

**THE ART OF CHOPPING**

**Expanding its rhythmical vocabulary through the analysis of cajón flamenco playing**

**by**

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## AV - Track list

The following videos are included in the USB ("media" folder) which is attached to the dissertation. An online version can be found by clicking the desired title.

### **1st INTERVENTION CYCLE**

- [0 - 1st Reference Recording](#)
- [1 - Casey Driessen - Interview examples](#)

### **1st INTERVENTION**

- [2 - Working in a Building- Casey Driessen - SYNC SCORE](#)
- [3 - Tanuki Attack - Casey Driessen - SYNC SCORE](#)
- [4 - EXERCISES - Basics - Cycle Slant](#)
- [5 - EXERCISES - Basics - Triple chop](#)
- [6 - EXERCISES - Kick drum & chop](#)
- [7 - EXERCISES - Slide exercises](#)
- [8 - EXERCISES - Casey Driessen fills & patterns from Tanuki Attack](#)
- [9 - EXERCISES - Castillo de Castellar - Chop Variations](#)
- [10 - 2nd Reference recording](#)

### **2nd INTERVENTION CYCLE**

- [11 - 1st Reference Recording](#)
- [12 - Udo Demandt Interview - examples](#)

### **2nd INTERVENTION**

- [13 - For Syria - Ruven Ruppik Cajon solo - SYNC SCORE](#)
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- [16 - Extended Exercises - Ruven Ruppik patterns and fills - For Syria](#)
- [17 - Extended Exercises - Ruven Ruppik patterns and fills - Sonor Demo](#)
- [18 - Artistic Outcome - Percussion Solo](#)

### *Additional content*

- [19 Udo Demandt - full Interview](#)
- [20 Casey Driessen - full interview](#)

## ACKNOWLEDGEMENTS

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In addition, I thank Casey Driessen, who inspired me to write this research. He took many of the existing percussive techniques to the next level and created new ones, showing me the grooviest side of violin.

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To Ruven Ruppik, with whom I had the good fortune of sharing our mutual master studies. I was always passionate about his playing and virtuosity with percussion and, more precisely, with the cajón.

Many thanks to Udo Demandt, not only for being an outstanding musician but for giving me plenty of useful information and ideas which inspired me so much, halfway through the development of this research.

I would also like to thank my friends in DOT Quartet; Ivan Nogueira, Chris Kosides, Yanna Pelser and Carmelo Patti, with whom I could experiment, talk and share many of the ideas worked.

Lastly, infinite thanks go to my family, who have always provided me with good energy and love.



## MOTOR MOTIVATION

I have always been enthusiastic about anything related to improvisation and rhythm. When I was 14 years old I started to self-develop my improvisation skills by listening to and playing over recordings of jazz violinists such as Stéphane Grappelli, Jean Luc Ponty, and Didier Lockwood. I later decided to follow a classical path in order to build up a strong technique on my instrument. By taking this direction I learned a broad and exciting repertoire of classical music by Bach, Mozart, Prokofiev and Debussy, all of which developed my knowledge of sound, expression, colour and violin techniques, enabling me to conquer all those difficult passages. After this I decided to step into Latin & jazz music at the World Music Department of Codarts.

Traditionally, the violin is seen as a melodic solo instrument and on rare occasions it assumes rhythm and harmony as a principal function, as in the case of, for example, a second violin in a string quartet or an orchestra. When I started to play the guitar eight years ago, it fuelled my interest into how I could possibly translate the feeling of being a guitarist or percussionist into that of a fiddle player.

Immediately after this I discovered Turtle Island String Quartet, a classical string ensemble specializing in modern styles such as jazz, rock and funk. In their performances they made use of advanced percussive bow techniques, commonly called “chopping” or “chop”.

Upon starting my master studies, my main teacher, Christiaan Van Hemert advised me to check fiddler Casey Driessen (1978, Owatonna, Minnesota, United States). He is an American bluegrass fiddler and singer who has performed with many well-known artists such as Béla Fleck, Abigail Washburn, Steve Earle, Tim O'Brien and Darol Anger. His use of advanced percussive bow techniques (chop) was outstanding. It made me realize that it was possible to use the violin as a groove-rhythm instrument.

I should mention that, by this time, I was already able to chop; in fact I started DOT Quartet jazz string quartet where I could apply this technique. By understanding Casey Driessen's music, however, I realized that I could expand my own playing, and by following my interest in flamenco music, I could use Casey Driessen's tools to introduce new elements of chop playing. To that end, I would focus on one of the most important rhythm elements of percussion in flamenco: "el cajón".

Cajón is the principal percussion instrument in flamenco music. For various reasons I have been led to explore the combination of chopping with cajón playing; many players have developed very complex and rich vocabularies emanating from various styles such as jazz and Latin. Furthermore, cajón has three different and very well defined sounds: high pitch, low pitch and ghost. This aspect is very important because it facilitates the process of translation into chopping.

Before that, however, it was necessary find and understand many of the existing percussive sounds and techniques and, from the perspective of a violinist, to dive, for the first time, into the logic of non-pitched forms of playing. Only after that could I start to explore the language and vocabulary of cajón.

To this end, I started investigating available literature about chopping. Unfortunately, very little has been published on this subject, as most of the knowledge about the technique is transmitted live. Therefore, I hope this work will be useful for future researchers who can use the concepts and material shown here as reference.

## GOALS

- To gain a deeper knowledge of cajón playing (as a violinist) and adapt its idiomatic elements to the violin.
- To classify all the possible sounds in Casey Driessen's chopping techniques and generate a specific notation system for them.
- To perform in a strictly percussive style and to develop percussive solos.

## ARTISTIC QUESTION

**How could I expand my knowledge and use of percussive-bowing techniques used by fiddler Casey Driessen through the analysis of his music, and the translation of vocabulary from the flamenco cajón, so that I could incorporate them into my solo compositions and rhythmical improvisations?**

### Keywords:

**Chop:** The "chop" is a percussive bow stroke invented between 1965 and 1966 by pioneering fiddler Richard Greene. It is produced by hitting the string with the first 5 cm of the bow, resulting in a high-pitch, fast, sharp sound. (Thomsen, Laurel, n.d.)

**Fiddle:** Alternative name for the violin along folk music players

**Fills:** In popular music, a fill is a short musical passage, riff, or rhythmic sound which helps to sustain the listener's attention during a break between the phrases of a melody. (Wikipedia, n.d.)

**Compás:** Is the Spanish word for metre or time signature. It also refers to the rhythm cycle or layout of a *palo*. (Wikipedia, n.d.)

**Llamada:** Literally means to "call". In flamenco terminology it means that a flamenco dancer notifies or cues the guitarist (or the singer) of a forthcoming rhythm change, or that the next section of dance will be performed. (Studio flamenco, n.d.)

**Timing:** In music this refers to the ability to "keep time" accurately and to synchronize to an ensemble; also expressive timing - subtle adjustment of note or beat duration, or tempo, for aesthetic effect. (Wikipedia, n.d.)

## **1ST INTERVENTION CYCLE**

My artistic research follows the model of Intervention Cycles proposed by the Department of Master Studies of Codarts, Rotterdam. It consists of four steps: Record, Reflect (feedback), Data Collection and Intervene (perform).

In the 1st intervention cycle

- I researched existing material about chopping
- I analyzed two of Casey Driessen's pieces and I interviewed him.

I decided to analyze two pieces which were very different to each other. The first piece was "Working in a Building"; it is a traditional tune where Casey sings and plays at the same time. It has a very complex layer of rhythm with very interesting fills. The second piece is "Tanuki Attack" and it is strictly percussive.

### **RECORD**

<https://youtu.be/IsUHvln4BQs>

This is an original composition of mine based on bulerias. It is divided into four main parts: main melody (repeated twice), a groove part (chop bow technique used) and a complementary groove part (chop + melody + bass line).

### **REFLECT**

These are my own impressions of the recording:

- By close comparison with "Working in a Building" by Casey Driessen, I thought that I could incorporate elements to give more of a feeling of 16th rhythms. I also observed the use of rhythmical fills, such as drums, connecting different sections.

- I observed that there were no variations at all, in the rhythms I played.

- I felt that could improve the quality of the chop (different pitch and sharpness depending on the strings as I executed them).

- I sometimes used the left hand for timing. This itself could be used for colour.

From my network, Christiaan Van Hemert advised me to transcribe Casey Driessen's music to gain a better insight of the licks and patterns he uses, and to later add them to my playing.

Carmelo Emanuele said that I would find Casey Driessen's Online Lessons very useful for learning his advanced techniques.

Ruven Ruppik told me that I only had one defined sound (hard chop). He said that I should really define at least three different pitches, explaining that in every rhythm, the cajón has three sounds: bass, snare and ghost notes. With these you can play any rhythm.

As I divided the rhythm into 6 he suggested that I play accents on 2 and 4 beats - on the 3rd part (when the chop started) it was suggested that I keep it "empty" but to accentuate other spots.

