

## Durham E-Theses

---

*Commentary on the Portfolio of Compositions  
submitted for the degree of PhD in Music  
Composition, University of Durham by Mariam  
Rezaei, 2016*

REZAEI, MARIAM

---

### How to cite:

REZAEI, MARIAM (2017) *Commentary on the Portfolio of Compositions submitted for the degree of PhD in Music Composition, University of Durham by Mariam Rezaei, 2016*, Durham theses, Durham University. Available at Durham E-Theses Online: <http://etheses.dur.ac.uk/11968/>

---

### Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in Durham E-Theses
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full Durham E-Theses policy](#) for further details.

Appendices to the  
Commentary on the  
Portfolio of Compositions

submitted for the degree of  
PhD in Music Composition  
University of Durham

by  
Mariam Rezaei

## **Contents of Appendices**

Appendices Music Tracklist	Page 3
<b>Chapter 1</b>	
1. A Guide To Turntablism and Turntable Notation	Page 4
<b>Chapter 2</b>	
2. Skratch Exercises	Page 20
2.1 Skratch Ex. 1 - Baby Skratch Combos	Page 21
2.2 Skratch Ex 2 - Baby Skratch Combos 2	Page 22
2.3 Skratch Ex. 3 - Baby Skratch Combos	Page 23
2.4 Skratch Ex. 4 - Forward Cutting Baby Skratch Combos	Page 24
2.5 Skratch Ex. 5 - Transforming Forward Cutting Combo	Page 25
2.6 Skratch Ex. 6 - Chirping	Page 26
2.7 Skratch Ex. 7 - Forward reverse cutting, transforming chirps combos	Page 27
2.8 Skratch Ex.8 – Combos	Page 28
<b>Chapter 3</b>	
3. ESFA: Pitch Derivation Notes	Page 30
<b>Chapter 4</b>	
4. BAWWWY Graphic Score Sketches	Page 32
4.1 BAWWWY Graphic Score Sketch 1	Page 32
4.2 BAWWWY Graphic Score Sketch 2	Page 33

## **Appendices Music Tracklist**

### **Track 1**

Skratch Ex. 1 - Baby Skratch Combos duration: 0h00'42"

Solo Turntable

### **Track 2**

Skratch Ex 2 - Baby Skratch Combos 2 duration: 0h00'30"

Solo Turntable

### **Track 3**

Skratch Ex. 3 - Baby Skratch Combos duration: 0h00'16"

Solo Turntable

### **Track 4**

Skratch Ex. 4 - Forward Cutting Baby Skratch Combos

Solo Turntable duration: 0h00'39"

### **Track 5**

Skratch Ex. 5 - Transforming Forward Cutting Combo

Solo Turntable duration: 0h00'20"

### **Track 6**

Skratch Ex. 6 – Chirping duration: 0h01'08"

Solo Turntable

### **Track 7**

Skratch Ex. 7 - Forward reverse cutting, transforming , chirps combos

Solo Turntable duration: 0h00'34"

### **Track 8**

Skratch Ex.8 – Combos duration: 0h00'32"

Solo Turntable

## **Chapter 1. A Guide to Turntablism and Turntable Notation for Performers**

### **Glossary of Turntablist Terminology.**

**Beat Juggling**<sup>1</sup>: An advanced turntable technique developed from early hip hop dJing and was derived from the repetition of breaks played in a club. This technique includes a technique known as 'back spinning', where the same phrase of music is looped on two turntables (both playing the same record at the same point)

**Back Spinning**: A beat juggling technique where the same phrase of music is looped on two turntables, both playing the same record at the same point. Turntable A plays the phrase whilst the DJ prepares turntable B, ready at the beginning of the musical phrase. At the end of the musical phrase on turntable A, the crossfader is switched over to turntable B and the record is released, where the beginning of the musical phrase is then played, seamlessly 'looping' the music. The DJ quickly moves over to turntable A, pulls the record back to the beginning point of the musical phrase, ready to 'loop' the music. This technique can be repeated for very long very periods or short phrases (one beat) and initially was derived from breakdancers in the early 1970s wanting to breakdance to the instrumental 'break' on records.

**Click** : This term is a reference to scratching and is easily misunderstood. Originally, old mixers and old cross faders would make very loud clicking noises when scratching, a clicking sound. The term is derived from the number of cross fader movements not the number of sounds made from using a cross fader. For example, a 2 click flare (a.k.a. an orbit scratch) produces 6 sounds with two

---

<sup>1</sup> Katz, M. 2012. *Groove Music. The Art and Culture of the Hip-Hop DJ*. Oxford: Oxford University Press. p8

clicks on the forwards push and two clicks on the backwards pull of the record.

The skratsh starts with one hand on an open cross fader, the other hand pushing the record forward. There must be two 'clicks' of the cross fader before the record is paused. Thus one sound from the record is split into three sounds by way of 2 cross faders movements. This is repeated on the pulling back of the record, 2 clicks of the cross fader making 3 more sounds from the original one sound on the record. The skratsh ends with an open cross fader. In total, there have been 4 clicks, one whole record movement and 6 sounds produced.

**Closed Fader :** This term refers to the position of a cross fader, playing the opposite channel to which you are working with. The cross fader is playing only 1 channel, the opposite channel to the one which you are 'scratching' from. The cross fader knob is completely closed to one side of the cross fader, the opposite to which you are at, thus, if you are scratching from the right hand side using the right hand turntable, the cross fader will be on the left hand side, playing only the left channel.

**Cross Fader :** An on/off switch/knob found on a mixer for 2 phono channel turntables. This switch cuts between 2 turntables as solo instruments and can play both turntables together. Imagine a mixer is placed between two turntables. The left channel turntable is on your left hand side, the right channel turntable is on your right hand side. The cross fader is a horizontal switch that glides along a distance of around 10cm. When pushed to its extreme left, the cross fader allows on the left channel turntable to be heard. When pushed to its extreme right, the cross fader allows on the right channel turntable to be heard. When placed in the middle, both channels can be heard simultaneously.

