

**Controllers as Musical Instruments,  
Controllerism as Musical Practice**  
– Practices of a new 21st Century musical culture –

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**Dissertação**  
**em Ciências Musicais na especialidade de Etnomusicologia**

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Dedicated to my promised one and to the little Controllerists at home.

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## Abstract

### **Controllers as Musical Instruments, Controllerism as Musical Practice**

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**Keywords:** technicity, authenticity, appropriation, musical flow, electronic music, cross-cultural processes, globalization

This thesis consists of an ethnomusicological approach to the development of Controllers as musical instruments, and conceptualizes Controllerism as a musical practice. I make a case for a revision in organology that includes Controllers, and other instruments of the computer society, by seeking out commonalities and providing comparative analyses between historical instruments and modern Controllers. I then provide definitions of the term Controllerism; by discussing its origins, history, musical logics, strains of musical practice, and current technological explorations. By situating the Controller and Controllerism in a cultural and historical timeline, I have traced informing logics that have led to the development of this new instrument and musical practice. Ethnography has been undertaken with informants from Europe, America and Japan in order to ascertain generalized understandings of the instrument and musical practice; and participatory action research undergone in three separate artist residencies with the intent of determining common perspectives and concerns of international Controllerists. A Portuguese case-study has provided a unique glimpse, by comparison, of this emerging art-form and growing mind-set in modern music.

Esta tese é uma aproximação etnomusicológica ao desenvolvimento dos controladores como instrumentos musicais, e conceitualiza o chamado *Controllerism* como uma prática musical. Defendo a ideia de uma revisão no campo da organologia que inclua os controladores e outros instrumentos da *computer society*, procurando pontos em comum e providenciando análises comparativas entre instrumentos históricos e controladores modernos. Apresentarei definições do termo *Controllerism*; discutindo as suas origens, história, lógicas musicais, vertentes de prática musical, e as atuais explorações tecnológicas. Situando o controlador e o *Controllerism* numa linhagem cultural e histórica, identifico as lógicas que levaram ao desenvolvimento deste novo instrumento e desta nova prática musical. Para tal, elaborei uma etnografia com informantes da Europa, América e Japão com o objetivo de compreender noções comuns sobre o instrumento e a prática musical; fiz também pesquisa participativa em três residências artísticas, com a intenção de determinar perspectivas e preocupações comuns entre *Controllerists* internacionais. Finalmente, através de um estudo de caso em Portugal, providencio uma visão única, comparativamente falando, desta forma de arte emergente e estilo de vida na música moderna.

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## 1 – Introduction

“Controllerism is the art of manipulating sounds and creating music live using computer Controllers and software” (Moldover 2007).

This is a thesis about Controllerism and its evolution as an alternative to the utilization of traditional musical instruments in the processes of musical composition and live performance.

Having spent the initial months of preparation for this dissertation struggling with the question of doing research with added value to my peers, and finding myself in the thick of a project that aimed to resolve issues raised by the impact of digitization on the Portuguese independent music sector<sup>1</sup>, it finally dawned on me that although certain questions that interested me were of a relational nature and as unique in answers as they were in questions, some issues did remain the same across the board. For instance, it was obvious to me that technology did inform artists’ creative output by providing new tools for performance and production, but at that moment, I could not surmise if technology actually added value for the non-traditionally or non-classically trained musicians and composers. Had converging histories in technological development put democratizing processes into motion in the creative economies of musical composition and performance? Had technology given a voice to those who could not ‘speak the language’<sup>2</sup>, and created instruments for those who could not play<sup>3</sup>?

Upon talking with Professor João Soeiro de Carvalho, my thesis supervisor, it became clear to me that these questions focused on macro-issues, and that perhaps conducting research and ethnography on more concise problems would yield better results for my thesis. I was then able to reduce the thematic spectrum by synthesizing my ideas into a simple motivation: to investigate if Controllerism was an emerging *scene*<sup>4</sup> that was impacting various musical scenarios, and to study this phenomenon in more detail in Portugal, something which had not been done to date.

Eventually this led me to my principal question: “Are Controllers musical instruments?”, but rather than embark on a dialectic adventure full of discussions on where the various possible

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<sup>1</sup> Due to my involvement with the AMAEI (Portuguese Association for Independent Artists and Musicians), I was in charge of creating a large database of all the relevant metadata from the independent sector, which would be instrumental in streamlining processes between artists, labels and digital aggregators, as well as aid in the collection of royalties.

<sup>2</sup> By ‘speaking the language’ I am referring to the ability to read and write musical notation.

<sup>3</sup> With ‘could not play’ I am alluding to people who were not traditionally or classically trained in a musical instrument.

<sup>4</sup> As in independent music community.



interpretations and interpolations of the term 'musical instrument' could lead us, I wanted to study the human aspect, by asking: Where and how does one situate the paradigm shift occurring with the use of Controller interfaces, that have led to the development and wide-spread adoption of the term "Controllerism", and possibly an entirely new set of cultural aesthetics, understandings and values of 'authenticity'?

If Controllers aren't officially thought of as musical instruments, do Controllerists consider themselves to be musicians?

What do they feel about this 'blurring of identities' as technology offers up new alternatives to traditional musicking<sup>5</sup> in the studio and on stage?

Thus, in order to find answers to these questions, I ventured into a three-year study on the subject, doing fieldwork with Controllerists from - and in - various countries, with hopes to determine what the principal issues and concerns that inform the experience of Controllerists are. I also interviewed the Controllerist that coined the term and shaped much of Controllerism as it is understood today, and developed a local case study in Portugal with an acclaimed artist.

My primary motivation now stemmed from the belief that popular music studies, as well as performance studies could benefit from ethnomusicological exploration into Controllerism, its actors, its origins, and its logics.

To date<sup>6</sup>, little in the way of academic literature has been published about Controllerism. A total of fifty-nine texts have been published since 2010, yet these only mention Controllerism in passing or as an ancillary subject. There are no publications prior to 2010, making it a recent topic much in need of investigation and academic scrutiny.

Due to the rarity of information pertaining Controllerism as a musical creation and production practice, as well as a performative art, this thesis aims to provide an informative body of work that sheds some light on the emerging art of Controllerism. I humbly hope that it may serve as a starting point for future investigations on the subject, and will gladly share any information I have gathered with other researchers as well.

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<sup>5</sup> I use the term 'musicking' throughout this thesis to describe the act of making music.

<sup>6</sup> As of the 15th of May, 2017.

## 1.1 – Structure

In Chapter one we visit all the introductory sections of this thesis, including the structure, methodology and theoretical framework, in order to achieve a better understanding of what has been published on the subject to date; and also review the principal academic discussions associated to this musical practice. I have chosen to offer explanations as to why I opted for a heuristic approach throughout my ethnography so as to provide a better perception of ‘the field’ recounted in chapter three. In conjunction, the introductory subchapters complete the first of three parts, that together make up this thesis on Controllerism.

Chapter two defines what is understood by the term Controllerism, and introduces the two branches of musical practice from which Controllerism has developed. Their unification has resulted in the emergence of Controllerism as its own musical practice, enabling us to further divide it into various evolutionary logics; that of Layer Separation in the 1960’s, Part Division in the 1970’s, Delocalized Attribution in the 1980’s and finally Sonic Decoupling from that point onward. The first subchapter gives an account of the evolution of Controllers - with the intent of providing an understanding of the instrument -, and the following subchapters focus on the logics that have emerged from that process, and through cumulative technological experiments given body to the practice of Controllerism. Finally, in closing chapter two, I review how the term Controllerism was coined, in order to contextualize what is often understood by Controllerism against the timeline of events that have defined it as a musical practice.

Chapter three takes the form of a narrative presentation of the ethnographic fieldwork that went into this thesis, and recounts principal debates that have emerged from the interviews with my informants. After analysing my fieldwork, I deemed certain topics to be particularly relevant to the discussion about Controllerism as a musical practice, for they resurfaced multiple times throughout the ethnographic process in a manner that was – to me – indicative of their importance. The topics were: Authenticity, Appropriation, Technicity, Flow and Mobility, and are covered in the Theoretical Framework found in chapter one.

Chapter four deals with my findings and conclusions. It is an account of what I have learned in the process of researching and writing this thesis and offers recommendations for possible research directions in the near future.

In Chapter five we find a list of the bibliography used divided into three sections: a) books, b) papers, articles, blog entries and web-links, and finally, c) thesis’ and dissertations.

## 1.2 – Methodology

The rarity of academic - and non-academic - literature on the subject of Controllerism as musical practice and performative art has set strict limitations as to the type of qualitative research I could muster via traditional methodologies. Yet, as my research progressed I became aware that this limitation needn't become a frustration, as it meant that I could meander down sinuous methodological paths and enjoy exploring different routes towards potential outcomes. It was obvious that I would still have to gather the pertinent information that could inform my subject matter in order to write my state of the art, which meant diving head-first into every publication related to Controllerism I could find, but, the lack of written literature – between fifty and sixty - on the subject also meant that I could seek out the information for myself in the field, in a manner more akin to the work I have been conducting for the past twenty five years as a touring artist and musician.

In terms of reading, it was imperative that I go through existing academic publications on this liminal subject; but, - as I would later discover - it was more important that I search for information on this new trend at its source: the online communities that Controllerists had formed, and the online mediums through which they shared their performances, tutorials and production secrets. With the increasing volume of data gathered, it dawned on me that in order for this topic to be worthy of a thesis, I would need something more substantial, at which point I decided to search for a Portuguese case-study, to learn the art myself, and to do some participatory action research by involving myself in collaborative fieldwork with other Controllerists.

This decision, to use an organic perspective<sup>7</sup> in order to conduct participant observation and in-depth interviewing meant that I must procure settings that could physically place me within the informants' inner circle and be involved with them in deeper manner than would be possible otherwise. Thus, the principal ethnographic setting to inform my thesis came to be realized in the form of participation in three distinct artist residencies in which I collaborated with different artists during the years of 2014, 2015 and 2017.

There, I was able to develop a working relationship with my three principal informers and a good deal of ancillary ones, conducting subject-centred studies into the experiences of the individuals present in the three different groups I was a part of. Certain commonalities such as a place, space, time, and work, that linked us together within that experience, also provided us with a sense of

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<sup>7</sup> As in the gathering of data in an environment deemed as 'natural' to the informant, engaging said informant informally in equal terms.

familiarity which proved to be quite fruitful for the ethnographic process. Certain barriers reserved for strangers quickly dissolved in all three residencies and we were able to approach topics of a more personal nature that may have taken far longer to touch upon, had the approach been any different. When inquiring into personal matters of a 'secretive' scope, such as individual musical practices with one's instrument(s); particular methods in composition and production; other creative processes; personal opinions regarding sensitive subjects such as musical authenticity, and other questions similar in delicate nature, I found that my informers revealed a greater deal of 'openness' with me as a part of the group, than otherwise, as an outsider.

After the first residency in 2014, it became clear that conducting my ethnography as an insider – not as an 'undercover ethnomusicologist', but with full disclosure as to my methods and intentions – would not only be the correct course of action, but also the most fruitful one. I used this angle in every encounter, from the first phone conversation with Carlos Seixas, producer of FMM Sines World Music Festival, through all the twenty-one in-person interviews in Portugal, Spain and Japan, to the last Skype interview with Moldover, the pioneering artist that coined Controllerism in the United States.

Fortunately for me, I finally tracked down the most successful artist making a career as a Controllerist in Portugal, before the deadline for proposals to take part in the 2017 artist residence was due. Upon suggesting to 'Batida', and to the organization of the Westway Lab in Guimarães, that he and I collaborate for that year's residence, all parts agreed that it would be a positive and productive experience.

As I conducted my research in a manner that took my ethnography physically around the world, I interviewed artists from various musical cultures in order to gather different opinions, stories and views as to the processes at play in the surge of Controllerism. In a way, to counterbalance my participant action research, I also communicated with artists that were not using Controllers in their musical practices, in order to gage their opinions on the growing trend of electronic customizable instruments. Of these, the most notable encounters were in Japan in Winter of 2016 and in Spain in Spring of 2017. I consider them as such because in both cases my informants were committed to a form of musicking which avoided non-traditional instrumentation, but both coincided in the opinion that all forms of instrumentation were perfectly valid as long as they were used to express an inner musicality.

Both settings, the artistic residencies and the individual interviews weren't part of a haphazard research methodology. The underlying theme of my thesis had been drawn, and all my

informants selected for their musical associations with what I considered to be modern or fusion sub-genres of World Music. Artists (composers and musicians) that were operating on borderline musical identities and fusing 'classic' World Music genres, seemed to be ideal informants as to the role that technology can play in musical practices within a genre that is closely associated with the lack thereof (see Blanes 2015). The exoticised, indigenized romanticisation of World Music has been a focal interest of mine in my professional career as a composer, shaping many of my musical works that have used technological means to produce 'ethnic-sounding' pieces. Through means such as recording outdoor musical performances and cutting the resulting audio in studio in order to reorganize musical passages into pieces that sounded 'real' but had never existed as such – a methodology no doubt influenced by my training in Classical Hindustani Tabla percussion (see chapter 2.2.2.1) – I had experimented with challenging notions of musical authenticity in my own music.

Another compositional approach I had previously explored was the engagement in deliberate creation of ethnic music compositions using virtual instruments in studio with the intent of producing - once again - 'organic-sounding' music that would be indistinguishable from physically played music. In both cases my personal experience in studio composition coupled with general public acceptance of the resulting music as 'genuine', and 'real', made me interested in the idea of extending these investigative practices into live performance with the use of Controllers. Success in emulating 'organic-ness' via technological means in composition had led me to the belief that using advanced Controllers one could convert the notion of emulation – which in itself carries hints of significance as to not being real or genuine at all – into a notion of real, genuine musicality in a performance. Not only could one perform an ethnic instrument with a Controller capable of translating complex musical nuances into a virtual instrument with a comprehensive sample base, but also, in a completely unrelated manner, one could use a Controller to create a completely original instrument and play sounds (notes, hits, samples, loops etc.) in a very 'real' and 'genuine' musical performance.

In my ethnographic approach I also conducted virtual ethnography, particularly with the United States and Denmark; in the first case because that is where the term Controllerism was invented and implemented as a performance art, and in the second, because that is where an important publication on the subject that outlines important Controllers and Controllerists is being produced at the moment (scheduled to be released October, 2017)<sup>8</sup>.

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<sup>8</sup> URL: <https://www.kickstarter.com/projects/1795693416/push-turn-move-interface-design-in-electronic-musi> (date of last consultation: 17th of September, 2017)

The choice – to depart from a more traditional ethnographic methodology -, was ‘forced’ by the lack of available information, and was the reason behind my choosing to use a more personal and narrative approach in writing my thesis. In keeping with a liminal subject such as Controllerism, it seemed to me that using an autoethnographical approach would make for a sound, albeit informal, body of work. As Thoreau wrote in 1854: “We commonly do not remember that it is, after all, always the first person that is speaking” in our research, or as Fox put it: “As a function of the frame into which each study is inserted, narrative tends to create and confirm a particular worldview or version of history, and everything around it makes it true” (2006:51). A fitting statement to describe the desire to confirm a worldview forged by experience through my work, yet taking in others’ experiences to tell the story from within the standpoint of Controllerism in music today.

A question posited in 2008 by Barz and Cooley weighed in heavily on my decision to perform autoethnography: “What do we see when we acknowledge the shadows we cast in the field?”. I would not be able to ignore or deny my personal experience, and was left only with the choice to embrace it or give up. In illustrating this point, I make my own the words of Adams et al in the book *Evaluating Autoethnography*: “Autoethnographers value the personal and experiential in their research. This includes featuring the perspective of the self in context and culture, exploring experience as a means of insight about social life, and recognizing and embracing the risks of presenting vulnerable selves in research” (Adams, Jones & Ellis 2014:103). Although my goal was purely an academic one, I suppose I was also a part of the “increasing numbers of musicians wanting to examine, understand and communicate the personal stories behind their creative experiences” (Bartlett & Ellis 2009:6-7).

In a live musical performance, when in the presence of a heart-felt improvisation, it is common to hear remarks such as “Plays with such feeling”, “What Soul”, or “How Soulful”, “So into it...”, “There’s something there, something special”. My attraction to the concept of improvisation from within the context of this thesis is precisely the arising dichotomy between what seems natural and spontaneous and what seems mechanical and orchestrated, but my preoccupations with the importance of improvisation in my ethnography were mainly concerning aspects pertaining to data gathering and research, as opposed to concepts of creative spontaneity in musical performance.

It was a given that during the process of creating, taking place between complete strangers, and particularly in such an artificial setting would have to be largely improvised and based on the inspiration of the moment. I was confident in my abilities as an artist and performer, and comfortable with my creative capacities – strengths and faults included – but what about my performance as a

researcher, was I going to be able to juggle both things and perform adequately? My thinking was that in order to succeed I should unify the emic and etic approaches through a common method; improvisation, and see where the data inductively took me.

It was my perspective that any performance – and that included data-gathering - when assumed to be of an improvisational character should benefit greatly from the lack of interference from self-imposed limitations on behavioural expression and response. In essence, acting naturally would allow for a less contrived act and lead to better results. Again drawing a parallel with improvised musical performance I was assuming the role of “the unthinking player who prides himself [sic] on “just being a player”, and who has never thought, only felt music who, in fact, feels thought to be the foe of feeling, whereas in musical reality there is no feeling that cannot be articulated thought” (Keller 1986:15).

I am aware that this attempt, to put thought and spontaneity on two ends of the spectrum in performance as a way to illustrate the same dichotomy found in doing observational and participant (auto) ethnography, is of some redundancy, but I feel that it has been the most accurate way of illustrating representational obstacles that weighed in my mind as to how to simultaneously conduct my research and be fully present in my role as a creator and performer of music. As part of my methodology I found it helpful to distance myself from analytical thinking during my ethnography, and allow myself to be fully integrated with my fellow musicians; improvising as I went along, getting *into the flow of things*, with faith in a valid and informative end-result.

It was important that in every residency each participant became acquainted enough with the others in order to maintain a healthy working forward momentum, and it was very important for me to adapt to their different ways of being; avoiding any attrition that might cause ‘participant breakdown’. As stated by Bergold and Thomas, “The dictum of process orientation and the appropriateness of the method to the subject under study (Flick 2009) is even more important in participatory research than in other approaches to qualitative research” (2015).

In all residencies, similar patterns emerged in the work-flows we developed. It would be common to awaken at a pre-established time, have breakfast together and then work until lunchtime, after which we would either go back to the studio or chose to unwind at the local café over coffee and drinks. This proved to be most useful for my research, as in the usual relaxed and open conversational mood that follows lunch hour, I often found the perfect opportunity to incite debates on topics that were important for my research, or ask one of my informants to step outside for an interview. Being careful not to act too formal during the interviews I took quick notes on paper

and – always with their consent – recorded the interview on my smartphone, or my Zoom H4N portable recorder for later analysis. Transcribing the interview while it was still fresh in my mind gave me better ‘vision’ as to what transpired as I could still recall certain gestures, facial expressions, body language and other important details.

At all interviews, it was important for me to give the informants freedom to answer from their own frame of reference, and I attempted to avoid confining them to questions with pre-arranged structures, or leading them with closed questions.

Another methodology I often used was to engage in visual recordings. My reasoning was that taking ‘snapshots’ of random moments could serve as memory-aids. Since I felt that I had to prioritize where my attention was focused, I knew that some relevant details would be lost to my attention simply because my focus was elsewhere. It became painfully clear during my ethnography that presence alone could not warrant a full comprehension of what had transpired, particularly since in many situations I had to divide my attentiveness between the roles of artist and researcher. “In its narrowest and most accepted sense, ‘attention’ refers to the set of functions that prioritize information processing according to current task goals and expectations” (Nobre and Stokes 2011:1391), and utilizing recorders and cameras to document details that might have fallen out of the scope of my attention proved to be quite useful in order to counteract such pitfalls.

By using portable recorders, cameras, smartphones, video-chats, internet searches and other technological items as part of my research methodology, I embraced technology in my ethnographic process. While qualitative research occupied a large part of my ethnographic efforts, it did not comprise the totality of my investigations into Controllerism, as I found it appropriate to conduct quantitative musicological research and analysis as well. In 2016, during the course of my Masters in Ethnomusicology I was invited to conduct a systematic mapping of the wired mechanisms found in the Carillion located in the South tower of the National Palace of Mafra, Portugal. For an eight-month period I spent countless hours observing, gathering and mapping via graphical, mathematical and computational techniques, gaining the experience with which to handle complex analyses, such as the similarities between logics in Hindustani Tabla Solo drumming and Hip-Hop sampling (chapter 2.2.2.1), and the analytic comparison between the original riddim<sup>9</sup>, the resulting Reggae song and the subsequent Dub mix, that exemplifies and defends dub mixing as a practice of ‘playing the machine’ as a musical instrument (chapter 2.2.1.1).

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<sup>9</sup> Riddim (from the Jamaican Patois pronunciation of “rhythm”) is a term originally used in Jamaica to refer to commonly used sonic bases or instrumental versions of popular songs.



In my methodological approach I aimed to weave distinct lines of investigation into the central theme of Controllerism. These were:

- a) To conduct a subject-centred<sup>10</sup> study into the experience of certain individuals or groups of individuals linked together by commonalities such as a place, space, time, work.
- b) To assess the impact of Controllerism in Portugal, and determine if any national professional artists had adopted Controllerism as a central practice for composition and/or performance.
- c) To conduct immersive ethnography, or participant observation into the subject.
- d) To investigate the 'roots' of Controllerism, draw out its historicity and different points of genesis.
- e) To produce quantitative examples that would help understand the logics that inform Controllerism as a musical practice.

### 1.3 – Theoretical Framework

The study of Controllerism from an etic perspective has raised various interesting questions for me, particularly when investigating musical biases, music rights and the quality of musical experience. The principal questions that arose from my investigations as an outside observer were primarily related to discussions about Authenticity, Appropriation and Authorship, Technicity, Flow, and Mobility, which are discussed at length in the pages that follow. I will also present other related viewpoints obtained from my emic experience from within the social groups of study at the artist residencies, but only briefly, as they will be discussed at length in chapter three – Observing Controllerism: The Ethnographic Process.

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<sup>10</sup> First proposed by Timothy Rice under the denomination of "subject-centered musical ethnography", subject-centered study signifies that the researcher is involved in participatory action with the subjects of study. It is an emic investigation of group experience from within the group.

### 1.3.1 – State of the Art

As stated in my introduction, little has been published about Controllerism as a musical practice to date. A total of fifty-five texts that mention Controllerism have been published since 2010<sup>11</sup>. Only four citations appear when searching the same keywords, which could be indicative that it is still a minor subject in academic scrutiny. Of the fifty-five texts none treat the issue of Controllerism as an art-form directly, although most refer to this hypothesis in passing or in specific chapters. Another telling figure is that there are barely any references to Finger-Drumming, an increasingly popular form of Controllerism. The fifty-five publications can be grouped into nineteen different categories, of which some can be conjoined to streamline the results, although I opted to not dilute my findings any further. Since most publications deal with more than one category, the total results rise from fifty-five to seventy-five.

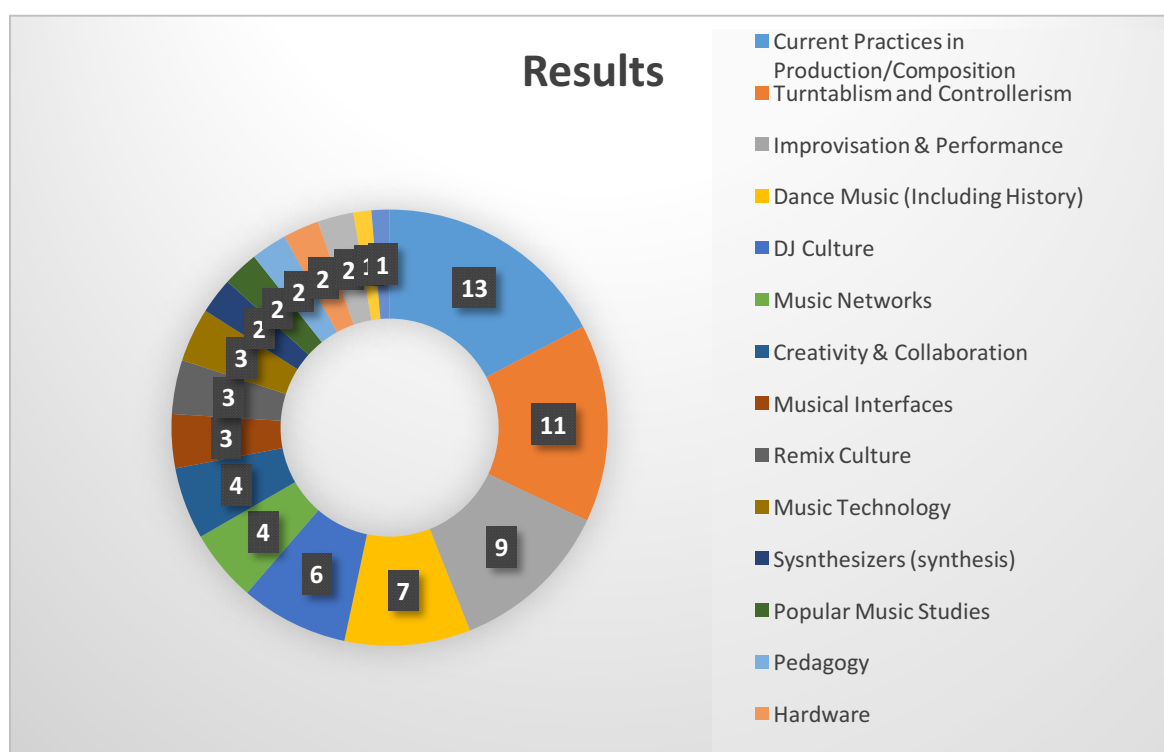


Table 1 - Google Scholar results for publications on Controllerism and music.