## DATA COLLECTION

These are the strategies I followed to complete my First Intervention Cycle:

Literature (desk) research: Method of Bibliography

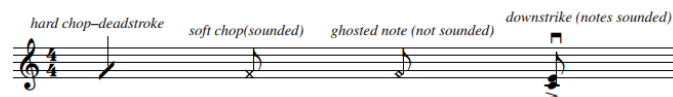
Case study: Method of Cross Examination

### • DESK RESEARCH

CHOPS & GROOVES: Rhythmic Explorations for Bowed Instruments: Darol Anger, Casey Driessen, Rushad Eggleston (Homespun, 2005)

This was the first (and only) method to be published, which explains Darol's rhythm concept for stringed instruments by using new original tunes and standards. Moreover, he explains the execution of chopping by Darol Anger and Casey Driessen.

This method was very important to this research because it shows the first published notation system



However, I found the following challenges:

- Whilst this method of notation is very convenient for writing easy rhythms, I found that for large transcriptions, the repetitive use of the "hard-chop dead-stroke" symbol could be quite confusing, given that it fills two spaces in the system.
- I found that there are some sounds which are not represented, such as the notes produced by lifting the bow without muting (left hand). Nor is there any symbology to represent some of the sounds that Casey executes.

The booklet provides of a series of tunes and exercises played on the DVD. This is an extract from the first page:



- Exercises are clearly numbered and grouped into patterns of two bars but there is no specific or appropriate information on how to practice these exercises.
- In order to learn the grooves faster, I realized that it would be really useful to sync a live execution of the grooves with the score.

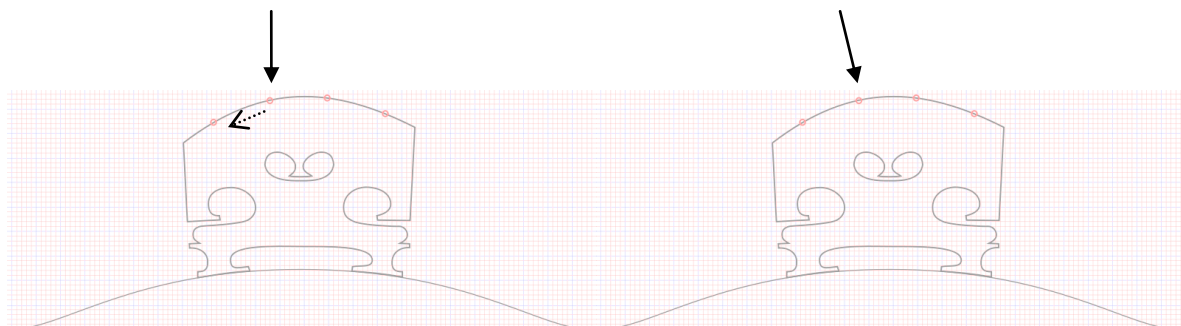
### TECHNIQUES & SKILLS WITH CASEY DRIESSEN (Casey Driessen, 2013)

This consists of a series of five videos in which he explains, in great detail, the most important elements of his chopping techniques. I discovered this material through my peer Carmelo Emanuele Patti.

It was very useful because it helped me to understand the specifics of his performances in order to facilitate the transcription of his music later on. Moreover, he provides exercises and practicing tips on how to execute them.

#### The Chop

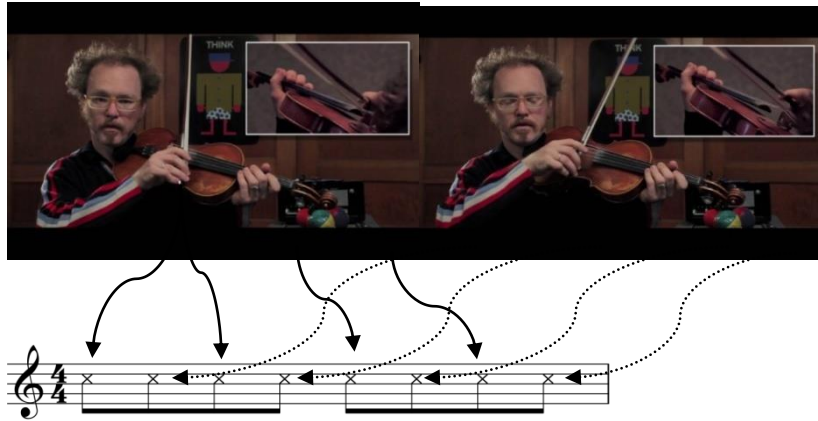
- This is the basic stroke, produced by applying a vertical motion onto the string. When the bow strikes the string it produces a horizontal movement as a result of the friction between the string and the bow. A common mistake, where no sound is produced, is due to a perpendicular motion being applied to the string (right example) instead of the vertical or gravitational motion (left example).



- All the chop happens in the very frog of the bow, three inches maximum
- Applying rosin to the bow is very important in order to have a good grip. Put more than usual on the frog.
- The principle remains the same for the two forms of holding the bow (thumb bent or below the frog)

### Cyclical Slant

- This is a variant of the traditional chop. Its main function is to allow the bow chopping to be faster by adding a second stroke closer to the bridge
- It gives tone variation by adding subdivision played in different parts of the contact point, as described in the next example:



### Kick Drum

- It refers to all the played notes which are placed in the strong beats of the metre as a kick drum usually is. (Note: This does not refer to the kick drum sound from *Tanuki Attack*)



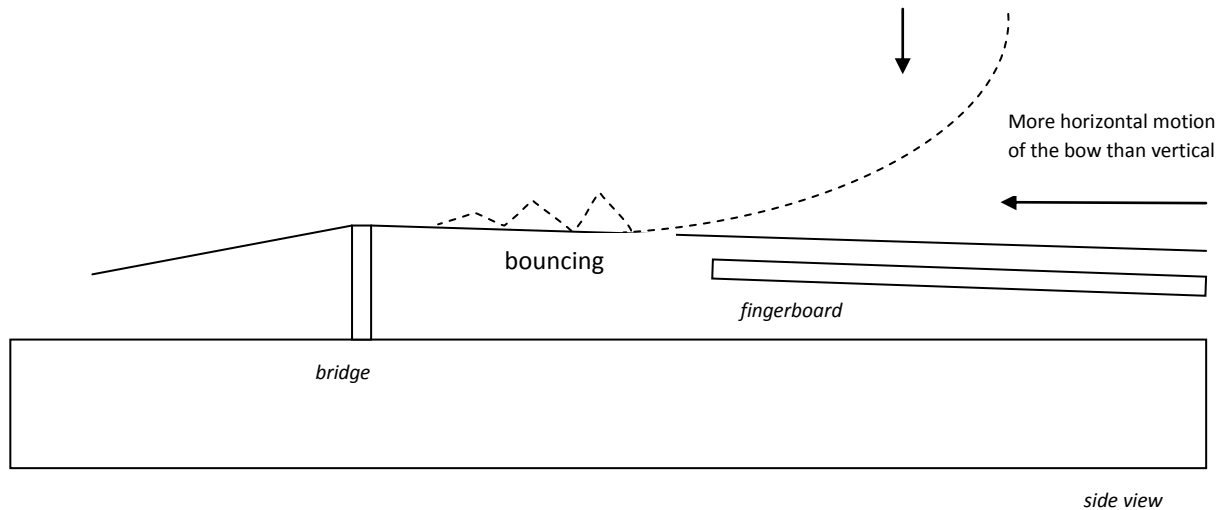
### Bass Lines

- Playing bass lines along with the cycle slant technique
- It is most important that the left hand keeps moving, even if a hard chop stroke is played (which will not produce the desired pitch)

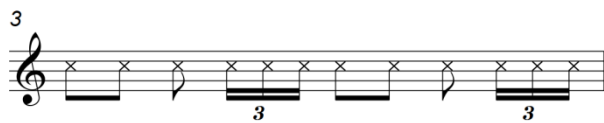


### The Triple Chop

- This technique comes from cycle slant and it works by applying the bow to some motion towards the bridge. Casey likens it to the bouncing of a plane when it touches the runway.

