

CG1009 Degree Project, Bachelor, classical music, 15 credits

2018 Degree of Bachelor in Music

Department of Classical Music

Supervisor: David Thyren

Examiner: Peter Berlind Carlson

Helgi Þorleiksson

Xenakis Rebonds b

Preperation, Practice and Performance

Written reflection of an independent artistic work

Inspelning av det självständiga, konstnärliga arbetet finns dokumenterat i det tryckta exemplaret av denna text på KMH:s bibliotek

Abstract

Every percussionist is faced with many challenges in their studies and their careers. In this paper I hope to shed light on what kind of work goes into preparing, practising and performing a large solo percussion piece and share some of my personal experience with solo percussion music. This is done by choosing a piece from the repertoire and documenting what processes and methods are used from the time a piece has been chosen until it is ready for performance. The subject of this thesis is *Rebonds b* by Iannis Xenakis for solo percussion. The result is a blueprint that can be useful for young percussionists when they are faced with a large piece from the repertoire and guidelines for what to do when faced with challenges.

Keywords: Iannis Xenakis, Rebonds b, Solo Percussion.

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1 Introduction and Background

1.1 Background

Solo percussion music does not have a very long history compared to solo music for other instruments. Percussion is in the eyes of most people is considered as the group of instruments that are bundled together at the back of the stage behind a symphony orchestra that make way to loud sounds and are easy to play. But in recent history, in terms of the history of music, percussion has been making its way further up the stage. The first time music was written for percussion without an ensemble of other instruments was in 1931 when Edgard Varése wrote *Ionisation*, for 13 percussionists. The first solo percussion piece ever to be written, *27 minutes 10.554 seconds*, was written in 1956 by American composer John Cage. (Schick, 2013)

Despite its tender age, solo percussion music has a great variance and a very large repertoire today. With its youth it has been subject to a lot of experimentation from composers of the late 20th century and plays a large role in today's music as composers are very intrigued by the possibilities when writing for percussion. In today's percussion repertoire there are a handful of pieces that stand out as the staples of solo percussion music. *Prím* for solo snare drum by Áskell Másson, *Marimba Spiritual* for marimba by Minoru Miki and *Rebonds* for multi-percussion by Iannis Xenakis. All these pieces are extremely demanding for the player but are commonly performed in recitals all over the world today.

1.1.1 Purpose of the Study

In modern percussion studies the student has to develop a wide set of skills to perform orchestral, ensemble and solo music. It can often be overwhelming to look at a score notated for multiple instruments in odd time signatures and with rhythms that seem impossible. *In this paper I hope to shed light on what kind of work goes into preparing, practising and performing a large solo percussion piece and share some of my personal experience with solo percussion music.* The piece that was chosen for this project is *Rebonds b* by Iannis Xenakis, perhaps the most popular piece in the solo-multi percussion repertoire.

1.1.2 About the Composer

Iannis Xenakis (1922-2001) was a Greek composer, architect and mathematician. Xenakis who was born in Romania in 1922 had music-loving parents and his mother was a good piano player. It was she, Photini Pavlou who introduced her son to music giving him a recorder when he was young. Photini passed away while pregnant with Iannis's sister when Iannis was only five years old which left the young boy scarred. Xenakis was educated by private teachers until he was ten years old when he was sent to a boarding school on the island of Spetsai in Greece. There, Xenakis was given the chance to study music as he joined the school choir which sang highly classical works by Mozart and Palestrina. (The Friends of Xenakis Association 2000; Harvey 2004; Montassier 1980)

In 1938 Xenakis went to Athens to study architecture and engineering and in 1940 he was accepted into the National Technical University of Athens. His studies there were however halted by the Greco-Italian war. During the war Xenakis took part in the resistance against the Italians, then the Germans and finally the British. In 1945 Xenakis was involved in a street fight against British tanks. He took shrapnel to the face ripping out his jaw and eye. He was presumed dead and left on the battlefield, but his father found him and carried him to a hospital, where he had to have many operations. Xenakis remained in the hospital for four months and most people describe it as a miracle the he survived. (The Friends of Xenakis Association 2000)



Iannis Xenakis

In 1946 Xenakis finished his studies in civil engineering and the next year the Greek government started arresting people who had been involved in the resistance. Xenakis fled to France with an illegal passport under the name Konstantin Kastrounis his father provided him to avoid arrest. Xenakis always regretted leaving his country as most of his fellow resistance members, including his father and brother, were either killed or captured. His escape awarded him a death sentence which was not lifted until 1974. (The Xenakis Association 2000)

