A SHORT PERIOD OF TIME (AT LEAST FOR THE JAM PART)

If applied tastefully I won't know why not	Martijn Vink
just depends on how good you execute	Stef Broks
In this track, personally I think it's a little overload. But that's totally personal. I think, If you want to play more notes and more dense fills, gospel chop-kind of fills would fit more to this particular track.	Leon Blokzijl
Ja	Elise polman
The amount of fills on itself is a bit overlead to my opinion.	Stef broks
Het feit dat het improv is zorgt ervoor dat het kan. Als het voor opname van song is goed uitkiezen waar dubbel bass fill geplaatst kan worden aangezien zo'n fill heel veel energie geeft.	Laszlo Versteeg
For me it's not to much, it feels right.	Romy Ouwerkerk
In the Ariana Grande track it works. In Golden Caves it does not in my opinion.	Arne van Rietschot
It does fit, it's uplifting and adds energy	David van Dorsten
Soms vind ik de fills briljant en soms zijn ze net over de top.	Alex Ouwehand
Like I said, harder to get a feel for fills if they are all over the place (my shortcoming no doubt) but the number of fills does not matter in that sense, like you said, you are improvising. What I do notice (as stated before) that I find the gaps with crashes to be an overcomplicating factor, something I do not feel in Gavin's fills. In other words, the more complex the fill, the more clean the statement should be maybe and the more important the microtime becomes in relation to a click. All about how to 'package' a complex idea and how to 'sell' it to the listener.	Hans Eijkenaar

WHAT DO YOU THINK CAN BE IMPROVED?

Arrange the fills. To me they sound a bit too much like you came up with the fills on the fly . Whilst Gavin clearly arranged his and practised them many times	Martijn Vink
as mentioned above	Stef Broks
I think the overall dynamic range could be a little broader and when you play an idea go for it 100% so that it translates to the audience. I'm struggling with this as well! It seems that Gavin only plays ideas that he knows he can 100% nail (and has nailed before). That takes soo much time to master.	Leon Blokzijl
-	Elise polman
In the fills with two equal playing hands combined with double bass you tend to speed up a tiny bit. Same goes for some of the other fills too. It's just a tiny bit of speeding up that makes the ongoing grid feel uncomfortable. It seems the overall material is not 100% internalised and came to a rest in your playing. But hey...who am I to say this. The complexity of this material is really high and takes a long time to really land.	Stef broks
In het voorbeeld van pop muziek vind ik de keuze van kick patronen niet helemaal goed sync'en met de bass gitaar.	Laszlo Versteeg
I think ' Gavin sounds quicker also because there's less reverb on his snare sound '. But his sound seems a bit dryer. If you get your fills as fast and compact as Gavin, I think your sound get cleaner and it work even better in Ariana songs.	Romy Ouwerkerk
I feel there are some rushed fills in the Golden Cavevs track. And sometimes the tempo slows down after a fill when the beat comes back. Ariana track is well played! Drumsound is just a bit off. It should be dryer, and higher snare pitch. (my taste)	Arne van Rietschot
Hard for me to tell, more confidence, it's awesome.	David van Dorsten
Ik speel super graag met je omdat je een creatieve drummer bent en ik vind dat je een eigen sound hebt dus ik ben juist blij dat je niet als een copycats klinkt. Je speelt met meer energie en je sound is krachtiger waar het bij Gavin net wat jazzier en lossier klinkt.	Alex Ouwehand
All stated in the previous answers, next time I will read ahead:-)	Hans Eijkenaar

CAN YOU SEE A BLIND SPOT OF A REPETITIVE MOVE OF HOW I USE THE FILLS?

I'm not sure	Martijn Vink
yes your left hand stays on the snare all the time , even this is a great snare..	Stef Broks
In the first rock/fusion backingtrack you end a lot of the fills with a couple of kicks and crashes (a kind of syncopated fill thing). That's something I heard a couple of times. It's hard to explain in text, haha! And in the Ariana track I heard you play fills on the snare and toms at the same time a couple of times. But other than that it's a lot of variety!!	Leon Blokzijl
No	Elise polman