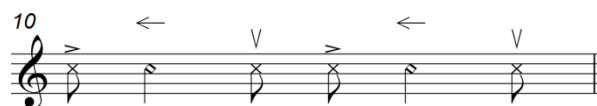


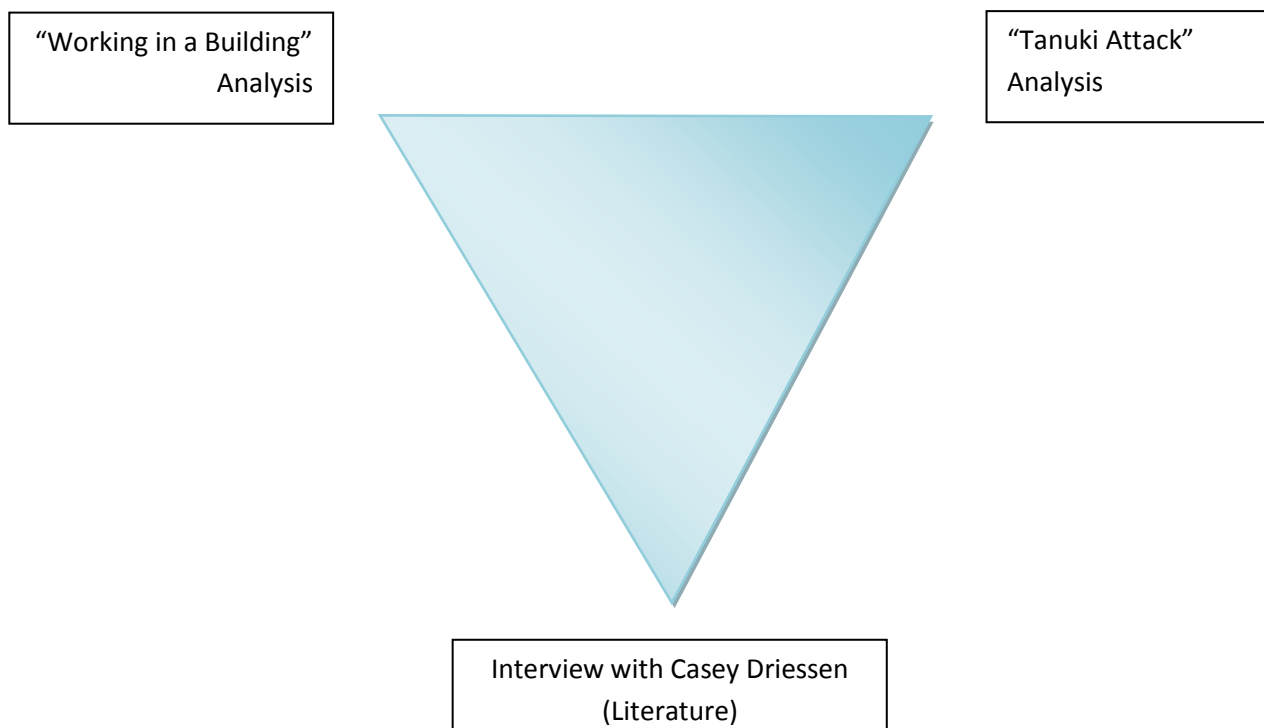
- Due to the fast nature of this bouncing, it translates into sixteenth triplets. Here is an example:



### Sliding

- This sound comes from the cyclical slant but it is not explained at all. It is produced by sliding the bow horizontally (towards the bridge or the fingerboard) and he deliberately adds pressure and speed, resulting in a sustained sound, such as jazz brushes on a snare, or a sustained maraca sound.



**CASE STUDY: TRIANGULATION METHOD**

After my desk research I was able to classify most of Casey's sounds. After this, I studied and analyzed two outstanding solo performances; the first one was “Working in a Building”, a traditional bluegrass song, which he adapted for his 5-string violin. This song allowed me to study the distribution of bass line, melody and rhythm through overlapped layers. The second one was "Tanuki Attack" which is a composition using the violin only as a percussion instrument. It provided me with a good insight into how to structure a composition with the use of non-pitched motifs and fills.



Now, I will present the transcription and analysis of both pieces. On page 25 you will find a detailed description of the notation system used:

## Tanuki Attack

Live at Bonnaroo 2012

Casey Driessen  
Transcription by Pablo Rodriguez  
[https://youtu.be/013soQf\\_G70](https://youtu.be/013soQf_G70)

$\text{♩} = 140$   
Theme exposition

3

5

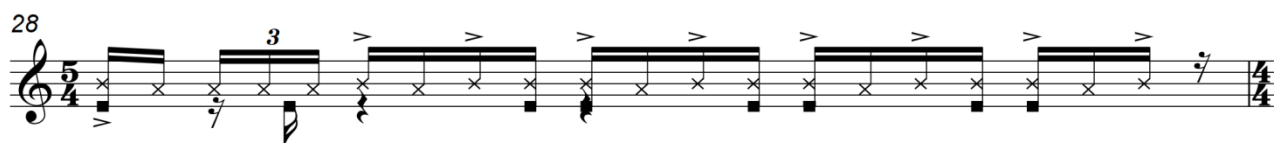
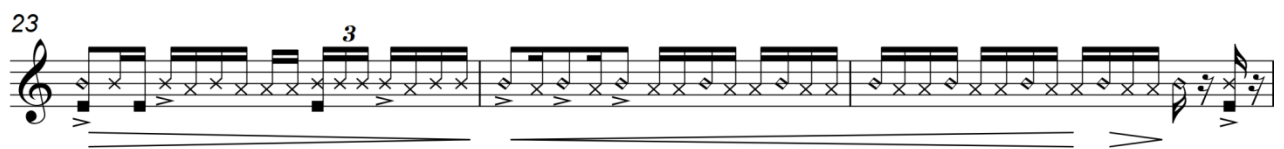
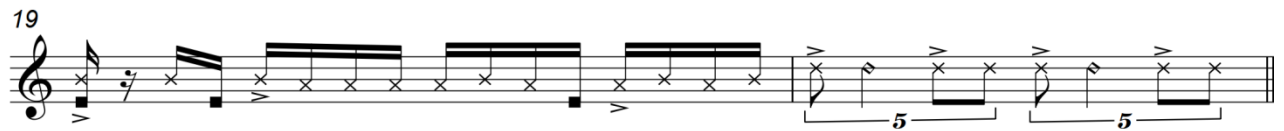
7

9 + Left hand / theme repeats

11

13 + triple chop

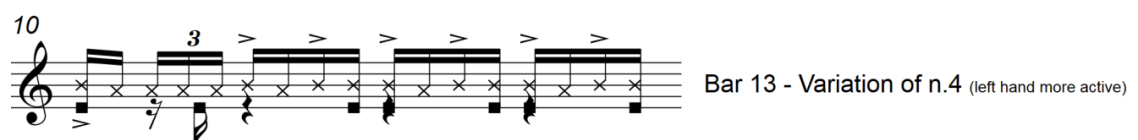
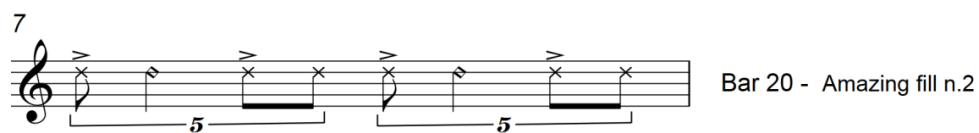
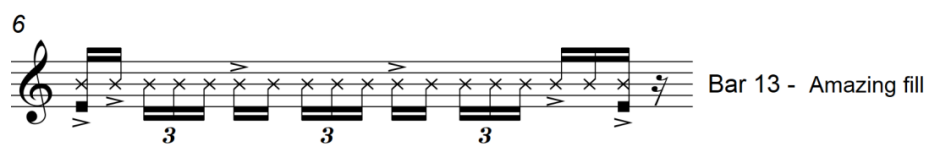
15



## ANALYSIS OF TANUKI ATTACK

- “Tanuki Attack” is a song belonging to his last solo CD called “The Singularity”.
- For a better comprehension and transcription of the music I decided to transcribe this live version at Bonnaroo Festival in 2012. The original video can be found at this address: [https://youtu.be/013soQf\\_G70](https://youtu.be/013soQf_G70)
- It is a percussive song based purely on chopping. For the purpose of this research I focused on the first minute because he is not using the loop station or FX.
- The structure of the tune is:
  - Theme “A” from bar 1 to 4
  - Theme “A1” / from bar 5 to bar 8 / He adds a triple chop as a surprise.
  - Theme “B” from bar 11 to 28. The inner structure is:
    - B’ 15 to 18 / B’’ 19 to 22 / 23 to 25 “drums fill” / B’’’ 26 to 28
    - Every B is slightly varied from the previous one
- He uses his left hand to achieve a true kick drum sound. This comes about because he uses a clip microphone and an EQ which emphasizes the 60hz-250hz. It is notated as a square note head.
- In bar 23-25 he plays a very interesting “delay” effect by using the cycle slant technique.
- Besides its function as kick drum, his left hand rests over the strings to achieve a muted chop sound.
- Bar 20 creates tension with the quintuplets.
- From bar 17 he increases the tension by playing more “edgy”, or closer to the bridge.

Here I present a selection of very interesting grooves and fills and their corresponding variations



# Working on a Building rev.1

Fiddling & Singing on a Gondola

Casey Driessen

Transcription by Pablo Rodriguez  
<https://youtu.be/aeOrHWYbVLg>

Violin

$\text{♩} = 90$  **accel.**

Intro, warming up!

3

5  $\text{♩} = 126$  3

7 3

9 3

11 3

13 Chorus instrumental 3 3

16 3

19 3

22 + Voice - Verse 1

2

25

27

29 + Voice - Chorus 1

35

38 Violin interlude 1

play open string D blue notes approaching by gliss!