As is observable in the table above, some categories stand out. Thirteen texts include Controllerism as an integral component of current practices in modern music production and composition, particularly in the genres of Hip-Hop, Dance and Electronic Music or EDM<sup>12</sup>, and to a lesser degree in Popular Music and Experimental Music. It is interesting to note that seven additional

<sup>11</sup> Retrieved from Google Scholar using the keywords Controllerism+music. Using Controllerism alone would yield higher numbers, most of which would not refer to publications on the subject of music: [https://scholar.google.com/scholar?q=Controllerism+music&hl=en&as\\_sdt=0,5&as\\_ylo=2010&as\\_yhi=2017&oq=Controllerism](https://scholar.google.com/scholar?q=Controllerism+music&hl=en&as_sdt=0,5&as_ylo=2010&as_yhi=2017&oq=Controllerism) (date of last consultation: 13th of August, 2017)

<sup>12</sup> Electronic Digital Music

treatises utilize Controllerism as part of a discourse while debating issues of musical improvisation, performance and authenticity.

Ergonomics has allowed us to see the new realities that permeate modern music studios and rehearsal rooms, in amateur and professional scopes alike. Controllers today are very much a part the workflow in studios today, and are usually the hardware of choice when orchestrating beats, writing melodic lines or harmonic bases, but it is also true that recent developments in Controller design has turned them into bona-fide musical instruments that are reliable for performances and accurately responsive for playing in live settings. Modern Controllers are being designed as intuitively playable live production units, mixers and musical instruments, and Controllerism has its place in studio and on stage precisely because of its versatility, as a facilitator of flow: be it workflow or flow of inspiration.

I explore the place of Controllerism in these two scenarios throughout this thesis; although I focus my efforts particularly on exploring Controllerism as a new form of musical instrumentation and practice; one that is in continuous development and is not only restricted to digital DJs and producers of electronic music. I address the action of performing music on a customizable musical instrument which communicates with software or hardware and ‘actions’<sup>13</sup> them. Controlling software and virtual instruments, triggering samples or initiating a series of ‘actions’ in tandem is what Controllers in Controllerism are supposed to do.

In our analysis of the Controllerism compendium, the second highest number of publications on our list concentrate on the debate that pits Turntablism and Controllerism as competing forces for supremacy in the DJ spheres against the more benign notion that Controllerism has partially evolved from the development of hardware Controllers for the digital DJ and the performance art of digital Turntablism.

It is an important debate because it is a telling one, which I explore in chapter 2.2.2, in order to demonstrate that the acknowledged idea that Controllerism develops as a digital evolution of Turntablism is only a small part of the big picture, although it is present in a large part of the existing printed matter, and presumed as a generalized fact. It is not without irony that out of the current existing literature a good portion of the texts that mention Controllerism are contained in chapters about Turntablism, and although they are from recent publications they clearly refer to a version of Controllerism that pertains to their targeted forms of musical practice, Turntablism. As is apparent

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<sup>13</sup> The sonic samples or synthesized sounds that are triggered from one button can be programmed to act sequentially, trigger effects, randomize etc., therefore the use of ‘action’ to describe the act of initiating an event or series of events.

today, Controllerism goes beyond digital Turntablism, although much of the literature that debates Controllerism rarely mentions the possibility. That is because we are dealing with a musical practice that is rapidly changing due to a heightened interest in the market, and from the desire of an overwhelming number of musicians to explore this new avenue of artistic agency, and distance themselves from the DJ vs Musician dichotomy.

To exemplify, in Mark Katz's "Groove Music – The Art and Culture of the Hip-Hop DJ", a reference is made that likens Controllers to overgrown DJ mixers: "In fact, there is already a well-established performance art known as Controllerism [...] Controllerism extrapolates from Turntablism by replacing analog turntables and vinyl with instruments that often look like overgrown DJ mixers or small MiDi keyboards with extra knobs and faders. Video game Controllers hardly stand up to the instruments Moldover and other Controllerists use, but they belong to the same family, and can be modified to expand their musical capabilities. It can even be argued that digital vinyl systems collapse the distinction between turntables and Controllers. "The moment you drop control vinyl on your deck," argues Gizmo, a veteran DJ and technology expert, "you've converted your turntable into a Controller. Make a loop or hit a cue point . . . well, you're a Controllerist" (2010:240).

Gizmo pigeonholes Controllerists into a subcategory of DJs that are inauthentic because of their use of software in performance. This shows that in 2010, a mere seven years ago, Controllerists were seen only as digital DJs that were breaking away from Turntable tradition. The problem with this assertion, is that it in no way accounts for Controllerism as a beat-making practice as occurs with Finger-Drumming, or as a melodic instrument, as has been occurring with MiDi keyboards and sample based Controllers for quite some time.

The principal point raised by this citation is the idea that, in essence, digital Turntablists are, and have always been, Controllerists in their own right, but it hints at a hidden concern between a majority of Turntablists; that digital Turntablists are indeed Controllerists and not pure Turntablists, denoting a derisory view towards digital musical instruments derived principally from a reverential view of vinyl as an object of musical authenticity. In this respect, Blanes points out that "the processes of classification of cultural practices and development of concepts of collective unity, on the one hand, and the awareness of a concrete place in transnational fluxes of cultural flow (Appadurai 1996), on the other, are frequently based on ideological concepts of «authenticity» as expressions of a collective identity (Wade 2000:24), and in consequence produce debates where notions of «purity» and «canon» come into play" (2008:59<sup>14</sup>).

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<sup>14</sup> My own translation from the original text in French.

### 1.3.2 – Authenticity: ‘Keeping it Real’

Authenticity is a very relevant discussion when discussing the impact of technology on music-making, particularly when deliberating on Controllerism as an instrument for composition or performance. The concept of authenticity serves as a societal pillar, informing cultural notions, customs and beliefs, and in the case of music, is also a source of rigid musical forms and canonicalization.

Yet a literal understanding of what *is* authentic is unfeasible due to its fluid conceptual nature. The prejudices and preconceptions found in rigid understandings about musical authenticity are often debunked when contextualized within a larger cultural pool, as would be the case in musical forms borne out of the amalgam of diverse source materials. Aspects of authenticity such as aesthetics, context and tradition, when dictated by genre reveal ambiguities and contradictions that render objective specificity impracticable. A more embracing perspective on authenticity would be to understand it as a living inherent quality in objects, people or processes, that is subject to change in form but not in essence (see Schippers 2006; Vannini & Williams 2009).

Therefore, I will dwell shortly and in passing with the concept of authenticity in this thesis, using it only to contextualize certain concerns that have arisen when the technicity that has resulted in the development of Controllerism has challenged or interfered with local notions about musical authenticity.

When investigating the issue of authenticity in music it quickly becomes evident that the word ‘authentic’ takes on different meanings depending on its framing context. The Harvard Concise Dictionary of Music and Musicians defines the word ‘authentic’ thusly:

**“Authentic.”**

- 1) of a musical text, unequivocally linked with the composer to whom the work is attributed,
- 2) In the study of folklore and folk music, belonging to a living, continuous folk tradition (often orally transmitted), as opposed to the corruption, imitation, or revival of a tradition,
- 3) In performance practice, instruments or styles of playing that are historically appropriate to the music being performed (Randel 1999:40).

Sophy Smith in ‘Hip-Hop Turntablism, Creativity and Collaboration’ (2013), makes reference to various articles and web-publications that illustrate a concern with authenticity in turntable

performance practice. She makes a mention to a previous publication by Mark Katz (2004) who in 'Capturing Sound' hinted that many feel that vinyl records were losing relevance in the lieu of new technologies that impacted negatively on processes that were important to performance and creative output.

There was a preoccupation that as the craft of Turntablism would become easier to perform, many would feel that the art was diminished, while others would lament the loss of authenticity present with turntables and pre-recorded disc. Another concern referenced by Smith, this time voiced by DJ Maurice Norris in 2011 stating that "There's [...] the concern that the more traditional analog style of scratching and beat juggling will die out giving rise to what's been labelled as "Controllerism" and digital manipulation."

Yet not all publications have been derisive towards these new(er) technologies of instrumentation. In Ann Danielsen's 'Musical Rhythm in the Age of Digital Reproduction' she states: "[...] many other factors influence performers', technicians' and audiences' perceptions of authenticity. Areas such as the inclusion of DJ and MiDi programming culture in performance and the use of dilettante approaches to performance help to create new and interesting variations on the concept of what constitutes an authentic recorded performance" (2010:212).

Most Hip-Hop DJs' perspectives towards Controllerism, and the debate about its authenticity as an art-form are somewhat predictively explained by Michael Endelman a decade earlier in 'Scratching without vinyl: A hip-hop revolution' where he writes that "Hip-hop DJs are a stubborn and purist bunch, dedicated to the pairing of vinyl and turntables for reasons romantic as well as rational. In a genre that is obsessed with notions of authenticity, vinyl signifies a connection to hip-hop's historical lineage, which starts with those South Bronx pioneers who began a global movement with little more than two turntables and a microphone" (2002).

It is precisely this 'historic lineage' of Controllerism - tinted by Hip-Hop culture via the art of Turntablism - that is amiss in today's literature regarding this ebullient form of instrumentation and production. In chapter two I address the historical heritage of Controllerism; from its early inceptions to date, and attempt to complete the partial picture provided by much of Hip-Hop and DJ Culture literature, by going back further in time and tracing various logics that inform Controllerism as an art form and a performance practice. The most revealing books on Hip-Hop and DJ Culture to inform my

research were authored by Michael Endelman (2002)<sup>15</sup>, Foreman and Veal (2004)<sup>16</sup>, Mark Katz (2004, 2012)<sup>17</sup>, and Sophy Smith (2013)<sup>18</sup>.

Technically, the instrumental setup for manipulating and mixing vinyl records has through time become consolidated into the epitomic triumvirate made up of two turntable decks and a mixer. Through the 'playability' of this standardized setup, DJs saturated their stages with auras of improvisational and spontaneous quality, further enhancing the 'live' aspect of their performances. The visual impact of a DJ *rocking* the turntables was in accord with the trope of live musicking<sup>19</sup>. As technological developments advanced, the intrusion of digital software became increasingly apparent in the classic model DJ setup, shaping notions and experiences of what the art-form represented; putting into question the very nature of DJ performances, and launching debates on the concept of authenticity.

It is interesting that notions about authenticity in Hip-Hop performance do not clash with notions of compositional authenticity. Authenticity is a concern also present in a great deal of literature on the subjects of digital instruments such as the Laptop, software and hardware Controllers, and is heavily based on the visual aspect of performance, criticizing the invasive presence of the Laptop screen and the reduced presence of physicality brought by replacement of turntables with Laptops. D'Errico reflects on this subject by stating that: "In an attempt to heighten the sense of physicality and direct manipulability when working with seemingly intangible software, producers and DJs have increasingly integrated button-based hardware "Controllers" into their creative workflows" (2016:25).

Yet, the root behind the artistic aesthetic of Controllerism cannot be solely attributed to 'Two Turntables and a microphone'. We must go further, for its roots run far deeper than that, and as a musical practice they are rooted in Jamaica.

Before I clarify this assertion, I would like to remind that, to date, the existing literature pertaining Controllerism as a performative practice is divided between various fields such as: Hip-Hop studies, DJ culture and Electronic Music production studies; all touching largely on issues of authenticity and to a minor degree on creativity and innovation; of which the latter are of great interest to my examination.

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<sup>15</sup> Endelman, M. (2002). *Scratching without vinyl: A hip-hop revolution*.

<sup>16</sup> Foreman, Murray and Neal, Mark A. (2004). *That's the Joint - The Hip-Hop Studies Reader*.

<sup>17</sup> Katz, Mark. (2010). *Groove Music - The Art and Culture of the Hip-Hop DJ* & (2004). *Capturing Sound - How Technology has Changed Music*.

<sup>18</sup> Smith, Sophy. (2016). *Hip-Hop Turntablism, Creativity and Collaboration*.

<sup>19</sup> Music as activity as opposed to music as a 'thing'. Also, the action of making music.

The subject of creativity, improvisation and performance in Controllerism has also been approached by DJ scholars such as Van Veen and Attias, who in a joint paper written in the form of an interview frame concepts ideas in the following manner:

“As for Controllerism creating new genres of tactile interface performativity, yes, I am with you, precisely with your comment that it must further the art, pushing past previous impossibilities, thereby freeing up the hands/ears/eyes to do something else. In this respect, Controllerism shifts from Turntablism entirely and is closer to the “live” performativity of an electronic musician (or at least a good one) which has been the case since Akai released pressure-sensitive drum samplers and even, one could argue, since stage synths” (Van Veen 2011).

In this sense, when investigating innovation and creativity from the perspective of Controllerism, we naturally trace this practice back to the early stages of Dub music production when the practice of playing the mixing desk and effects processors as one would a musical instrument became commonplace for the first time since the advent of recorded music. The first to master the art fully was King Tubby who “built on his considerable knowledge of electronics to repair, adapt and design his own studio equipment, which made use of a combination of old devices and new technologies to produce a studio capable of the precise, atmospheric sounds which would become Tubby's trademark. With a variety of effects units connected to his mixer, Tubby “played” the mixing desk like an instrument, bringing instruments and vocals in and out of the mix (literally “dubbing” them) to create an entirely new genre known as dub music” (Du Noyer 2003:356-357).

There are quite a few seminal investigations into the origins of Dub music, its idiosyncrasies and principal figures, and my principal interest in researching Dub’s relevance to the practice of Controllerism as a musical practice was in defining a timeline, an aesthetic and a logic that links the two in history. For that I resorted to the writings of Paul Sullivan (2014)<sup>20</sup>, Mark Katz (2010)<sup>21</sup>, Christopher Partridge (2010), Michael E. Veal (2007)<sup>22</sup>, Lloyd Bradley (2001)<sup>23</sup> and in passing Sean Williams (2012)<sup>24</sup> and John Baker (2009)<sup>25</sup>.

Although Dub’s influence on popular music has been without parallel in this digital age, and although contemporary electronic dance music’s stylistic traits owe largely to the concepts first implemented in the 1960’s by Dub, the evolution of Controllerism logics did not follow a linear

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<sup>20</sup> Sullivan P. (2014). *Remixology - Tracing the Dub Diaspora*.

<sup>21</sup> Katz M. (2010). *Groove Music – The Art and Culture of the Hip-Hop DJ*.

<sup>22</sup> Partridge C. (2010). *Dub in Babylon*.

<sup>23</sup> Bradley L. (2001). *Bass culture: When reggae was king*.

<sup>24</sup> Williams, S. (2012). *Tubby's dub style: The live art of record production in The Art of Record Production: An Introductory Reader for a New Academic Field*.

<sup>25</sup> Baker, John. (2009). *Natural audiotopias - The construction of sonic space in dub reggae*.



timeline. In chapter 2.2 I conduct an in-depth exploration into the evolution of Controllerism as arising from Dub Music (chapter 2.2.1); evolving through Hip-Hop and Sampling cultures (chapter 2.2.2); and growing exponentially with the invention of the MiDi language (chapter 2.2.3) until modern times. I begin with a brief chronological approach; then analyse the technological advancements that have made Controllers possible; and finally move on trace the evolution of a musical logic that started with Dub in the 1960s and is very much alive in today's Remix Culture.

### 1.3.3 – Appropriation & Authorship in today's Remix Culture

The idea of freely using pre-existing components and creatively reinterpreting them into new objects is a premise of Dub music, but the act of appropriating musical sounds as building blocks and refashioning them into a new musical macro-structure was first explored during the 1970's in the South Bronx by a figure known as DJ Kool Herc.

Kool Herc – aka Clive Campbell - was a luminary born and bred in Trenchtown in Kingston, Jamaica, and grew up listening to his local Sound System as well as his household's collections of Reggae, Jazz and Soul records. In 1967, at the age of eleven Campbell moved to Manhattan, New York and by the age of seventeen he had already gained the reputation of being the “father of hip-hop” partly due to his success as a block-party DJ in the Bronx, but principally due to his paradigm shifting innovations on the Turntables. At the time, much of New York City was in economic duress; the palpable danger in the streets, as well as the looming neglect and oppression felt daily by the population of the impoverished boroughs, when coupled with the need for assertion and change, turned those very boroughs into incubators for musical experimentation.

At this pivotal moment in time, Turntablism as a creative practice took wings through a signature innovation invented by DJ Kool Herc. By taking two identical records and isolating the ‘Break’<sup>26</sup>, Herc was able to extend a rhythmic pattern indefinitely, effectively sampling without the use of computers and creating new and stirring beats for the crowd to revel in throughout the night. This novel concept took hold and spurred the development of sampling as an art-form. “Although rap has largely been recognized as an amalgam of many different musical and cultural forms, the overlaps with dub and reggae are too obvious to be of minor importance. Both rely on pre-recorded

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<sup>26</sup> The ‘Break’ is a short instrumental section of a song, that when looped becomes re-contextualized into something other than the original song from which it is lifted. Usually taken from drum-breaks, as in intros to songs or drum solos, the isolation of a beat and its repetition by early Turntablists represented the first widespread use of sampling in live performances.

sounds, both share similar vocal content (lyrics that deal with messages and boasts, insults and party ‘raps’), and both grew out of impoverished urban areas as a means of self-expression by their inhabitants” (Sullivan 2014). Thus, in the 1970s, the record player or turntable was reimagined as a “device that could appropriate and create music—by manipulating vinyl records with their hands—rather than simply replaying complete songs” (McLeod 2014:83).

This ‘instrument of appropriation’ further heralded the changing tides in music production and performance that today give us Controllers capable of a live manipulation of sound undreamed of in the recent past. It has begotten the art of Controllerism as a familiar to Turntablism, both related and similar in many ways, while distant and far apart in many others.

During the 1980’s hip-hop artists had “embraced the newly developed sampling technology as their own, finding ways to make new music out of old, rare, or sometimes forgotten, sources. As with the sharing of MP3 music files today, many artists and record companies believed that the practice of digital sampling was the equivalent of stealing. Others, like Public Enemy’s Chuck D, argued that there should be more freedom to re-contextualize found sounds” (McLeod 2014:83). This is a central discussion in the now globalized Remix Culture which has given us versioning, remixing and mashups<sup>27</sup>, one for which I would adopt the definition of *exappropriation* as proposed by Van Veen and Attias in their 2011 publication ‘Off the Record: Turntablism and Controllerism in the 21<sup>st</sup> Century (Part 1)’:

“I deploy exappropriation as neither the expropriation of a technology nor its appropriation; rather, it constitutes a double movement, a movement away-from an appropriation (which would signify a possession, a taking for one’s own use, a mastery of a property), as well as the simplex of an expropriation (in which possession-taking dispossesses another, and overtakes the proprietary aspects of a property from the other). Nonetheless one appropriates—though without dispossessing; one takes—without stealing. This mastery without mastery, or taking without taking, possessing without possessing, can be expressed as the rendering other of the otherwise proper (and what is proper to it; its structures of the proprietary, property, etc.)” (Van Veen and Attias 2011:Notes).

Two of the key proponents in documenting the Remix Culture have been Eduardo Navas (2012) and Paul Sullivan (2014), having helped Remix studies become an academic focal point that is presented and debated in numerous conferences around the world. In *The Routledge Companion to Remix Studies*, Eduardo Navas, together with co-editor Owen Galagher, defines the rise of Remix Studies as resulting from “a long process of rich cultural production directly informed by computing

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<sup>27</sup> A song or a composition that is comprised of seamlessly overlaying parts from different songs, usually by placing the vocals from one recording over the instrumental backing tracks of another.

technology” (2014:1). As an area of study it has emerged out of the 1990s Remix Culture, and is heavily linked to ideas of copyright activism and other forms of empowerment and resistance; as well as the participatory ethos, and the development of the internet (Borschke 2014:104).

Some of the seminal publications that inform this thesis on the subject are Aram Sinnreich’s “Mashed Up. Music, Technology, and the Rise of Configurable Culture”, published in 2010, Simon Langford’s “The Remix Manual”, published 2011, Eduardo Navas’ “Remix Theory -The Aesthetics of Sampling”, in 2012, Paul Sullivan’s “Remixology - Tracing the Dub Diaspora”, published 2014, “The Routledge Companion to Remix Studies” by editors Eduardo Navas and Owen Gallagher in 2014, Michael B. MacDonald’s “Remix and Life Hack in Hip-Hop Music”, published in 2016, and David J. Gunkel’s “Of Remixology: Ethics and Aesthetics after Remix”, published 2015.

From the standpoint of Controllerism as a musical practice, we must consider modern Controllerism as a child of the Remix Culture, via way of Sampling; as a descendant of a Turntablism practice which was largely influenced and informed by the playing of the mixing desk as a musical instrument first popularized in Dub Music.

Many of the stylistic traits present in these precursory musical forms have remained unaltered in Controllerism, having become staple forms that have permeated into the multiple and disparate manifestations that are included in Controllerism as an art form. Controllerism is imbued with the sustaining philosophies that inform both Remix and DIY<sup>28</sup> cultures, but it has also been equally embedded with underlying concepts found in music improvisation, streamlining of production workflows, and musical ‘flow’.

This intention or attraction towards improvisation was present at the Dub genesis and has remained an informing source throughout the various performative strains that have since evolved. The following citation suggests that King Tubby, the Dub pioneer *par excellence*, had an affinity towards improvisation due to his love for Jazz music: “All of his associates attest to King Tubby’s deep love of jazz, and it seems plausible that his sensitivity to jazz’s labyrinth of split-second creative decisions was reflected in his refashioning of the multitrack mixing board as an improvisational instrument, as well as in his pioneering of the dub remix as an act of real-time improvisation” (Veal 2007:117). This phenomenon; of exacting “split-second creative decisions” is central to ‘flowing’ within musical improvisation, a point that is important to this thesis, as I argue that ‘flow’, in its psychological denomination, is important to Controllerism in more ways than one.

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<sup>28</sup> “Narrowly defined, DIY culture is a self proclaimed cultural movement, challenging the symbolic codes of mainstream culture” (Purdue 1997:647).

Interestingly, in music, improvisation is traditionally equated with technical prowess in a musical instrument allied to an ability for musical extemporization. Engineers that excelled in Dub mixing opened the gamut of musical improvisation to transcend the musical instrument as was traditionally understood. Likewise, improvisation with complex audio, such as samples containing various layers of sound again challenges conceptualizations that determine what is understood by musical improvisation.

A parallelism that may shed light on this idea is the artistic practice of collage, where one takes snippets from other compositions, decontextualizing or making reference to them, in order to create one's own new composition that is more than the sum of its parts. A correlation in music is found in Remix practice. As Hebdige proposed in 1987, "the cut 'n' mix attitude was that no one owns a rhythm or a sound. You just borrow it, use it and give it back to the people in a slightly different form. To use the language of Jamaican reggae and dub, you just version it. And anyone can do a "version" (1987:141). Again, versioning is a democratic principle because it implies that no one has the final say. Everybody has a chance to make a contribution. And no one's version is treated as Holy Writ" (1987:14).

Today, we live in a global culture that is very self-aware of the recycling of material and immaterial things. As Eduardo Navas stated: "Remix culture, as a movement, is mainly preoccupied with the free exchange of ideas and their manifestation as specific products [...] Its conflicts of intellectual property are also a central point" (2012:3). At a much earlier date, precisely 229 years before, Christian Sigmund Krause had expressed concerns about the limitations that intellectual property imposed on the freedom of ideas.