Like above. I think if you hit more accents in the fills you can 'mean' it more. Now you play really subtle, with more intense playing most people gonna play more tight. You can see that a bit in the fill of 2.34 for instance. You hit a lot of notes, but your body is not with you in intensity. Without that meaning you lack intensity and ..therefore tightness a bit. The fills seem really 'composed'. That's really Gavin's stilo. It's something that a lot of drummers like. Though, I guess a lot of singers/guitarists actually prefer a drummer that just goes for it, without the composed fills. But..that's a matter of style	Stef broks
Veel fills zijn 1 of 2 maten lang om het einde van een rondje te accentueren. Een fill hoeft niet altijd met toms gedaan worden.	Laszlo Versteeg
I don't experience repetition. But I think you could make it feel extra dynamic if you could play with super compact quick fills and the a bit loser fills.	Romy Ouwerkerk
Maybe sometimes the fills are a bit too filled up (HAHA). Some rests in a fill could be nice. More tension.	Arne van Rietschot
In general the blind spot will always be for "a thing" to become a gimmick. I think back to the Gavin H examples where it really "feels" integrated with the overall composition. To be more precise, as with all good compositions, dynamics/build up is key. Complexity all the time becomes boring. Simplicity intertwined with complexity is interesting.	David van Dorsten
Geen idee	Alex Ouwehand
crashes in the longer fills.....to me a blind spot that I did not notice before during sessions but on video in a listening position I do notice.	Hans Eijkenaar

HOW DO YOU EXPERIENCE ALL OTHER SHORTLY APPLIED POLYRHYTHMS IN GROOVE SECTIONS?
VARIATIONS IN BEAT SECTIONS - Only answer if you know what they are. If not, just say NO

Some times i experience them as not so useful and then I'm distracted and not paying attention to the song and the vibe of the groove	Martijn Vink
i like that	Stef Broks
I've tried one I learned from you, haha!! I thought it was very nice. It's not something I would easily come up with myself, so it was something new and challenging!! The most challenging part is maybe to master it in a way to be able to use it musically in for example pop music, without it being to "lomp" (how do you say this in English, haha)	Leon Blokzijl
I like	Elise polman
The hihat stuff in the hiphop seems to really suit you. Very strong of you to be so open and vulnerable about your drums and the critics to it. Wow! All the stuff I mentioned is never to make you weaker...only to make you stronger. Keep on going!!	Stef broks
Kan mooie accenten opleveren en de groove tijdelijk laid back laten voelen. Ook weer goed kiezen wáár je dit toe past. Werkt beter in hi-hat dan in kick (ivm bas git)	Laszlo Versteeg
I do think there an awesome additive. I doesn't feel full because of it. I'm not sure if this is caused by the groove of the song. But I feel you search your additives in triplet feels a lot. But maybe again that the song itself. But I do think it creates an extra good vibe to it. Makes me wanna dance more	Romy Ouwerkerk

No	Arne van Rietschot
I experience it as 'human'/'groove'	David van Dorsten
I like it! Ik heb niet het gevoel dat ik naar een wiskundige formule luister het klinkt wel natuurlijk/organisch.	Alex Ouwehand
I find them to be musical, interesting and fitting to the music. If you use them within the grooves I find the second hihat to be stronger than the primary, on the first hihat I am aware of the kick patterns shifting but on the second hihat I am aware of all aspects.	Hans Eijkenaar

DO YOU LIKE IT?

6	Martijn Vink
7	Stef Broks
9	Leon Blokzijl
8	Elise polman
10	Stef broks
8	Laszlo Versteeg
9	Romy Ouwerkerk
7	Arne van Rietschot
9	David van Dorsten
7	Alex Ouwehand
9	Hans Eijkenaar

Appendix 6: Full feedback of Survey 4

Do you hear any improvement? (in comparison to the reference recording-survey3)

Yes I do,	Tjeerd van Zanen
Ja! heb survey 3 nog eens geluisterd en het flowt allemaal veel lekkerder!	Elise Polman
Yes	Arne van Rietschoten
Yes! Much more confidence, less searching and more cohesive fills.	Laszlo Versteeg
You sound super 'fat'! And noooo I don't think your fat ;). You fills are definitely more compact and quicker in timing. So flow better with loads of energy behind it.	Romy Ouwerkerk
- De double bass bursts zijn veel strakker! Heel nice! (bij 0:35 en 0:45 bijv.) Heel sick! - Ook qua voicings in de fills klinken ze nu veel logischer dan bij survey 3 - Je komt veel rustiger en beter uit na elke fill	Leon Blokzijl
Zeker! Klinkt veel strakker!	Alex Ouwehand
yes , I do ! the fills sound way more solid !	Martijn Vink
Not in all the fills, to be honest. But still...the fills are so damn complecated. Still I seem some microtiming issues in a bunch of em. Certainly not all of em!	Stef Broks
yes I do, more versatile, more varied and more suitable	Hans Eijkenaar

Do I come closer to the way Gavin is playing fills?