40

42

44

47 + Voice - Verse 2

49

51

54 + Voice - Chorus 2<sub>3</sub>

56

58

61

63 Violin interlude 2

65

67

69

71

74

76 + Voice - Verse 3

78

19

4

80

82

83 + Voice - Chorus 3

86

89

The musical score consists of five staves of music in treble clef, key of D major (one sharp). The first staff (80-81) is in 4/4 time and features a complex rhythmic pattern with many eighth and sixteenth notes, some marked with 'x' and accents. The second staff (82-83) continues this pattern with triplets. The third staff (83-85) is marked '+ Voice - Chorus 3' and features a more melodic line with triplets and a key signature change to C major (no sharps or flats) indicated by a natural sign on the F# line. The fourth staff (86-88) returns to the 4/4 time signature and features a dense, rhythmic pattern with triplets. The fifth staff (89-90) is in 3/4 time and features a melodic line with triplets and a key signature change to D major (one sharp) indicated by a sharp sign on the F# line. The score ends with a double bar line.

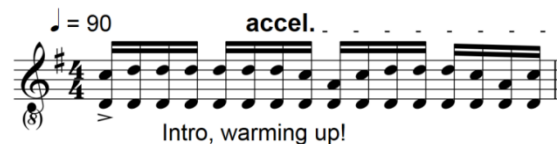
*Continues to solo then verse & chorus*



## ANALYSIS

“Working in a Building” is an old traditional song which Casey adapted for 5-string violin (E, A, D, G, C) and voice. He recorded it for his CD “The Singularity”. There are few live performances<sup>1</sup> of this tune available on YouTube. What I realized is that this song is performed in a freestyle manner (especially the introduction). I decided to transcribe the version of *Casey Driessen Fiddling & Singing on a Gondola*<sup>2</sup> because it is the live performance which gets closer to the CD, and the sound and video quality are good.

The song starts with the following groove in a very slow tempo:



This groove develops for the next four bars and becomes more active and playful by introducing some chop strokes. This is very important to the listener because it defines a layer/feeling of rhythm that will continue for the remainder of the song. In bar 5 he plays the main melody instrumentally. Here is a comparison between Casey’s instrumental version and the main melody:

It is interesting to observe the constant motion of 16th notes, which creates the feeling of fullness by defining three layers; one melodic, one rhythmical - by ghosting and chopping between the small gaps of the melody, and a harmonic one - by adding double stops and the resonance of open strings.

He adds non-pitched fills in the gaps of the melody in bars 6, 8 and 10, which work as little percussion fills, thus enhancing the rhythmic layer.

<sup>1</sup> Nashville Acoustic All Stars <https://www.youtube.com/watch?v=sApmL7aUsX4>

Williams' House Concert 2013 <https://youtu.be/ZLc-PT9H1nE>

<sup>2</sup> Casey Driessen Fiddling & Singing on a Gondola <https://youtu.be/aeOrHWYbVLg>

In bar 22 Casey starts to sing. From this point I noticed that he cuts the melodic layer for the verse while he keeps playing rhythm and harmony. It then returns to the verse to create a feeling of fullness.

The song continues with the following structure

- Verse 2 / Chorus 2 / Interlude 2
- Verse 3 / Chorus 3 / Solo

Finally, here is a summary of the groove patterns and variations:

4

5

6

Bar n. 5


Bar n. 27

Bar n. 56

Bar n. 91


And a selection of fills:

2



Bar n. 8 (fill)

3



Bar n. 10 - variation (fill)

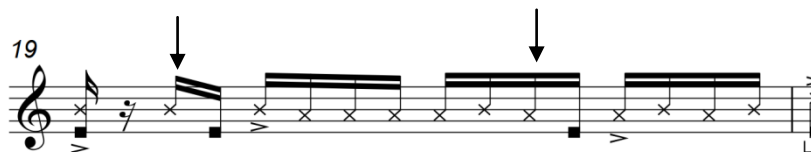
## CASEY DRIESSEN INTERVIEW

Several questions came out of the transcriptions and the analysis of his Technique & Skills video series. In May of 2016 I had the opportunity of visiting him at Berklee Valencia Campus, and to share some of my work with him.

One of the first questions which came to mind was how he produces a very clear and defined "kick drum" sound. In order to get a low frequency sound he uses the inner side of his right hand to hit the wood of the violin, as shown in the following picture.



Moreover, he uses the middle finger of his left hand to add complementary kicks, as in the following example



Lastly, in order to get that sound he uses a piezo microphone Schertler DYN-V placed very close to the bridge. It is then important to boost the very low end of the EQ (40-120 Hz)

When not amplified, the use of this technique helps him to maintain space and subdivision. Note: when using this technique one should be careful not to overplay, because it may damage the fiddle.

Whilst discussing "Working in a Building", he acknowledged that it is a traditional song which he has been playing for a long time. The first step was how to play the melody and the percussion at the same time.

He explains that it helps to play something similar to what is being sung. ([0' 13"](#))

I asked him about the little percussion fills between verses, such as the following example:

He explains: "I was playing with a percussionist from Madagascar. He had an instrument made out of a tin can filled with crushed glass, which he hit with a stick, which sounded just like the cajón. It made a lot of sense with the rhythm but it was very difficult for me to do what he was doing because basically, what we have is in groups of two (up/down). So I was trying to find a way, a pattern of 3 - he shows the pattern ([0' 40"](#)) - . I had to practice for a long time to be able to go in either direction because usually, if you play an odd number you

end up in the opposite place - I wanted to be more versatile so that I didn't get stuck, and so that I was able to reverse back just like drummers reverse left and right."

Here an example of reversing a pattern of 5 (3 + 2) ([1' 30''](#))

"... so I was working on those things and I found little groups that worked out. Then I added them to Working in a Building".

".. finding a groove that it is interesting - think of the groove as the melody, or different rhythmical patterns as the melody. This will work for finding different sounds, beats and also for a solo show, using a wide range of colours in order to things keeps interesting."

I asked about how much tension he uses on the bow. He uses normal tension, to keep a bit of a curve in the shape of the bow. Then I asked him about different kinds of hair he used and how this could possibly affect his chopping. He said:

"... For a time I was trying to blend black and white; I tried all black... it just depends on the quality of the hair, it's just experimentation. [...] Right now I think have a little more control and diversity of tone, which I can get from a good quality white hair. I was using black (hair) when I was breaking a lot of hair playing live but I don't break it because I chop, it breaks because I'm playing too hard [...] people seem to think that the chop is hard on the violin or on the bow, but I don't think so - I don't break any more strings or more hair. I think it is just because of the sound that it seems dangerous."

Moving forward, I asked him on which side of the bridge is it optimal to play chop.

"I think you have to go back and forth for higher speeds, otherwise it sounds tight and there is no variation in the tone" - he shows an example ([2' 16''](#)) - [...] some of the sound comes from going down and going up later. This sound is longer than the other (close to the bridge)

Regarding his compositions, I mentioned that he used to write some of them down. He commented that he is developing his own notation system in collaboration with Spanish fiddle player, Oriol Saña, and both are aiming to create an effective and standard way to notate chopping.

"... There were a couple of symbols in the beginning that Darol would use when writing for Turtle Island String Quartet and I don't think we have the symbols to indicate all of the different things that are happening - it needs to expand."

One aspect which is very important is to notate the direction of the bow, not only when it moves up/down but when it goes horizontally back and forth. For that he uses the following symbols:

← *slide the bow coming towards the bridge*  
→ *slide the bow coming towards the fingerboard*

He also notates the triple chop with the following symbol:

~~~~ *triple chop*  
~~~~ ← *triple chop coming towards the bridge*

Finally, I asked him if he would approach a percussive composition by writing it down first. He answered: "I start to work on different ideas (patterns, melodic motifs, grooves etc) and when I find something that I like or something that I don't want to forget, I may record it or I may think of how to write it down."

## **INTERVENTION**

As a primary step in my First Intervention, I created an extended notation system in order to classify all the sounds I found through my transcriptions. I consider it to be one of the most important tools in this research. Thanks to this, I was able to organize all the material found here and prepare my practice. Later, I added some new symbology as a result of my interview with Casey. For example, he suggested that I consider specific symbols for the direction of the bow when it is moving horizontally, and some tips to simplify reading.

### • **NEW NOTATION SYSTEM**

In order to define each of the sounds produced while using the chop technique, I used the following notation:



Play as normal



Ghost note. Heard by playing an up stroke



Muted/hard Chop



Played by using Cycle Slant technique



Triple chop



Sliding towards the bridge



Sliding towards the fingerboard



Kick drum right hand (on the wood)



left hand ghost note(on the fingerboard)

- **SYNCRONIZED SCORES**

As soon I had finished transcribing I synced the score with the video. It helped me greatly to analyze the use of bowings in depth. Here are the links for both tunes:

**Tanuki Attack**

<https://youtu.be/O3PUrkVQZ3c>

**Working in a Building**

<https://youtu.be/PTnxx9sMfGs>

## EXERCISES

I extracted a selection of licks and grooves as result of my transcriptions. In order to incorporate these into my own freestyle playing, I developed a series of exercises where I took each one of them in its simplest form, to a more complex form, by adding variations. In order to master all the chopping techniques presented (cycle slant, triple chop etc) I created a set of exercises organized from the simplest to the most complex, which serve as a warm up.

- **Basics: Subdivision & Cycle Slant**

This set of exercises works the change of subdivision whilst keeping a good horizontal motion of the bow.