"But the ideas, the content! that which actually constitutes a book! Which only the author can sell or communicate!"-Once expressed, it is impossible for it to remain the author's property ... It is precisely for the purpose of using the ideas that most people buy books-pepper dealers, fishwives, and the like and literary pirates excepted ... Over and over again it comes back to the same question: I can read the contents of a book, learn, abridge, expand, teach, and translate it, write about it, laugh over it, find fault with it, deride it, use it poorly or well-in short, do with it whatever I will. But the one thing I should be prohibited from doing is copying or reprinting it? ... A published book is a secret divulged. With what justification would a preacher forbid the printing of his homilies, since he cannot prevent any of his listeners from transcribing his sermons? Would it not be just as ludicrous for a professor to demand that his students refrain from using some new proposition he had taught them as for him to demand the same of book dealers with regard to a new book? No, no it is too obvious that the concept of intellectual property is useless. My property must be exclusively mine; I must be able to dispose of it and retrieve it unconditionally. Let someone explain to me how that is possible in the present case. Just let someone try taking back the ideas he has originated once they have been communicated so that they are, as before, nowhere to be found. All the money in the world could not make that possible" (1783:425).

The techniques involved in the acts of collecting, combining and transforming material are not new and have been used since time immemorial in various fields of creation (see chapter 2.2.2.1). In 1961, William Burroughs produced a book, the “The Soft Machine” by chopping up and rearranging existing writings (Ferguson 2010). To Remix is commonly defined as the act of combining and editing existing material, but its principles supersede basic understandings of material recombination into new creative structures. In a sense, Remix is a social and cultural variable that communicates and informs art, music and media. In another sense, everything is inadvertently a remix of material read, heard, or seen somewhere else. The condemnation of current musical practices that use the sampling of existing cultural materials in order to forge and convey completely new messages, implies the criminalization of myriads of budding manifestations of cultural creation, and sends out a message as to the real limitations behind our expressive freedoms and hence, our freedom of expression.

#### 1.3.4 – Technicity

In English Technicity is a neologism that carries with it various connotations. Based on the writings of Dodge and Kitchin, I will be inferring Technicity as that which is constituted by technologies and human action, and allows us to understand how technologies are capable of penetrating collective human understandings, musical formations, and transformations in expressive modes.

Other connotations attributed to Technicity are:

- 1) That aspect of identity expressed through the subject’s relationship with technology (Dovey, Kennedy & Heller 2006:149);
- 2) The extent to which technologies mediate, supplement, and augment collective life (Dodge & Kitchin 2011:42);
- 3) The extent to which technologies are fundamental to the constitution and grounding of human endeavour (Disco & Kranakis 2013:31);
- 4) The unfolding or evolutive power of technologies to make things happen in conjunction with people (Dodge & Kitchin 2011:42).

The work developed by Bernd Enders is important to various conceptual basis’ that are developed throughout this thesis, particularly the historical progression of Controllers as musical instruments,

and the origins of Controllerism logics (chapters 2.2.1.1, 2.2.2.1, 2.2.3.1, and 2.2.3.2). Enders - whose work in mapping the developmental stages of musical instruments throughout history has proved instrumental - substantiates the process thusly: “The development of musical instruments, an integral part of technological progress since its earliest beginnings, has always been of state-of-the-art handicraft in each era; therefore, considering the continuous increase in complexity and functionality of handicraft over time, a number of developmental stages can be identified with regard to the construction and, consequently, the usage of musical instruments” (2017:46).

Table 2 - Technical development of musical instruments as proposed by Enders in 2005

1-Instrumentalization	<ul style="list-style-type: none"> <li>• Externalization of music production outside the body, separation from voice and clapping</li> <li>• Discovery of the drumstick, the whistle, the flute, the string</li> <li>• Development of instruments as sound tools (e.g. fiddle)</li> </ul>
2 - Mechanization	<ul style="list-style-type: none"> <li>• Construction of optimized operating devices (“controllers,” especially the keyboard as an interface for musical sound controlling)</li> <li>• Construction of special sound generation mechanisms (hammers for striking strings as mechanical amplifiers of finger pressure, plectra for plucking strings, mouthpieces, pitch controlling mechanisms such as keys on a flute)</li> <li>• Transition to the machine by employing external power sources (e.g. pipe organ, electric guitar)</li> </ul>
3 - Automatization	<ul style="list-style-type: none"> <li>• Discovery of the pinned barrel (900), programmable instruments</li> <li>• Construction of semi-automatic (e.g. barrel organ) and fully automatic instruments (carillon, music box, orchestrion, player piano), also by means of punched cards and discs, later by electronic means, analog sequencers, MIDI</li> <li>• Recording playing devices (Welte-Mignon reproducing piano, MIDI recording)</li> <li>• Composing devices (composers), mechanical: Componium (1821), electronic: Illiac (1956)</li> <li>• Combinations with animations, controlling through androids</li> </ul>
4 - Electronification	<ul style="list-style-type: none"> <li>• Construction of electromechanical instruments (Cahill’s Telharmonium, Neo-Bechstein electric grand piano, Hammond organ, electric guitar etc., since 1900, based on vacuum tubes)</li> <li>• Amplification of acoustic (mechanical) instruments through microphone and loudspeaker</li> <li>• Construction of electronic instruments (Thereminvox, Trautonium, Spherophone)</li> <li>• Construction of new non-mechanical interfaces (Thereminvox, ribbon controller)</li> <li>• First multimedia combinations (“color organ,” 1725; light organ, sound-on-film technique)</li> </ul>
5 - Modularization	<ul style="list-style-type: none"> <li>• Construction of elements for sound generation and modification (prototypically in the Trautonium in the 1930s, since the 1950s as a modular synthesizer system, especially in the Moog synthesizer in 1967)</li> <li>• Largely free combination of sound elements, synthesizer = “sound kit”</li> <li>• Transistorization, leading to miniaturization and a drop in production costs</li> </ul>
6 - Digitalization	<ul style="list-style-type: none"> <li>• Digital controllers (punched tape?, polyphonic keyboards), MIDI (since 1981)</li> <li>• Digital sound synthesis (numerically controlled oscillators)</li> <li>• Digital sound modification (realization by means of filters, amplifiers, effects through algorithms)</li> <li>• Digital sound sampling</li> <li>• Multimedia combinations with image and video, leading to the merging of the medially conveyed perceptual channels of video and audio, synthesis of the arts (Gesamtkunstwerk)</li> <li>• IC technology, inexpensive mass production</li> </ul>
7 - Virtualization	<ul style="list-style-type: none"> <li>• Software-based digital synthesizers (native algorithms, also modularized, e.g. plug-ins)</li> <li>• Simulation and emulation of traditional instruments</li> <li>• Modelling of new (mechanically impossible) instruments, virtual synthesis, physical modelling, granular synthesis</li> <li>• Interactive instruments</li> <li>• Graphic and mouse-oriented user interfaces</li> <li>• Development of new interfaces, e.g. eye tracking, gesture controlling</li> </ul>
8 - Globalization	<ul style="list-style-type: none"> <li>• Web-based musical communication, remote interaction with the machine</li> <li>• Global exchange of MIDI files and note information</li> </ul>

	<ul style="list-style-type: none"> <li>• Transmission of sound, partly compressed, in real-time or as files</li> <li>• Exchange and downloads of virtual instruments, sound designs or skins</li> <li>• Virtual concerts</li> <li>• Transfer of videos (incl. sound)</li> </ul>
9 - Informatization/ Artificial Intelligence	<ul style="list-style-type: none"> <li>• Adaptive arrangers (since about 1990)</li> <li>• Musical automata, music-making androids (already since the 18th century)</li> <li>• Creative composing systems</li> <li>• Automatic analysis systems</li> </ul>
10 - Hybridization	<ul style="list-style-type: none"> <li>• Brain-controlled multimedia synthesizers (audio and video)</li> <li>• Artistic man-machine-symbioses</li> <li>• Sounding rooms, interactive 3D instruments</li> <li>• Musical (multimedia) experience</li> <li>• Music production and reception without hardware?</li> </ul>

My interests in recurring to Enders' conclusions from the standpoint of Technicity in my theoretical framework stem from a realization that a paradigm shift is in place that will affect and possibly alter preconceived societal perceptions about the very nature of musical instruments. I can only hypothesize that in a not so distant future musical devices that engage in sonic decoupling will outnumber those that do not.

Other important authors have been valuable for my research, as their publications explore culture-based evolutions of musical instruments, organology and the effects of technological advancements in production, performance and creation. They are: Von Hornbostel & Sachs, 1914; Sachs, 1940; Merriam, 1960 & 1964; May, 1983; Wallin, Merker & Brown, 2000; Coleman, 2003; Nettle, 2005; Evens, 2005; Puckette, 2005; and Boverman, de Campo, Egermman, Hardjowirogo & Weinzierl, 2017.

Modern definitions interpret musical instruments as objects, devices, or machines that are used to produce musical notes or sounds. Merriam-Webster defines a musical instrument as "a device used to make music"<sup>29</sup>. It is a definition that is inclusive of atypical physical instrumental formulations, and begs the question: Do Laptops and Controllers not do just that, and hence, are they not musical instruments as well?

Hardjowirogo argues that musical instruments are defined by their culturalisation in familiar contexts, stating that:

"we recognise the violin immediately as a musical instrument because it has never been anything else than that for centuries, while a saw might be used for sawing much more often than for making music [...] The intention with which an object is used is undoubtedly something that plays a major role in the construction of instrumentality. But its purpose is something that is dependent on the intention of the person using it, and thus it is situational.

<sup>29</sup> URL: [https://www.merriam-webster.com/dictionary/musical instrument](https://www.merriam-webster.com/dictionary/musical%20instrument) (date of last consultation: 13th of August, 2017)

What is probably equally important, here, is the fact that some of these objects have undergone a long process of culturalisation as musical instruments, while others have not (yet). Culturalisation in this regard means that they have been used for the purpose of making (a more or less specific kind of) music regularly and for a long time in the context of a particular culture “(2017:11-13).

As Bense proposed: “Today, organology is undergoing a phase of reconfiguration – the organology of the computer society has yet to be developed” (2013:149). Yet, more than pointing at an obvious need to update the organological terms that define musical instruments such as Laptops and Controllers, in this thesis I am arguing that the same Technicity that has given us Controllerism has been informing humanity since the very first stages of musical instrument development, and brought with it certain logics that still predominate in the process of musicking with Controllers.

The externalization of music production and the development of instruments as sound tools are examples of human agency using the available technology at hand to create new mediums of artistic expression.

One such example - from the numerous instrumental manifestations of such agency - is the early form of the Marrabenta guitar from Mozambique, traditionally fashioned from a tin can, local wood and wire strings.

Its construction is a testament to the human attraction towards using technology in order to create complex instrumental forms. Human beings have – since time immemorial – used technology not only to make life easier, but also to express their feelings,

make art, and at times, fathom the ineffable. One can make the argument that this has always been the case with the evolution of musical instruments; and that one of its primary directives is to allow for an enriched experience of flow.



Figure 1 - Dilon Djinji showing his grandchildren how to make a tin can guitar so they can dance Marrabenta, just as he used to do as a child. Image: karenboswall.com



### 1.3.5 – Flow

Perhaps it is a happy coincidence to make a connection between King Tubby's alleged love for improvised Jazz music and his drive to seek out the same process – or could we say 'state', or even condition - of improvisational flow on his own instrument, the mixing desk.

Ironically, Mihaly Csikszentmihalyi's concept of 'flow' when investigated in the prism of musical performance has often been explored in music treatises on Jazz improvisation. Perhaps because Jazz commonly represents the epitomic embodiment of improvisational skills in musicianship. Interestingly, books outside Jazz studies that associate states of flow to music, pool around the topics of music education and to a lesser degree to music healing<sup>30</sup>. The process of improvisation, and the subsequent cognitive demands exacted upon performing musical agents have been central to creativity research in Jazz music. Some of the following books expound on 'flow states' within individual and group improvisation in Jazz: Barrett's *"Coda—creativity and improvisation in jazz and organizations: Implications for organizational learning"*, in 1998; Reinholdsson's *"Making music together: An interactionist perspective on small-group performance in jazz"* (Doctoral dissertation), also in 1998; Mazzola and Cherlin's *"Flow, Gesture, and Spaces in Free Jazz: Towards a Theory of Collaboration"* in 2009; Gloor, Oster and Fischbach's *"JazzFlow—analyzing "Group Flow" among Jazz musicians through "Honest Signals""*, in 2013; and Hytönen-Ng's *"Experiencing 'flow' in jazz performance"*, in 2016.

Csikszentmihalyi coined the term in 1975 after several years of research into play activities, creativity, and also the personalities of artists and scientists (see Csikszentmihalyi and Bennett 1971; Csikszentmihalyi and Getzels 1973; Getzels and Csikszentmihalyi 1966; Engeser and Schiepe-Tiska 2012). "According to Csikszentmihalyi, flow is completely focused motivation. It is a single-minded immersion and represents perhaps the ultimate experience in harnessing the emotions in the service of performing and learning. In flow, the emotions are not just contained and channelled, but positive, energized, and aligned with the task at hand. The hallmark of flow is a feeling of spontaneous joy, even rapture, while performing a task although flow is also described (below) as a deep focus on nothing but the activity – not even oneself or one's emotions" (Goleman 1996).

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<sup>30</sup> A google scholar search on the keywords of Music & Flow: [https://scholar.google.pt/scholar?q=flow%2Bmusic&btnG=&hl=en&as\\_sdt=0%2C5](https://scholar.google.pt/scholar?q=flow%2Bmusic&btnG=&hl=en&as_sdt=0%2C5) (date of last consultation: 19th of April, 2017)

The idea of flow as a performer's merging of action and awareness that results in a state of heightened concentration and focus (Csikszentmihalyi 1996) is also incorporated into Victor Turner's writing. Turner describes that "a performance is a dialectic of 'flow,' that is, spontaneous movement in which action and awareness are one, and 'reflexivity,' in which the central meanings, values and goals of a culture are seen 'in action,' as they shape and explain behaviour" (Schechner and Appel 1990:1).

Engeser writes that "when there is a mismatch and challenges are too demanding for an individual's skills, worry and anxiety will result. If skills exceed opportunities, boredom is experienced (2012:9).

This is important because an informing maxim in the development of modern Controllers is precisely the enhanced workflows that are potentiated by newer hardware, which allow for a reduction of the need for manual dexterity and years of training on a musical instrument, thus permitting a composer – or producer as one would be called in this case – to act upon musical ideas in a more streamlined, effective and productive manner.

In his book *"The Producer as Composer: Shaping the Sounds of Popular Music"*, Virgil Moorefield makes the case that today, prowess in music production is as important as prowess with a musical instrument. He argues that the ability to use technology quickly and effortlessly can place the producer, as performer, on the concert stage, and elevate the importance placed on imaginative skills above that of traditional music skills (2010). Due to recent developments in the performative art of Finger-Drumming – one of the stylistic strands of Controllerism – a caveat with intersects Moorefield's reasoning, as virtuosity with the Controller takes the forefront – if you will – of the stage. An interview with Moldover, the artist who coined Controllerism, explores these ideas in chapter 3.1, while Finger-Drumming is explained further in chapter 2.2.3.2.

I consider the concept of 'Flow' important to my thesis because it informs us about the individual's quality of experience during performance, and because I ascribe to the notion that the 'playability' of modern Controllers puts them in the realm of musical instruments. 'Playing the Machine' is the operative mind-set behind Controllerism as a musical practice; that is, playing the Controller to add, subtract, effect, trigger, interject and intersect sounds of many separate sources and weave them into a new composition or performance. This is the essence of Dub mixing and of Turntablism, and today, of Controllerism as a musical practice.

### 1.3.6 – Field Work, a Heuristic Approach

The bulk of my ethnography took place in artist residencies during three different years, in which I was grouped with musicians I had never worked with before, most of which I had never even met. I entered each residency with a dual artist-ethnographer mind set (described in chapter 1.2 - Methodology), very much inspired by Timothy Rice's ideas<sup>31</sup> about subject-centred study into the experience of individuals or groups of individuals that were linked together by commonalities such as a place, space, time, and work. Thus, I decided to conduct participatory action research during all three separate artistic residences and write an autoethnographical narrative piece from an emic perspective recounting my experiences as well as my findings.

I then realized that I could not focus solely on the physicality of Controllerism as a musical practice for live performance, and that my investigation into the subject would not be complete without reflecting on relational aspects of performance on and off the stage amongst performers as well as between the public and performers.

When conducting ethnography for this thesis with Batida<sup>32</sup>, my principal informer, as we prepared our set for a quasi-improvised concert we were to perform at the end of our artist residency showcase using a mix of traditional instruments and Controllers, the idea of opening up the stage floor and inviting the crowd to walk onstage arose, allowing the public to experience the concert from within and interact or interfere with what was being created as a result of collective agency.

The idea, building on Josh Kun's concept of *audiotopia*<sup>33</sup>, was to provide sonic space in which performers and audience re-imagined common maps of interpretation of the moment, outside of standard 'mappings' about what a performance should be like; what 'playing' a machine symbolized; and what 'kind', or genre of music we were generating.

Kun's defines *audiotopias* as maps into the possible in the world; that lead us to better coping with it, provided to us by a musical commonality, or common musical space. One of music's most unifying capacities is its ability to create alternate realities that allow groups with contrasting worldviews to coexist in a commonly imagined space, or *audiotopia*, where social change and

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<sup>31</sup> Rice, Timothy. (2003) *Time, Place and Metaphor in Musical Experience and Ethnography*.

<sup>32</sup> Batida is the stage name for Pedro Coquenão, a radio, video and music producer born in Huambo, Angola, and raised in the suburbs of Lisbon, Portugal. Source: [facebook.com/pg/batida/about](https://facebook.com/pg/batida/about)

<sup>33</sup> Kun, Josh. (2005). *Audiotopia - Music, Race, and America*.

exchange can take place on levels unreachable during normal waking reality<sup>34</sup>.

Similarly, Ray Pratt<sup>35</sup> emphasized this ability to foment alternate commonalities, and “wider utopian social transformations [...] through affectively empowering emotional changes. Music promotes the establishment of sustaining relations of community and subculture that are fundamental to the creation of an alternative public realm, a kind of cultural free space” (Pratt 1990:14).

If we were to consider any given moment - in the middle of a musical performance, for instance, - as a collective experience that is more than the sum of its parts, it would be logical to surmise that the overarching experience was the result of a collective creation born from the interaction of myriads of nodules, or personal experiences, that were relational in essence and also interconnected in multi-tiered interactive relationships. Could it be that a musical performance, more than a representation of an object, is a medium for the establishment of a panoply of social relations? Can performance be viewed as an art that takes “as its theoretical horizon the realm of human interactions and its social context rather than the assertion of an independent and private symbolic space”? (Bourriaud 2002:14).

In this sense, if we were to fathom music concerts as collective artistic practices, then we could conclude that they are indeed authentic models of sociability based on inter-human relations. As such, relations in these collective engagements diverge from dominant cultural and political conditionings traditionally associated with mass-mediated global consumerism, in lieu of intersubjective and symbolic affiliations to be experienced individually; as opposed to viewed impavidly. Central themes that recur in such engagements are sensations of social unity; empathic connections between listener and performer; and the collective elaboration of meaning.

Claire Bishop<sup>36</sup> adequately summarized that “rather than a discrete, portable, autonomous work of art that transcends its context, relational art is entirely beholden to the contingencies of its environment and audience. Moreover, this audience is envisaged as a community: rather than a one-to-one relationship between work of art and viewer, relational art sets up situations in which viewers are not just addressed as a collective, social entity, but are actually given the wherewithal to create a community, however temporary or utopian this may be” (Bishop 2004:54).

In a way, as “the artist dwells in the circumstances the present offers him, so as to turn the

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<sup>34</sup> As in the reality experienced during an awakened state of consciousness, in contrast to realities experienced during dream states.

<sup>35</sup> Pratt, Ray. (1990). *Rhythm and Resistance: The Political Uses of American Popular Music*

<sup>36</sup> Bishop, Claire. (2004). *Antagonism and Relational Aesthetics*.

setting of his life (his links with the physical and conceptual world) into a lasting world” (Bourriaud 2002:13-14), so does the concert-goer or performer dwell on the environment offered to him, and to turn the setting of his life into a lasting memory. We each operate on the setting laid before us, our choices determined by what we *see*, which in turn is determined by what we have *seen*. These relationalities in essence constitute micropolitical acts, and as such are reflective of *microtopias*.

This sort of interaction with the public was a staple in Dub and Hip-Hop Sound Systems and Block-Parties, and is an informing philosophy behind Controllerism as a musical practice.

Bourriaud<sup>37</sup>, inspired by the work of Felix Guattari<sup>38</sup>, explored the idea of microscopic agency, or *microtopias*, as an individualized form of indirect critical action upon the world, stating that: “social utopias and revolutionary hopes have given way to everyday micro-utopias and imitative strategies, any stance that is “directly” critical of society is futile, if based on the illusion of a marginality that is nowadays impossible, not to say regressive [...] Félix Guattari was advocating those hands-on strategies that underpin present-day artistic practices: “Just as I think it is illusory to aim at a step-by-step transformation of society, so I think that microscopic attempts, of the community and neighborhood committee type, the organization of day-nurseries in the faculty, and the like, play an absolutely crucial role” (Bourriaud 2002:31).

My own experience with music as performer and researcher yields points that are reminiscent of the notions expounded by Guattari (1984), Debord (1983)<sup>39</sup>, Kun (2005), Pratt (1990) and Bourriaud (2002). Yet, keeping in mind that in this thesis I focus on the contexts of live performance and artistic agency as are informed by Controllerism, what I derive from my own experience - in regard to relational aesthetics, *microtopias* and *audiotopias* – is the idea that a live musical setting is a dynamic micropolitical one which involves intersecting dimensions of age, gender, class, race and sexuality and provokes a continuous re-articulation of inner-desires, notions of responsibility and place, reward and recognition in a group-created imaginary setting.

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<sup>37</sup> Bourriaud, Nicolas. (2002). *Relational Aesthetics*.

<sup>38</sup> Guattari, Félix. (1984) *Molecular Revolution: Psychiatry and Politics*.

<sup>39</sup> Debord, Guy. (1983) *Society of the Spectacle*.

### 1.3.7 – Mobility *in & as* Performance

Controllerism is becoming increasingly mobile-centred, making an inquiry into mobile music studies necessary in order to shed light on technological novelties that invariably affect Controllerism as a musical practice.

Mobile Music Studies are a scholarly sub-discipline that challenges the notion that mobile music is limited to the music of portable listening devices, and addresses how electrical, digital and mechanical technologies - with their corresponding economies of scale - have made music and sound increasingly ubiquitous and mobile-portable. Mobile music provides an opportunity for investigation on the various processes involved in consumption, distribution, experience and production of music and sound that have been undergoing rapid transformations from the late nineteenth century to the present. Some of my previous studies fall into the scope of mobile music, sound production and human mobility, and were informed by publications that bear ancillary familiarity with this thesis, such as investigations regarding the Laptop and mobile devices as musical instruments<sup>40</sup>.

I find in the writings of Noel B. Salazar (2010) to be fitting descriptions of topics in mobility studies that I am particularly interested in for this thesis. Salazar describes the concept of mobility, both as a concept and a metaphor, as impressing upon us a notion of people's lives (and worlds) as being in constant flux, with a continual circulation of persons, objects, cultures, media, services, diseases, ideas and information across the globe. Included in mobility studies are the studies of diaspora, exile, migration and tourism, as well as transnationalism and cosmopolitanism; communication technologies, media and global information, global markets, and popular culture. Population mobility as the term that defines migration within a population, and social mobility as

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<sup>40</sup> *The Mobilization of Performance; An Introduction to the Aesthetics of Mobile Music* by Sumanth Gopinath and Jason Stanyek, 2014.

*(In)Visible Mediators: Urban Mobility, Interface Design, and the Disappearing Computer in Berlin-Based Laptop Performances* by Mark J. Butler

*Rhythms of Relation: Black Popular Music and Mobile Technologies* by Alexander G. Weheliye

*Turning the Tables: Digital Technologies and the Remixing of DJ Culture* by Christina Zanfagna and Kate Levitt

*The Mobile Phone Orchestra* by Ge Wang, Georg Essl, and Henri Penttinen

*Creative Applications of Interactive Mobile Music* by Atau Tanaka

*The World is Your Stage: Making Music on the iPhone* by Ge Wang

*Divisible Mobility: Music in an Age of Cloud Computing* by Martin Scherzinger

*Music Ethnography and Recording Technology in the Unbound Digital Era* by Anna Schultz and Mark Nye

All in: Gopinath, Sumanth and Stanyek, Jason. (2010). *The Oxford Handbook of Mobile Music Studies*, Vols.1&2. Oxford University Press.