**Cut** : 1. This term refers to the cut off point on a cross fader of a mixer. A tight or sharp cut means the cut off point on a cross fader is near the corner of the cross fader thus a big or loose cut means the cut off point of the channel is nearer the middle of the cross fader. When a cross fader is referred to as *bleeding*, this means that the clean cut from one channel to the other is blurred and there is leaking of sound from the unwanted channel. This can be caused by dirt or excessive wear and tear of the internal components of an analogue cross fader. Modern mixers (of the last 2 years) now have optical cross faders which cannot bleed and are resilient to excessive wear and tear. See appendices for more information on cross faders.

2. A colloquialism for the performance of scratching. A turntablist can be referred to as 'cutting it up' or performing 'fresh cuts'.

3. A scratch, invented by Grand Wizard Theodore<sup>2</sup>. Open cross fader, allow record to play forward, close cross fader, pull record back to cue point with hand.

**DJ**<sup>3</sup> : A Disc Jockey. A person that uses either turntables, CD decks or Digital Controllers as their medium to play music on stage. A DJ will often use a 2 channel mixer and has techniques to creatively join songs one after another.

**Mixer** : A mixer combines several incoming signals into a single output signal. The signals are isolated (as single channels) and are manipulated to a single output thus 2 channels can be played at the same time. Turntablist mixers are often very simple mixers and often consist of 3 channels, 2 line/phono channels and 1 microphone channel. There are two up faders (which act as direct volume

---

<sup>2</sup> Katz, M. 2012. *Groove Music. The Art and Culture of the Hip-Hop DJ*. Oxford: Oxford University Press.p 178

<sup>3</sup> Smith, S. 2013. *Hip-Hop Turntablism, Creativity and Collaboration*. London: Ashgate. p3.

controls) and one cross fader, an on/off switch between the 2 channels. The cross fader can often be manipulated so that the cut off point can be changed to suit the DJ.

**Needle Dropping<sup>4</sup>** : A scratching technique where the turntable needle is dropped into specific grooves. This technique was first invented by DJ Grand Wizard Theodore<sup>5</sup>.

**Open Fader** : An 'open' position of a cross fader where two channels can be heard. This will vary according to the crossfader settings (cut) but normally the switch is in the middle of the cross fader for 50% left and 50% right signals.

**Pitch Adjuster** : A sliding control found on a turntable. This adjusts the speed of a record, thus the pitch of a record.

**Skratch**: Often referred to as the vocabulary of the turntable, to make a skratch a turntablist takes a sound on a record and manipulates movements of the record forwards and backwards. This simple technique is known as the baby skratch and it is the foundation to all skratches.

**Turntablism** : The art of advanced DJ techniques, first associated with turntables but has developed into all CD and MP3 DJ equipment. A turntablist is expected to be able to beat match, mix, skratch and beat juggle. Also known as an 'all-rounder'. Term was initially coined by DJ Babu<sup>6</sup> of the Beat Junkies Crew.

**Turntablist** : The musician performer of the instrument, the turntable. A category/genre of DJ culture; a group of DJs used advanced DJing techniques.

---

<sup>4</sup> Katz, M. 2012. *Groove Music. The Art and Culture of the Hip-Hop DJ*. Oxford: Oxford University Press.p 163

<sup>5</sup> Katz, M. 2012. *Groove Music. The Art and Culture of the Hip-Hop DJ*. Oxford: Oxford University Press.p 182

<sup>6</sup> Newman, M. 2003. History Of Turntablism. [Online article] Unpublished. [Accessed 1 October 2016] Available from: <http://www.autistici.org/2000-maniac/texts/pedestrian%20history%20of%20turntablism.pdf>

## **A Guide to the 5 Line Stave Turntable Notation**

Like any notation, there are simple rules to be learned. This system is not as complicated as modern western notation. I hope that I have succeeded to develop something that can be academically recognised, but most importantly, useful to other turntablists and composers.

I realise that most turntablists will have little to no knowledge of reading music. So I will explain everything as clearly and as simply as possible, using the correct musical terminology where appropriate but always providing an explanation and a glossary at the back.

Both notations are based on the westernised staff system. In the tonal notation, the stave is a visual form of the pitch adjuster on the Technics SL-1200 direct drive turntable, labelled, in short, -8%, 0% and +8%. I continue to use the percussive notation on the third line of the stave so that the two notations can interchange or combine within writing.

There is a mixture of symbols from modern percussion notation, tonal notation and older forms of notation. Signs and symbols are reinterpreted and have been given new meanings that are relevant to the turntable and to the music that is written. Similar symbols are used in both the tonal and percussive notations, primarily to keep the writing to a minimum so as not to confuse the reader, but also to simplify ideas.

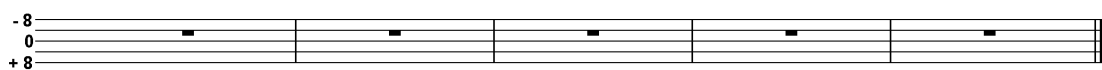
## The Signs and Symbols

All of the notes have a relative rhythmic value and in the tonal notation, the notes also have an accurate pitch. A quaver is still counted as a quaver and a crotchet is still counted as a crotchet. The notes are designed to show us their value in relation to other notes; the notes do not come with a set time frame. For example, a note does not automatically equal one second, a marking will tell us how many, of which note should be played within a minute. This is known as a *metronome mark*.

This means that music that the music should be played at an approximate speed of 75 crotchets per minute. A metronome will tick out this speed accurately, though in art music, the marking is usually a rough guide to the speed/*tempo*.

## The Stave

There is a system on which the notes are written upon. This is called the stave. It consists of 5 horizontal lines that are equally spaced out. On these lines certain symbols are written on to tell the performer the *tempo* (speed), the *clef* (pitch range) and the *time signature* (number and type of notes per bar). The lines are 'cut' into smaller, more manageable chunks using thin vertical lines called *bar lines*. These lines break the music up into boxes and these boxes are called *bars*.