Here are some recommendations from my own practice and from Casey Driessen, which also apply to the rest of the exercises:

- Don't underestimate the first variations for their ease. These are intended to develop awareness and good chop sound.
- Repeat each exercise around 10 times.
- Relaxation is fundamental. Stop at the first sign of muscle overload (don't play in pain!).
- Set the metronome to 60 bpm. In the beginning focus on good execution. It is recommended that you practice in front of a mirror and carefully check how the bow moves from the fingerboard to the bridge when performing the cycle slant. Set the metronome differently each day, for example; Monday on the first and third beat, Tuesday 2nd and 4th, Wednesday only the third, etc.
- Play the ghost notes as equally and as softly as possible

At the end of the exercises spend some minutes improvising with all the previously practiced elements.

1 2

3 4

5 6

7 8

11 12

13 14

15

16 17

19 20

*only last time*

*normal triplets (no triple chop!)*

*improvise with all the previous elements*

- **Basics - Triple chop**

This set of exercises works the use of triple chop as an upbeat for strong beats. Remember that after the execution of the triple chop (moving towards the bridge) the hard chop (marked in brackets) has to be played close to the fingerboard.

1

2

( ) on the fingerboard!

3

4

5

6

7

8

9

10

11

12

13

14

improvise by mixing all previous elements



- **Kick drum & chop (from Tanuki Attack)**

ATTENTION: Do not overplay this technique; it could damage your fiddle if you hit the wood too hard. A pickup is recommended in order to produce louder low frequencies.

Left hand ghost notes are meant to help keep the tempo. Play them as softly as possible.

1 2

3 4 5

left hand ghost note left hand ghost note left hand ghost note

6 7

left hand ghost note

8 9

10 11

12 13

improvise

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- **Slide exercises**

These exercises are designed to facilitate coming back from the bridge or fingerboard. Set the metronome to 8th notes and practice really slowly in the beginning.

1

2

close to the bridge

3

4

5

6

7

8

9

improvise

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- Casey Driessen fills and patterns from Tanuki Attack

1 Bar 1 pattern build up

2

3

4

5

6 Bar 1 complete pattern

7 Bar 1 variation A

8 Bar 9 - pattern build up

9

10

11

12 Bar 9 complete pattern

13

14

Bar 20 fill

improvise with all the previous elements

In order to apply chopping to my existing composition, I developed a set of variations on different parts of my piece which I would practice, in order to incorporate them in a freestyle way later on. By taking *Working in a Building* as an example, I will add advanced chopping techniques by generating variations to increase complexity. I will compose a set of chopping variations for two specific parts of the tune.

**1 PART 1**

3 **2**

5 **3**

7 **4** 1 2 1 2

9 **5** 1 2

11 **6** 1 2

13 **7** 1 2

15 **8**

17 **9**

19 **10** < V > < V >

21 **11**

23 **12**

2

25 **1** PART 2: Percussion solo

27 **2**

29 **3**

31 **4**

33 **5**

35 **6**

37 **7**

39 **8**

41 **9**

- APPLYING THE NOTATION SYSTEM TO MY COMPOSITIONS

*Aires* is an original composition for DOT Quartet based on flamenco sonorities which I wrote in November of 2015. It is based on a 12/8 shuffle and a crossover with 6/4 rhythms. After my work with Casey Driessen's transcriptions I updated the score. Now, in bar 122 I played an enhanced groove using cycle slant.

#### OLD VERSION

129 on cue solo percussive pizz. 9

#### NEW VERSION

130 9

## 2º REFERENCE RECORDING (RESULTS)

*Link for the video:* <https://www.youtube.com/watch?v=byPshSX3bTE>

This is the Second Reference recording of my tune “Castillo de Castellar”. There are three main additions, compared to the first recording.

The first (obvious) difference is that I’m now playing it on the viola. This allowed me to use the C-string to create more depth and to punch on my bass lines as Casey Driessen does in "Working in a Building".

Secondly, I have changed the form of the song. After I have shown the first and second theme I start to solo from minute 1’ 51’’ and I start to show chopping at around 3’. Then comes a small solo percussion using just chop and left hand as a kick drum (idea from Tanuki Attack). Lastly, the main theme briefly plays again and then I play a coda based on the chopping part that I play during the solo.

Third, in order to incorporate new percussive techniques in the metre of 6/4, I developed a set of variations (see page 34, 35) to practice.

In the following video I highlight some of Casey's licks I also used in this performance:

<https://youtu.be/Im3W4-RnjQU>

## **2nd INTERVENTION CYCLE - Extending my own rhythm vocabulary**

After the completion of my First Intervention cycle I gained a solid technique grounding and tools to make further explorations. The second step in this work would be to transform and expand the existing vocabulary and to add new logic elements to my improvised percussion solos. From the Second Reference recording I successfully included a small improvised percussion part, however, many unknown elements were missing when I compared it to cajón solos.

### **RECORD**

Link: <https://youtu.be/YX94mQgSSjU>

For my Second Intervention cycle, I recorded my first reference recording in January 2016. Here I played a one-minute solo percussion in 6/4 at the end of my composition, "Aires". For the purpose of this recording I used a MIDI guide, with other instrument parts, as a metronome. In order to bring more colours and details to the recording, I used an Audiotechnica AT350 microphone with an EQ boost of 8db from 60 - 140 hz, and I added a short-reversed reverb.

### **FEEDBACK**

I noticed that I have improved many aspects of my playing; my overall timing, relaxation, licks and fills are connecting naturally and each sound is well defined. Although I have ideas to play a percussive solo (thanks to the rhythmical licks I transcribed), I feel it lacks direction, however:

- Structure should be more interesting to the listener and there are some surprise moments missing
- It would be nice to use the kick drum sound to add more punch to the solo. (Note: this performance was recorded before the Casey Driessen interview where he showed me how to play that technique)
- It would be good to develop a richer vocabulary to fit into a 6/4.

From my network, Udo Demandt (cajón expert) adds that it would be good to add more 16th ghost notes in order to improve timing, and to connect ideas in a better way. In addition, he suggested that I use percussionist tools for soloing, such as displacement, groupings...

As well as this, Ruven Ruppik (cajón expert) thinks it would be great to incorporate some remates (fills). Cajón players include them in their compositions as a mode of surprise.

While I am improvising, he said that it would be helpful to record a base of palmas (or similar) in order to show the pulse to the audience.

He advises me to adapt exercises from "Stick Control for Snare Players" by George Lawrence Stone, to incorporate the rudiments of percussion playing such as dynamics, tempo and subdivision in my chop technique.

Lastly, my colleagues in DOT Quartet suggest that I develop more contrast in dynamics throughout the solo.



To start my data collection I started with a very fruitful meeting with Udo Demandt who provided me with my first insight into cajón soloing. He explained the concepts that percussionists use for soloing, such as displacement and groupings, and tips to efficiently structure a solo.

I then analyzed two cajón solos by percussionist Ruven Ruppik, from which I could extract "remates" and grooves for different metres.

Moreover, I analyzed the method "Stick Control for Snare Players" by George Lawrence Stone, in order to gain depth in the practice of percussion rudiments.

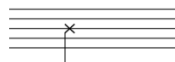
In order to transcribe cajón performances I will use the following notation which defines the three different pitches, as Ruven previously suggested to me.



Low pitch/bass



High pitch/snare kick



Ghost note

## DATA COLLECTION

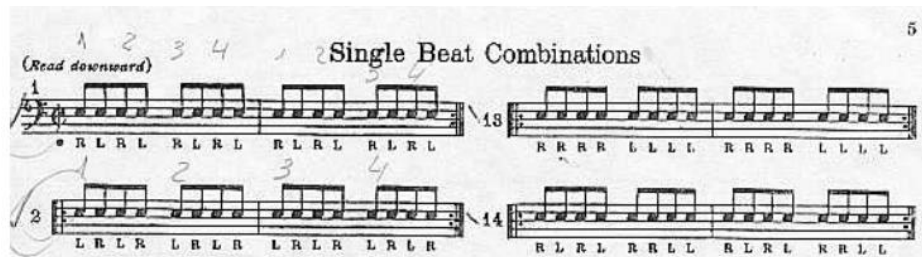
- **Desk Research**

### STICK CONTROL FOR THE SNARE DRUMMER by George Lawrence Stone (George B. Stone & Son Inc. 1963)

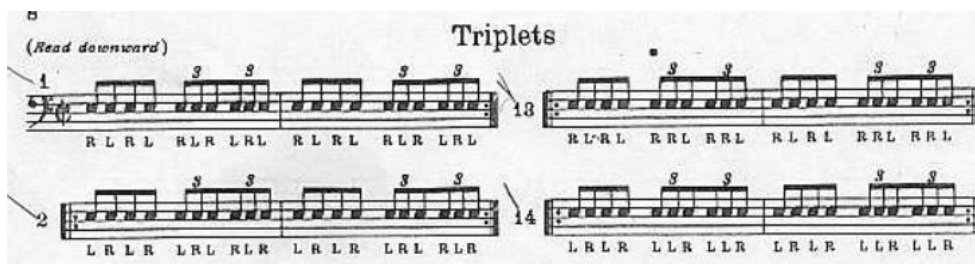
As the author himself describes, "*Stick Control*" is a highly specialized practice book, dealing with just one branch of the art of drumming. It is an advanced book, consisting of a highly progressive and concentrated collection of rhythms, arranged in callisthenic form which, if practiced regularly and intelligently, will enable one to acquire control, speed, flexibility, touch, rhythm, lightness, delicacy, power, endurance, preciseness of execution and muscular co-ordination to a degree far in excess of his present ability".