I hope you don't and keep playing like Erik Stein:). But you've definitely approved your approach to playing fills.	Tjeerd van Zanen
Dat denk ik zeker! Het heeft je zeker geïnspireerd tot nieuwe fills qua ritmes.	Elise Polman
Yes, but i feel Gavin's fills are a bit shorter (not always), which results in the groove gets a bit less interrupted.	Arne van Rietschoten
Absolutely, especially 7 through 9. But overal very Gavin-esque!	Laszlo Versteeg
Definitely! What I said before. You hold your sticks different and they or longer, so that creates a difference. But the energy in your playing and speed wise it feels better to me.	Romy Ouwerkerk
- Qua timing/feel kom je zeker veel dichterbij Gavin's feel. Vooral in de bassdrum is dat goed te horen vind ik!	Leon Blokzijl
Ik hoor zeker meer DNA van Gavy in je drumming de vorige x was het meer Danny Carrey imo	Alex Ouwehand
yes you do , you get closer to Gavin machine style	Martijn Vink

<p>My suggestion would be to</p> <ul style="list-style-type: none"> -play with even more intention (hitting some notes louder). That's what you see at the gospel drummers. They even bring their body in to play tight. I need that face you do on 2.48min. That's the vibe we need :)!! The intense face!! -Make more accents in the hands. Make the gap biggest between soft and loud. <p>But I have to admit, you're approaching a more Gavin style of playing. Quieter, more in control. If you play that way, there's still some tightness to go.</p>	Stef Broks
yes you do but in all honesty, the musical context has a lot to do with the way I interpret as a listener, in general you sound louder and more rock oriented	Hans Eijkenaar

What can still be improved?

<p>Even though Gavin Harrison plays difficult fills he makes them sound easy and simple. In my opinion he arranges them and knows them by heart when he implements them. When I watch and hear you play it sounds and looks as if you make some of the fills up on the spot and to me these sound less solid then the ones I think you've arranged. It's always difficult to tell 'cause it could also be a matter of taste.</p>	Tjeerd van Zanen
<p>Er zit iets in Gavins manier van spelen (als ik kijk naar t filmpje van survey 3) waardoor heftige dingen die hij speelt niet altijd heftig klinken! Ik denk dat dat in zijn dynamiek en bizarre micro-timing zit.</p>	Elise Polman
<p>I feel that there is bit of slowing down or rushing in some parts of the fills. The 3rd, 8th, 11th one for example. I like less complicated fills more.</p>	Arne van Rietschoten
<p>Music consists of a lot of notes but don't forget the rests, sound wouldn't exist without silence. A well placed (short) rest/choke can really change the feel (rush or drag) or dynamics of a fill.</p>	Laszlo Versteeg
<p>I find it difficult to say, because I listen to two different kind of songs, also in tempo. So I hope you can do something with this.</p> <p>But one thing, I think you can try is that: Gavin fills sometimes sound like 3 mini separate fills played in one 'fill line'. And they don't always end on a 'right' or 'crash'. And I think (but that's a choice of taste I guess, you don't necessarily have to so that). But gave seems to play more dubble bass notes.</p> <p>But with your fills I have the feeling it's like one 'frase', or one lets say fill line, like a melodie that moves from left to right and finishes on a crash or right. I think there could still be some improvement. If you want it more Gavin styl. And If you understand what I mean :p</p>	Romy Ouwerkerk
<p>Ik heb soms in de fills dat ik niet helemaal hoor of je nou 16en speelt of triolen. Maar dat is ook wel een beetje die feel die Gavin ook heeft. Het zit er soms een beetje tussenin, lijkt het.</p>	Leon Blokzijl
<p>Sommige fills vind ik misschien iets te druk maar dat is ook wel weer gaaf 🙄</p>	Alex Ouwehand
<p>the goal should be that the fill doesn't interrupt the feel of the accents</p>	Martijn Vink

Micro-timing. If I tap the right hand on my lap along with your fills (and that's the same pulse as the keyboards do) I encounter a lot of flam vibe in there, between your hitted notes and mine. Or in other words. Already in the middle of a lot of fills there's a little speed-up or inconsistency in the 8th notes played with the right hand. During the fills, try to focus more on those 8th notes from the keyboard maybe.	Stef Broks
instrumentation can be more varied and particularly the use of the 2nd hihat as short sound in fills (you sometimes do that) brings more air into the complex long fills	Hans Eijkenaar

Is there a fill that you like the most?