## The Note Values



Above is a short example of common note values found in standard notation and used in this turntable notation.

1 is a whole beat (1) and is called semi-breve.

2 is a half beat ( $1/2$ ) and is called a minim.

3 is a quarter of a beat ( $1/4$ ) and is called a crotchet.

4 is an eighth of a beat ( $1/8$ ) and is called a quaver.

5 is a sixteenth of a beat ( $1/16$ ) and is called a semi quaver.

There is a mathematical relationship between note values. They are all relative.

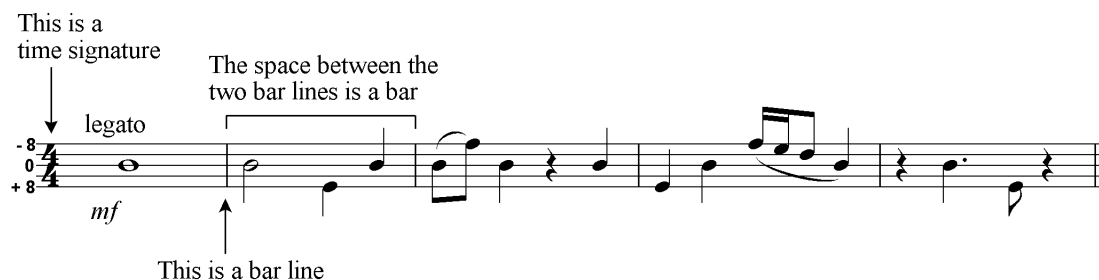
Every note can be halved and doubled. This also applies with rests.

The round part of the note, coloured or not, is known as the note head. The vertical line joined to the note head is called the stem. There are tails on quavers and semi-quavers

When there are more two or more quavers, semi quavers (or notes with tails) they are joined together at the top with a line called a beam. The tails no longer curl but have become horizontal lines, as shown in the example above.

## Time Signatures

Notes are grouped together to make them easier to read, count and play. The notes are separated by vertical lines on the stave and represent a *bar line*. The space and notes between these lines are contained within a *bar*. A time signature tells us how many notes are in a bar and what type of notes they are. Remember, the notes are relative to each other and that a note does not automatically have a speed, but that this speed is specified at the beginning of a piece.



A time signature is written as two numbers, one on top of another.

4	3	2
4	4	2

The top number signifies the number of notes in total per bar. The bottom number tells us what type of note is to be used to represent the note. If you look back to the descriptions of note values before, you will see a fraction value for

each note. The bottom value of the fraction is the number that represents the note type in the time signature.

For example;

- 4 - this means four beats per bar
- 4 - this means the notes are crotchets ( $\frac{1}{4}$ )
- 3 - this means three beats per bar
- 8 - this means the notes are quavers ( $\frac{1}{8}$ )

Everything within a bar must add up exactly to what a time signature indicates the music is counted in. For example there may only be three crotchets played in

a bar of four crotchets      4

4

but the bar must add up to four. We might have to add a rest or reconsider how long each note is. We may intend to play three notes, but one may be longer than the others. For example, there may be two crotchets and one minim in the bar, so the third note lasts twice as long as note one and two.

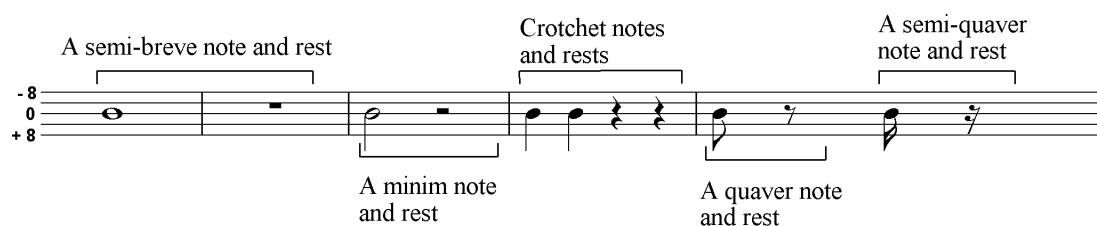
$$1 + 1 + 2 = 4.$$

Or the notes may all be equal and there is to be a 'rest' at the end of the bar

$$1 + 1 + 1 + 1 = 4$$

## Rests

A rest is a pause, a stop or a break in the notes. A rest must show the performer how long to pause for, so, like notes, rests have values too. Each note value has a corresponding rest value.



## The Dotted Rhythm

A dot *AFTER* (not on top or below) a note or a rest is a mathematical signal to multiply the value by 1.5. In other words, add half of the value on top of the original value. This means that a dotted crotchet would actually value a crotchet AND a quaver (half of its value).



Remember that each bar must add up to the time signature. In order to even up a note such as dotted crotchet (=1 ½ beats) to 2 beats, ½ a beat must be made up. This ½ beat value is a quaver, so it could be a quaver or a quaver rest (see 1<sup>st</sup> bar in example above).

To keep strict counting of a dotted rhythm, break down the beats from 1, 2, 3, 4 into 1 + 2 + 3 + 4+ .This way counting half beats will not be so difficult.

Example

1 2 3 4 BECOMES 1 + 2 + 3 + 4 +

### **Tonal notation**

The five line stave is used to represent the most tonally sound areas on the pitch adjuster of a Technics SL-1200 direct drive turntable. The notation could easily be adapted for any other pitch adjuster on any other turntable. More lines could be added or the values could be changed. I would like to emphasise the importance of writing the pitches at the side of every new stave. This is a constant reminder to the performer of the pitch adjuster range. If the turntable had an adjustable pitch control, it would be necessary to inform the performer the bar before *and* at the beginning of the bar where any change occurs.