In France Xenakis was able to get work as an architect despite his status as an illegal immigrant. Xenakis worked at an architectural studio for the architect Le Corbusier. He started out as an assistant but was quickly promoted to working on big projects. His biggest project was the Philips Pavillion (for the 1958 World's Fair Expo in Brussels) which he designed himself based on a sketch made by Le Corbusier. The Pavillion was inspired by Xenakis's orchestral piece *Metastaseis*. (Harley 2000; The Xenakis Association 2000)



The Philips Pavillion

During his time in France, Xenakis kept on composing and studying music but he had problems finding teachers. He approached Nadia Boulanger, Arthur Honegger and Darius Milhaud who all rejected Xenakis's music as being not very good and Milhaud dismissed it for having parallel fifths and octaves. It wasn't until he approached Oliver Messiaen, who told Xenakis to abandon classical rules of music and use his own expertise (in architecture and mathematics) to compose music. (Harley 2000; The Xenakis Association 2000)

In 1955 *Metastaseis* is premiered at the Donaushinger Festival in Germany. The piece was inspired by Einsteins view of time, memories of war and the Phillips Pavillion. The piece was very different from modern pieces from that time, being scored for a 61-piece orchestra where everyone had a separate part. The piece starts with a single note that develops into a cluster over a long period of time which was to become a signature trait of Xenakis music. In the years following the premiere of *Metastaseis* Xenakis begun to get some recognition with the help of his friend Herman Scerchen. Scerchen championed Xenakis's music with several premiers in France which gave Xenakis a lot of confidence in his methods. During this period of his life Xenakis was very successful and quite productive even after his focus shifted to solo and smaller ensemble music in the 80s. (Harley 2000; The friends of Xenakis Association 2000)

In 1959, Xenakis left Le Corbusier, wanting to focus entirely on composition. In the following years he took part in a lot of projects including the composing for the East-West

Music Encounter in 1961. He was commissioned by UNESCO to write film music in 1960 as well as writing a Polla ta dhina for the 1962 Stuttgart Festival of Light. During this period of his life Xenakis was very successful and quite productive. Xenakis became one of the most respected composers of the modern age. Xenakis was a member of Recherches de Musique Concrete and formed CEMAMU (Centre d'Etudes de Mathématique et Automatique Musicales) which were organisations dedicated to electrical musical and automated music, which Xenakis founded. The field of computer music was very novel and Xenakis championed this music including writing the book *Formalized Music* which became a part of many compositional curriculums as well as creating the computer system UPIC which could read graphical scores and translate them into sound. (Harley 2000; The Friends of Xenakis Foundation 2000)

Xenakis did not write so much for percussion as one might think knowing what kind of success his works had with percussionists. But his partnership with Les Percussions de Strasbourg and solo percussionist Sylvio Gualda was fruitful and is cherished by almost all percussionists today. His first piece *Pershephassa* was commission by Les Percussions de Strasbourg 1969 and in 1979 he composed the 48 minute long *Pleiades* using all kinds of percussion instruments even an instrument of his own design, known as the Sixxen.(Harley 2000)

Xenakis's first solo composition *Psappha* was written for Sylvio Gualda in 1976 for a large selection of skins, metals and wood. Some other works he wrote for Gualda include *Komboï* for percussion and harpsichord, *Kassandra* for a baritone and percussion and *Rebonds* for solo percussion 1987.(Harley 2000)

1.1.3 About Rebonds b

Rebonds b is one of the two movements of *Rebonds a/b* by Iannis Xenakis. *Rebonds b* is written for five drums and five woodblocks. It is in 4/4 time with regular bar lines as most music is. However, the bar lines don't serve a musical purpose because the timing of the themes and motifs are not in 4/4 time at any point. A stable of Xenakis's music is that it is always evolving from within. *Rebonds a/b* does this by defying bar lines and traditional timings developing each theme slowly over a long time. Each theme goes through many

repetitions gradually changing time either by adding notes, extending a rest or something of that kind.

One of Xenakis's ideas for *Rebonds* and his other solo percussion piece *Psappha* is to make the music sound like it is being played by more than one person. This effect is achieved by putting many lines together in a classical counterpoint style where each line has a different character and role. We can often hear themes move between instruments section, woods and skins in this case. This makes the piece very difficult to perform but also makes it more interesting for the listener.