Pinch, Trevor and Bijsterveld, Karin. (2004). *Sound Studies: New Technologies and Music*. *Social Studies of Science* Vol. 34, No. 5, Special Issue on Sound Studies: New Technologies and Music (Oct., 2004): pp. 635-648

being the movement of people between social classes or economic levels, are also included in mobility studies.

Salazar emphasizes that “the literature is replete with metaphorical conceptualizations attempting to describe perceived altered spatial and temporal movements: deterritorialization, reterritorialization, and scapes; time-space compression, distantiation, or punctuation; the network society and its space of flows; the death of distance and the acceleration of modern life; and nomadology. The interest in mobility goes hand in hand with theoretical approaches that reject a sedentarist metaphysics in favor of a nomadic one and empirical studies on diverse mobilities, questioning taken-for-granted correspondences between peoples, places, and cultures” (2010).

Particularly interesting to my theoretical framework are ideas about network society and its space of flows, the death of distance and the acceleration of modern life, nomadology, trans-border movements, and mobile objects of study; as well as mobility promoted as normality, all of which under prisms affecting music and musicians.

This leads me to the concept of music and migrations: having been spurred on by a reading on *Music and Migration* by Nadia Kiwan and Ulrike Hanna Meinhof, I was particularly taken by the following sentence that states: “There has been even less work that looks at transnational networks and flows from a cultural or arts-based perspective... whilst in recent years scholarship in the arts and humanities has increasingly focused on transnational networks and flows, there has been surprisingly little research which demonstrates empirically their everyday life realities and privileges the bottom-up perspectives of those involved “ (Kiwan & Ulrike 2011).

Movement of people from one locality to another constitutes the bulk of migration studies. The primary focus, albeit not an exclusive one, is the study of phenomena in their cultural and social dimensions. Music is mobile in essence; effectively ‘migrating’ from origin to destination, whilst performance captures movement; consolidating it into an artistic form. Performance is a ‘mobile’ act, that is always in flux and can never be repeated, due to its condition as an interaction between audiences and performers; thus being, in essence, a representation of mobility and movement.

Moreover, I believe that performance studies may serve as an ‘umbrella term’ for my theoretical framework; a term that can be used to unify the various different concepts of mobility, migration and globalism in a consolidated field of focus. Performance studies are an interdisciplinary field that draws from theories of anthropology and sociology; the performing arts; literary theory and legal studies, and is principally concerned with the study of performance in all forms.

I view research as a performance; autoethnography as an introspective performance, and participatory action research as a proactive performance. For a conceptual basis - upon which to interpret performance studies - I am using the proposal put forth by Philip Auslander in his book *"Theory for Performance Studies: A Student's Guide"*, in which he claims:

"In my view, performance studies is a paradigm-driven field, by which I mean that it takes the concept of performance as both its object of inquiry and its primary analytical concept... The central question animating the discipline is: "What is performance?" The more contexts in which we look at the concept of performance and the more case to which we apply it, the better we will be able to answer that question. Or, perhaps it is more accurate to say that we will come up with more and more useful answers to the question, for performance studies is not about discovering a single theory of performance ... Performance studies is always in search of new theories that might open up new ways of seeing and interpreting performance. Performance studies is theory: the myriad conceptual tools used to "see" performance" (Auslander 2008).

In turn, Victor Turner states that "meaning is retrospective and discovered by the selection action of reflexive attention" (1987:97). I share Turner's views; that certain prejudices have become distinctive features in the literary genre known as anthropological works which are inclusive of "a systematic dehumanizing of the human subjects of study, regarding them as the bearers of an impersonal "culture," or wax to be imprinted with "cultural patterns," or as determined by social, cultural or social psychological "forces," "variables," or "pressures" of various kinds" (Turner 1979:72). As we ascribe meaning to whatever aspects of our memory we focus on in lieu of our object of study we inadvertently ignore other maybe equally important aspects. Performance is multi-layered and multi-situational, for all, from passive observers to active participants, are involved in the process.

### 1.3.8 - Conclusion

Controllers are a growing category of tools created for musical performance and composition, and are abundant in music shops, rehearsal rooms, studios and stages today. Controllerism is a subject little explored in the field of Ethnomusicology, particularly in Portugal, where little or nothing has been written academically upon the subject to date. I firmly believe that producing a thesis on the subjects of Controllers and Controllerism is a task that will add value to the field of Ethnomusicology.



## 2 – What is Controllerism?

According to Moldover, who coined the term in 2007: “Controllerism is the art of manipulating sounds and creating music live using computer Controllers and software” (Golden 2007). This definition, in and of itself, makes an important statement that splits Controllerism into two separate trends:

- 1) The art of manipulating pre-existing music contained in computer storage or computer software in a live setting using Controllers, as can be observable in digital live Dub mixing, digital Turntablism and digital Djing.
- 2) The art of playing a Controller as one would a musical instrument, thus playing improvised or orchestrated music in a live setting using said Controllers to manipulate sound sources such as software programs, virtual-instruments, samplers and the like.

The practice of Controllerism can be said to borrow logics and grow out of the coming together of these two branches of musical practice; using Controllers as musical instruments, and using Controllers to manipulate pre-recorded sound. Both are equally important in the development of Controllerism, and their unification into a common term helps us define Controllerism as a live musical practice. This amalgamation enables us to divide the evolution of Controllerism into two other integrating parts:

- 1) Musical instrument hacking<sup>41</sup> of the physical properties of musical instruments that have led to the development of musical Controllers.
- 2) The musical practices that have informed Controllerism’s instrumental practicability and compositional tendencies.

These two constituent parts are explored in the next subchapters, which describe the development of Controllers as musical instruments and the development of Controllerism as a musical practice. The latter, being a pinnacle of this thesis, contains analyses of three historical logics that are at the origins of Controllerism as it is practiced today. Finally, in closing chapter two, a brief history of the term is given in order to contextualize what is commonly understood by Controllerism against the timeline of events that have defined it as a musical practice.

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<sup>41</sup> By ‘musical instrument hacking’ I am referring to:

- 1) Modifications made to musical instruments that improve their functionality or performance or that make the instruments respond in ways that were not in their original design.
- 2) Historical modular separation of musical instruments into separate constituent parts, typically sound sources and control systems.

## 2.1 – The development of Controllers as musical instruments – *Initial Remote Control*

For the purpose of providing a historical guideline through which to understand the technicity that has resulted in the growth of Controllerism, I have resorted to Bernd Enders' analysis of the development of musical instruments as published in 2005<sup>42</sup> and 2017<sup>43</sup>. In Enders' prismatic view, out of the original drive to externalize music production through instrumentalization, human agency has propelled technology forward in ten distinct characteristics of partially chronological succession. Although Enders' table is not purely chronological (see Enders 2005:32f), I will submit my reasoning in a succession that is sequential in time, in order to outline key moments and historical developments that have contributed to the invention of Controllers and the subsequent emergence of Controllerism. Enders' ten characteristics in the technical development of musical instruments are: Instrumentalization, Mechanization, Automatization, Electronification, Modularization, Digitalization, Virtualization, Globalization, Informatization and Hybridization (see chapter 1.3.4 for a complete table of Enders' ten characteristics).

At this point it is important to refer that a Controller is a control system that is interfaced with a sonic source in order to produce sound. A Controller does not produce sound by itself, which removes it from the initial process of Instrumentalization, and also from the family of modular synthesizers and other electronic instruments, placing it in a historical timeline that develops out of experiments in musical instrument hacking, beginning at the Mechanization and Automatization stages of musical instrument evolution.

The fact that modern Controllers are control systems interfaced with sound sources, can be used to interpret modern Controllers as direct digital descendants of historical operating devices – also termed as Controllers – such as the keyboard in Pipe Organs and Carillons, developed during the Mechanization stage of musical instruments.

Since today's Controllers can program and automate software functions, they can also be considered to be a digital evolution in the lineage of pinned barrel programmable instruments; semi-automatic instruments such as the barrel organ; and fully automated instruments such as the barrel Carillon, Music Box, Orchestrion, Player Piano and the like, developed during the stage of musical

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<sup>42</sup> Enders, B. (2005). *Mathematik ist Musik für den Verstand, Musik ist Mathematik für die Seele*. In B. Enders (Ed.), *Mathematische Musik – musikalische Mathematik* (p32f). Saarbrücken: PFAU-Verlag.

<sup>43</sup> Bovermann, Till, Alberto de Campo, Sarah-Indriyati Hardjowirogo, and Stefan Weinzierl. (2016) *Musical Instruments in the 21st Century*. In *From Idiophone to Touchpad. The Technological Development to the Virtual Musical Instrument*. p.56-57.

instrument Automatization.

Seeing that in the subsequent developmental stages of Electronification and Modularization progress was subject to instrumental innovations made possible by electricity – such as electromechanical instruments, amplification, electronic instruments, construction of sound modification elements and modular synthesis –, development of Controllers as modules belonging to instruments composed of a separate sound source and control system became, for the most part, dormant, only to reawaken with the birth of Digitalization, through the creation of the Midi communication protocol, computer Sampling and prototypical digital Controllers.

The current stage of Virtualization is seeing a flourish of Controllers emerge, taking on a tantalizing myriad of shapes and forms which foment exploration and expression in a process in which the computer ultimately becomes the source of creation or emulation of sound. This permits non-hardware-centric musical expression, and freedom from an earlier dependence on proprietary machines in order to achieve characteristic or vintage sounds. Augmented control over a multitude of user-defined parameters, as well as access to multifarious software-based sonic engines, allows for the development of endless Controllers that are plug-and-play and class-compliant, with low learning curves, and a large number of ready-made presets.

Typical in the process of music Virtualization are software based digital Synthesizers; virtual emulation and simulation of traditional instruments; modulation of mechanically impossible instruments; interactive instruments, and new interfaces, such as gestural interfaces or other interfaces that track movement. Virtualization also includes pressure sensitive and touch screen interfaces, which increase the gamut of previously inconceivable musical surfaces (see Table 2), particularly in the field of mobile music.

In this first chronological analysis, Controllerism arises out of the potential created by the development of musical instruments as cyclically re-informed by successive technological stages, human creativity and agency. Since Controllerism is inherently associated to musical Controllers, and because it is implied in this thesis that Controllers are musical instruments in their own right, I have decided that a first analysis of the chronological characteristics in musical instrument development that have lead to the development of the Controller is important. This allows us develop a second analysis that focuses on instrumental performance; hinging not on the physicality of the instruments themselves, but on musical production and reproduction as the sources of a new tendency of artistic expression, which ultimately has resulted in the development of Controllerism.

## 2.2 – The development of Controllerism as a musical practice – *Separation, Division and Allocation*

This second perspective into the emergence of Controllerism disconnects us from the development of Controllers as musical instruments and takes us into the technological breakthroughs that have led to a musical practice that is inclusive of all sonic sources, including that of recycling sound<sup>44</sup>. Understanding the logics that permeate Controllerism as a musical practice is instrumental towards comprehending the field from which it has emerged. Controllerism has roots in musical practices that span over the last fifty years. They are all separated in time and place but have two very important points in common: firstly, they originate out of the desire to innovate, and secondly, they result from a creative dialogue between man and machine.

The relationship between music and the technology that enables its production is often a complex one, as musical practice is simultaneously *technophobic* and *technophilic* (see Richards 1993); with musicians and producers disdaining or embracing technology as a destructive or creative force. Much in the same manner, musical instruments are agents of a similar duality; capable of expressing opposing forces such as chaos and order, or noise and harmony, and eliciting feelings good and bad alike. The music they produce sets the framework and defines the boundaries within which technology operates, and it is at those boundaries, that the limits to be surpassed are ascertained.

Yet, attitudes towards the impact of technology on music production and practice have changed over time. Music as we know it today is by large a product of the *technomusical* (Shepherd 2001) novelty and innovation that has developed over the last one hundred and forty years, since the advent of sound recording technologies. Part and parcel of musical creation today is the manipulation of pre-recorded sounds, a very important process to Controllerism, and this sub-chapter attempts to draw a timeline of the key moments in *technomusical* novelty and innovation that have directly contributed to the development of Controllerism as a musical practice.

It wouldn't be possible to contextualize the current impact of Controllerism in live performance without inquiring into the history of the development of sound recording technology, particularly into the way it has influenced, and in some ways formed and shaped the ways we create, listen to and understand music. In a sense, technology and sound practices (the processes of creation and consumption of music) co-evolve in tandem, making them inextricably

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<sup>44</sup> By recycling sound, I refer to the utilization and adaptation of sounds created by and for other purposes. My definition of recycling differs slightly from Kun's and Navas' in that it refers to actions taken upon individual items (sounds). Josh Kun in 2005 refers to the recycling of rhythms to establish an aesthetic parallelism between Hip-Hop and Dub music, while Eduardo Navas in 2012 refers to recycling of material and immaterial things as part and parcel of the Remix Culture.

aligned. New technologies today, no matter how unconventional or innovative, do not - in most cases - uproot or even transform societies, but are rather borne out of openings for novelty within existing social frameworks, growing with, working on and affecting what already gives shape to people's lives (see Strathern 1992; Taylor 2012).

The invention of Edison's phonograph in 1877 brought forth a culturally disturbing force, so effective in the dissemination of popular culture that it substantially increased the rate at which the corruption and decay of traditional ways of life were taking place. On the other hand, it allowed for much more comprehensive analysis' of certain aspects of 'exotic musics', as well as their preservation (see Hornbostel & Abraham, 1904). It was a powerful agent of change, a force of acculturation, preservation and innovation alike. In 1878, Edison - a prolific inventor - when writing about the phonograph and its future, commented:

"Of all the writer's inventions, none has commanded such profound and earnest attention throughout the civilized world as has the phonograph. This fact he attributes largely to that peculiarity of the invention which brings its possibilities within range of the speculative imaginations of all thinking people, as well as to the most universal applicability of the foundation principle, namely, the gathering up and retaining of sounds hitherto fugitive, and their reproduction at will...The writer has no fault to find with this condition of the discussion of the merits and possibilities of his invention; for, indeed, the possibilities are so illimitable and the probabilities so numerous that he - though subject to the influence of familiar contact - is himself in a somewhat chaotic condition of mind as to where to draw the dividing line...In the case of an invention such as the phonograph, it is practically impossible to indicate it today, for tomorrow a trifle may extend it almost indefinitely" (Taylor, Katz & Grajeda 2012:29).

With Thomas Edison's invention, music - in the form of sound recording - was to become a mass-produced consumer good. He dreamed that one day all households would be fitted with a talking machine, and today the realization of that dream has for the most part become a reality, for all but the poorest segments of society. Yet even Edison's vision - as grand as it was - imagined but a modicum of the role, magnitude and impact that recorded sound has had on modern life (see Millard 2005; Brady 1999).

Before the advent of sound recording, the various processes of making, listening to and understanding music were not as they are today. Music was fugitive; from the moment of inception destined to a fleeting existence as the sound-waves travelled through the air and quickly decayed into nothingness. Sound recording has forever changed that, and with it changed much of our 'experiencing' of music (Malm 1992:352-353). For instance, before 1877, listeners could not hear music without being in the vicinity of performers. They could not listen to it repeatedly on a whim, or hear it played more than once in exactly the same way, as we have all grown accustomed to do so

today. They could not hear it alone whenever they so desired, or listen to music from anywhere around the globe without travelling to where musicians were performing. Moreover, they could not hear music that was impossible to play, or that sounded radically different from the sounds natural to life as they knew it.

During the 1930's the possibility of editing audio recordings finally became a reality with the introduction of magnetic tape recording technology, which allowed for alternate versions of songs to be produced via the cutting and splicing of the mono recording into separate parts, and posterior reassembly in orders that were different from the original.

In the 1940's the first 8-track recorder was developed by guitarist/inventor Les Paul in conjunction with the Ampex Corporation as an overdubbing solution to the traditional process of recording which required that all elements of the recording be performed simultaneously. The multi-track recorder allowed for separation of instruments in the mix, and also for the substitution of previously recorded parts, but more importantly, it allowed for their separation in time and place as well. Recordings were not necessarily final any more and could be edited after the fact in a different time and/or separate location.

The 30s and 40s are at the very root of the Remix Culture, and Controllerism as well. A prehistory if you will; symbolizing the birth of a new wave of musical creativity not solely based on artists' technical prowess with musical instruments, or on their compositional genius' on paper, but also on the ability to pick and chose, segment and bring together musical collages, birthing something new from pieces of other performances. This relation to aesthetic values long before reflected in other arts - for instance in the work of collage and pastiche artists - was not conceptually new, but rather technologically impossible in musical production until that time, and it marked the path for innovations that are at the very inception of Controllerism as a musical practice.

In the next sub-chapter, I further explore the enabling forces of multi-track recording and mixing, suggesting that creative Dub mixing represents the first in a three-part series of historically important compositional logics that have become fundamentals of Controllerism. This first logic primes the stage by deconstructing songs into separate layers and pieces which can then be manipulated, interacted with, and made to coalesce in ways unintended in the original or originating recordings. It is the first 'stepping stone' in a sequence of pivotal steps which I consider to have defined Controllerism logics. I have denominated this first step as 'Layer Separation', and after describing the historical events that enabled this process, I will provide schematic representations, diagrammed examples and analysis' in chapter 2.2.1.1.

### 2.2.1 – 1960s: Layer Separation

By the 1960s, multi-track recording had deeply transformed the music industry, increasing the possibility for greater degrees of complexity in recording and composition; resulting in substantial paradigm shifts that affected the production, dissemination and consumption of music around the globe. One such case - particularly poignant to this thesis - resulted in the birth of a new *musico-technological* (see Slater & Adam 2012) paradigm in 1960's Jamaica, where within the confines of Kingston's sound system<sup>45</sup> culture a different kind of relationship between various actors of the music industry<sup>46</sup> emerged.



Figure 2 - Sound System speakers in Jamaica. Photo courtesy of Beth Lesser, From the series "Rub a Dub Style"

Sound systems were portable high fidelity playback equipment that was usually transported on the backs of vans and set up in different neighbourhoods where they would provide the sound for open-air dances, later known as Dancehalls. Albeit the lack of any actual hall, Dancehalls – hereby referred to as Sound Systems - were organized in outdoor venues such as neighbourhood yards (see Winders 1983; Witmer 1989). With only the need of an available power line, a Sound System with two to eight speakers could swathe an entire community, within a range of a few kilometers (Hess

<sup>45</sup> Also known as Dancehall

<sup>46</sup> By 'music industry' I am referring to the musical macrocosm wherein creators, producers, performers and promoters operate.

2007:3), and were one of the few affordable social activities for the poor population of Kingston (see King & Bays 2002), attracting multitudes from the surrounding parishes. The crowds were entertained and introduced to recent musical hits<sup>47</sup>, but more importantly, were inadvertently enveloped in a growing community of dissent, passively permitted by a lack of interference from local authorities, and fomented by the acting *deejays* of the night as they weaved commentaries on political events taking place in Jamaica into their musical performances (see King & Bays 2002; Traber 2013).

I should clarify at this point that in contrast to the definition of the modern DJ, who's musical practice is more akin to that of the *selector* in Sound Systems, the term *deejay* was reserved for vocal artists who would 'chant', 'chat', 'toast' or 'vocalize' over *riddims*. Furthermore, *singers* would sing over songs, and *singjay's* would both sing and toast over them (Rambarran & Partridge 2012:258).

Sound systems were high in demand as the people of Kingston looked for positive and affordable alternatives to the violence and economic turmoil felt in the city at the time. The number of sound systems active in the city multiplied, and the pressure to provide a constant and continuous flow of new music with which to cater to the novelty-hungry crowds was direly felt by party organizers. There was a short supply of readily available live musicians to cater to the demand for an increasing amount of live music, and competition eventually spurred organizers to seek more profitable alternatives. The solution came in the form of the *selector* (now known as DJ); in the figure of a music curator who was 'in the know' about what the crowds demanded; played all the recent popular tracks heard on the radio; and had exclusive access to new mixes and special dubplates<sup>48</sup>.

The popularity and high demand for *riddims*: the instrumental mixes usually found in the b-sides of dubplates, fundamentally changed the relationship between event organizers, studios, labels, record producers and performers. "The reliance on *riddims* is better seen as being conditioned by and constituting part of the entire evolution of modern Jamaican music culture, including its special emphasis on sound systems and studio production, rather than live bands" (Manuel & Marshall 2006:448-449. Also see Walmart 2007; Sullivan 2014).

Event organizers offered patronage to studios, thus guaranteeing exclusivity of certain productions and the chance to play certain dubplates first in their sound systems. Some studios had resident in-house record producers, and some record producers had their own studio. Labels looking for b-sides for their 7-inch/45 rpm records welcomed the idea of using the rhythm tracks of the a-

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<sup>47</sup> Recently popular songs.

<sup>48</sup> A dubplate was the name given to acetates which contained versions of popular songs and were pressed for employment in Sound Systems throughout Kingston, whether as test mixes, exclusive releases or secret songs.



side on the b-side, as it was a cost effective alternative to recording new music, and allowed for the sound system *selectors* to speak over the track. Popular *selectors* could 'make' producers by including their mixes at the height of their performances, and in turn "privileged the position of these producer/engineers, for it was their mastery of the recording process that made hit songs for the DJs" (Wallmart 2007:35).

Record producers, due to their instrumental mixes' popularity with the crowd, took new creative liberties, going beyond solely removing the vocals from a track, and beginning to experiment with the deletion, addition and rearrangement of other instruments in the mix, as well as overlaying and featuring studio effects such as reverb and echo.

Hard disk recording and computer editing had yet to be invented, and access to limited tracks on which to record 'takes'<sup>49</sup> meant that separate elements of the mix were always printed to tape in real time, as actual performances. This mixing process and method of production grew into a musical style of its own that is now known as Dub, and is the point of origin of not only Controllerism as a musical practice, but also of Remix as a culture, and studio electronic music as a genre.

Thus, dubplate culture lead directly to the development of the first proto-dubs, as the *riddims* of roots Reggae tunes were experimented with in the studio, and resulted in the conception of the Dub music genre, eventually making Dub mixes - or *versions* - the norm for dubplate production.

Essentially, "a single band session with a harmony trio could be recycled as a DJ version for a *rapper*<sup>50</sup> to rock *patwa*<sup>51</sup> rhymes over, and a dub version in which the mixing engineer himself became the central performer – experimenting with levels, equalization and effects to alter the feel of the riddim, and break free of the constraints of the standard song" (Chang 2005:30). Moreover, this "breaking free from the constraints of a standard song" is an important concept for the discussion about Controllerism, for flow 'is in the genes' of this musical practice. Archetypal constraints in form or expression limit transcendence, inhibiting the flow of free expression and hindering innovation.

Transcending boundaries, and all kinds of challenging archetypal definitions, was at the root of the 'Dub emergence'. Dub at its apotheosis was inextricably linked to the social and political context present in Jamaica at the time, and found its expression primarily in the sound system culture in a process so powerful that it included the creation of a new music business; of a new professional infrastructure, as well as the foundation of a new national sound (see Partridge 2010; Sullivan 2014).

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<sup>49</sup> A 'take' is the act of playing a song for recording. Before digital editing was possible, it was customary to record music live, from beginning to end, usually simultaneously in a group setting. With multitrack recording it became possible to record different elements of a mix separately.

<sup>50</sup> Deejay in Dub Sound Systems and MC in Hip-Hop Sound Systems.

<sup>51</sup> Patois.

### 2.2.1.1 – Origins of Controllerism Logic I: *Playing the Machine*

The emergence of the Sound System culture, as well as the entire musical economy of influence and power surrounding dubplates in Jamaica in the 1960s provided a perfect setting for pioneering sound engineer Osbourne Ruddock, known as King Tubby (1941-1989) to experiment with multitrack recordings, and become recognized as the originator of a new genre of musical practice. This new form, which was rooted in the studio and tailor-made for being played in Sound Systems was of course Dub mixing, or *versioning*.

The weight and import that Sound System culture has had in the development of Dub music can not be understated. It provisioned a musical and political context, a mode of dissemination, a means of escape from poverty and above all, a setting where creative experimentation was not only procured by artists but desired by the public as well.

The origin myth that surrounds the practice of *cutting*<sup>52</sup> instrumental versions of studio tracks, otherwise known as *versioning*, tells that during one famed studio session at Duke Reid's Treasure Isle studio in 1967, while *cutting* an acetate of "On the Beach", a rocksteady track by The Paragons for Sound System operator 'Ruddy' Redwood, an engineer by the name of Byron Smith - allegedly assisted by King Tubby - left the vocals out of the mix. Some accounts state that this was by pure accident, while others recount that Byron was having trouble dropping the vocals in and a decision was made to *cut* without vocals. Accident or no accident, upon hearing the track Redwood heralded the result as 'art' and decided to play it at his next dancehall. It was an instant raging success; the crowd filling in for the vocals with the help of Redwood's *deejay* Wassy (see Sullivan 2014).