One advantage of having a lower pitch adjusting range can be the use of *quarter-*, *eighth-* or smaller tones, something that can be found in eastern and many modern/post-modern compositions. These tones can be written clearly on the 5 line stave.

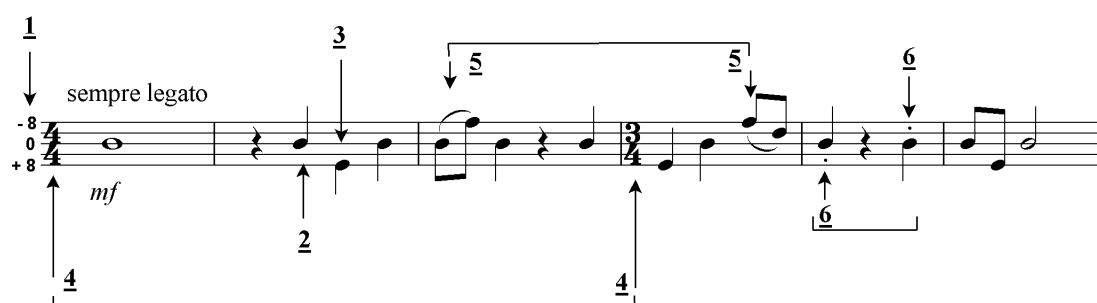
Using a single continual pitch/tone I have found the most plausible sounding notes at -8%, -4%, 0%, +4% and +8%. There is an interval of a perfect fifth between 33 1/3 rpm and 45rpm (this means that there is a distance of 7 *semitones* between 33 1/3 and 45rpm 0% pitches.) Each percentage given is approximately a *semitone* apart, thus, with a note of C at 33 1/3 rpm, 0% pitch we have

Pitch adjuster	33 1/3 rpm	45 rpm
-8%	Bb / A#	F
-4%	B / Cb	F# / Gb
0%	C	G
+4%	C# / Db	G# / Ab
+8%	D	A

This is a small range but can be built upon if a range of different pitches are used and adjusted. A technique called needle dropping can also be used on the turntable, where the tone arm is picked up and placed on to different grooves that are different notes or samples. The use of the pitch adjuster can extend the range of the notes and can also add elements articulation, such as *slurring* or *glissandi*.

### **Tonal symbols**

In the stave below there are working examples of the symbols used in the tones notation.



1 The 5 line stave should be marked with numbers to show the pitch range. This represents the horizontal pitch adjuster of a Technics SL – 1200. Other turntable

brands and makes can have different pitch adjuster ranges so this system can be modified to match the equipment used.

2 If the note has an upwards stem, the turntable should be at 45 rpm

3 If the note has a downwards stem, the turntable should be at 33 1/3rpm.

4 Time signature must be marked at the beginning of a piece or wherever there is a change of time signature, just like other instruments.

5 A 'slur' marking represents sliding of the pitch adjuster. The pitches are heard but must be changed without the use of a cross fader to cut the sounds. The motion should be smooth and the sound, even.

6 A dot above or below a note is 'staccato'. This means the note should be very short and detached. A good example of this is the 'tip' skretch.

7 A line above or below a note is a 'marcato' marking. Literally meaning 'marked', the note should be sounded with a little force, a little shorter than normal but not as short as staccato.

Like guitar tablature, there are no sharp or flat signs. The notes are placed on the stave where the slider should be on the pitch adjuster.

### **Skratch Symbols**

To skretch, a turntablist takes a sound on a record and manipulates movements of the record forwards and backwards. This simple technique is known as the baby skretch and it is the foundation to all scratches. Without this movement, we cannot achieve other scratches and this technique can dramatically affect the pitch and timbre of any skretch. There are a range of basic scratches that when

layered to develop more complex scratches, are called *combination scratches* or *combos*.

When incorporating the use of an 'on/off switch' known as a *cross fader* on the DJ Mixer, there is an addition of short pauses to a long sound. These short pauses are made by the *clicks* (moving fast between on and off ) on the *cross fader*.

A 5 or 1 line stave can be used to for scratch notation with a 5 line stave making it easier if tonal and scratch notations are interchanged quickly. Writing should be predominantly on the middle line for scratch notation, giving equal space for the note stems to point upwards or downwards. A single line stave, can be used in scratch notation, with notes moving up and down the stave, implying an approximate change of pitch through scratching technique (which will be the underlying baby scratch movement in any scratch).

The scratch notation is specific in rhythm and can be in technique. There can be instances where a performer has the right to add their own interpretation to a work. As a composer and a performer, I think that this is essential.

There are two main techniques in scratching, with and without the cross/fader (which I shall refer to as *fader/faderless scratching*, respectively), a detail which is addressed in the scratch notation.

The image displays musical notation for scratching techniques across two staves. The top staff is marked 'Andante, legato' and features a 4/4 time signature. It includes various rhythmic patterns with note stems pointing up and down, and dynamic markings such as 'mf' (mezzo-forte) and 'p' (piano). The bottom staff is marked 'Lively' and features a 3/4 time signature. It includes various rhythmic patterns with note stems pointing up and down, and dynamic markings such as 'mf' (mezzo-forte) and 'p' (piano). The notation includes various symbols for scratching techniques, including asterisks (\*), upward-pointing triangles (^), and downward-pointing triangles (v). The bottom staff also includes a 'crab' section with a specific rhythmic pattern.