Rebonds b does not use any tones or harmonies since the instruments here don't produce any pitches. For this kind of music, the composer has to use other variables such as accents, dynamics, double accents and of course many rhythms. Veteran listeners of percussion music will also hear the different drums as melodies which makes the experience much more enjoyable.

2 Method

Rebonds a/b first caught my eye when I began my university studies. I heard it through a practise room door when one of my colleagues was working on it for his Master Recital. I walked in, observed the setup, glanced at the score and thought to myself that this is a piece I have to play. I acquired the score and began to dissect it and realised that I was not ready but made it one of my goals to get ready technically and musically to play this piece and as I came closer to graduation I felt ready and then it started.

When it comes to preparing *Rebonds b* there is a lot to consider. It is good to make a plan, so tasks can be organised in order to make it easier to prepare the piece. First thing to do is to acquire the score and start analysing the piece. You will quickly realise that this is an enormous task and requires a lot of work. Go through the score a few times to picture a setup, find the difficult passages and with that try make a plan for which percussion skills need to be developed to play it.

The task I chose to do first was to analyse the music. This process can be difficult, but it will help immensely to get an idea of what the piece is about, what its themes are and give you an idea of what to prioritize when practising it.

3 Analysis

For the analysis I divide the music into parts based on the repetition of themes and passages. This makes it easier to navigate the piece during practise and when reviewing my own work with the music.

Part 1 bars 1-8 - Main Theme

The piece opens with the main theme divided into three voices. One of the main voices is the constant 8^{ths} of the bongo keeping the time and laying the groove. The 2nd voice is the occasional accents and rebounds dividing the steady beat of the bongo. This voice is perhaps the reason why this piece is so popular because it gives the music a very hard groove. The illusion is that the piece is in 4/4 as the marking says but these accents and rebounds shift slowly shifting the “feel” giving the almost repetitive music a fresh style. And the 3rd voice is the melody. The melody has five notes with accents on the 1st and 3rd note and repeats itself varying slightly in gaps between the notes resolving into the first interlude. We will see this melody take many shapes and forms for the duration of the piece, so it is important to know it well.

5 W. Bl. échelonnés
2 Bongos Tumba Tom Gr. C.
f

5 W. Bl. échelonnés
2 Bongos Tumba Tom Gr. C.
f

5 W. Bl. échelonnés
2 Bongos Tumba Tom Gr. C.
f

Opening bar of Rebonds b

Part 2 bars 8-9 1st - Interlude

The first interlude stops the bongo beat and rebounds moving the beat to the lower drums while maintaining the melody from the main theme. This passage gives a feeling of breaking the groove and serves as a break from the intense drumming that is going on. The melody stays the same, but the feeling is very different - a much heavier contrast to the light fast paced beginning. This is very typical for Xenakis’s music as he often takes a long time in openings of his pieces to play with a single idea for an extended period of time.

Part 3 bars 9-16 - Main Theme

We then return to the main theme, continuing the bongo and the melody from the main theme, this time tightening it up significantly giving the music a more intense feeling with the same theme.

Part 4 bars 16-18 - 2nd Interlude

This time we repeat part 2 with the interlude for the 2nd time, separating the main theme.

Part 5 bars 18-30 - Main Theme

At this point the piece starts to shift a bit. The melody starts tightening up meaning that the gap between the melody notes becomes smaller. The accents and rebounds on the bongo starts intensifying having less than an 8th note in between towards the end of this passage.

Part 6 bars 30-35 - 2nd Theme

Here Xenakis introduces the woodblocks. In the preface of the piece it is written that the drums and woodblocks should be tuned over a very wide range and starting with bass drum at the bottom. The woodblocks tend to be very high pitched and give a brilliant contrast to the current groovy tom melody. The theme here consists of 32nd notes which move rapidly across the woodblocks.

Notes are added, withdrawn and doubled until the theme has shifted and ends in a long tremolo on the high bongo.

The image shows two staves of musical notation. The top staff is labeled '(W.B.L.)' and starts at bar 31. It contains a series of rhythmic patterns for woodblocks, represented by vertical stems with flags, indicating short, sharp sounds. The bottom staff starts at bar 33 and continues the rhythmic patterns. The notation is dense, showing rapid changes in pitch and rhythm.