Bunny Lee, a record plugger for Treasure Isle studio, and a producer in his own right, was a bystander at the studio and described that momentous occasion with the following words:

"The first man who really start version by mistake is a man from Spanish Town named Ruddy, another wealthy man who can help himself. Him inna racehorses and him have a record shop and a big night club 'cross Fort Henderson, so when him come a Duke Reid and Coxson, them give him any tape he want. One evening them a cut a dubplate – soft wax they used to call it. When them cut, it's difficult to put in the voice, and Smithy a go stop it and Ruddy say, 'No, make it run.' When it done, him say it art, and me and Tubbys stand up right there so, me look 'pon Tubbys and Tubbys look 'pon me. Saturday night him drop the singing cut first and the *deejay* name Wassy said, 'I'm going to play part two!' and the whole dancehall start to sing the song 'pon the pure rhythm – him have to play it about ten, fifteen times because it's something new. I say, 'boy Tubbs, you see the mistake whe Smithy make? A serious thing. The people a Spanish Town love it! You have to start something like that" (quoted in Katz 2004:166) ... So (King) Tubby say, 'All right, we'll try it.' [...] And Tubby's start

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<sup>52</sup> A *cut* is a mix, or a version of a track.

it with the voice and [then] bring in the riddim. Then him play the singing, and them him play the complete riddim without voice. We start a call the thing ‘version.’” (quoted in Veal, 2007:52. Also see Sullivan 2014).

From a chronological perspective on music technology, this was taking place at a cusp period for record production, for multitrack recording now allowed engineers and producers to add, delete or rearrange parts from any song, as well as add studio effects such as reverb and echo. This was also the beginning of Controllerism as a music practice, for the first act of playing the mixing desk as a musical instrument and ‘performing the mix’ was essentially Controllerism at its inception.

“While the concept of version, i.e., mainly instrumental takes on pre-written songs, has a history prior to dub (specifically in African-American and Caribbean music forms like jazz, blues and salsa), its Jamaican variant was unique, owing to the levels of modification involved. Although technology had been used to ‘open up’ and rearrange music before, by musique concrète artists, for example, and Western music producers, like George Martin and Teo Macero, the concept of the mixing-board-as-instrument (and its corollary, the engineer-as-artist) was fully realized in Kingston. The way in which the dub pioneers (with Lynford Anderson, Errol Thompson, Augustus Pablo, King Tubby, Keith Hudson, Lee ‘Scratch’ Perry among them) began deconstructing songs into their constituent parts then rebuilding them into alternative compositions – literally turning them inside out to reveal their ‘seams’ – made the music simultaneously avant-garde and hugely popular with the sound system crowds.” (Sullivan 2014:8)

Hence, the emergence of Dub music in Jamaica is as much a part of the evolution of Controllers as it is a part of the aesthetic, technological and ideological principles that permeate most of the music created by Controllerism today. Using a control system to ‘perform’ a sound source, Dub mixers inadvertently became the originators of the key production values and operative techniques of performative action found in modern Controllerism. Dub was the embodiment of the ethos in Controllerist performativity, and although Dub was not the first musical genre to produce *versions*, it was the first to use or perform the mixing board as an instrument. Moreover, Dub introduced the engineer as an artist in his own right. Many engineers of the time became notable Dub producers and helped with the inception of the characteristic soundscapes of Dub, but credit as the pioneering force behind this new musical practice has – by large - been attributed to King Tubby, whose *riddim* versionings have become legendary.

The *riddim* (from the Jamaican Patois pronunciation of “rhythm”) remains as much a fundamental piece of Jamaican music today as it did in the 1960s (see Veal 2007). A complete song consists of the original ‘*riddim*’ and the ‘*voicing*’ and the separation of the two permits for an unlimited number of *versions* (or versionings) of the same *riddims* to occur in recording sessions and in live performances. To exemplify, we can look at one of the most popular dubs of all time: King Tubby’s 1974 “King Tubby Meets the Rockers Uptown”.

The *riddim* for “King Tubby Meets the Rockers Uptown” goes by the name “Cassava Piece” and was composed by Horace Swaby, more popularly known for his artistic moniker Augustus Pablo, who was renowned both as a musician and producer. The multi-track recording features Pablo on the Keyboards, the Melodica, Piano, organ, and Clavinet, accompanied by Aston “Family Man” Barrett and Robbie Shakespeare on the Bass Guitar, Earl “China” Smith on Guitar, Earl “China” Smith on Guitar, and Carlton Barrett on the Drums.



Figure 3- “Cassava Piece” by Augustus Pablo. image sourced from discogs.com on the 19<sup>th</sup> of July 2017

The “Cassava Piece” *riddim* was first *cut*<sup>53</sup> by Augustus Pablo in 1973 and versioned into a song entitled “Jah Jah Dub”<sup>54</sup> by Herman Chin Loy for his “Aquarius Dub” album. In this version, Pablo’s Melodica did not make an appearance in the mix.

Also in 1973 the song was *cut* as an a-side with the name “Cassava Rock”<sup>55</sup>, featuring Big Youth’s *deejaying*<sup>56</sup>, still without the characteristic sound of the Melodica but crediting Augustus Pablo as the producer.



Figure 4 - Augustus Pablo's "King Tubby Meets the Rockers Uptown" album. Image retrieved from discogs.com on 19th of July 2017

<sup>53</sup> Officially printed and released under a label.

<sup>54</sup> URL: [https://www.youtube.com/watch?v=iCL\\_QibVldw](https://www.youtube.com/watch?v=iCL_QibVldw) (date of last consultation: 9th of May, 2017)

<sup>55</sup> URL: <https://www.youtube.com/watch?v=v2qqIRYlSt4> (date of last consultation: 9th of May, 2017)

<sup>56</sup> Deejay is a characteristic form of vocalization

Finally in 1974 the most famous vocal version of “Cassava Piece” was *cut* for Jacob Miller’s “Baby I Love You So”<sup>57</sup> as an a-side, finally including Augustus Pablo’s Melodica.

The b-side, mixed by King Tubby, was titled “King Tubby Meets the Rockers Uptown”<sup>58</sup>; and became what is today known as the seminal *Dub-mix version*, appearing also in an album by Augustus Pablo that bore the track’s name.



Right: Figure 5 - The four seminal versions of the “Cassava Piece” released between 1973 and 1974. Images retrieved from discogs.com on the 19th of July 2017

“King Tubby Meets the Rockers Uptown” is generally accepted as the prototypical example of how Dub producers played their mixers as musical instruments.



The song holds a pivotal position as a root from which a good deal of modern music stems. Practically an ode to Remix Culture, “King Tubby Meets the Rockers Uptown” is considered to have emerged from relative obscurity in the UK, and subsequently Europe and America, through the influence of none other than Johnny Rotten from the Sex Pistols. In an interview for the Tommy Vance Show at the BBC in July 16, 1977, Rotten took carte blanche and proceeded to play songs from his vinyl record collection, one of which was “King Tubby Meets the Rockers Uptown”.

When questioned about why a punk icon would proclaim a Dub song to be one of his favourite songs, Rotten replied that he had grown up on Reggae, initiating a cascading chain-reaction which saw Reggae soar to new heights in the UK. The Dub sonic aesthetic thus went on to inform the sonorities of bands like Bauhaus, the Cure and Siouxsie and the Banshees, whilst the *Cut n’ Paste* method went on to inform countless others, particularly in Dance culture, inspiring New York remixers of the late ’70s and early ’80s, such as Walter Gibbons, Tom Moulton, Larry Levan, Tee Scott, François Kevorkian and Shep Pettibone (see Young 2008; Wilson 2012).

<sup>57</sup> URL: <https://www.youtube.com/watch?v=Eahey6oHst0> (date of last consultation: 9th of May, 2017)

<sup>58</sup> URL: <https://www.youtube.com/watch?v=ztq7-kkygZk> (date of last consultation: 9th of May, 2017)

The Dub sonic aesthetic developed by Jamaica's Dub pioneers that had become so influential, had – at its core - inherited a combination of sentiments present in roots Reggae *riddims*, bonded to a deep Rastafari spirituality yearning for a return to ancestral African roots, “while at the same time invoking the infinity of the cosmos – and the future – by creating cavernous spaces within the music” (Sullivan 2013:10), and offering “the listener and/or musician new maps for re-imagining the present social world” (Kun 2005:23).

Dub *audiotopias* were maps into possible musical reconfigurations, such as the roles actors played in musical commonalities, and the ‘cosmos’ of music creativity, performance, production and industry. This commonly imagined alternate space; this *Dubtopia*<sup>59</sup> represented an emerging social change that would take place on various musical stages, forging an alternative public realm; a newer kind of creative cultural free space (see Pratt 1990; Kun 2005).

King Tubby's innovative studio approach, such as his experiments with tape-based composition and electronically manipulated spatiality, had elevated the importance of the sound engineer by allowing the engineer access to creative fame and a status which could rival that of composers and songwriters. His use of ‘enhancement’ effects such as “drop-out, extreme equalization, long delays, short delays, reverb, flange, phase, noise gates, echo feedback, shotgun snare drums, rubber bass, zipping highs and cavernous lows” (Toop 2004:506), elevated the dub soundscape to a completely distinct sonic plateau.

Although it is clear that Dub's influence and impact has had ramifications far and wide around the globe, what is important for this thesis is to explain precisely how it informs Controllerism as a musical practice, and why I consider it to be the genesis of Controllerism.

The studio techniques which King Tubby had developed in order to craft the instrumental arrangements in “Baby I Love You So” into “King Tubby Meets the Rockers Uptown” made him the original Controllerist. By using his mixing desk – his control system - to manipulate and perform improvised music using sounds being played back from tape – the sound system, he was doing Controllerism.

Below I will provide a schematic analysis of “King Tubby meets the Rockers Uptown”, hoping to shed light on the mixing actions and structure of the song, and illustrate this first ‘stepping stone’ of Controllerism performance logic.

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<sup>59</sup> A term I have derived from mixing the words Dub and *audiotopia* together.

## Analysis of “King Tubby meets the Rockers Uptown”

While performing the following analysis, I was fortunate to find a fellow student that had conducted a study on the same song some years earlier. Dylan Kell-Kirkman<sup>60</sup> had posted in a web forum to the effect, and after communicating with him regarding my interest in his work, Dylan was kind enough to find his paper and send it to me. Kell-Kirkman’s Musematic Occurrence Table was most informative as a comparative tool with my own findings, particularly because, although we had focused on different content to analyse within the same song, our tables were visually similar.

I was able to cross reference my findings with Dylan’s transcription and double-check my results with his musematic occurrence table, and for this I am very grateful. Dylan had used IOCM<sup>61</sup> for his analysis, and the resulting table displayed musemes<sup>62</sup> reflected horizontally in time, with each instrument - or sub-divided part of an instrument such as a hi-hat and a bass drum – taking a different line on a vertical axis. I used a very similar approach, dividing instruments and parts vertically and displaying song parts and mixing occurrences horizontally, but focused principally on transcribing Tubby’s actions on the mixing desk rather than focus on the musical content. In short, I was interested in transcribing the act of Controllerism rather than analysing the different instruments in the mix.

I should note that after some deliberation I opted not to include my transcription of the volume levels of different instruments, as it became apparent that although they were part of Controllerism in action, their transcription added clutter and a level of complexity that would severely compromise visual comprehension. Another consideration was the aim to graphically describe Dub mixing logic in a way that would be consistent with analysis’ of *cut n’ paste* approaches prevalent in modern songs that resort to sampling as compositional tools.

In “King Tubby Meets the Rockers Uptown”, six instrument tracks from “Baby I Love You So” were used, but only three of them remained in their original structure.

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<sup>60</sup> Dylan Kell-Kirkman took Philip Tagg’s MUL 6250 Analyse de la musique populaire at the Faculté de Musique, Université de Montréal.

<sup>61</sup> Interobjective Comparison Material.

<sup>62</sup> Minimal units of musical signification.

Those three are the Bass, the Guitar and the Drums, which lay the foundation of sound upon which Tubby extrapolates by forging new rhythmic content, subtracting and then reintroducing elements with additive effects, and finally creating new ‘spacialities’ with volume fading, spacial panning and grouped track effects.

The remaining instrument tracks are edited in and out of the mix using the volume faders and effects sends in order to create a melodic dialogue that ‘hovers’ over the fundamental mix, sonically interspersing with each other in a ‘call and response’ fashion, seemingly without aim, architecture or storyline (see Frith 1996).

Instruments	Parts / Variations
Drums	A='One Drop' Beat B='Rockers' Beat Variation C=Drum Break
Bass	A=Verse B=Descending Line (Chorus)
Guitar	A=Skank B=Chorus
Organ	A=Bubble Rhythm
Melodica	A=Melody B=Delayed Chords or Notes
Vocal	A=Melodica Melody B=Vocals from 'Baby I Love You So'
Effects	
Long Delay	■
Short Delay	■
Filter	■
Reverb	■
Panning	■ Left ■ Right ■ Moving Pan

Figure 6 – Organization of “King Tubby meets the Rockers Uptown” into Tracks, Parts and colour coded Effects. ©Guillermo de Llera Blanes 2017.

A few characteristic traits - typical to Dub mixes - are immediately discernible at first listen:

1. The sonic architecture in the Dub mix is projected vertically in two layers: the *riddim*, true to the original song but abstracted slightly by a conservative approach with effects, and the dubbed layer consisting of sonic snippets from the original song ‘floating’ over the riddim in a phantasmagorical reference to the original song.
2. Drums and Bass are predominant in the mix in both volume and presence, taking centre-stage to the detriment of vocals.
3. The *bleed*<sup>63</sup> between tracks suggests that *tracking*<sup>64</sup> was simultaneous and not completely isolated.
4. The Guitar and the Organ play rhythm<sup>65</sup> throughout the track, supporting the rhythmic and harmonic movement, but in no way play a predominant part in the mix.

<sup>63</sup> Sound transfer between tracks usually of an undesirable source, such as:

1. Sound from one instrument being captured (picked up) up by a microphone meant to record another instrument,
2. Audio signals from one track on tape becoming audible – albeit faintly - on an adjacent track or multiple tracks,
3. Sound *leaking* from an inadequately soundproofed environment.

<sup>64</sup> The action of recording basic tracks and overdubs.

<sup>65</sup> As opposed to *Solo*.



Beyond identifying these typical traits quite universally characteristic to the Dub genre, I annotated the following observations regarding mixing peculiarities and incidences unique to “King Tubby Meets the Rockers Uptown”:

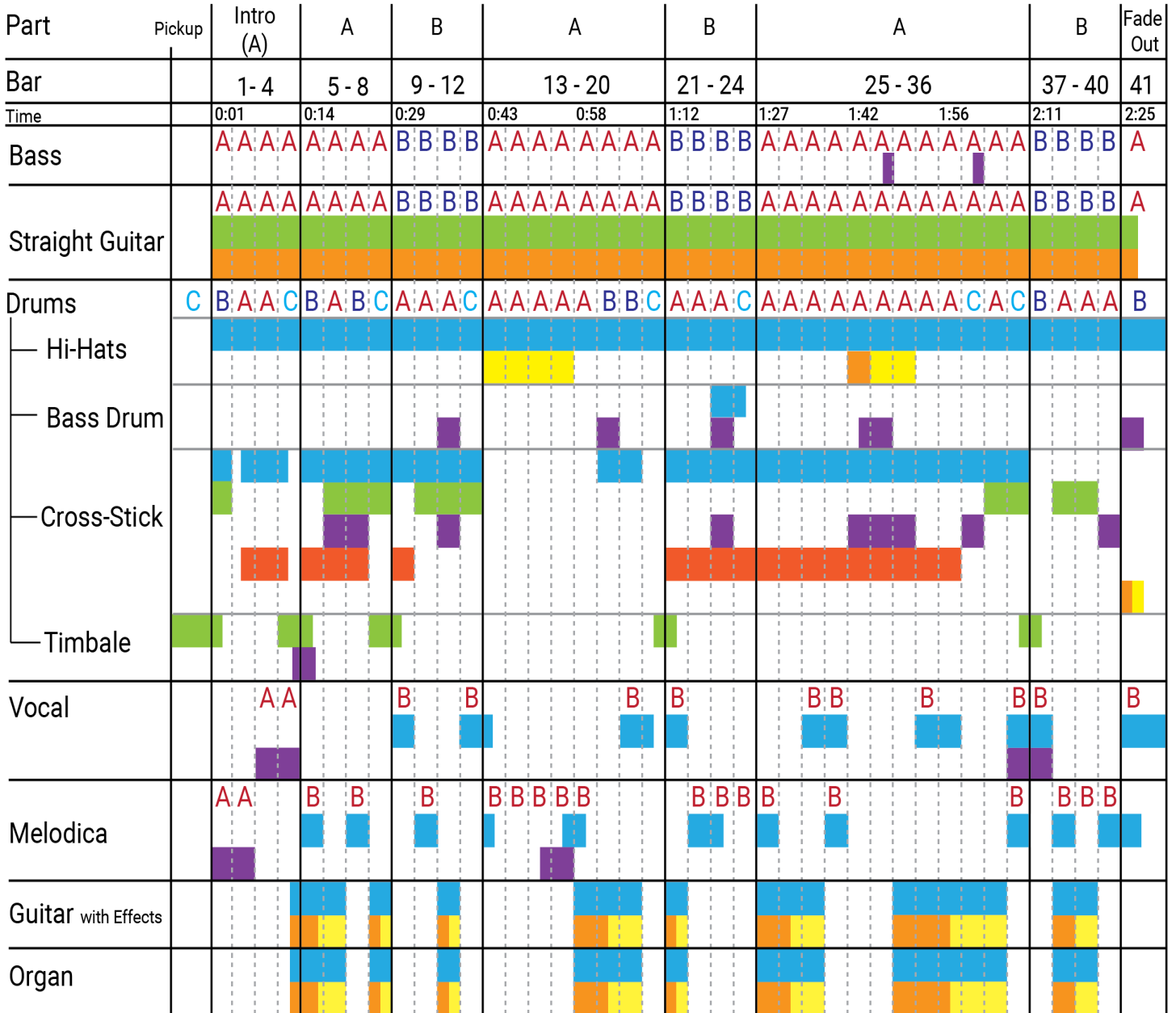
1. The Bass is unadulterated except for two interventions using reverb in bars 26 and 30.
2. The original Guitar from “Baby I Love You So” is relegated to the background in volume and coloured with a faint short delay, becoming a part of the *riddim* track. It is more common to fade Guitars in and out of a Dub mix.
3. The Guitar is then clustered as a part of a ‘grouped’ track together with the original bubble<sup>66</sup> organ track from “Baby I Love You So”, and is faded in for short musical stabs using a long delay, being interspersed into the song in a manner of ‘call and response’ against the Melodica and vocals which are treated with the same effects.
4. The Guitar / Organ group, the Melodica and the vocals are fed into the same effects group consisting of a long delay, and a reverb return, and interact in a musical interplay floating above the original riddim.
5. The Drums are used in their entirety, without fade outs, albeit effected in various ways using reverb, delay and filtering.
6. Carlton Barret’s *one drop* rhythm on the track was punctuated with a *rockers* rhythm.
7. All other tracks, namely the Melodica, Voice and Organ were used sparingly with the incidence of heavy effects, mainly as audio stabs.
8. Guitars were slightly panned to the right to balance the reverb that was panned to the left.

The following figure is a schematic transcription derived from my own auditory analysis, and is presented in a matrix form as an attempt to demonstrate proto-typical Controllerism as performed on a mixing desk by King Tubby in 1974.

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<sup>66</sup> An organ pattern involving a call and response between the left hand (playing the bass) and the right hand (which plays the same chord an octave up). Source: Dylan Kell-Kirkman.

BPM=68 Duration=2:31



Instruments	Parts / Variations	Effects
Drums	A='One Drop' Beat B='Rockers' Beat Variation C=Drum Break	Long Delay <span style="color:blue">■</span>
Bass	A=Verse B=Descending Line (Chorus)	Short Delay <span style="color:green">■</span>
Guitar	A=Skank B=Chorus	Filter <span style="color:red">■</span>
Organ	A=Bubble Rhythm	Reverb <span style="color:purple">■</span>
Melodica	A=Melody B=Delayed Chords or Notes	Panning <span style="color:yellow">■</span> Left <span style="color:orange">■</span> Right <span style="color:lightorange">■</span> Moving Pan
Vocal	A=Melodica Melody B=Vocals from "Baby I Love You So"	

Figure 7 - Dub Matrix for "King Tubby Meets the Rockers Uptown" © 2017 Guillermo de Llera Blanes

I found it important to expound on the origins of Controllerism in Dub in order to contextualize Controllerism in a historical musical practice that is over half a century old; as well as describe its inception from within a musical genre that has become the common root for so many other musical genres and practices. In providing an analysis of the remixing structure in King Tubby's "King Tubby Meets the Rockers Uptown" I attempted to lay a schematic foundation for Controllerism logics, which I hope will become more apparent as we navigate through the analyses in the following chapters. The idea was to map out how King Tubby 'played the machine', in this case the mixing desk, as one would a musical instrument.

Although Frith denominates the Dub soundscape as being devoid of narrative, it is entirely possible that Dub's narrative can be found in its negation of standardized compositional tropes, such as number of bars between parts, the interplay between chorus' and verses, solo sections, importance of vocals and other similar conceptualizations. Dub's narrative could very well be the representation of a musical fringe theory, in both composition and production alike. So much so that even the omnipresent role of the singing actor could be reduced to the shadows, making way for the figure of an outsider, such as the engineer, to emerge into the spotlight and become the musical hero.

Dub music has proven to be influential not only to a large variety of popular music genres, but also noteworthy as an originating force in the development of electronic music, for its role in the genesis of the Remix Culture, and more importantly to this thesis, for its instrumental part in the emergence of Controllerism (Du Noyer 2003; Veal 2013; Collins 2013; Sullivan 2014).

"Directly and indirectly, [...] several of the conceptual cornerstones of Jamaican music in the roots era, as well as their influence on the creation of popular music in the digital age. The stylistic traits of contemporary dance music cannot be solely attributed to dub, but the fact that many American and European remixes are now labeled on recordings as "dub" mixes attests that many of dub's concepts lay at the heart of what is variously referred to today as "electronic dance music," "electronica," "DJ culture," and/or "remix culture." (Veal 2007:231-232)

## 2.2.2 – 1970s: Part Division

“This reduction of songs to shadow and suggestion prefigured the concept of the remix, as well as laying the foundations for the birth of rap and the phenomenon of the mc<sup>67</sup>, when the sound system deejays filled in the absences with their hype. Sound system selectors and operators, meanwhile, were the first incarnation of the modern dj where the voice was contained in a studio. They broke through the ‘remoteness’ of radio broadcasts to provide a physical conduit between the playing of pre-recorded music and the audience” (Sullivan 2014:8-9).

Out of the violence and poverty that plagued the streets of Kingston in Jamaica in the 1960’s and 1970s, a creative beacon had emerged, one that was carried over to the Bronx in the United States by hordes of Jamaican immigrants looking for a new lease on life in foreign ground. They brought with them musical practices that inadvertently were instrumental in the creation of Hip-Hop.

Hip-Hop is the the second ‘stepping stone’ that informs Controllerism logics, and it does so by means of techniques that arise – once again – out of experiments with ‘playing machines’ that were reinterpreted as musical instruments, in this case the turntables, initiating a process that evolved into the practice of music Sampling.

Although the early stages of Hip-Hop emerged out of the thriving South Bronx subculture through Jamaican-born Clive Campbell, known to music history as DJ Kool Herc (see Chang 2005 & 2006; Wallmart 2007; Hess 2007), I have opted to discuss Kool Herc’s role with less emphasis than I had done in King Tubby’s case, for the sole reason that my point of focus for explaining this second Controllerism logic is the practice of Sampling, and not Turntablism per se.

DJ Kool Herc is the originator of a proto-sampling technique that directly informs Controllerism as a musical practice, hence the importance of his historical contribution to this thesis. Having passed his early childhood in Kingston, Kool Herc had personally experienced Jamaican Sound Systems, and had spent many an afternoon watching the Somerset Lane sound system set up in preparation for the night’s party. At night, he was not allowed to attend because of his young age at the time, but he could hear the music, and feel it, due to the sheer power and vibrations emanating from the speakers. Herc has since “acknowledged how being a witness to Kingston sound system dances deeply informed his sense of the power of music and of the DJ in particular” (Hess 2007:2), and went on record to state: “Them said nothing good ever come outta Trenchtown, ... Well, hip-hop came out of Trenchtown!” (Chang 2005:22).