- 1 A hand movement (the pushing and pulling of a record) is represented by a 'tie' marking. The notes that are 'tied' together must be made within one hand movement on the record.
- 2 If the note has an upwards stem, a cross fader should be used. For example, in this bar, four equal notes must be played within one full hand movement (the record pushed forwards and then pulled backwards) using a cross fader. In skcratch terminology, this is a single 'flare' skcratch.
- 3 A composer can specify in more complex skratches where the hand movement should change from pushing to pulling the record by using an arrow ^ above the note where the change should occur.
- 4 To start or specify where there should be an open cross fader, a star symbol \* is used.
- 5 If the note has a downwards stem, no fader is to be used. In this example, four equal notes are to be played WITHOUT the cross fader. In skcratch terminology, this would be known as the swipe skcratch.
- 6 There are so many skratches that vary in so many different ways that they can not just be represented by a rhythm. There are skratches that are a mixture of both fader and faderless techniques. The bubble chirp is a mixture of both the chirp fader technique whilst using the quick push-pull technique on the record that is known as a lazer. This combination scratch is represented by notes with double stems, one upwards and downwards. The sound is distinct, short and the *timbre* is unlike any other skcratch. By combining the two former skratches in notation we can write the new skcratch with two stems and tails, one upwards, the other downwards. This form of notation is investigative for the performer and assumes that the turntablist will know how to perform this technique.

Another way to indicate a specific scratch technique is to use small annotations which should be explained in performance notes. This will simply clarify the notation but will not replace the details.

Like the tonal notation, the note and rest values still correspond to modern western notation as does *articulation*. *Staccato* and *marcato* have already been explained in the tones notation. Articulation marks how a note should be specifically executed. In other words, should it be long, short, very short, loud, quiet, soft or forceful etc. In scratching this can help define a specific scratch. For it is not always rhythm or technique that defines scratches, but often articulation. Articulation can also help define where the emphasis on a scratch should lie. Though this can also be shown by using an arrow to show a change of hand movement, a *marcato* can also emphasise where more sound should lie in a scratch. Take the tear scratch for example; it is one full hand movement and faderless, so it depends on the performer to use a steady hand. By adding articulation the performer will know when to pull the record back and how fast.

## **Chapter 2. Skcratch Exercises**

A collection of short exercises I composed and teach with. Initially used for NOISESTRA workshops, the exercises help teach music theory, discipline and detail in skcratch technique whilst gently developing the performers frame of reference, to encourage improvisation. There are short explanations which refer to the 'Clock Theory' developed by DJ Grandmaster Flash. I teach, using this method, where a sticker 'marker' is placed on the inner sticker of the record, pointing to '12 O'clock' for the beginning of a sound/musical phrase. This is the only 'accurate' method used when teaching skatching or beat juggling, helping the performer to visualise/where on the record the sounds they are using are placed. This theory further elaborates, to different grooves where the 'times' can be repeated but on different grooves.

Audio recordings for the following exercises can be found in the Appendices audio folder.

## 2.1 Skcratch Ex. 1 - Baby Skcratch Combos

This exercise is a combination of basic rhythms and faderless scratches / baby scratches. The exercise emphasises counting in 4, counting rests, swapping between short and long baby scratches and helps master hand to record control with pitch and timbre.

This exercise is important to help develop the basic skills in baby scratches that will become the important foundations later on for complex combo scratches. The tempo marking is moderate and the exercise should be practiced with a metronome, steady beat. When first learning this exercise, I ask students to learn at a slightly slower tempo to then practise up to this speed.

### Skratch Ex. 1 Baby skcratch combos

AAH Skcratch sound  
♩ = 90

Turntable

5

9

## 2.2 Skratch Ex 2 - Baby Skratch Combos 2

This exercise sees a combination of more complicated rhythms and counting. Combining crotchets, quavers and semi-quavers, the exercise challenges the performer to learn stronger hand control with the record for a clean and crisp sound. For the first time, we see short and sharper baby scratches with staccato markings (b.3) and an implied melodic line in the scratching throughout. This further emphasises hand control.

Using the  $\wedge$  symbol to indicate change direction the record is pushed, the change of emphasis in pushing and pulling record is reversed (b.10). This hand-eye coordination principal is a vital and difficult skill to learn and overcome in scratching. This is an essential skill to build into beat juggling and complex combo scratches, where the majority of technique is the opposite/reverse to what is heard out of the mixer/speakers as the performer is constantly preparing for the next move. The sonic implications of reversing the record push/pull directions is significant, as can be heard in the recording, and shows the significant differences in the sounds.

### Skratch Ex 2 Baby skratch combos 2

Aah Skratch sound  
♩ = 90

Turntable

5

10

## 2.3 Skratch Ex. 3 - Baby Skratch Combos

Further development of counting and scratching basic rhythms and combinations of crotchets, quavers and semi-quavers. Tonal implications with hand control are more spread out and now change between individual scratches, for example, Bar 1, the first baby scratch starts with a lower pitched sound and ends with a higher pitch pull back of the record.

In bar 3 we have a first instance of a pause, mid baby scratch, where the record is held still for a silent break. This appears simple however, holding a record still/silent with the turntable platter still moving a full speed underneath is an important skill to master.

There is now melodic emphasis in straight rhythms (b.7) much like latin percussion. Bar 9 see the baby scratches follow a linear progression to higher pitched baby scratches, implying a move from short to longer baby scratches, which then descends back into short baby scratches in bar 10. This further reinforces the hand control we have focused on in the first two exercises.

### Skratch Ex. 3 Baby Skratch Combos

Aah Skratch Sound  
♩ = 100

Turntable

5

10

15

## 2.4 Skratch Ex. 4 - Forward Cutting and Baby Skratch Combos

The first exercise using the crossfader on the mixer. The Forward Cut skratch starts with the crossfader open, record is released from 12 o'clock start of sound, crossfader is closed after sound is heard (approx. 5 O'clock), record is reversed with crossfader closed back to 12 O'clock, hence no reverse sound is heard.

This exercises focuses on clean forward cutting sounds, a clean change over to baby scratches, emphasizing crossfader technique, where the crossfader is being used and now left open.

The baby scratches are steady and parallel, with no tonal implications, allowing the student to focus on the crossfader technique and the hand-eye coordination between turntable and mixer.