2nd Theme

Part 7 bars 35-43 - Main Theme

As we continue, a new version of the first theme of part 1 enters over the same background as before. The new theme is closely related to the first theme, only the timing and the notes have been shifted. Also, Xenakis uses a new trick here breaking up the bongo beats and playing two melody drums at the same time creating “harmony”. Now, of course drums are unpitched and thus can’t play in harmony but if the performer has chosen his instruments well the drums

should not be to close in pitch and create a very large vibrant sound. During this passage the traditional melody form that has been established here with the bongo and the accents and rebounds makes a shift towards being more chaotic. This is also a very typical characteristic of Xenakis since his other music often started very simple and then develops into a cluster. In this instance the accents and the rebounds serve as the cluster mechanisms. Previously they had been laying down the time and setting up some kind of groove but as it gets tighter and tighter it gives this cluster illusion and makes the intensity rise and rise.

Part 8 bars 43-48 - 2nd Theme

At this climax in the music the 2nd theme from part six re-enters, this time played on the skins. This passage is a very close relative to the woodblock theme except the motion of it is mirrored. Now, when I say the motion I mean both the direction of the pitches and the

physical motion of the playing. This passage also ends the same way as the previous 2nd theme with a long tremolo, this time on the bass drum building into the last main theme.



Bars 45-48

Part 9 bars 48-54 - Main Theme

Again, the main theme enters. This would in my opinion be the climax of the main theme and the end of the formality of *Rebonds* where we have had a similar theme separated by short passages four times. Here the pattern from the main theme continues where we have a melody on the deep toms and a steady bongo with various accents and rebounds. In this passage the melody is tighter than ever before. The first three rebounds have a triple *forte* which is the loudest dynamic in the piece and this is also the middle of the piece (in terms of bar numbers).

Part 10 bars 54-58 3rd theme tremolos

At this point the formality has ended and more chaos is introduced. The next passage is a call and a response in a quieter manner than before. The



Part 10, bars 54-59

tremolos suggest a singing melody with the beginning of each new line marked with a double accent. The response is a double time 32nd note passage in the same manner slowing down again with a hint of tremolo at the end moving to the next passage.

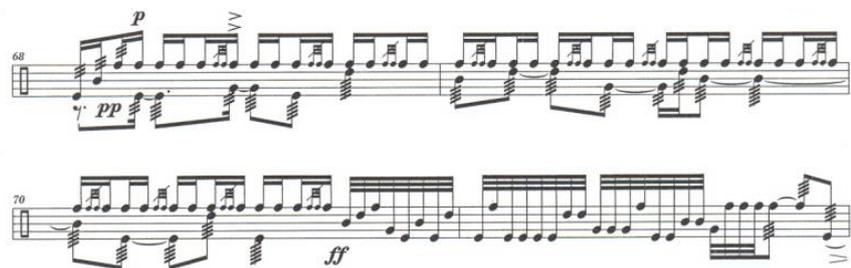
Part 11 bars 58-65 Main theme (gapped)

At bar 58 we enter a passage played in 16ths where the melody lies in the accents. It starts out with a steady 16th note background but then it breaks down the background giving more weight to each accented note putting emphasis on the chaos here. Some might interpret this as the high point of this piece but in my opinion this passage signals what is to come, increased chaos to a familiar theme which is a signature characteristic of Xenakis's style.

Part 12 bars 65-70 - Main theme on woodblocks

Here the character of the piece takes a new turn as we get the first *piano* dynamic of the whole piece. The tremolos are marked with a wavy *crescendo* and *diminuendo* following the pitch of the woodblocks. This passage moves into a reversed version of the main theme on the woodblocks where the top 16th bongo line is played on the highest woodblock. The melody

aspect of the theme is written in *pianissimo* while the 16th notes are in *piano*, shifting the focus of the listener to the 16th notes and the rebounds of the top line.



Parts 12 and 13

Part 13 bars 70-74 2nd theme

The final solo woodblock passage is a throwback to the 2nd theme from part 6, in the way the motif is being developed. Here it happens in half the time, until we continue with a tremolo connection in the same wavy style that opened this woodblock passage but played on the toms now and with a larger dynamic gap.