"[...] is intended to develop finger, wrist and arm muscles which, to the rudimental drummer, playing in exhibition or contest, means speed, power and endurance, and to the orchestral drummer, specializing in lighter types of playing, means clean, crisp execution, precise interpretation and flexibility of control, especially in "pianissimo" rolls and delicate shading."

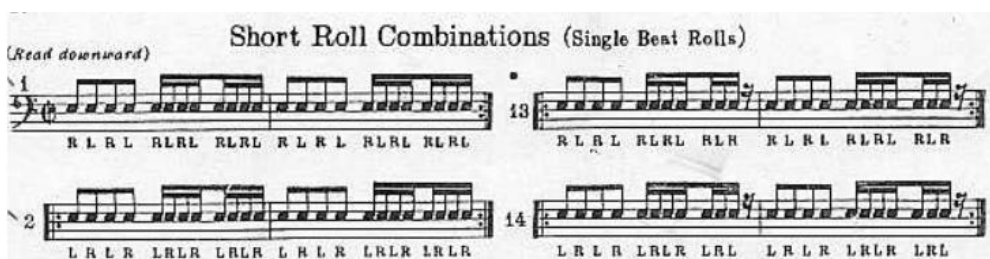
The book presents a series of exercises ordered by up to 72 different combinations between left (L) and right (R) hand performing 8th notes in two bars.



Followed by 24 combinations using eight notes and triplets



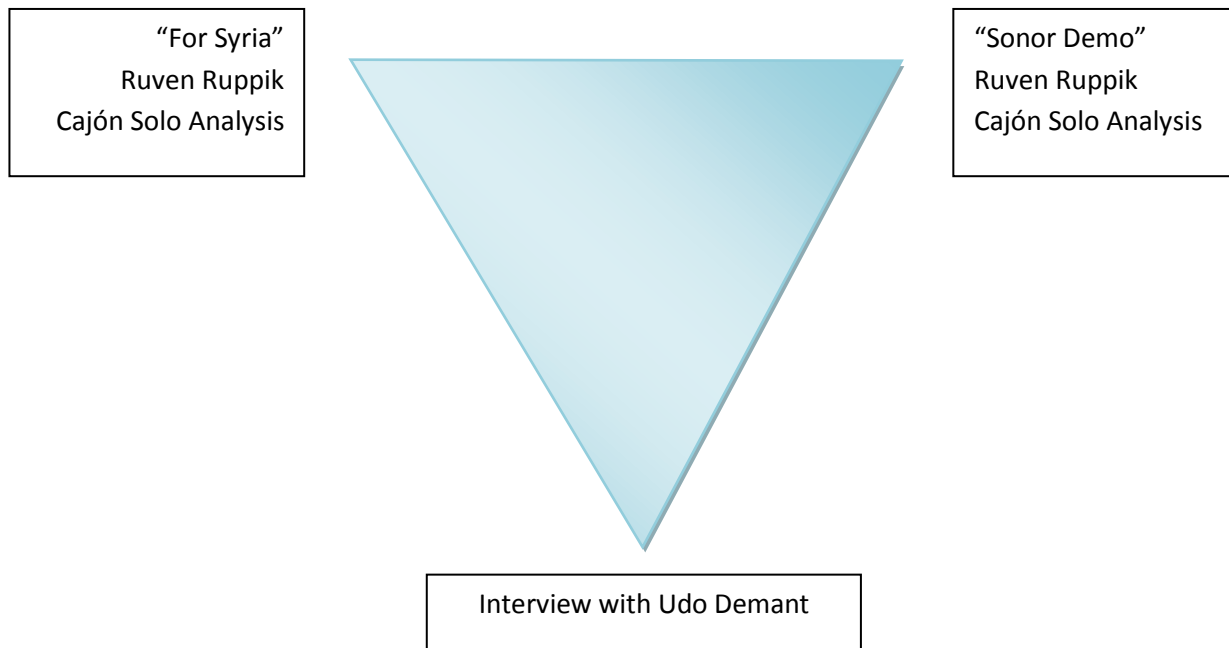
Followed by 24 combinations using eight notes triplets



I found these three sets of exercises to be very interesting because they could be adapted to chopping using cycle slant technique. Moreover, the book provides the following recommendations when executing these exercises:

- "The author recommends that each rhythm be practiced 20 times without stopping. Then, go on to the next one."
- "Practicing with the metronome is also recommended, and at several speeds, varying from extremely slow to extremely fast; and again without the metronome, in the open and closed style, i.e., starting very slowly, gradually accelerating to top speed, then slowing down again, finally ending at the original tempo."
- "Practice at all times with relaxed muscles, stopping at the slightest feeling of tension."

- **Case Study**



## INTERVIEW WITH UDO DEMANDT


Udo Demandt is a German percussionist and drummer who plays in a broad range of styles such as flamenco and Brazilian music, and many other crossover styles. He uses hybrid setups where he combines drums and percussion. He teaches cajón at the World Music Department of Codarts. On January of 2016 I had the pleasure of interviewing him.

As a violinist, I have always been curious how percussionists think about and approach a percussion solo. I focused on three aspects that were missing from my reference recording. Firstly, I asked about structure and solo development and what his personal approach to it was. He started talking about displacement technique:

"... In melody you have more ways to develop but in rhythm it is a little more limited. So, with the students I always encourage them to transcribe a solo by somebody well-known and find the structure; but I will try to motivate them to find and learn some licks, to take the ones that speak the most to them and incorporate them as a vocabulary by placing them in any possible way. How to combine them will be a matter of dynamics; how to build up, work with spaces and speed"


He shows an example of a motif that it is displaced (0' 02'')

29




motif 1

31



variation 1

34



variation 2

"You may want to play less attached to the 1st or 3rd beats of the metre, and then it is good to use this concept as an etude in order to gain more ideas from the usual placement of your motifs."

Secondly, I asked him about the development and structure of a percussion solo. He said the following:

"It depends how much time you have: as you know, sometimes you have sixteen bars or you may have more time. In flamenco, especially in bulerías, many times I like to have three different moments: the first is to *call for attention* - he shows an example (0' 40'') - which is still playing in an accompaniment mode but with more dynamics (louder) and repetitive variations on the groove. At the same moment, the rhythm section may stop playing or I will accompany only with palmas... this will help to make it clear to the audience that something is happening.

Phase 2 would move to a completely soft/down dynamics part filled with abstract sounds. I like to keep the compás understandable but for little moments I add an abstract feeling (triplets, quintuplets, displacement) and I build it up slightly to Phase 3, which is again more compás with variation but stronger than part one. I like this form a lot if it is a solo of about 1 or 2 minutes within a song. I would do it differently for free solo compositions.

In flamenco I would think of dancers because there are many moments where they just turn and they don't do anything. That's abstract because there is no rhythm. I don't see a dancer in front of me but I like something about that energy, the sound of the feet sliding, the movements of the hands...

For the last part, I learned from dancers that you don't have to be afraid of repetitions. But in the abstract part every bar can be different and I would have the palmas all the time. If didn't have them I would make the compás more understandable."

Lastly, I asked about the use of "groupings" and how they would work when presented in the form of triplets, quadruplets, quintuplets, etc. He showed me some of them:

A group of 3 over 4/4 bar rumba pattern (1' 26'')



He says that playing in this way may be boring but he cautions us not to underestimate the simplest things. This is the same but subdivided (1' 30'')



Then he shows the basics in 5 over 4 (1' 58)



He adds that the result could be a little "tasteless" if they are over-used (2' 30'')

Finally, he shows me a very effective method, one that helped him to work with groupings, which he took from Die Kunst des Rhythms (The Art of Rhythm by Peter Giger) which implies the use of rhythm glyphs in order to build up different combination of groups.



These are simply exercises that help to put you in a strange place. As well as this, you hear something logical happening but you wouldn't invent them easily if just improvising.



It then becomes more difficult when you use displacement. The use of this technique helps him to memorize patterns and licks and displace them easier. Here are a few examples:

2

12

I X □ =

14

17

I X □ =

19

22

I X =

24

## INTERVIEW CONCLUSIONS & REFLECTIONS

These are the most important elements that I extracted from the interview:

- Strategies for solo structure: a basic solo structure would be divided into three parts: a call for attention, abstract and ending. This basic division would be used by most percussionists when performing an improvised solo within a song.
- Displacement explores the different possibilities of bringing more variations from a motif simply by moving it via quarter, 8ths or 16th notes. To master this technique it is good not to focus on too many of them. It is better to work with only few simple ones and to write them down for faster learning.
- Rhythm glyphs provide quick ways to work with groupings and to write down motifs by using a predefined symbology. He also suggests combining them with displacement.