The metronome marking is fast. I would suggest that students start learning this exercise at a slower speed and work up to this. To further support this, I would slow down the record speed on the turntable from 33 1/3<sup>rd</sup> RPM at 0% to 33 1/3 rpm at -8%. I would then incrementally adjust this to -6%, -4% and -2% as there will be a noticeable different in the drag of the record from the turntable platter. The use of the forward cutting technique in rows of four is widely known as the 'Military March' by turntablists.

### Skratch Ex. 4 Forward Cutting and Baby skratch combos

Aah skratch sound  
♩ = 130

Turntable  $\frac{4}{4}$

5

## 2.5 Skcratch Ex. 5 - Transforming and Forward Cutting Combo

Beginning to explore triplets and swung rhythms. This idea is still relatively new to turntablists.

The transformer skcratch is open and closing of the crossfader with the baby skcratch movement of the record. This skcratch is open to any rhythm and the record movement can be open throughout, left up to the comfort of the student. At bar 9 we have the forward cut skcratch, later combined with baby scratches in bar 11.

This is the first time the student will have an opportunity to make their own interpretation to the skcratch sounds, hence the transformer skcratch sounds are all written on the middle line in this exercise. This relates to the improvisatory nature of turntablism.

### Skratch Ex 5 Transforming and Forward Cut Combos

♩ = 110  
FRESH skcratch sound  
Improvise melodic sounds of the scratches

Turntable

5

10

15

## 2.6 Skratch Ex. 6 - Chirping

Starting with the record at 12 O'clock and the crossfader open, the record is pushed outwards and the crossfader is closed, the record is pulled back and the crossfader is opened quickly. I sometimes describe this motion like contrary motion on the piano, with both hands going out and coming back inwards at the same time. The resulting short sounds are the 'chirp' skretch.

The combination of pitched chirps are the combinations of the crossfader techniques mixed together with different measure baby scratches and hand control which the exercise aims to emphasise.

I believe that it is important to exercise scratches in a controlled way, addressing pitch and hand control as relative entities and overall adding colour to a turntablist's pallet of scratches. This is a point I have discussed with DJ D-Styles in his turntable teaching is important to emphasis.

Bar 9 sees a change into triplet rhythms, crossing over the chirps skretch techniques, which are always counted in twos. This musical challenge is characteristic of my own turntablist performances/improvisations and further promotes steady baby skretch technique on the record.

Bar 16 has a pause mid chirp, again addressing record control mid skretch with the turntable platter running underneath and is breaking away from the repetition of bars or scratches repeated four times.

The tempo of this exercise is moderate and allows for the speed change of the scratches in bar 9 to triplets. There is a natural tendency to skretch quickly with chirps as they are short scratches. Working with a moderate tempo will help a student work consistently with a moderate rhythm and hand control on both the crossfader and record.

### Skratch Ex 6 Chirping

Aah Skretch Sound  
♩ = 90

Turntable

5

10

15

## 2.7 Skcratch Ex. 7 - Forward and reverse cutting, transforming and chirps combos

This simple exercise addresses composition of skcratch 'sentences' using forward and reverse cutting, chirping and transforming. Using a combination of simple rhythms and simple tone-implied sk scratches, this exercise further strengthens a student's hand control and hand-eye coordination between the sk scratches.

The reverse cut sk scratch is similar to the forward cut sk scratch. The crossfader is open, the record plays, the crossfader closes. This time we want to hear the reverse sound (of the record being pulled back) therefore the record needs to be pushed forwards (for example, to 4'0 clock) ready for us to open the crossfader, pull the record back to 12 0'clock, close the crossfader, push record forwards to 4 o'clock and repeat the process.

The student is focusing on coordinating the crossfader - remembering that the chirp starts with open crossfader and ends with an open crossfader, the chirp starts open however, a sound may need to be 'prepared' (brought back to 12 o'clock) and the transformer sk scratch, starting with closed crossfader.

In Bar 1 the exercise starts with a forward cut. The student has to decide if the 'transform sk scratch' will be the reverse pull of the record at this point. This is the simplest solution that I would recommend, however, a student could decide to push and pull the record in this time, it is up to them to decide.

In bar 3, we start with a chirp sk scratch, meaning that that the crossfader starts open, closes, and then ends open. The next sk scratch is a reverse cut which starts open crossfader. The student needs to learn to add in a link with the record (pushing it forward very quickly to be ready to pull back as the reverse cut) and rely on the crossfader hand to be on time. This is a difficult point for many students to reach and this exercise allows the students to practise through these issues.

### Skratch Ex 7

#### Forward and reverse cutting, transforming and chirps combos

AAh sk scratch sound

♩ = 90

Turntable

5

## 2.8 Skcratch Ex.8 - Combos

This exercise sees development in rhythm, skatching speed, articulation, pitching through hand control and crossfader control.

Using abbreviations to clearly articulate which scratches are to be used, forward cutting (rather than reverse cutting) and the crab scratch (rather than transforming). Rhythmically, the scratches are a combination of longer and short, faster rhythms. There is a mixture of implied melodic material from particular scratches articulated (for example the forward cut) and the crab scratch being made with the reverse sound of the record being pulled back after a forward cut (bar 20.)

A new combination of half chirp and reverse pull crab scratch is used in bar 19. I'm not aware of a name for this combination however, the crossfader movement is interesting here. The first half of the chirp with the crossfader starting open the closing as the record is pushed out, is then swooped open with the crossfader in the crab scratch as little finger, ring, middle and fore fingers curl round to hit the crossfader, with a thumb springboard on the other side (movement much like that of crab legs walking, fingers pulsating against the thumb).

Speeding up the skatching is a skill related to more typical skatch routines, where complex scratches are first shown and then speeded up to prove the skills of the performer.

There are still small feats with crossfader techniques to overcome throughout this exercise, for example, bar 17 changing between transformer scratches and chirps, bar end, last two beats swapping between chirping and transforming and bar 23, left open to interpretation by the performer.

### Skratch Ex 8 Combos

Aah Skcratch sound  
♩ = 100

Turntable

15

20

25

From this initial set of exercises, I would suggest that any skratch performer/turntablist that can perform the final exercise is now at an intermediate standard and should be encouraged to begin their own short skratch compositions.