Part 14 bars 74-79 3rd theme

Now we are reaching the climax of the piece. Here Xenakis pulls out all tricks that he has been laying out for the duration of the piece. Some are used sparingly, and others are used a

lot more. Bar 74 introduces the idea of playing the skins and the wood simultaneously for the first time in this piece. The skins are much louder, so this has a tendency to sound like a tom melody with a woodblock on top. But given the timbre of the woodblock, to my ears it sounds like a woodblock melody with a drum background. We open with a straight line between drums and woodblocks which then develops into rebounds between woodblocks and drums. As the intensity picks up until the rebounds are without gaps we then fade to a 16th note tremolo which passes into a 32nd note tremolo passage ultimately leading to a 32nd note “scale” across the woodblocks and the drums.

Part 15 bars 79-84 4th theme

For one of the final passages we hear the combination of all of the tricks. Mixing skins and woodblocks, rebounds and tremolos. This signals the highest amount of chaos which usually is the climax of Xenakis’s music.

Part 16 bars 84-86 - Finale

The second to last passage is a mirroring passage of sorts. It starts with a four-note line in the toms and with a five-note line in the woodblock moving in opposite directions until they align. The 2nd half of this

passage uses the same idea but now the scales move up and down in patterns of seven on the skins and nine on the woodblocks until they meet again and then we go to the



Final three bars of *Rebonds b*

finale. The finale is tremolos between skins and

woodblocks, changing rapidly between drums and woodblocks ending in a long tremolo between the highest woodblock and the lowest drum with a *fermata* signalling the climax of the chaos and the end of the piece.

4 Preparing, Practise and Performance

4.1 Preparing

After analysing the piece it is time to make a setup and prepare the score.

The score is six pages and there are no breaks so there is no time to turn pages during a performance. It is possible to fit all pages of the score on two note stands but the downside of that is that the width of the score becomes more than 1.3 meters and makes it difficult to read. I would advise to get a piece of cardboard approximately 60 cm wide and 60 cm



The score in A5 paper size on cardboard

high and put the score in two rows for it to be easier to read. After the score becomes familiar, it can even be advisable to shrink it further so the eyes don't have to move so much. I copied each page to A5 paper size and I feel it helps because the eyes don't have to move as much and it also looks better in performance to have a smaller object in front of you.

The setup calls for a five skin instruments and five wood instruments: one bass drum, one tom-tom, one conga, two bongos and five woodblocks. These are all fairly standard percussion instruments and should not be too difficult to acquire. It is important though to have the bass drum on a stand that allows the bass drum to rotate.



My setup for Rebonds b

When choosing the skins, the pitch of them should go higher with each drum as it says in the score. Selecting what woodblocks to use can be somewhat trickier, as there are many different types. I have seen all kinds of woodblock setups used in this piece, five in a row vertically,

five in a row horizontally, two on top and three on the bottom, three on top and two on the bottom. I choose to use two on top and three on bottom simply because those are the woodblocks available to me for this performance. There are advantages to other woodblock sets, for example in *part 20* it is easier to play on five horizontal woodblocks but in reality most people don't have access to every type of woodblock setup. However, if you do, I would suggest trying them all and see what fits best for you.

When choosing mallets for this piece there are a few things to consider. First of all, the mallets have to be comfortable for the player. Most percussionists grow up playing drums so using a drum stick or a snare drum sticks is often the first choice. However, the typical drum stick is made of hickory wood, which is light in weight and has a small head. That means it doesn't necessarily produce the desired sound on each instrument. It is good to experiment with some xylophone sticks with a rattan handle and a plastic or rubber head. These kinds of mallets have all most of the weight at the front which helps to make the bass drum and conga resonate better though it can be more difficult to execute technically challenging passages. My choice for this piece is a large marching snare drum stick. It has a fairly large head and is above average in weight which helps to make the bass drum resonate and gives me the control I feel is required to play this piece.



Four different types of woodblock

4.2 Practise

After having studied the piece and prepared the music and the setup it is time to start practising. It is important that the player has enough time to practise it as it is extremely demanding. Traditionally for a piece of this calibre, it is fair to assume that it takes somewhere from 3-6 months to get this piece ready for a concert performance depending on the level of the player.

Always start slowly and try to break the piece down into small fragments. This is where the analysis comes in handy and it can be good to spend time on each part separately. I would advise to spend a day at a time on each part to begin with and not play them faster than half

tempo. When doing this you will quickly find that the piece has a lot of common drum patterns that can be broken down into the drumming rudiments. I would advise using the rudiments as a warm-up and focus on the drag rudiments and accent rudiments. It is important to keep in mind that you are playing on many surfaces which have a different feel. So, it is important to take time to really study each instrument in the setup. It feels very different to do a *drag* on a bass drum compared to a snare drum and it is very unforgiving to play constant 16th notes on a woodblock since it has almost no rebound and you have to control the speed and dynamic completely with your wrist.