Fill 1, Fill 2, Fill 4, Fill 5, 2nd part of Fill 8, Fill 9, 2nd part of fill 10, Fill 11, Fill 13	Tjeerd van Zanen
3! 13 kwam ook close maar uitvoering 3 was beter ;)	Elise Polman
Number 10	Arne van Rietschoten
9. Really like the dynamics on the snare in this one	Laszlo Versteeg
8 the most, but 1 and 13 I like to! (I need to say that at the very very end of your drum fill you seem to quick a half count or something too early, before you go back to the one). That has nothing to do with Gavin, so I say it here)	Romy Ouwerkerk
Fill 9, omdat ik daar het beste voel wat je speelt. Daar zijn het veel meer 16en en 32en.	Leon Blokzijl
8 is mijn favoriet, 11 past heel goed in de transitie	Alex Ouwehand
I like , 4,5 ,9 and 10 because of the flow	Martijn Vink
Fill 8! Because the beginning and the ending are not over-complicated haha. And tight. If you get those fills even more tight, you're a master on this topic. Looking forward to that. Playing these fills on an album 100% tight is not something I achieved. Would be great if you could! I mean that positively. And once again: loads of respect for the way you approaching this.	Stef Broks
1.20 I love and 2.05 cause of the different starting point (floors)	Hans Eijkenaar

Do you like it?

9	Tjeerd van Zanen
10	Elise Polman
6	Arne van Rietschoten
9	Laszlo Versteeg
8	Romy Ouwerkerk
8	Leon Blokzijl
9	Alex Ouwehand

8	Martijn Vink
10	Stef Broks
9	Hans Eijkenaar

Appendix 7: Full feedback of Survey 5

What do you think of the concept? Does it make sense? Can you follow?

Yup. Immediately thought of Jambi's bridge/breakdown. A written morse code line (1:39) would've been nice for your 53353354 example (can't figure out what the numbers represent exactly)	Lasylo Versteeg
It's very sick!! Yes I can follow, but only now I know the groups you play, haha!	Leon Blokzijl
Hey Erik, as far as I know and use this system I count differently. I can't really follow the way you describe 5335334 and then play it. I know the concept since Meshuggah, Tesseract and we kinda came up with this thing. I don't say our method our writing is correct btw, but I just don't understand it totally. At the 5335334 it seems you play more like two 3's in a row. Maybe I totally miss the point hahaha.	Stef Broks
makes perfect sense	Hans Eijkenaar
It looks and sounds very interesting although I can't decipher it. If it makes sense to the drummer that's all that matters I guess. As a guitarist it's hard to follow for me.	Tjeerd van zanen
Ik snap het helaas niet! Als je mee wijst met het blaadje snap ik dat soort van, maar waarom 3 en 2 snap ik niet. En bij je eigen patroon kan ik 5 2 en 4 er ook niet uithalen ook al probeer ik je LH te tellen. Maar dat ligt aan mijn polyritmische onkunde haha	Elise Polman
I do not completely get what's the intention of this part of the survey. It's clear to me that the codings should help you with counting the beats, right? But I don't get if there is something else it should help you with? It's clear that in the part you're playing 5-3-3-5-3-3-5-4 you're playing the same thing in each grouping with the same number.	Arne van Roietschoten

What can be improved in my playing? - Technically

Internalize this playing style more so it comes more naturally/fluid. I could be wrong but I can see the calculations going by in your head while you're playing, where as with Thomas it looks a lot more fluid.	Lasylo Versteeg
For this style of music, your playing is very nice!! But I'm curious to see how you would apply this in a less progressive style.	Leon Blokzijl
I cannot hear the sound of the bassdrums properly so I can't dive into it 100%. The hands seem very tight though.	Stef Broks
always room for more organic dynamics and stronger choices in terms of crashes and flavour	Hans Eijkenaar

You're playing is really great. The only thing I notice when I compare Thomas Haake's videos to yours, that to me it seems that Thomas has rehearsed his parts through and through and knows 'em by hearts so his physical appearance shows him fully in control and watching your videos it see you concentrating on the rhythms. If there would have been no videos only audio I might not have gotten that feeling.	Tjeerd van zanen
Geen feedback	Elise Polman
Sometimes it feels like your accents differ a bit to much in volume. Or that the accent is on a different count than it's supposed to be.	Arne van Roietschoten

I am not really trying to play like Thomas Haake but rather get inspired by what he is doing. But can you name differences between him and me which you would advise me to improve on?