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<sup>67</sup> Master of ceremonies.

Today Herc is globally acclaimed as the 'father of Hip-Hop' due principally to his contribution to the musical practice of Turntablism, and to Rap and Hip-Hop as musical genres. Early on in his career Herc noticed that many of the youngsters seemed to dance more effusively to certain parts in the songs he was Djing. Those parts were usually devoid of vocals; stripped down of other instruments, and predominantly featuring rhythmic sections, such as drum intros, breaks or solos.

He began to work out a method of extending those breaks, and invented a looping technique that he dubbed as "The Merry-Go-Round", where he used two copies of the same record, cued the beginning of the break on one record and then released it so it would play. As the first record played the break, Herc would cue the second record to the beginning of the same break (same position on the record), preventing it from moving by exerting pressure on the vinyl, and then releasing it on the downbeat of the first bar after the first break had finished its cycle. This method, for all intended purposes signalled the beginning of Sampling and looping aesthetics in popular culture and is the second 'stepping stone' that historically informs Controllerism, a step I have termed as 'Part Division'.

Herc's "Merry-Go-Round" was extremely popular and became the staple in sound systems around New York in the 1970's. Bronx too was under the yoke of the politics of abandonment (see Chang 2005) and like in Kingston, the youth looked towards Sound Systems - called block parties in New York - for an escape from violence and poverty through music.

Eventually technology emulated the practice, and Samplers were manufactured extensively, ushering in the era of Sampling in Hip-Hop production and performance. Groove Boxes and Music Production Systems, like the Akai MP60, a pressure-sensitive drum sampler (Controller), began to appear alongside Turntables in live Hip-Hop performances, and a new genre of tactile interface performativity - closer to the "live" performativity of a Controllerist - was originated.

"Like dub, hip hop utilizes audio technology to create a wholly new art form, one that relies on the manipulation of recorded sound. This manipulation is accomplished through a "mechanical remix" comparable to the use and misuse of technology by dub artists. Just as dub artists pushed their reverb units and echo boxes beyond the boundary of standard studio usage, hip hop's innovators redefined the term "instrument" to include such audio technology like the turntable" (Baker 2009:41).

"Hip-hop's recycling of rhythms to create new ones is in fact a practice it picked up from Jamaican Dub and Reggae music, specifically the act of "versioning" "(Kun 2005:126). Sampling, or 'thinking in audio blocks' is a natural progression to the logics of layer separation inherited from Dub

by Hip-Hop, having become a practicable reality when en masse manufacture of digital Samplers began.

The “Merry-Go-Round” as articulated by DJ Kool Herc was the building block of this *block-thinking*<sup>68</sup> theory (pardon the pun) that rationalizes musical repetitions as *loopable* blocks of sound. All popular DAW<sup>69</sup> software such as Pro Tools, Ableton Live, Logic, and Cubase have been designed according to the logic of interpreting music as free-moving layers and blocks, enabled by multitrack recording and digital editing and sampling. This ‘industry standard’ - to rationalize music in layers and blocks - speaks volumes as to the technological evolution that has seen the technical development of the musical instrument grow from Instrumentalization to Virtualization.

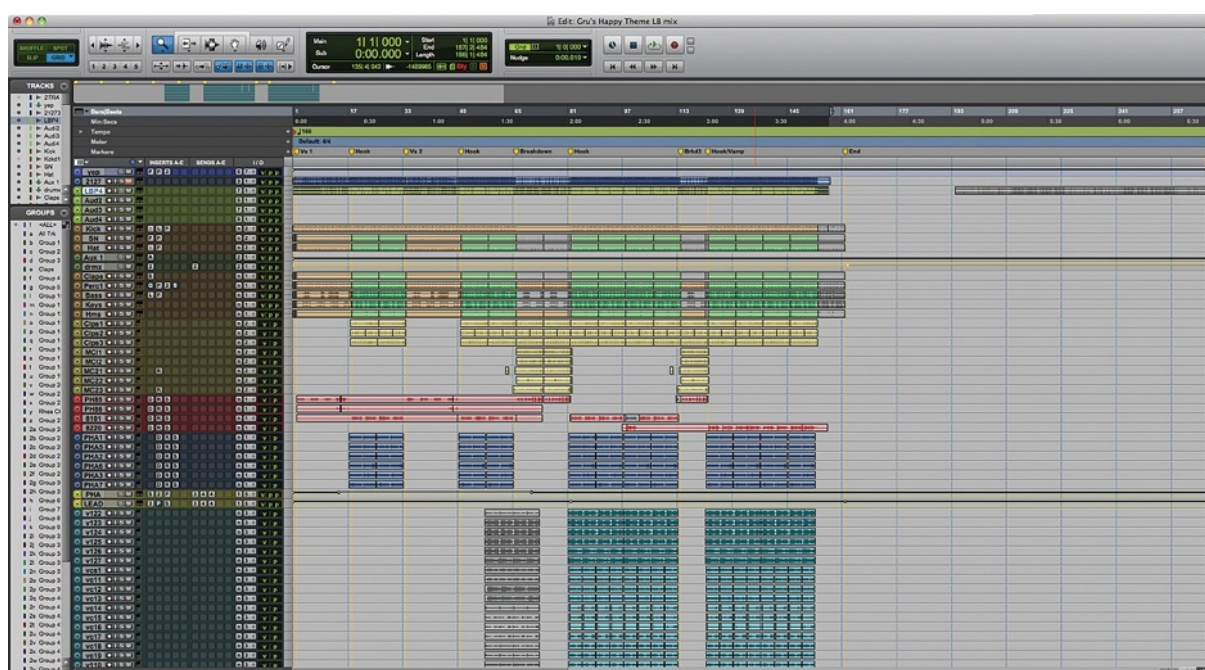


Figure 8 - Screen capture of the Pro Tools session to Pharell William's 2014 hit “Happy”, utilizing multiple layers of each instrument with different audio treatments, organized in repeated loopable blocks. Image retrieved from soundonsound.com on the 20th of June 2017.

Thus, Dub and Hip-Hop, as the two first ‘stepping stones’ in Controllerism as a musical practice are related in more ways than one, contributing to Remix Culture, while adding to debates about Authenticity, Appropriation and Technicity that are still relevant today to both artists and scholars alike.

<sup>68</sup> Block-thinking is my own term that describes the sub-dividing of sounds or compositions into smaller pieces, or ‘blocks’, for the purpose of reorganizing and creating new sounds or compositions from them. The term block thinking (without a hyphen) is used in psychology to describe the blockage of thought, or mental blocks. It has also been used (without the hyphen) by Charles Taylor to describe generalized thinking about cultures, as an imposition of false unity, mainly with derogatory connotations.

<sup>69</sup> Digital Audio Workstation

Yet, in my deliberation, when considering Dub and Hip-Hop's contribution to Controllerism, more has been gained through the assimilation of their compositional logics, such as layer separation and part division, than from their historical usage of hardware; such as the mixing desk and turntable, for musical creation and performance.

It is important at this point to reiterate that these logics have imbued Remix Culture, of which Controllerism is a part of, and as such Remix Culture has entered the ongoing debate that permeates this thesis, but, Remix Culture *per se* is not the focus of this work and is only present as a corollary in kin with Controllerism.

The same logics inform both Remix Culture and Controllerism; *playing the machine* logic, or 'layer separation', as discussed in the previous chapter, and *cut n' paste* logic, or 'part division', as will be explored in the current chapter. As such I will continue by providing structural and methodological analysis' of the logical process of 'part division'/*cut n' paste* in a series of tables and diagrams, hoping to further clarify my points, going as far as suggesting commonalities between Sampling logics and those of older cultures that also 'think in blocks', such as the block-thinking logics found in Indian Tabla classical solo performances. As such I will imply that Sampling reflects *something* which was already there in our global collective musical knowledge, *something* that is not in competition with other 'traditional' compositional logics, but rather is reflective of an ancient and venerable one such as Indian Tabla culture. In ending, I will exemplify how Sampling, in music, has been a practice that goes beyond the editing and manipulating of audio clips, and can also be found in the appropriation of lyrical, melodic and harmonic content, particularly in popular music.

#### 2.2.2.1 – Origins of Controllerism Logic II: *Cut'n and Past'n*

For two years, roughly between the years of 1998 and 2000, I underwent two years of Classical Hindustani Indian percussion solo training, more specifically the Tabla, in New York. My guru-ji Misha Masud did her best to make the theoretical and cultural framework behind Tabla drumming second-nature to me. Yet, in hindsight I must admit that although for the most part I was a quick study - having had experience in other musical instruments and settings - in most of our sessions I was a fish out of water. However, coming from a musical background that was inclusive of Sampling audio, I was able to perceive important similarities in the logics used in Classical Hindustani solo percussion practice and Sampling in more recent musical genres.

Audio sampling is usually constituted by the utilization of a small section of audio taken from a larger section of audio, often with a unitary, or whole value, such as a song, or a movie. Yet sampling is not reserved to this approach and in fact, any audio source can be sampled and manipulated musically. For the sake of the following argument I have categorized sample division into two distinct categories, out of which one organizational practice emerges:

Category A) **Thematic**: Loopable sound objects with a unitary sense, be they rhythmic or melodic, usually having more than one note,

Category B) **Interjectional**: Unloopable 'audio stabs' or 'audio punches'<sup>70</sup> used once or more times throughout a song, such as single notes, spoken voices or sound effects.

I have termed the organizational practice that emerges as **Theme & Variation**. It is a mixture of thematic and Interjectional material involving the breaking down of a rhythm, melody or harmony into smaller constituent parts, and the consequent reorganization of said parts into a new order.

It is precisely this organizational practice; this underlying logic at play that is central to my argument in that it informs us about commonalities between musical practices separated in time, space, and in more ways than one: reality. What would be done with machines in capturing, slicing and manipulating audio musically was, no doubt, inconceivable to Tabla gurus some 200 years ago, but the form of rationalizing music was, and still is.

A Tabla rhythmic solo is principally comprised by an interplay between the thematic and interjectional material derived from a central composition, that when reorganized using a theme & variation organizational logic results in what is known as a North Indian Classical Percussion solo. The utilization of complete rhythmic compositions in logical dialogues with their own deconstructed constituent parts, is expected to be masterfully engineered and performed in the Hindustani Tabla tradition (see Stewart 1974; Gottlieb 1977 & 1993; Kippen 1988; Courtney 1995).

The use of cyclical rhythms (*talas*) over which cadential compositions are superimposed and developed in a solo practice of improvisational organization are at the foundation of a tradition that dates back to the late 18<sup>th</sup> century (Gottlieb 1993:8); a logic later revisited by Dub, Turntablism, Sampling and Controllerism today. To take something that is already there, react and dialogue with it, readapting and transforming it into something new, is at the very heart of various musical

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<sup>70</sup> Term derived from the Turntable technique of locating a sound such as a horn hit and then releasing it over the beat in order to add to the rhythmic and sonic complexity of the loop.



practices, some very ancient, such as Hindustani Tabla tradition, and others more contemporary, such as Audio Sampling.

Hence, the two categories of block division used in Sampling can also be applied to Tabla solo logics, followed by the same organizational practice:

Category A) **Thematic**: Loopable compositions of grouped notes with a unitary sense and a feeling of resolve, such as a Kaida<sup>71</sup> or Tihai<sup>72</sup>,

Category B) **Interjectional**: Unloopable Tabla notes, or smaller groups of notes.

Again the resulting organizational practice emerges as the organizational practice of **Theme & Variation**: A mixture of thematic and Interjectional material involving the breaking down of a composition, such as a Kaida, into smaller constituent parts, and the consequent reorganization of said parts into a new order.

Other similitudes between the two logics are:

1. They both are constituents within larger macrostructures containing both cadential and cyclic approaches;
2. Cadential forms move forward towards resolution, usually on the first beat of the bar (the *Sam*);
3. Cyclic forms are less defined in terms of direction.

“The alternation between the cyclic and the cadential material is the aesthetic dynamo which drives Indian music forward. The cyclic material is the groove or rhythmic foundation upon which the main musician builds the performance. The stability of the cyclic form makes it suitable for providing the musical framework for either Tabla solos or accompaniment. Conversely the tension and instability of the cadenza provides the energy to keep the performance moving” (Courtney 1995:32-45).

With the aid of Western and Indian notation, as well as graphical schematics, I will attempt to exemplify the nature of both practices' divisions of macro-structures into sub-structures and unitary values. Visual representation will be valuable for this purpose, enabling us to interpret the logics at

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<sup>71</sup> A Kaida is a type of cadenza used individually as a Theme and also as a source for Theme and Variation type of extrapolations

<sup>72</sup> A Tihai is a very common type of cadenza used to end Theme and Variation compositions such as Kaidas and Rela.

play correctly. For that purpose, I will do a comparative analysis between a traditional Tabla Kaida<sup>73</sup> fixed composition and the “Amen Break”<sup>74</sup> - the most sampled 4-bar beat of all time - in order to demonstrate the same two categorical logics at play that are found in both Tabla solo performance and Audio Sampling. Firstly, I would like to bring attention to a North Indian composition (theme) from which thematic and interjectional subdivisions are derived.

## Theme: Kaida

1 e + a 2 e + a 3 e + a 4 e + a → Beat count

Bar (4 in total)

Western notation

Sanskrit mnemonic notation

Mnemonic syllables (Bols)

Part Division (*blocks*) into:

a) Five parts lasting one quarter note:

- 1) A: Dha - Dha -
- 2) B: Ti Ra Ki Ta
- 3) C: Tu - Na -
- 4) D: Na - Na -
- 5) E: Dhin - Na -

b) Four parts lasting one eighth note:

- 1) a: Dha -
- 2) b: Ti Ra
- 3) c: Ki Ta
- 4) d: Na -

c) Five parts lasting one sixteenth note:

- 1) e: Ti
- 2) f: Ra
- 3) g: Ki
- 4) h: Ta
- 5) i: Dha

Figure 9 - Kaida notations, explanations and block subdivisions © Guillermo de Llera Blanes 2017

<sup>73</sup> Kaida is a rhythmic composition belonging to North Indian Classical Music tradition. A rhythmic seed (theme) is introduced, which is then used as a basis for elaboration (variation) through improvisation and/or composition.

The word kaida is an Arabic word meaning 'rule' or 'a system of rules'. The rules for playing a kaida are complex, but in short, one must only use the bols (notes) that are in the original theme, follow the rules of tala, and maintain the bhari-khali structure.

<sup>74</sup> The 4-bar, 6-second Drum loop that constitutes the Amen Break originates in a track entitled “Amen Brother” recorded in 1969 by The Winans. The drum loop captured the drumming of one G. C. Coleman. Until the 1980s the song remained in relative obscurity when new sampling technology initiated a massive procurement for loopable. Genres such as Hip-Hop, Jungle and Drum n Bass have heavily appropriated the Amen Break into their lexicon, arguably making it one of the most influential drum beats used in electronic music. According to whosampled.com (as of July 2017), the beat has been sampled in 2664 songs, making it the most sampled beat, and song, in history: <http://www.whosampled.com/most-sampled-tracks/1> (date of last consultation: 19th of July, 2017)

As can be seen in the previous figure, a Tabla fixed composition (theme) can be subdivided into smaller blocks:

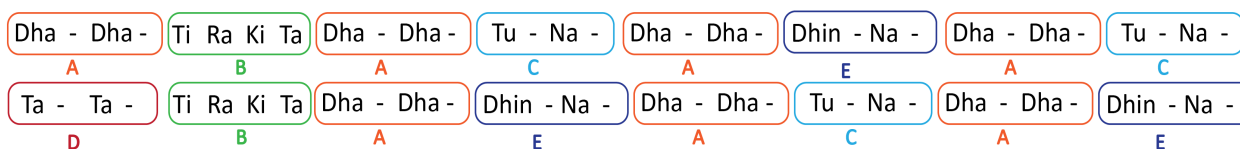
- a) Five one quarter note thematic blocks, and four half quarter note thematic blocks, making a total of nine **thematic blocks**;
- b) Five sixteenth note **interjectional blocks**.

With these subdivisions, the Tabla player can proceed with the theme & variation organizational practice, entering a dialogue between the original composition and its reorganizational counterpart.

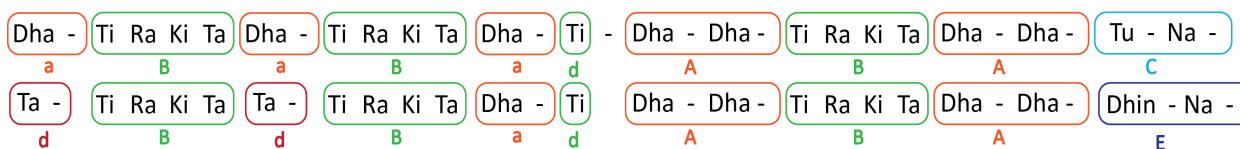
Theme & Variation: 1st iteration



Theme & Variation: 2nd iteration



Theme & Variation: 3rd iteration



Tihai

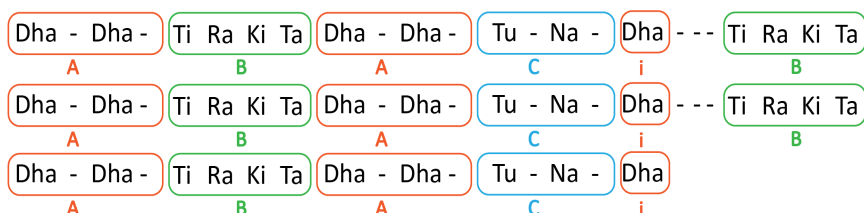


Figure 10 - Theme & Variation extrapolations of original fixed composition © Guillermo de Llera Blanes 2017

The process is identical to Sampling part divisions and extrapolations. The “Amen Break” is a four-bar drum beat usually represented by the following notation<sup>75</sup>.

## Theme: Amen Break

The figure shows two staves of musical notation for the Amen Break drum beat. The top staff is labeled with 'Closed HiHat', 'Snare', and 'Open HiHat'. The bottom staff is labeled 'Bass Drum'. The notation is divided into two measures. The first measure contains blocks A, B, C, and D. The second measure contains blocks a, b, c, d, e, f, g, h, and i. Below the notation, a list of subdivisions is provided:

- Part Division (*blocks*) into:
- a) Three parts lasting two quarter notes: A, B, C.
- b) One part lasting one and a half quarter note: a.
- c) Four parts lasting one quarter note: b, c, d, e.
- d) Two parts lasting one eighth note: f, g.
- e) Two parts lasting one sixteenth note: h, i.

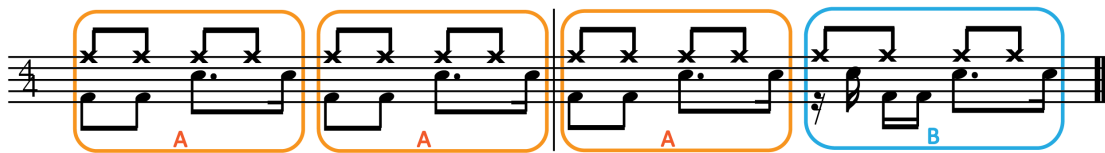
Figure 11 - Notation and block subdivisions for the "Amen Break". © Guillermo de Llera Blanes 2017

In the case of the “Amen Break” the original composition was subdivided into twelve smaller blocks. Observable from the various derivations is the potential for a large number of rhythmic reconfigurations. It will become evident in the next figure that without introducing foreign elements to the sonic source one can derive rhythmic permutations that do not sound at all like the original sample.

These beat variations are made possible by the reorganization of samples in new rhythmic configurations, allowing the sampling actor to enter a dialogue between the original composition and its reorganizational counterpart through the same organizational practice of theme & variation as has been used for centuries by Classical Tabla players. The figure below demonstrates precisely how theme and variation can be used to articulate new rhythmic ideas without straying from the source audio.

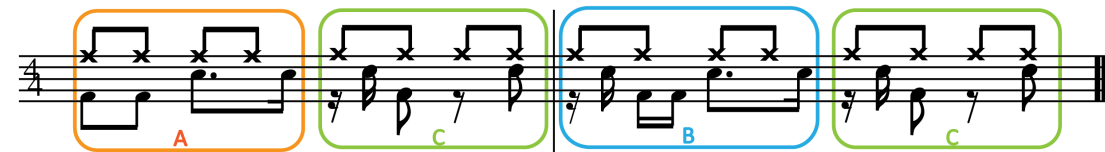
<sup>75</sup> I have found some variations in notation, due – no doubt – to different levels of expertise in notating music.

Theme & Variation: *1st iteration*

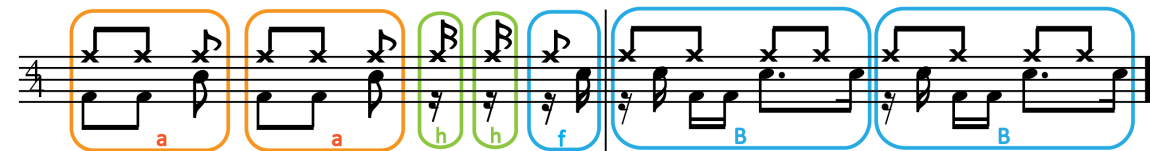


A

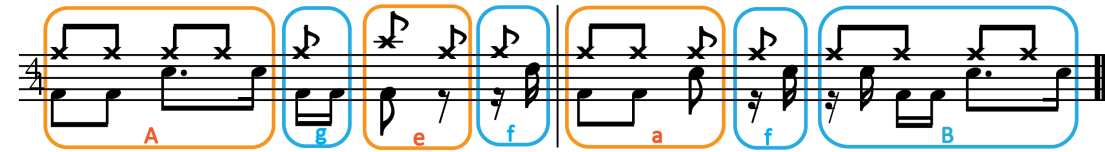
Theme & Variation: *2nd iteration*



Theme & Variation: *3rd iteration*



Theme & Variation: *4th iteration*



Theme & Variation: *5th iteration*

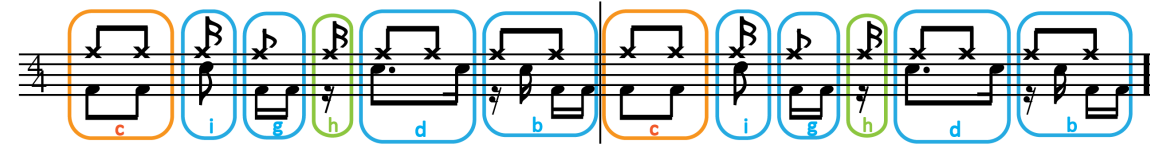


Figure 12 - Theme & Variation extrapolations of original sample © Guillermo de Llera Blanes 2017

parallel between both methods clearly exists. From these analysis' we can see the similarities between sampling logics and Tabla solo logics. These resemblances raise questions that challenge and debunk negative perspectives about the validity and authenticity of Sampling in music, one of which is authorship.

At this point, it is important to mention that original authorship of a composition is a non-issue for Tabla players, as Tabla solos rely on pre-composed compositions, some of which are hundreds of years old, and attributed to various authors. Instead, importance is given to how compositions are used, organized, developed and expanded upon, the quality of which determining the soloist's level of mastery and good taste. To make reference to a composition composed by a predecessor in Tabla lineage, or by anyone else for that matter, is indicative of a high level of respect, admiration, and reverence.