### Chapter 3. ESFA: Pitch Derivation Notes

TRANSPOSITION OF 7<sup>+</sup> FOR DB

F <sup>#</sup> ↓ ST	G ↓ T	A ↓ ST	B <sup>b</sup> ↓ T	C <sup>b</sup> ↓ ST	D <sup>#</sup> ↓ T	E <sup>b</sup> ↓ ST	F <sup>#</sup> ↓ T
A <sup>#</sup>	D <sup>b</sup>	E <sup>b</sup>	D <sup>#</sup>	G <sup>b</sup>	B <sup>b</sup> A <sup>#</sup>	G <sup>#</sup>	
G → B <sup>b</sup>	A → C <sup>+</sup>	B → D <sup>+</sup>	G → E <sup>b</sup>	D → F <sup>+</sup>	E → G	F → A <sup>b</sup>	

ESFA

(N<sub>1</sub>, N<sub>2</sub>, N<sub>3</sub>) (N<sub>3</sub>, N<sub>1</sub><sup>b</sup> N<sub>2</sub><sup>+</sup>) (N<sub>3</sub><sup>b</sup> N<sub>1</sub><sup>b</sup> N<sub>2</sub><sup>b</sup>) ....

I AB<sup>b</sup>C, C D<sup>b</sup>E<sup>b</sup>, E<sup>b</sup>F<sup>b</sup>G, G A B<sup>b</sup>

Ia ABCD, DE<sup>b</sup>FG, GABC, CDE<sup>b</sup>F, FGAB, BCDE<sup>b</sup>, E<sup>b</sup>FEA, \*ABCD\*

II {TRANS OF I @ 7<sup>+</sup>}  
B<sup>b</sup>C<sup>+</sup>D<sup>+</sup>, D<sup>+</sup>E<sup>b</sup>F<sup>+</sup>, F<sup>+</sup>G A<sup>b</sup>, A<sup>b</sup>B<sup>b</sup>C<sup>+</sup>, C<sup>+</sup>D<sup>b</sup>E<sup>b</sup>, E<sup>b</sup>F<sup>+</sup>G, G A<sup>b</sup>B<sup>b</sup>, \*B<sup>b</sup>C<sup>+</sup>D<sup>+</sup>\*

OG+TRANS →

III G B<sup>b</sup>A C<sup>+</sup>, B<sup>b</sup>D<sup>+</sup>C E<sup>b</sup>, D<sup>+</sup>E<sup>b</sup>G, F A<sup>b</sup>G B<sup>b</sup>

1+ (OG+TRANS) →

IV G B<sup>b</sup>A C<sup>+</sup>, C<sup>+</sup>B<sup>b</sup>D<sup>+</sup>C E<sup>b</sup>, E<sup>b</sup>D<sup>+</sup>F<sup>+</sup>E<sup>b</sup>G, G F A<sup>b</sup>G B<sup>b</sup>, B<sup>b</sup>G B<sup>b</sup>A C<sup>+</sup>

V (N+1) (OG+TRANS) → (READING NEXT BOX)  
G B<sup>b</sup>B<sup>b</sup>D<sup>+</sup>, C E<sup>b</sup>E<sup>b</sup>G, F A<sup>b</sup>A<sup>b</sup>C<sup>+</sup>, B<sup>b</sup>D<sup>+</sup>D<sup>+</sup>F<sup>+</sup>, E<sup>b</sup>G G B<sup>b</sup>, A C<sup>+</sup>C<sup>+</sup>E<sup>b</sup>, D F<sup>+</sup>F<sup>+</sup>A<sup>b</sup>

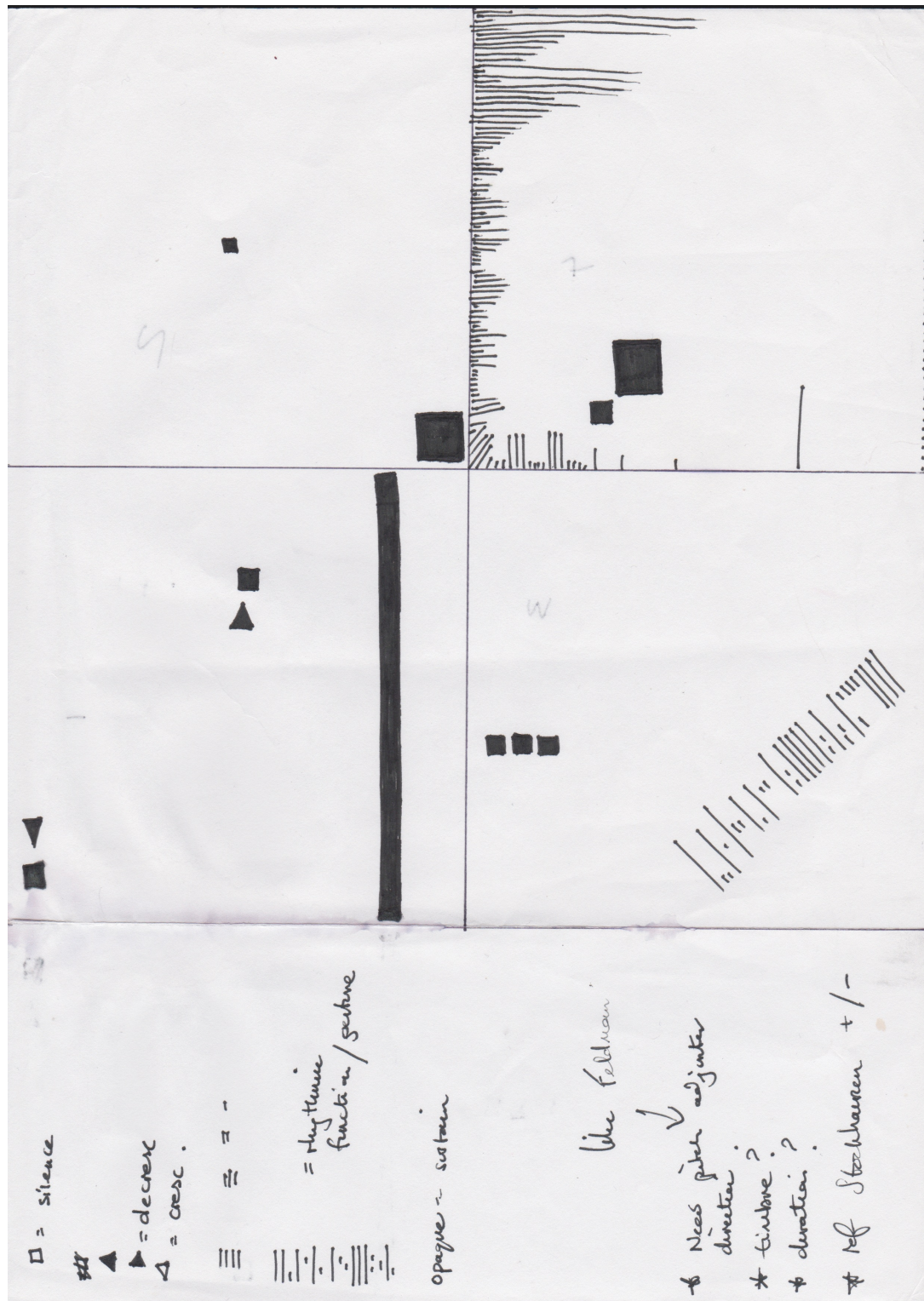
Wood between electric harp strings Mystery note.