After acquiring a solid grounding following my meeting with Udo, I studied two cajón solo performances by percussionist Ruven Ruppik, on which I did deep structure analyses, and I extracted an interesting library of patterns, "llamadas" and "remates" (fills) in 6/4, 12/8, 7/8 and 4/4 metres. This is very important because my existing material was mostly in 4/4.

# For Syria

Ruven Ruppik cajon solo

**Drum Set**

**♩ = 220**

**PART 1: Showing the Groove**

5

8 **Brake!**

11

14 **21"** **Transition'**

17

19 **PART 2: Abstract'**

21

23

25

27

29

The musical score is written on a single staff with a key signature of one flat (Bb) and a time signature of 6/4. The tempo is marked as 220 bpm. The score is divided into two main sections: 'PART 1: Showing the Groove' and 'PART 2: Abstract'. 'PART 1' consists of measures 1 through 17, featuring a variety of rhythmic patterns, including triplets and sixteenth notes. A 'Brake!' instruction is placed above measure 8. 'PART 2: Abstract' begins at measure 19 and continues to the end of the piece, characterized by more complex and syncopated rhythms. A 'Transition' instruction is placed above measure 14. The score includes numerous accents and breathes to indicate specific playing techniques for the cajon. Measure numbers 5, 8, 11, 14, 17, 19, 21, 23, 25, 27, and 29 are marked at the beginning of their respective lines.



2 47" PART 3: END  
32  $\text{♩} = 140$

35

38

41

44

47 PART 4: coda

49

51

53

55 *freestyle*

56


57


## Analysis of "For Syria"


This is a freestyle solo which Ruven structured into four very clear parts.


- **First part** goes from bar 1 to bar 17
  - I called this part "showing the groove" or "compás". It is a section where a groove of bulerias in 6 is played very lightly.
  - Here is a list of the most represented motif and its variations:


PART 1: Showing the Groove

Drum Set  *main motive*

2  *variation 1 bar 5*

3  *variation 2 bar 5*

4  *fills/brake bar 8*

6  *fills/brake bar 12*

- As well some "remates"
- **Second part** goes from bar 18 to bar 31
  - This part is an "abstract" moment where the pulse seems to be lost due the lack of accents and the continuous playing of 16ths with crescendos. From bar 25 it starts to build up a transition to the next part. This rhythm is very similar to Tanuki Attack (bar 24)<sup>3</sup>
- **Third part** goes from bar 32 to bar 47
  - This is the final part of the solo. It changes to a strong 4/4 rhythm (very similar to Tanuki Attack)

8 PART 3: END  *main motive*

<sup>3</sup> Tanuki Attack (bar 24) <https://youtu.be/O3PUrkVQZ3c?t=42s>

- He adds tension with fills in bar 39 & 44



- **Fourth part** goes from bar 48 to the end
  - The solo moves to 12/8 which evokes the feeling of the beginning, but it is now played very actively and with more energy.



- From bar 50 to 56 he plays a powerful "llamada" based on rolls of triplets



- He ends by dropping the solo with a very simple motif which fades out.



## Ruven Ruppik Solo Cajon (sonor 1)

♩ = 270

PART 1: Exposition

Drum Set

main motive

5

3

5

8

14"

5

PART 2: Development

11

14

5

5

5

16

5

5

5

19

5

5

5

21

5

5

5

24

5

5

5

26

5

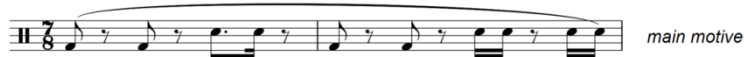
5

5

### Analysis "Cajon Solo Sonor"

- This a composition-solo in 7/8 in which we can see the use of groupings and variations of a motif in order to generate more tension.

- The main motif is shown in the first bar. Bar 2 is the same but slightly changed in the 3rd and 4th beats. Bars 3 & 4 work like a variation of the previous bar but bar 4 feels as if the rhythm is on hold because there is no accent on the first beat. All these 4 bars act as a big phrase of 4



- It repeats from bar 5 to 8. Now he is adding variations to his playing. He introduces a group of 5 in bar 7..



- The next phrase goes from bar 9 to 12. He continues playing a more complex variation.



- He will end the solo by repeating a "llamada" (based on groupings of 5) three times:



## 2nd INTERVENTION

- **SYNCHRONIZED SCORES**

As I had done in the previous Intervention cycle, I synced both solos with my transcription. Once again, they were really helpful for a faster understanding of the music.

## "For Syria" Ruven Ruppik Cajón solo

<https://youtu.be/B15meOGwm2c>

**"Sonor Demo" Ruven Ruppik Cajón solo**

<https://youtu.be/VMcyHpJutbM>

- **EXTENDED EXERCISES**

I created an expansive set of "extended" exercises which complement the previous set of developed exercises found in my Second Intervention. Adapting all the licks and fills from the cajón to the violin, by finding a suitable execution and a good sound, was a challenge. Most of the rolling based licks and fills were discarded because of difficulties in executing them using chopping.

- **Extended Basics for chopping:** Adaptation of Stick Control for cycle slant

Complementary to the basics exercises I developed beforehand, I adapted the first three parts of *Stick Control* (George B. Stone & Son Inc. 1963) for an in depth practice of sound and timing of the cycle slant technique.

[illegible]

## Exercises using displacement and rhythm glyphs

This is a list of what each symbol represents in my chopping system

The exercises are numbered 1 through 12, each showing a musical staff with a specific symbol and a sequence of notes with displacement and rhythm glyphs.

- 1**: Symbol **I**. Staff with a half note, a quarter note with an accent (>), and a quarter note with a circled X (X).
- 2**: Symbol **X**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, and a quarter note with a circled X (X).
- 3**: Symbol **Δ**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, a quarter note with an X and a left-pointing arrow (<), and a quarter note with a circled X (X).
- 4**: Symbol **Δ**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, a quarter note with an X and a right-pointing arrow (>), and a quarter note with a circled X (X).
- 5**: Symbol **◻**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, a quarter note with an X, a quarter note with an X, and a quarter note with a circled X (X).
- 6**: Symbol **O**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, a quarter note with an X, a quarter note with an X, and a quarter note with a circled X (X).
- 7**: Symbol **I**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, and a quarter note with a circled X (X).
- 8**: Symbol **X**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, and a quarter note with a circled X (X).
- 9**: Symbol **Δ**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, a quarter note with an X and a left-pointing arrow (<), and a quarter note with a circled X (X).
- 10**: Symbol **Δ**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, a quarter note with an X and a right-pointing arrow (>), and a quarter note with a circled X (X).
- 11**: Symbol **◻**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, a quarter note with an X, a quarter note with an X, and a quarter note with a circled X (X).
- 12**: Symbol **O**. Staff with a half note, a quarter note with an accent (>), a quarter note with an X, a quarter note with an X, a quarter note with an X, and a quarter note with a circled X (X).

Here I present a few examples of different combinations of these symbols I use for my own practice.

13

14

15

16

17

18

19

20

21



- Extended Exercises - Ruven Ruppik patterns and fills "For Syria"

1 2 3 1 2

*main motif part 1*

4 5 1 2 1 2

6 7 1 2 1 2

8 1 2 3 3 1 3 1 2 3

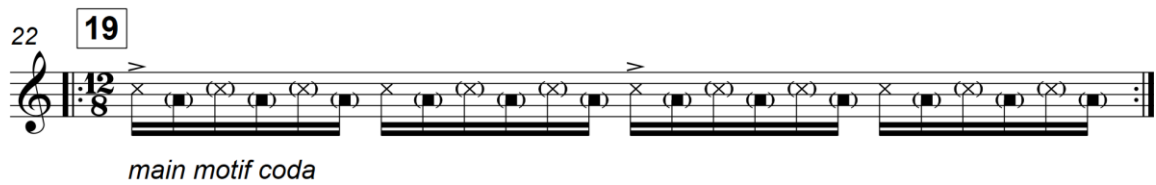
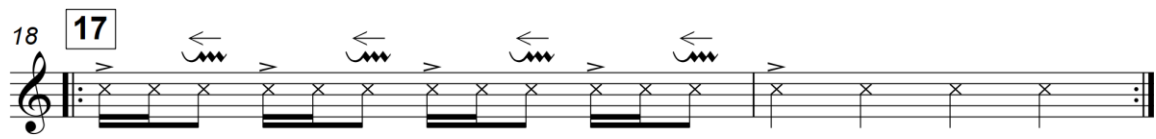
10 11 1 2 1 2 1 2

*main motif end part*

12 13 1 2 1 2 1 2

15 16 1 2 1 2 1 2

2



- Extended Exercises - Ruven Ruppik patterns and fills "Sonor Demo"

The image displays a musical score for extended exercises, organized into nine numbered staves (1 through 9) in 7/8 time. Each staff begins with a measure rest and a repeat sign. The exercises are as follows:

- Exercise 1:** A single melodic line with eighth notes and rests, featuring two bowing marks (V) and two breath marks (←).
- Exercise 2:** A single melodic line with eighth notes and rests, featuring three bowing marks (V) and one breath mark (←).
- Exercise 3:** A single melodic line with eighth notes and rests, featuring four bowing marks (V).
- Exercise 4:** A single melodic line with eighth notes and rests, featuring two bowing marks (V) and two breath marks (←).
- Exercise 5:** A single melodic line with eighth notes and rests, featuring three bowing marks (V) and one breath mark (←). The first measure is labeled "main motif".
- Exercise 7:** A single melodic line with eighth notes and rests, featuring three bowing marks (V) and one breath mark (←). The first measure includes a trill.
- Exercise 8:** A single melodic line with eighth notes and rests, featuring two bowing marks (V) and two breath marks (←). The first measure is labeled "1 2 1 2 3".
- Exercise 9:** A single melodic line with eighth notes and rests, featuring two bowing marks (V) and two breath marks (←). The first measure is labeled "1 2 3".