Like my previous answer, mostly fluidity. Great system for coming up with crazy things tho!	Lasylo Versteeg
I think it's already very nice! I'm curious to hear it in faster tempo's with more ghost notes. But your playing is already very close to his.	Leon Blokzijl
Thomas is mostly not working out the numbers like you do. He is doing this only in Bleed. The rest of the time he fills up with snare ghostnotes, like in the example. The kick is following the ride/china/hihat. Fun fact: our version of the "Bleed-rhythm (in Old Days Born Anew) was released in the same month as Bleed from Meshuggah :) We never get credits though hahaha. Sad me, huilie huilie	Stef Broks
main difference to me is the fact that the double kick seems more prominent in your playing and is more reminiscent of Gavin than him. Then there is the lower tempo advantage that you have to make things more breathing of course	Hans Eijkenaar
First off, you don't sound like Thomas Haake at all. But making your own patterns will distance you from him even further.	Tjeerd van zanen
Ik moest even Googlen wie Thomas Haake is want uit het filmpje en introductie begreep ik niet dat het die dude was haha ik voel me zo dom Sorry ik kan je echt voor geen drol helpen deze survey want ik snap nooit zo goed hoe ik naar deze muziek moet luisteren. Ik vind jouw filmpje wel overzichtelijker qua drums maar dat komt wssl omdat het ook een heel ander tempo en nummer is.	Elise Polman
The bass drum playing of Thomas feels a bit tighter. So does the snare sound. I think a higher pitched snare with more attack and less sustain will suit better.	Arne van Roietschoten

Is there be something else I can focus on? (in regards of what he is doing/playing)

I do not have enough of a drummers ear to answer this question.	Lasylo Versteeg
Maybe try to do single pedal things while keeping a pulse with your left foot on the hihat.	Leon Blokzijl

I find the last entire piece of music actually really good. Do you write it yourself totally?! When you go this more Gavin approach, nothing more to say... When you go Thomas..make it more brutal, I guess haha	Stef Broks
maybe use different instrumentation for the same patterns and if possible change the right hand pulse to something else than the quarter note? (haha)	Hans Eijkenaar
Keep doing what you're doing:)	Tjeerd van zanen
	Elise Polman
Nothing comes to mind!	Arne van Roietschoten

Do you like it?

8	Lasylo Versteeg
10	Leon Blokzijl
10	Stef Broks
9	Hans Eijkenaar
9	Tjeerd van zanen
8	Elise Polman
7	Arne van Roietschoten

Appendix 8: Full feedback of Survey 6

Can you recognise the 'morse phrasing' technique (Left Hand)?

Yep. Especially in the beginning. Actually this a sort of vice-versa "comping" as used in jazz. Not your snare or ride hand is leading, but the kick seems to be leading, but the hand sort-of filling it up.	Stef Broks
I'm not a drummer so I don't recognise the patterns as "morse phrasing techniques" but it sounds nice. I also like the added tabla sound you assigned to the drumpad. Gives it an extra flavour.	Tjeerd van Zanen
Yes, in the first examples when you played with the loop track, I did!	Leon Blokzijl
yes indeed	Hans Eijkenaar
Couldn't tell you what the groupings are but nonetheless yes!	Laszlo Versteeg
yes very much	Martijn Vink

What do think of it?