	<del>F#</del> G	A B <sup>b</sup> b <sup>#</sup> D <sup>#</sup>	E <sup>b</sup>	ESFA	
ESFA	G	A	B <sup>b</sup> C	D E <sup>b</sup> F	
P	D F <sup>#</sup> G A	<del>D E<sup>b</sup> G A B</del>	D F <sup>#</sup> G A B <sup>b</sup>	C	
H <sub>p</sub>	E G A B <sup>b</sup>	<del>E G A B<sup>b</sup></del>	E A	C <sup>d</sup> B <sup>no</sup>	
D <sub>b</sub>	G	<del>A (B<sup>b</sup>)</del>	G A <sup>+</sup>	C <sup>d</sup> C <sup>+</sup> HARM	
P					
H <sub>p</sub>					
D <sub>b</sub>					
P	A C D F	A B D E	B D G C	B D G A C	B <sup>b</sup> D <sup>#</sup> G A <sup>+</sup> F
H <sub>p</sub>	B <sup>b</sup>	C G	A F E <sup>b</sup>	E <sup>d</sup> B <sup>no</sup>	C E <sup>b</sup>
D <sub>b</sub>	E <sup>d</sup>	F (E <sup>d</sup> )	E <sup>d</sup>	E <sup>b</sup> F <sup>+</sup>	F <sup>#</sup>
P	B <sup>b</sup> A G F	C <sup>#</sup> D <sup>#</sup> D <sup>#</sup>	C <sup>#</sup> D <sup>#</sup> E F F <sup>#</sup>	D <sup>#</sup> E F <sup>#</sup> G B <sup>b</sup>	E F <sup>#</sup> G A B <sup>b</sup>
H <sub>p</sub>	F <sup>#</sup>	B <sup>b</sup> C <sup>+</sup>	A B <sup>b</sup> C <sup>+</sup>	G A B <sup>b</sup>	F <sup>#</sup> A
D <sub>b</sub>	(HARM) E E <sup>b</sup>	C <sup>+</sup> C (HARM)	B <sup>b</sup> A (HARM)	B <sup>b</sup> C (HARM)	G A B <sup>b</sup> (HARM)
P	E F <sup>#</sup> G A C	E F <sup>#</sup> G A B <sup>b</sup> D <sup>#</sup>	E F F <sup>#</sup> G A C C <sup>#</sup>	E F <sup>#</sup> A C C <sup>#</sup> D	E F <sup>#</sup> A B <sup>b</sup> C C <sup>#</sup>
H <sub>p</sub>	F <sup>#</sup> A B <sup>b</sup> C	F <sup>#</sup> G <sup>b</sup> A B <sup>b</sup>	F <sup>#</sup> G <sup>b</sup> A B <sup>b</sup>	?? E <sup>b</sup> (B <sup>no</sup> ) G <sup>b</sup> A B <sup>b</sup>	D E <sup>d</sup> G <sup>b</sup>
D <sub>b</sub>	G A (HARM)	G A C (HARM)	G B <sup>b</sup>	F G (B <sup>b</sup> HARM??)	
P					
H <sub>p</sub>					
D <sub>b</sub>					
P					
H <sub>p</sub>					
D <sub>b</sub>					
P					
H <sub>p</sub>					
D <sub>b</sub>					
P					
H <sub>p</sub>					
D <sub>b</sub>					

## Chapter 4. BAWWWY Graphic Score Sketches

Two sketches of graphic scores, in rough draft, as mentioned in the commentary.

### 4.1



	5 minutes	10 minutes
1	<p>0%</p>	<p><b>sustain</b></p> <p><b>KEEP ON</b></p>
2	<p><b>SILENT</b></p>	<p><b>-8%</b></p> <p><b>GETTING LOUDER</b></p>
3	<p><b>8%</b></p> <p><b>PP</b></p> <p><b>TAKE TIME TO SLOWLY CHANGE THE PITCH ADJUSTER</b></p>	<p><b>FINE-TUNE-THE-VOLUME...</b></p>
4	<p><b>PREPARE TO</b></p> <p><b>SHOCK</b></p>	<p><b>-8%</b></p> <p><b>TAKE TIME TO SLOWLY CHANGE THE PITCH ADJUSTER</b></p>