2

17 **11** 1 2 1 2 3 1 2 1 2 1 2 3

19 **12** 1 2 1 2 1 2 3

5

5

5

## CONCLUSION-EPILOGUE

The work done in this research has been extremely important to me. It has served to expand my knowledge about certain aspects of chopping and to share it with other violinist colleagues and percussionists. Moreover, thanks to the development of this research, I have learned how to approach an artistic challenge by understanding the Intervention Cycle method. I can also greatly improve various technical aspects of my playing, such as my timing and my dynamic range, and find new colours such as the kick-bass sound, triple chop and the cycle slant.

As I said at the beginning of this report, this research has not taught me the chop technique but it has demonstrated an excellent process to help expand my vision of it. I feel it could constitute a good approach for any string player who seriously wants to develop their chopping skills.

As a result of the analysis of the transcriptions and interviews I can now generate my own set of exercises for developing my playing every day. By using the notation system created, I continue to expand this library with new rhythms and phrases. Techniques such as groupings and displacement have become my daily practice tools in order to interiorize motifs and to add depth to my improvisations, however, I have found that my Second Intervention could be expanded in the future, with more insights from different percussionists.

As I have shown, the notation system highlighted in this research represents all the possible sounds heard when performing the chopping exercises, and it serves the purpose of improving their execution. I have found, however, that it is not effective when it comes to daily artistic tasks such as first sight reading and fast notation.

Nevertheless, I do believe that this matter could be solved through the use of rhythm glyphs in the future. I think that this concept has enough depth to warrant another deep investigation.

That said, this work could be helpful as a first step, leading to a simpler and effective new system in collaboration with more experts in this field.

Furthermore, this work has brought me an opportunity to step inside the mindset of a percussionist by learning, first hand, their own techniques and logic. I have thus realized that chopping is so much more constructive when its execution brings about elements of coherence and phrasing, rather than a mere collection of motifs or licks played without any meaning.

This has been very useful for developing a musical dialogue with percussionists during live concerts. Furthermore, I have noticed the influence of this work in my harmonic improvisations and an increase in my awareness for developing better melodic phrases, as well being stronger from a rhythmic point of view.

I am presenting a percussive improvisation as a conclusion of this research.<sup>4</sup>

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<sup>4</sup> It is included on the USB which is attached to the dissertation

## APPENDIX

### NETWORK

**Casey Driessen** (1978, Owatonna, Minnesota, United States) is an American bluegrass fiddler and singer. He is a graduate of the Berklee College of Music, where he studied with Matt Glaser, and an alumnus of Homewood-Flossmoor High School in Flossmoor, Ill. He has performed with Béla Fleck, Abigail Washburn, Steve Earle, Tim O'Brien, Darrell Scott, Jim Lauderdale, Lee Ann Womack, Mark Schatz, John Doyle and Chris Thile. He has recorded with Darol Anger, John Mayer, Jerry Douglas, Jamey Haddad and Blue Merle. (Wikipedia, n.d.)

**Christiaan Van Hemert** (violin expert): Main Subject teacher. He is an expert in violin jazz improvisation. In addition, he plays double bass, bandoneon and guitar (gypsy jazz style) along with other instruments. He has produced and participated in countless concerts playing with - among others - the Rosenberg Trio, Mozes Rosenberg, Roby Lakatos, Tchavolo Schmitt, Juan José Mosalini, Sandra Rumolino and Philippe Catherine, and as a soloist with The Residence Chamber Orchestra and the Metropole Orchestra. His opinion and feedback have been highly valuable to my work due his perception as a multi instrumentalist.

**Udo Demandt** (percussion expert): Udo Demandt is a German percussionist and drummer who plays in a broad range of styles such as flamenco, Brazilian music and many other crossover styles. He uses hybrid setups where he combines drums and percussion. He is teacher at the World Music Department of Codarts.

**Ruven Ruppik** (percussion expert, Germany): Besides his studies at the "Hochschule für Musik Detmold" he attended master classes with Karl Heinz Stockhausen and Michael, and he has performed under the direction of Kurt Masur and Peter Eötvös. As a soloist Ruven Ruppik has played tours in Japan (2004), Switzerland and "Tonhalle Dusseldorf" (2005), "Festival of New Music of Macedonia" (2008) and in 2009 a solo performance which was broadcast live by the WDR. In addition to the fact that he was a member of several chamber music ensembles with which he performed all over Europe, China, Japan and Oman, he is currently intensively engaged in flamenco, including at Codarts, Rotterdam, where he is simultaneously studying Indian percussion.

**Carmelo Emanuele Patti**: Classical & jazz violinist, composer. Besides his studies as classical violinist, he also studied classical composition, piano, viola and electronic music. In 2008 he began to study jazz music with jazz violinist Didier Lockwood in France, and he completed a Master's degree in Jazz at the Conservatory in Italy. He has also composed theatre, film and documentary music and undertaken pop arrangements and productions for TV.

**DOT Quartet** (jazz string quartet): is comprised of violinists Pablo Rodríguez, Chris Kosides, violist Yanna Pelser and cellist Iván Nogueira. They are prominent and versatile musicians who met in 2013 at the Codarts Conservatorium in Rotterdam, the Netherlands. Having all been raised in classical backgrounds, they started to investigate the possibilities of a string quartet playing non-classical music such as jazz and world music.

## REFERENCE LIST

### CD/DVD

- Casey Driessen, *The Singularity*, Red Shoe Records (2013)

This is his violin solo work where he combines his own compositions and arrangements with 5-string violin, electronics and loop station.

- *Chops & Grooves: Rhythmic Explorations for Bowed Instruments* Darol Anger, Casey Driessen, Rushad Eggleston (Homespun Video, 2005).

This is a two-hour DVD guided by violinist, composer, and educator Darol Anger, in which he demonstrates how driving rhythms can be created in a wide variety of musical styles such as bluegrass, Celtic, ska, Latin, rock and funk. It is accompanied by a booklet containing all the music performed in the DVD.

### Books

- George Lawrence Stone: *Stick Control for the Snare Drummer* (George B. Stone & Son Inc. 1963)
- Peter Giger: *Die Kunst des Rhythms* (Schott, 1993)

### Websites

- Casey Driessen (2013): *Techniques & Skills with Casey Driessen*: This is a series of videos where Casey Driessen explains his chopping techniques. Retrieved from <http://caseydriessen.com/>
- Studio flamenco (n.d.) *Basic flamenco dance terms*.  
A useful description of the most common flamenco terminology. Retrieved from <http://www.studioflamenco.com/Class%20Handouts/BasicFlamencoDanceTerms.pdf>
- Thomsen, Laurel: *Bowing Fundamentals: How to Master the Chop*. Retrieved from <https://www.questia.com/article/1P3-2667410731/bowing-fundamentals-how-to-master-the-chop>
- Wikipedia (n.d.) This gives a wealth of information regarding some of the terminology I found necessary for this research.

*Fills (music)*      [https://en.wikipedia.org/wiki/Fill\\_\(music\)](https://en.wikipedia.org/wiki/Fill_(music))

*Timing (music)*      [https://en.wikipedia.org/wiki/Timing\\_\(music\)](https://en.wikipedia.org/wiki/Timing_(music))

*Compás*      <https://en.wikipedia.org/wiki/Flamenco#Comp.C3.A1s>

### YouTube

- <https://youtu.be/aeOrHWYbVLg>

Casey Driessen performs "Working in a Building"

- <https://www.youtube.com/watch?v=sApML7aUsX4>

Casey Driessen performs "Working in a Building" @ Nashville Acoustic All Stars

- <https://youtu.be/ZLc-PT9H1nE>  
Casey Driessen performs traditional tune @ Wintergrass
- [https://youtu.be/013soQf\\_G70](https://youtu.be/013soQf_G70)  
Casey Driessen performs "Tanuki Attack"
- <https://youtu.be/eXVbHeTN5GE>  
Ruven Ruppik performs a cajón solo (#4Syria)
- <https://youtu.be/AXAyAZTemAM>  
Ruven Ruppik performs a cajón Solo (Sonor Demo)