Difficult stuff yo	Stef Broks
I like it, makes it adventurous.	Tjeerd van Zanen
I think it's a nice way to spice up your playing without disrupting the core groove if you play it nuanced enough.	Leon Blokzijl
I love it since it blends well with the music and reminds me of a form of left hand/kick improv from the jazz rock era (Erskine/Acuna/T. Williams)	Hans Eijkenaar
Love it. It's nice to see the evolution in your playing style regarding fills but also in general. These examples sound a lot more 'mature', well thought out methods with enough headroom to improvise and apply everything.	Laszlo Versteeg
I really like it , its a new path for you	Martijn Vink

What are the things that I can improve on?Suggestions?

see below	Stef Broks
Maybe the tighness?	Tjeerd van Zanen
Maybe a little more nuanced. So there is a bigger difference between the core groove and the ghost note morse prasing. But that's just taste! I loved the way you did it with the two hihats. That was a very nice application!	Leon Blokzijl
keeping the right hand even cleaner by not raising the volume when the left hand/kick intensifies	Hans Eijkenaar

I know these are examples and you're 'over doing' it but would love to hear what you come up with if you'd compose a drum part for a song.	Laszlo Versteeg
make it sound more effortless	Martijn Vink

Applied in the 'right way' (for your own taste) considering the musical context/tune/song?

I have to many comments. I sent over a mail	Stef Broks
I like it especially in Happy Dreams. Gives the song a lot of flavour	Tjeerd van Zanen
Yes! Because the loop and both songs were all a little prog-ish, so that fits perfectly!	Leon Blokzijl
yes indeed although in my opinion you could over the loop be even less 'in the structure' and improvise more 'over the bar' In the songs you could improve (if you don't mind me saying O 2 thins, first: less volume raise in a fill, better blend with groove and 2, less fills will have more impact on listener cause of the nature of the complexity.	Hans Eijkenaar
Absolutely!	Laszlo Versteeg
yes, you can play as much as you want	Martijn Vink

Appendix 9: Transcriptions, (annotated) scores, analyses

Cycle 1:

'Eulogy'

https://drive.google.com/drive/folders/1N0LqYHFgWEiC8d_Kz3kdixggswXjZcbZ?usp=sharing

'Invincible'

https://drive.google.com/drive/folders/1pFh3ovnywTmk0uqaSQc_ftMqcyUvUCaQ?usp=sharing

'Lateralus'

https://drive.google.com/drive/folders/1f8Nf0cllFA7934aj0To3G12P-006J__N?usp=sharing

'Chromosome' - 'Hide&Seek' - 'Temperature' Reference Recording:

<https://drive.google.com/drive/folders/1pNtQa6nBdGDM3S76xejS8FB0kh7wvBZ0?usp=sharing>

'Chromosome' - 'Hide&Seek' - 'Temperature' Final Outcome:

https://drive.google.com/drive/folders/1i0rDDbs7dFM2K_08NjCzuRfOEKP4u3TG?usp=sharing

Log Book Cycle 1:

https://drive.google.com/drive/folders/1OC_c-FeqVZ7ShcUcnDi8j6caarBhKrT4?usp=sharing

Cycle 2:

'Anesthetize1'

https://drive.google.com/drive/folders/1IH30sDVEBzhSvGX0D6jEbd7swJBML4CU?usp=share_link

'Anesthetize2'

https://drive.google.com/drive/folders/1hls9t14Jvwe3N1oTJcuv7yltHP-LtLb6?usp=share_link

'PASIC Drumfestival (3)

https://drive.google.com/drive/folders/1hls9t14Jvwe3N1oTJcuv7yltHP-LtLb6?usp=share_link

'PASIC Drumfestival (5)

https://drive.google.com/drive/folders/1gCssR1XLiX20roP8P2ywJx-2B41LTsQe?usp=share_link

'PASIC Drumfestival (7)

https://drive.google.com/drive/folders/1c5LAoLEQJm_dP-luOSQ6NPxzeAE6OtjM?usp=share_link

'FILL 7'

https://drive.google.com/drive/folders/1r_-uwqJOvMhQKI45dVkBRTJGeOZzRCks?usp=share_link

'All groupings with twin pedals'

https://drive.google.com/drive/folders/1Dno4ZLilq5SqxV9yc-Wx6KtC-7iB3Cyx?usp=share_link

Log Book Cycle 2:

https://drive.google.com/drive/folders/1AKTYfHVpVYCKrONvhe-HFYgVIVDkePOS?usp=share_link

Cycle 3:

'Clockworks 1'

https://drive.google.com/drive/folders/1xbcMXYFr1wzyscllkwjDQiAYGU_1kvoG?usp=share_link

'Clockworks 2'

https://drive.google.com/drive/folders/1qzeU0F7Aci99QSI7XwxW3gu2VXpaOQFI?usp=share_link

'Morse Phrasing 1 & 2'

https://drive.google.com/drive/folders/1K3tCX7ANdmVdWntur4ii_na4gnyqiiTI?usp=share_link