# The “Amen Break” was sampled in 2664 songs and counting...

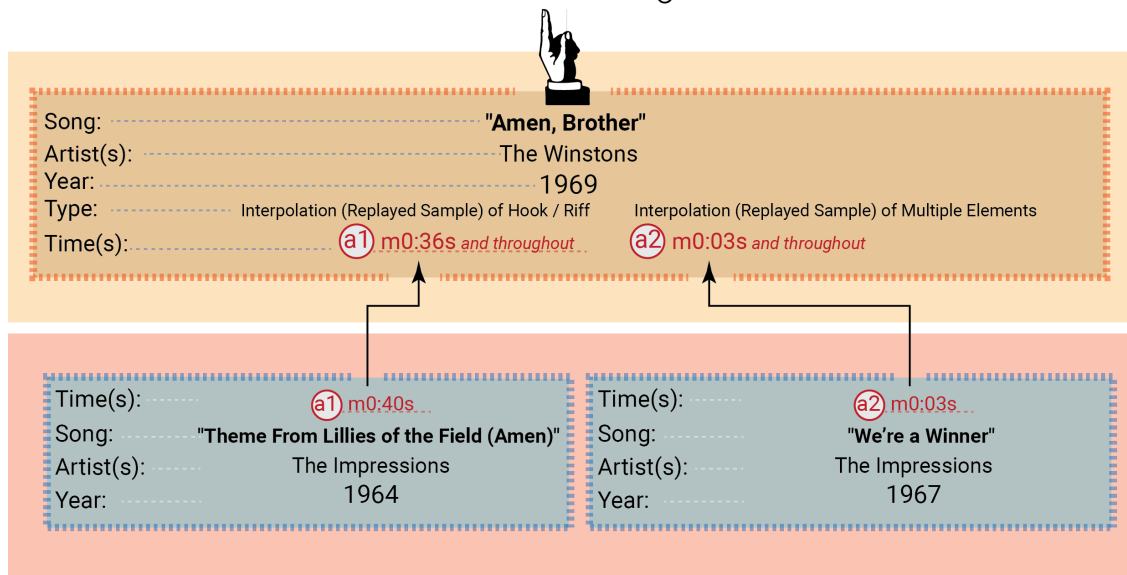


Figure 13 - The most sampled song of all time, "Amen, Brother" used replayed samples from two songs by "The Impressions"

Another important example of this type of reverential approach through Sampling is observable in the song “Building Steam With a Grain of Salt”<sup>76</sup> by DJ Shadow, from the 1996 album “Endtroducing”. DJ Shadow is known for his references to obscure songs as well as his Sampling mastery, and was entered into the Guinness World Records in 2001 for creating the first album made completely from samples<sup>77</sup>. In “Building Steam with a Grain of Salt”, Shadow uses samples from five different songs to craft an entirely new one, without any overdubs or live instruments. It is proof that Hip-Hop’s *cut n’ paste* logics have informed many other musical genres and musical practices – among which Controllerism can be counted. Both categories of samples<sup>78</sup> described earlier in this chapter are present in “Building Steam With a Grain of Salt”:

1. The first principal sample, the Piano Hook/Riff, taken from “I Feel a New Shadow” is a short 2-measure *Thematic* loop.
2. The second principal sample, the Drum beat has been sampled from “Soul Food” and is used in a *Theme & Variation* format, played as a unitary loop until being sliced into smaller

<sup>76</sup> URL: <https://www.youtube.com/watch?v=Lk1kVFyi1k> (date of last consultation: 20th of May, 2017)

<sup>77</sup> URL: <http://www.guinnessworldrecords.com/world-records/first-album-made-completely-from-samples> (date of last consultation: 3<sup>rd</sup> of April, 2017)

<sup>78</sup> Thematic and interjectional.

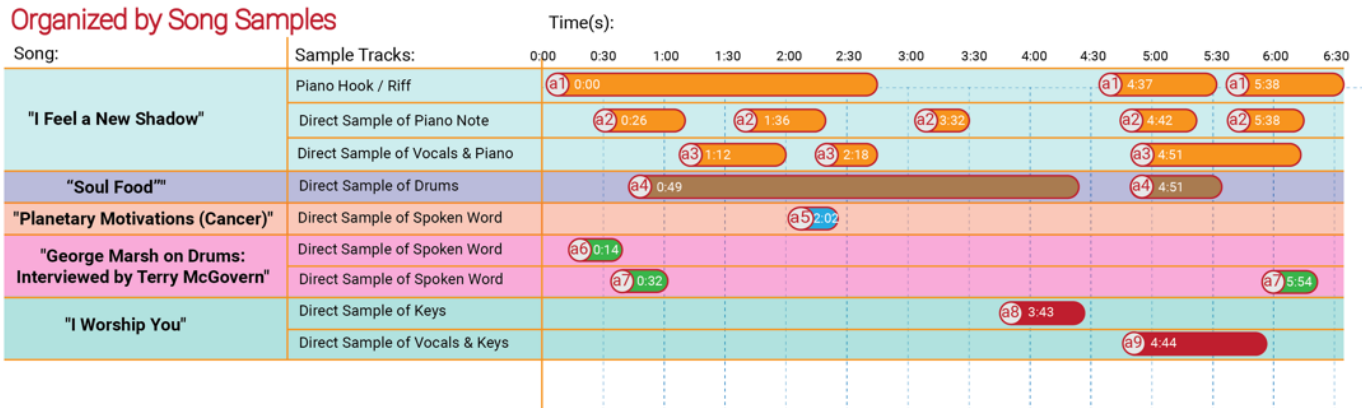
units and used to create rhythmic extrapolations and breaks based on the original rhythm. The Bass and Turntable scratches have been used in the same way.

3. Various samples are interjectionally used only once, and other are used to punctuate sections such as the single Piano note and the Bass.

For the figure below I performed an auditory analysis of the *cut n' paste* structure of "Building Steam With a Grain of Salt" in an attempt to exemplify compositional 'block-thinking'. The transcription is presented in schematized graphic displays, organized by song samples, and by instrument.

### Layers of Sampling for DJ Shadow's 1996 "Building Steam With a Grain of Salt"

#### Organized by Song Samples



#### Organized by Instrument

##### Sampled Material



Figure 14 - Schematized graphic displays organized by song samples and by instrument demonstrating continuous audio play composed entirely by samples ©Guillermo de Llera Blanes 2017

# Sample times and origins in DJ Shadow's 1996 "Building Steam With a Grain of Salt"

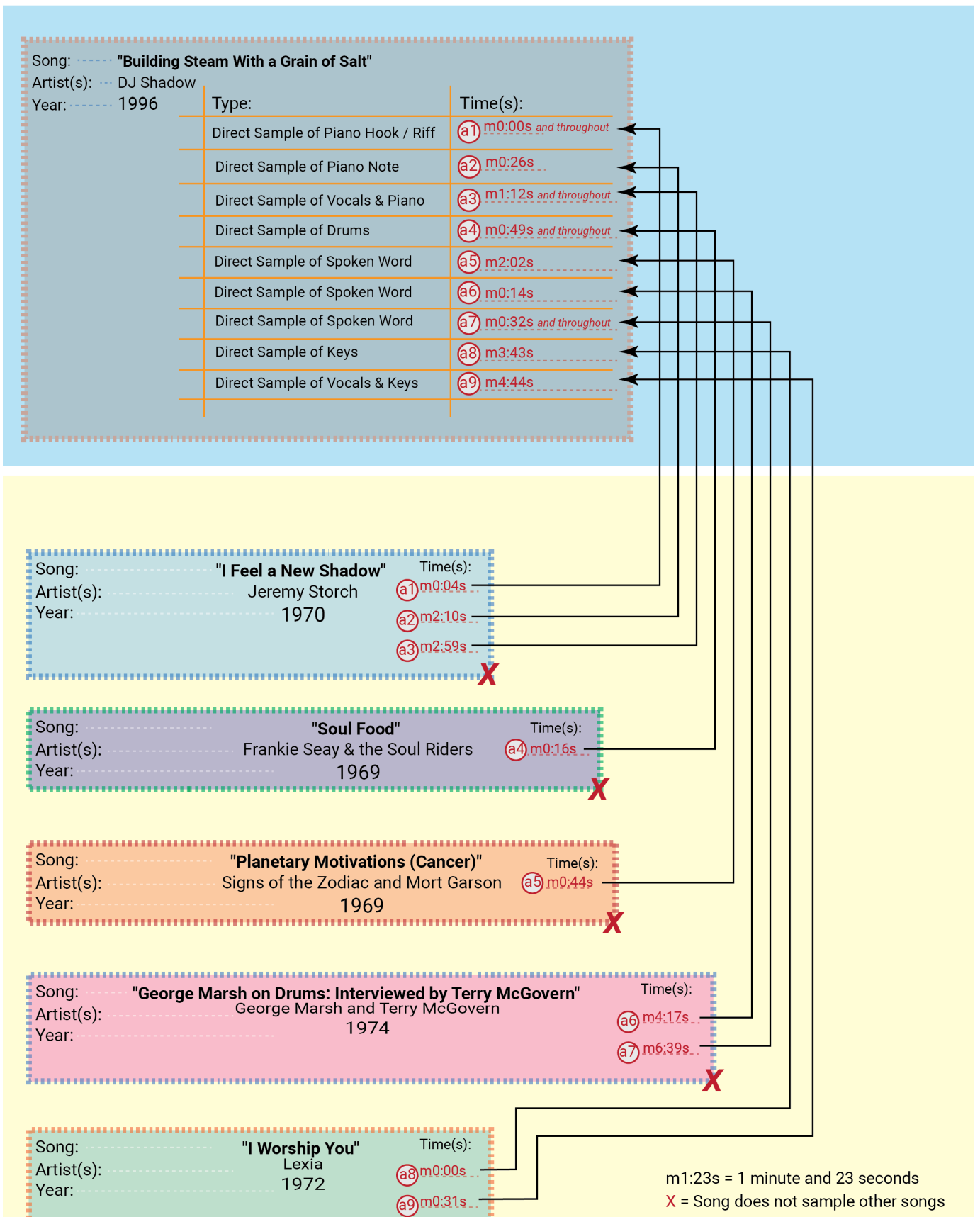


Figure 15 - Samples used in the composition of "Building Steam With a Grain of Salt" by DJ Shadow in 1996. © Guillermo de Llera Blanes 2017



In the previous analyses I have demonstrated part division as an organizational sampling practice, and showed that the *cut n' paste* method is integral to Hip-Hop, and by association to Controllerism as well. Continuing, it is important to note that Hip-Hop is not the only major musical genre to make wide use of Sampling: Popular music has also been sampling melodies for many years.

Had cultural conglomerates succeeded in passing copyright laws that attributed individual or corporate ownership to melody as an intellectual property, and barred its usage, most of the music heard today would be outlawed, particularly Pop music, where a proliferation of melodies borrowed from other songs is abundant.

“For cultural conglomerates, which control the bulk of the property rights worldwide, the possibility to forbid reproduction is exceptionally important: it enables them to dominate broad areas of artistic expression in which no contradiction, no counter-melody, no counterimage, and ultimately no dialogical practice is tolerated. Yet, we have to realise that culture is not embedded in abstract concepts that we internalise, but in the materiality of signs and texts over which we struggle and the imprint of those struggles in consciousness. This ongoing negotiation and struggle over meaning is the essence of dialogic practice. Many interpretations of intellectual property laws squash dialogue by affirming the power of corporate actors to monologically control meaning by appealing to an abstract concept of property. Laws of intellectual property privilege monologic forms against dialogic practice and create significant power differentials between social actors engaged in hegemonic struggle” (Lovink & Rossiter 2007:196; Also see Coombe 1998 :42, 48, 86).

Thus the practice of Sampling, so central to Controllerism, could be construed as a technologically-powered artistic dialogue in which the struggle with the overwhelming materiality of ever-present signs and over-abundant texts present in the context of our globalized information age blurs the lines of ownership, enabling us to draw sources from anywhere and everywhere at any given time.

Was it ignorance that prompted Ed Sheeran to only credit the writers and producers of TLC’s 1999 hit “No Scrubs”<sup>79</sup> after public acclaim over the melodic similarities with his own 2017 hit single?<sup>80</sup> Or could it be that Sheeran, like most musical actors today, is enveloped in a growing Remix Culture that places little or no importance on copyright, and feels entitled to reference freely from any available content?

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<sup>79</sup> URL: <http://www.mamamia.com.au/ed-sheeran-no-scrubs> (date of last consultation: 21<sup>st</sup> of July, 2017)

<sup>80</sup> URL: <http://www.billboard.com/articles/columns/chart-beat/7760569/ed-sheeran-harry-styles-sign-times-hot-100> (date of last consultation: 25<sup>th</sup> of July, 2017)

## Layers of Sampling for "Shape of You" 12 weeks top of Billboard\* charts of 2017

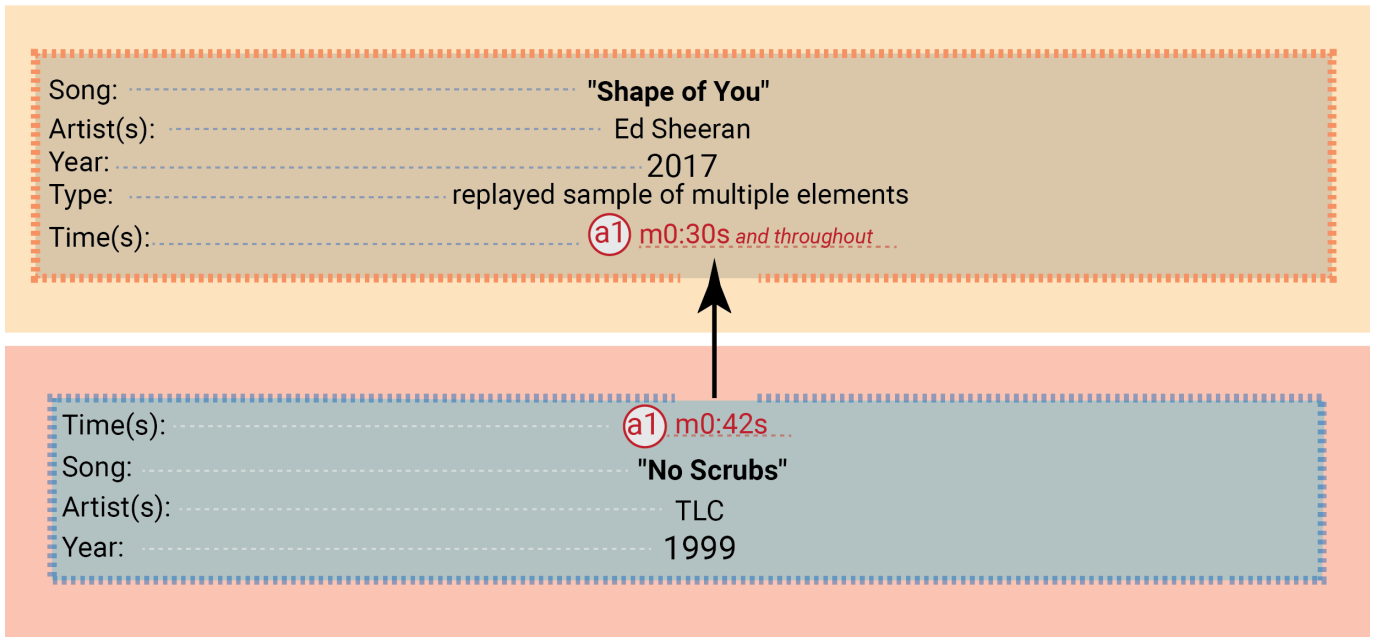
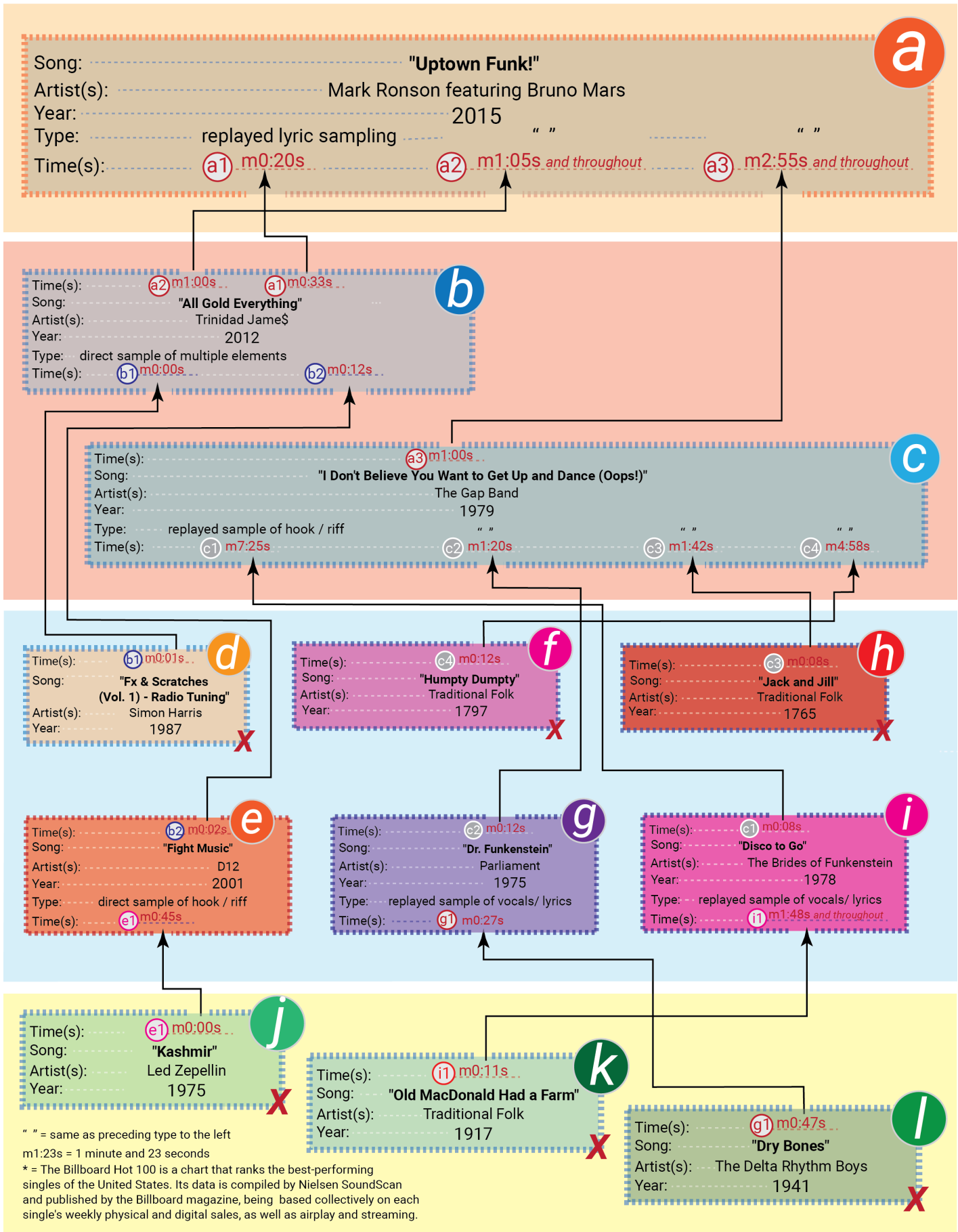


Figure 16 - Ed Sheeran's "Shape of You" borrows extensively from TLC's "No Scrubs". © Guillermo de Llera Blanes 2017

In closing this chapter, I would like to provide another example of the ubiquity of sampling 'depths of layer' contained within Pop songs today. The song "Uptown Funk!" reveals traces in its sampling hierarchy that go far back in history all the way back to 1917's traditional "Old MacDonald Had a Farm". In 2015 "Uptown Funk!" by Mark Ronson, featuring Bruno Mars was the longest lasting hit single in the United States and included interpolations (replayed samples) of vocals and lyrics from two songs: "All Gold Everything" by Trinidad Jame\$'s in 2012 and "I Don't Believe You Want to Get Up and Dance (Oops!)" by The Gap Band in 1979. It is interesting to note that in these two sampled songs further samples were found, uncovering an additional four layers of Sampling depth, and revealing that this kind of Sampling practice is a historical practice which is increasing in intensity as content becomes more readily available and abundant.

# Sampling Layers and Origins for "Uptown Funk!"

15 weeks top of Billboard\* charts of 2015



In this chapter I have explored the *cut n' paste* logic, provided structural and methodological analysis', and suggested commonalities between sampling compositional logics today and in the past, in an attempt to situate the logics that permeate Controllerism as a musical practice in a historical timeline that has been enabled by technological advancements throughout the years. Inheriting from Dub's playing the mixing board as a musical instrument, Hip-Hop played the Turntables to the same end, and from it Sampling was born. In order to capitalize on this technological advancement, Sampling Controllers were developed, and the seeds for modern Controllerism planted. Sampling hardware were still limited to the internal memory contained in the machines, but allowed for an unparalleled control over audio, spawning a creative flurry of experimentations which were at the root of musical genres such as Hip-Hop and Rap, Industrial, Electronic, Dance, Trip-Hop, Drum & Bass and many others.

### 2.2.3 – 1980s: Delocalized Attribution

It was not until the invention of the Musical Instrument Digital Interface in the 1980s that the third 'stepping stone' that informs Controllerism was realized. A process I have termed as 'Delocalized Attribution' emerged out of the possibility to control multiple instruments from a single interface, including sound generation units without musical interfaces. This musical process allowed for the development of a very specific type of Controller which is central to Controllerism today: the musical interface that generates only MiDi output. That is, the musical instrument that does not make sound.

The Routledge Guide to Music Technology defines MiDi (Musical Instrument Digital Interface) as the industry standard bus and protocol (digital signal system, or system of number signals) used to communicate performance information to and from digital instruments making music. Published in 1983, the MiDi standard specification made it possible to personalize instruments' control strategy; interconnect arbitrary interfaces; communicate with hardware or software sequencers, and synthesizers. Since then it has "continued to develop and redefine the possibilities within the process of creating music" (DeRosa 2007: Foreword), and has been expanded to include both signal processing as well as lighting control. (see Fasciani 2014).

The development of this digital communication language permitted users to remotely control sonic sources, attributing commands of musical expressivity to instruments in other locations,

effectively delocalizing<sup>81</sup> sound action and sound source. This concept, albeit abstract, is instrumental in understanding musical concepts central to Controllerism, particularly those that understand musical sound as transcending musical instruments; as controllable sound imbued with the musicality of an artistic operator (see chapter 2.2.3.2). Thus, modern Controllers represent an evolutionary step in the process' of mechanization and automatization of musical instruments, firstly in the separation of substituent parts, such as sound sources and control systems, and secondly in the potential for customization of multiple musical responses made possible by MiDi language.

These processes date back in history and are described by Bern Enders thusly:

“The first stage of instrumentalization, enabling sound production beyond the potentialities of the human body alone through the discovery of the sound tool, was followed by the “mechanization” of instruments, which on the one hand reduced direct body contact with the vibrating body but on the other hand allowed for easier or more efficient operation. The introduction of power-amplifying and precise keyboards, pedals and key mechanisms (Controllers), triggering various hammers, valves or levers, to act as intermediaries between the playing human and sound production proper—i.e., as interfaces—already permitted a certain freedom of assigning a triggering action a resulting sound (mapping). In the case of the pipe organ, the technological separation of Controller (=console) and generator (=pipe body) is complete...The “automatization,” or programmability, respectively, of musical processes was first accomplished by means of the pinned barrel invented in 900 A.D., paving the way for mechanical musical instruments such as the medieval carillons, the musical clocks of the late 18th century, the orchestrions and pianolas [...]With regard to information technology, the MiDi system can be viewed as a digital electronic variety or successor of the pinned barrel, which was invented as early as 900 A.D. and served as a mechanical storage of note information in order to trigger sounds with a clearly defined point of onset and duration. Similarly, MiDi signals do not contain sound data, but merely send note information to an electronic or even mechanical sound generator... MiDi is furthermore a key-oriented notation code, an originally action-based information system, which ... irons out harmonic alterations enharmonically and does not discriminate between “c sharp” and “d flat.” MiDi documents the hands' musical play on a keyboard and is thus related to action-representing tablatures such as the fingering notation systems for guitarists. “(Enders 2017:46-47)

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<sup>81</sup> Eckel, Iovino and Causse of IRCAM in France first referred to the delocalization of sound thusly: “The way composers may think and imagine sound changed radically with the development of sound technology in our century. Sound transducers (microphones and loudspeakers) allow to detach the sound phenomenon from its mechanical and acoustical production mechanism (instrument) by the means of analogue representation of sound as electric current. Sound transmission and storage techniques (radio and tape recorder) use this and other analogue representations to delocalize sound in time and space. Analogue sound generation and processing devices (analogue studio) permit the direct production and manipulation of the analogue sound representation. This enables composers to create what could be called *abstract* sound - sound whose structure is not bound to the constraints of mechanical and acoustical systems (except for the loudspeakers and room acoustics)” (1995).

### 2.2.3.1 – Origins of Controllerism Logic III: ‘Remotely controlling the Instrument’

Mechanization and Automation have played a significant role in the simplification of complex musical processes, in a way paving the way for computer technology and empowering the proliferation of unprecedented forms of musical expression and practice. They are at the root of what we know as Controllerism today, as an evolving musical practice that is heavily informed and influenced by technological advancements both past and present. Mechanization and Automatization are still at the core of Controllerism logics, and are, in tandem with the processes of Virtualization, Globalization, Informatization and Hybridization informing the development of this musical practice.

In order to situate Controllerism as a present point of axis in a developmental timeline with historical roots and various technological and stylistic permutations, one of my goals for this thesis has been to produce parallelisms between past and present that may provide a statement as to the logicity of Controllerism as an artistic manifestation within a society that is increasingly embracing and embodying technology into every facet of daily life.

One such deep running parallelism, far fetched into the past but projectable into the present, can be made between Mechanization and Automatization as they were conceptualised in various developmental stages in history<sup>82</sup> and Controllerism as it is conceptualised today. Both use causal logics, and can be exemplified simply in a 'press here and make sound there' schema as will be demonstrated below.