I had decided a long time ago that I wanted to play this piece, so I spent a lot of time leading up to my actual practise sessions working on rudiments on different instruments. Double strokes on the bass drum, 16t note patterns on the woodblock and multiple bounce tremolos on the bongo.

The opening bar of this piece raises an important question. Should the opening drag be done with one hand or should it be divided between hands? This is one of these places where a choice has to be made. I choose to play all drags that have a *melody note* on the same beat with one hand as I feel it gives better flow to the melody. Other alternative ways are to play the first note of the drag with the left hand and following with a double stroke in the right hand where the left hand plays the melody note on the 2nd note of the right hand double stroke. Another way to do it is to have two mallets in one hand and do a double stroke with one and the main beat with the other one. There are multiple places in *Rebonds b* where these kinds of technical decisions have to be made. What is important is to make decisions that fit your setup, your mallets and your technical strengths as a player.

As you gain familiarity with the piece you can start combining parts. It took me about a month of practise before I could play the piece from start to finish in a very slow tempo. I would advise to keep the tempo low for as long as possible because it lets your muscles learn the piece so you don't have to actively think when playing rather you are simply observing your body playing the piece. A good way to achieve this feeling is something called *slow practise*. This method calls for the piece to be played slowly, but because you already know the notes this time try and focus on the movements of your hands, eyes and feet. In my opinion this method is vital to get comfortable with the choreography of playing the whole

piece because playing *Rebonds b* requires a lot more than just hitting all the notes. It is a full body dance.

As you progress and become more comfortable with the piece, I would advise setting a deadline for the piece to be ready for performance. My deadline is usually around 2-3 weeks before the performance because that gives me enough time to practise the performance and make adjustments. A lot of percussionists struggle with performing this whole piece without stopping but one way to get comfortable with this is to do some mental exercises. One way to do this is to sit down, close your eyes and picture each movement and each and every note of the piece slowly. This is very difficult to do as it can take a lot of time, but it is really effective. This exercise forces your active brain to go through each passage and it reinforces your knowledge of the music and makes you less prone to mistakes and memory gaps. Even if the piece isn't being performed from memory, you are not actively reading the score since the muscles already know what to do.

4.3 Performance

During a performance of *Rebonds b* there are a number of things that can happen. It can be useful to measure the distance between each drum to make setting up easier before you move your setup to the venue of the performance. I would recommend having a method of checking if your setup is correct to choose a passage as your test passage and try playing it with eyes closed to make sure everything is in the right place. I would also recommend having a spare pair of sticks nearby if a stick is dropped.

Rebonds b is despite being very difficult not very long it takes somewhere under seven minutes so stamina is not an issue. However, it is very important to be warm so make sure you have a good warm-up routine for the hands. I have a 15-minute warm-up routine that I use every time I perform or audition and I use for performing *Rebonds b*.

The scariest thing about performing in my opinion is having a memory gap and freezing thus effectively stopping the performance. I choose to play *Rebonds b* with the score in front of me since memorising multi-setup pieces is difficult for me. This also means I have one less thing to worry about during performance.

5 Results

During the work I have discovered many things. I have developed my own method for preparing solo works for percussion which will be very useful for me in the future. I also have documented carefully what steps can be taken in general for multi-percussion and specifically related to *Rebonds b*. Some of the topics discussed in the thesis may seem basic but still useful to go over from time to time which it definitely was for me during the preparation and practise of *Rebonds b*.

6 Final Thoughts

I hope that this paper can be useful for someone in need of help with solo percussion music. I can only think back to the first time I had to build a multiple percussion setup and what kind of questions I had. I feel what I have created can be useful for young percussion students as well as teachers of young percussionists as a method to build a large setup piece step by step. I will continue to develop my method as I continue my journey as a percussionist and I am certain I will come across other ways to do things that may be more beneficial to me.

I feel it is important to keep in mind that there are many other ways to go about preparing *Rebonds b* or any other percussion piece. The more work I put into this project the more ways I saw to interpret the music, build the setup or go about *Rebonds b*. I would encourage anyone who tries to play this piece to try as many things as possible as you never know what will suit you best.

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