During the year of 2016, I was commissioned by a reputed restoration company to conduct a study of the functioning state of the Carillon in the South tower of the Mafra National Palace. The restoration of the South tower Carillon has been enveloped in controversy and misunderstanding as to its importance to the field of musicology. As one of the only Carillons that has – in its majority – not been restored using destructive tuning methods on the bells, the Mafra Carillon remains as a standing – albeit barely due to the degradation of the structures that support it – example of note tunings and intervals as they were three centuries ago (see Soeiro 2015; Cordeniz 2013 & 2015; Debut, Carvalho & Antunes 2016).

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<sup>82</sup> With the development in Automatization of programmable instruments, the construction of semi and fully automatic instruments, reproducing pianos, MiDi recording, composing devices and so forth (Enders 2005: 39f).

I presented my analysis and recommendations for the restoration of the South tower Carillon, complete with mappings of the hundreds of individual connections that travelled through the various stories of the tower, from the drum barrels and carillonist booth to each hammer on the bells. I also vehemently proposed the oversight of the restoration process by competent musicologists who could defend the Carillon from any inappropriate shortcuts that would curtail preservation efforts and the safeguard of our shared cultural heritage. Unsurprisingly so, as of late 2017, work has not begun, which I suspect is due to the incongruences between budgetary practicability and adequate methodology.

Regardless of the outcome, on a personal level, the experience was invaluable and a year spent perched on the bells, measuring, diagraming and calculating away in the freezing breeze was a year well spent. In fact, it was during this year that my fascination with the processes of Mechanization and Automatization really grew. As I mapped out the connections to the bells in the upper floor, I could not help but see a parallel logic in modern Controllers today. In my mind, the Carillonist hitting the levers in his booth; the message travelling through the metal wires and actuating the bell hammer to strike; and then the sounding of the bell, was tantamount to the Controllerist hitting the drum pads; the message travelling through a USB cable informing the software to play a determinate note or sample; and the resulting sound emanating from the speakers. To me, there was a unifying logic in both systems, which were simultaneously straightforward and extremely complex.

To begin with, both mechanisms are comprised of control systems which make no sound, and sound sources that are physically united to the controlling system (Controller) via signal-carrying connections, in one case metal wires, and in the other electronic impulses travelling through a USB or MiDi cable. In the case of the manually played Carillon, the signal path is more straightforward due to ergonomics. In contrast, with automated Carillon actions, more intricate signals paths were required due to the size of the constituent parts.



Figure 18 - Mapping out the connections at the Mafra Palace

Below are a few of the resulting diagrams from my research at the Mafra National Palace, followed by a diagram of a key-mapping of MIDI Fighter with Ableton Live software, which I hope will exemplify the similarity between both logics, and situate the origins of Controllerism - despite its modernity - in the ages of Mechanization and Automatization. I'll begin with a graphic representation of the connections leading from the baton keyboard console – the Controller -, to 10 bells on the fifth level of the wooden support beams. As is observable the connections are quite direct, requiring only one point of signal redirection between the control system, in this case the keyboard console, and the sound source, in this case the bells.

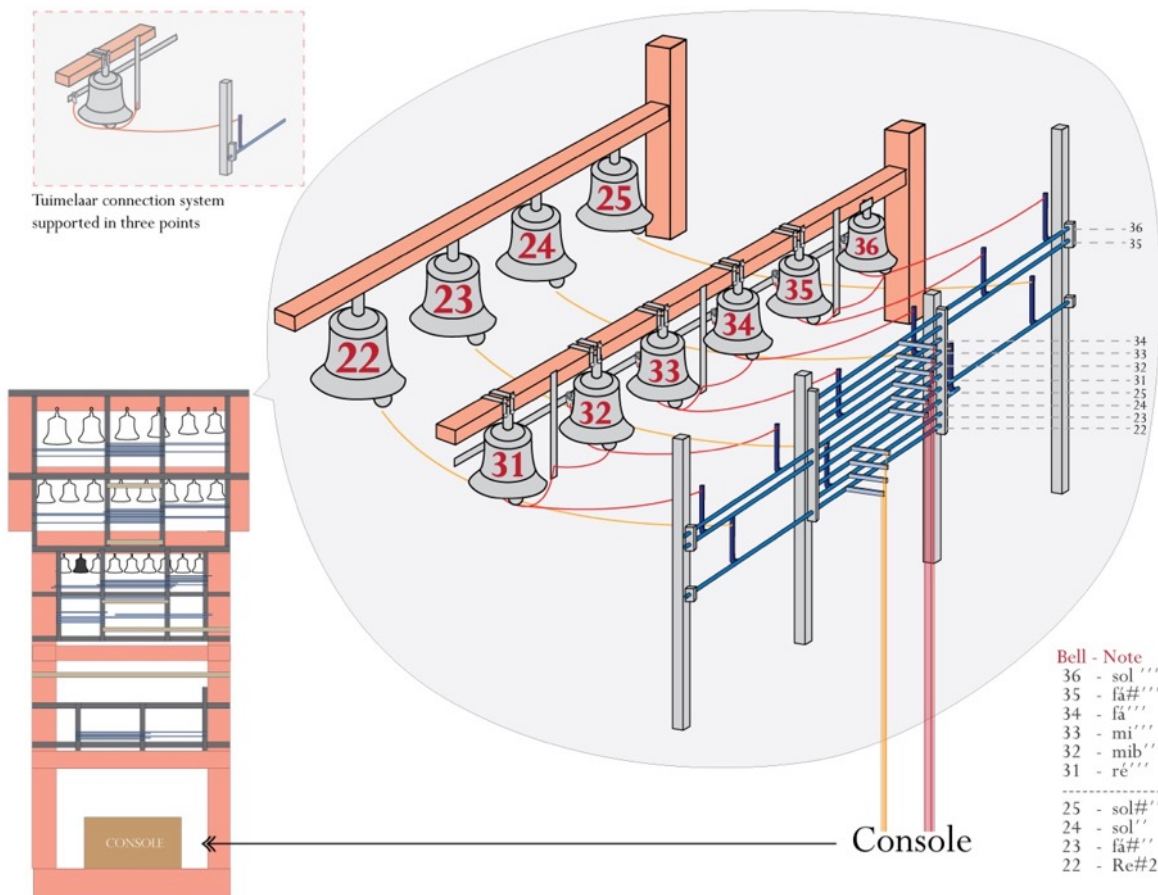


Figure 19 - Connections between the baton keyboard (Console) and the bells in the fifth level of the wooden support structure in the South tower Carillon in the National Palace of Mafra, Portugal ©Guillermo de Llera Blanes 2017

For automated control systems, more complex connection mappings were required. The following diagrams and photographs show the various elements and connections going from one of the drum cylinders that contains musical pieces to be played by the Bells.



I will be focusing on two hammers, numbers 15<sup>2</sup>-2 and 15<sup>2</sup>-3, that strike Bell number 5 which is in the note of Do' (C), and demonstrate the sinuous signal paths that the wire connections take as they carry the signal from the lever – after being actioned by the pins on the drum cylinder - to the hammers that strike the Bell. The Signal path takes the following complex route:

- A) Levers with control numbers 65 & 67 pull the wires that are connected to the top Frame (bars 6 & 7) located directly above the levers in a vertical motion [figure 20].
- B) Bars 6 & 7 of the top Frame pull the wire vertically through an orifice (B) on the roof, reaching a second Frame on the upper floor, pulling on bars 15<sup>2</sup>-2 & 15<sup>2</sup>-3 [figures 20 & 22].
- C) Bars 15<sup>2</sup>-2 & 15<sup>2</sup>-3 are redistributed through a series of Bell or Tumbler cranks, fitted with return springs and undergo a series of directional changes [figure 22 & 23].
- D) They enter the Bell floor at a vertical angle of 90° and pass under Bell nr. 10 (Re#) at a 125° vertical and a 135° horizontal one [figure 23].
- E) The wires then pass under Bell nr.11 (Mi') and maintain their vertical axis, shifting their horizontal angles by 60° [figure 23].
- F) Once they reach the support beams beside Bell nr.12 (fa') they shift horizontally by -75° [figure 23].
- G) Finally, upon passing under Bell nr.5 (Do'), they change their vertical angle by 90° in order to connect and pull their respective left and right hammers [figure 23].

### North Drum Cylinder

Right half of cylinder: lever numbers 65 to 67

Roof orifices of North frame system: (D) (C) (B) (A)

● = Connection to hammer through Frame A

Bell number	5	13	5
Frame connection	●	●	●
Bell note	dó	sol#	dó
Orifice (4 ← 1)	B	B	B
Top floor Frame nr.	15 <sup>2</sup> -3	8.3	15 <sup>2</sup> -2
Bottom floor Frame nr.	ARM 7 BAR 6	K 13	ARM 5 BAR 7
Original Notes (as noted on ruler)	C <sub>1</sub>	G <sub>2</sub> <sup>#</sup>	C <sub>1</sub>
Control number	65 <sup>1</sup>	66 <sup>2</sup>	67 <sup>3</sup>
Lever - front marking	A <sup>2</sup> A 	D ?	C ≡ C 
Lever - back marking	K65	K66	K67
Lever - Bridge marking	19	20	1

Figure 20 - Excerpt from the North drum cylinder mapping displaying annotations pertaining Bell nr.5 (Do'). ©Guillermo de Llera Blanes 2017

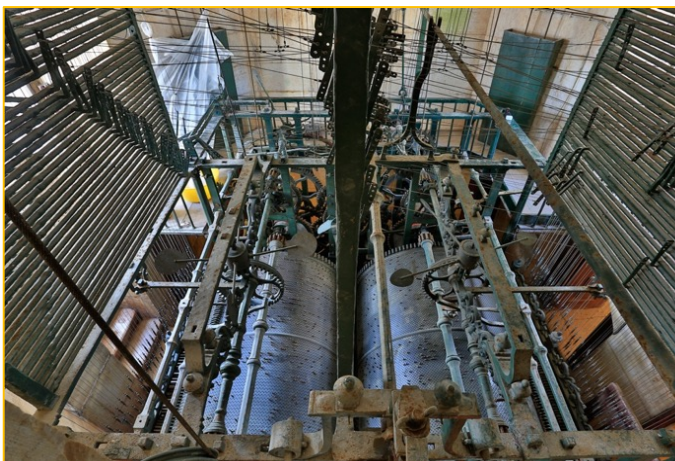


Figure 221 - Drum cylinders beneath the connected frames that carry the signal to the upper floor where other frames redirect the wires (signal path) towards the corresponding Bell hammers. ©Guillermo de Llera Blanes 2017. Photo: Sergiy Scheblykin

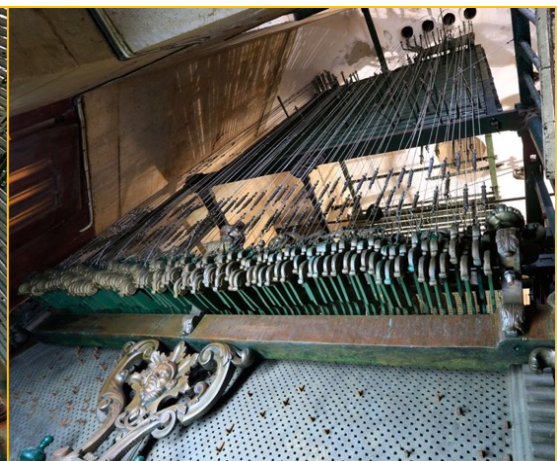


Figure 22 - Drum Cylinder and pins that action the levers and send the signal to the upper floor through the orifices on the ceiling. ©Guillermo de Llera Blanes 2017. Photo: Sergiy Scheblykin

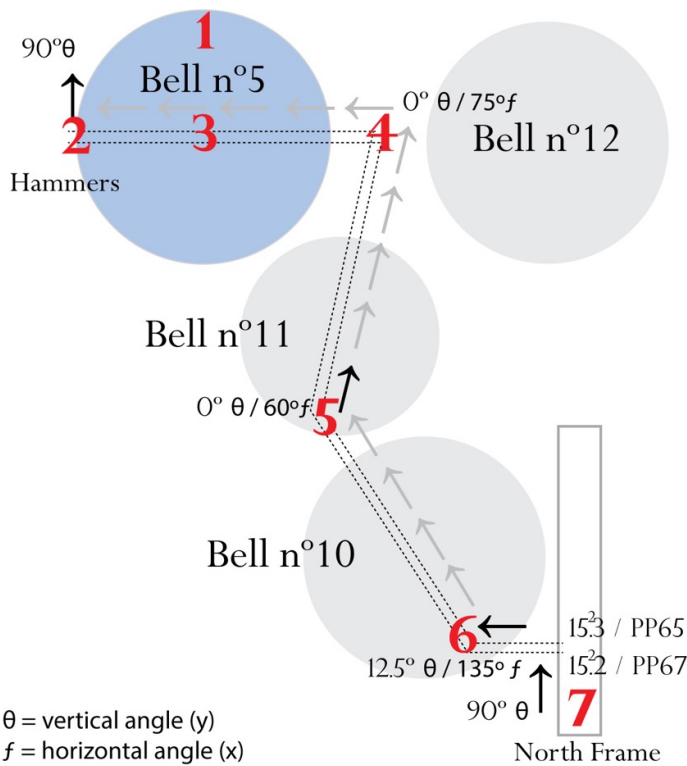


Figure 23 - Wire distribution from the North Frame until Bell nr.5 including vertical and horizontal angle pathways and alterations. © Guillermo de

Like the Carillon, modern Controllers use the logic of multiple signal paths interfacing with various signal distribution points to channel note commands from a control system to a sonic source.

Although apparently unrelated, the logics behind the complex distribution of wires that connect the drum cylinder to the Bell hammers in automated Carillon finds a modern counterpart in the way many Controllerists use their control system (Controllers) to manipulate their sonic source (software).

In the case of MiDi communication, wires and cables are replaced by electronic impulses that travel - unencumbered by physical magnitude - from hardware to software carrying with them complex commands. Even with simple 0/1 or on/off commands, complex outputs can be achieved as will be demonstrated in the mapping on the next page. The 'hit here and make sound there' of hand-played Carillon and early Controllers can be replaced by a 'hit here and make a sound there, and turn that on, and blink that light as well'.

In the following image we can observe a signal path in Ableton live software that reminds us of the distribution logics used in ancient automata: Controller button (A) triggers a composite sample (B) that is made up of two samples (C and D), of which one goes directly to the audio output while the second passes through a delay effect (E) before doing so.

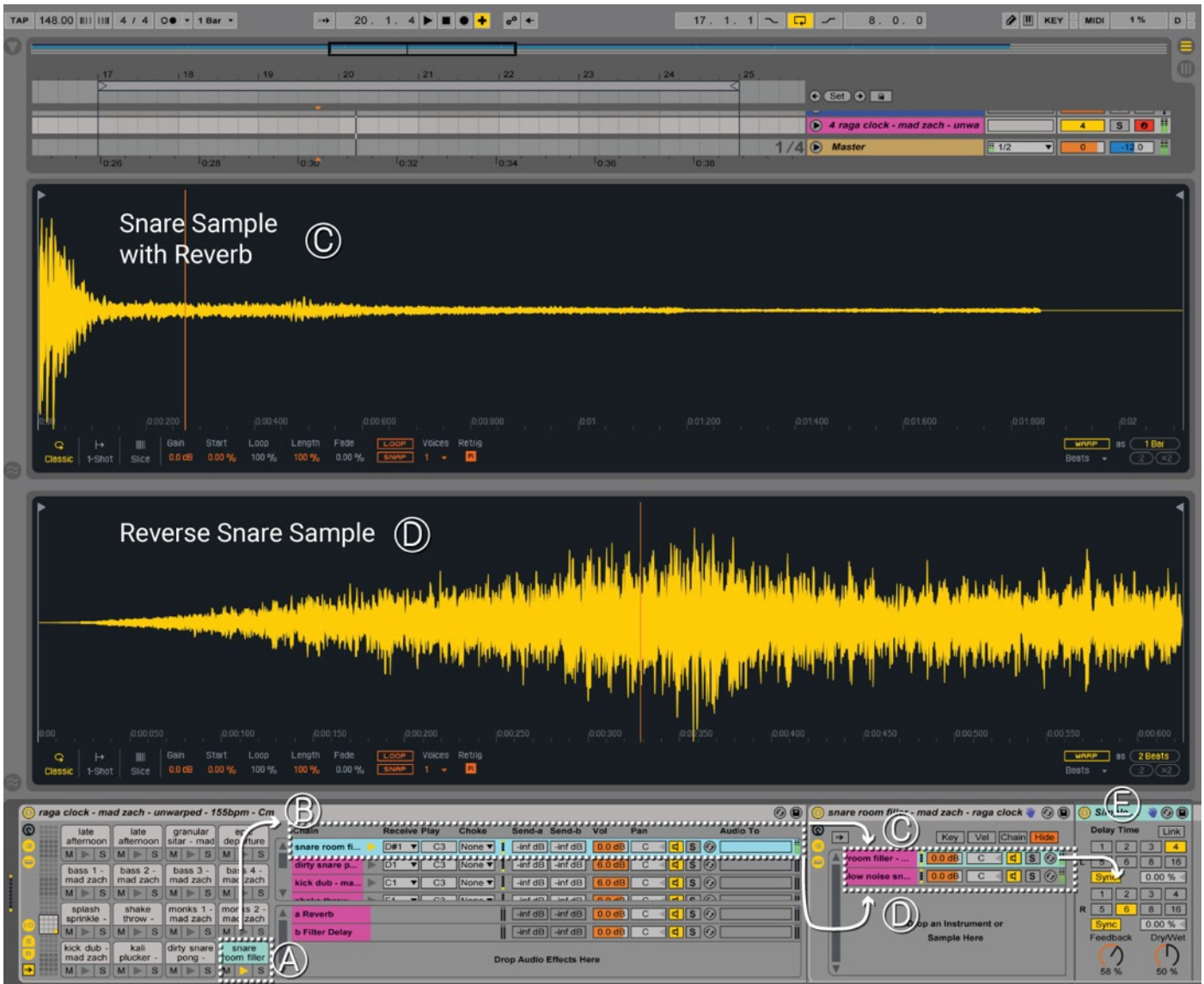
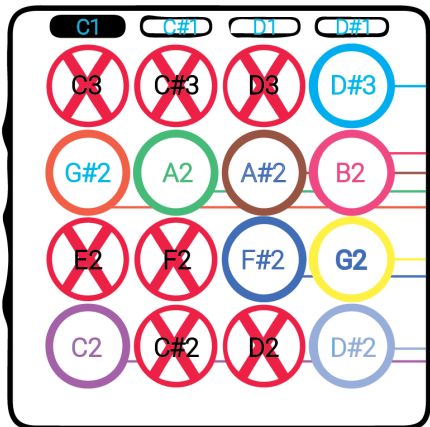


Figure 24 - A MiDi signal passing through various points of redistribution and triggering

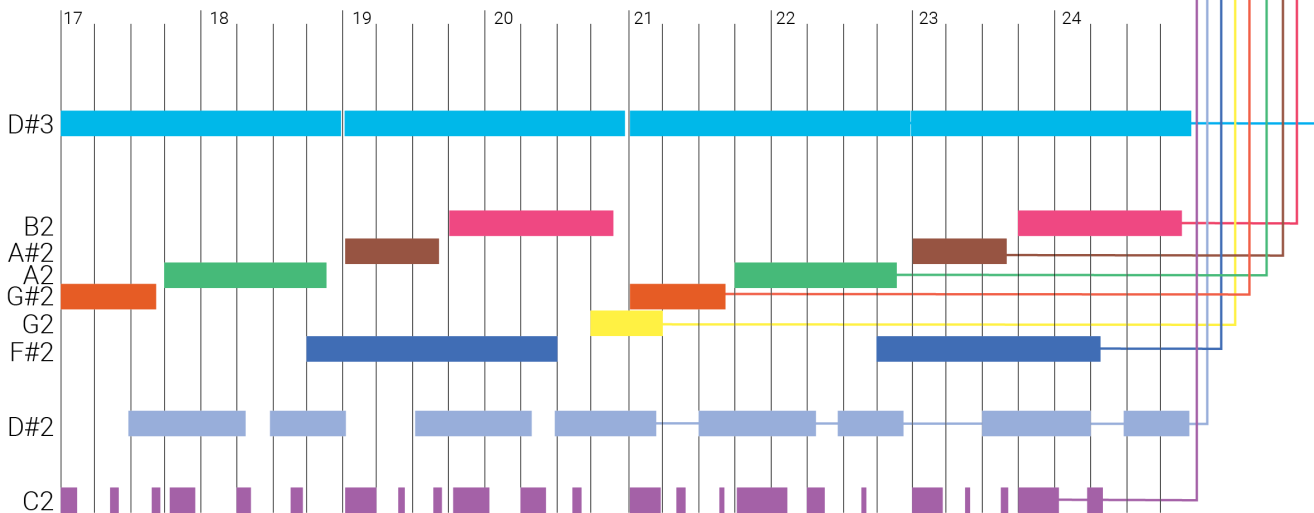
The logics of delocalized attribution inform Controllers old and new, and are an integral part of Controllerism. The development of Controllerism as a musical practice through the historical logics of Separation, Division and Allocation discussed throughout chapter two, has led to a new era of digital audio manipulation. It is a logic that focuses on customization and control, on liberating sound from its acoustic source and the player from the acoustic instrument, on repurposing sound and instrument by transforming how we dialogue or interface with them, reformulating our very understanding of what it is to play a musical instrument, or what a musical instrument is. Figure 25 below aims to further demonstrate the similarities in logic by use of a schematic display, showing a MiDi mapping for an orchestration made entirely with samples on a MIDI Fighter 3D and Ableton Live software.

# Control Surface

Midi Note Mapping



## Beat Matrix



## Signal Mapping

Sound	Sample(s)	Midi Note	Type	Command Pathways
Kick Drum	Single Bass Drum Sample	C2	Tap	Sample >> Output
Snare	Layered Snare sounds <ul style="list-style-type: none"> <li>— Snare with Reverb</li> <li>— Reversed Snare</li> </ul>	D#2	Tap or Hold	Sample >> Delay >> Output
			Hold	Sample >> Output
			Tap	Sample >> Output
Monks Chanting	Sample of Gregorian chant	F#2	Hold	Sample >> Reverb >> Output
Low Surbahar	Detuned Surbahar Sample	G2	Hold	Sample >> Reverb >> Output
Bass Note 1	Sustained Bass Note	G#2	Hold	Sample >> Output
Bass Note 2	Sustained Bass Note	A2	Hold	Sample >> Output
Bass Note 3	Sustained Bass Note	A#2	Hold	Sample >> Output
Bass Note 4	Sustained Bass Note	B2	Hold	Sample >> Output
Sitar & Tampura	Sitar melody over Tampura drone	D#3	Hold	Sample >> Filtered Delay >> Output

Figure 25 – MiDi mapping for an orchestration made entirely with samples on a MIDI Fighter 3D. © Guillermo de Llera Blanes

### 2.2.3.2 – Coming out of the Origins: ‘Sonic Decoupling’

The incremental evolution of Controller interfaces over recent years, in conjunction with the ubiquity of the MIDI protocol and the emergence of new audio formats have contributed incrementally to a growth in innovative manifestations on the musical stage in a process I have - after some deliberation - decided to term as ‘sonic decoupling’<sup>83</sup>.

Sonic decoupling is a process inherent in the Digitalization and Virtualization stages of musical instrument development and refers to the separation of sound from its point of origin; not as a vibration that emanates from a given source, but as a new un-proprietary sound that is stored, can be manipulated and recalled at will, to emanate from any programmatically given location. This form of decoupling has been implicit in Sampling and Remixing practices, and when applied to Controllers has given rise to new – and powerful - creative forms of musical expression, among them Controllerism.

Sonic Decoupling is the unified result of the three aggregate origins of Controllerism logic (Layer Separation, Part Division and Delocalized Attribution), and is enabled by the development of new music instruments (Controllers) that embrace the principles behind the stages of Digitization, Virtualization, Globalization, Informatization, Artificial Intelligence, and Hybridization (see chapter 1.3.4). Thusly, they are poised to shape Controllerism in the years to come.

In a way, Sonic Decoupling involves using sound bytes<sup>84</sup> to take the place traditionally understood as belonging to musical notes, and playing them as one would a musical instrument. This *cut n’ paste* rationale is the most prevalent one in the practice of Controllerism, but it is not - by far - the only case, or should we say: only aesthetic rationalization of the potential uncovered by the development of Controllers. There are cases of unconventional forms of playing that may not have any point of reference in traditional instrumental practice. One such case in point takes the form of gestural Controllerism.

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<sup>83</sup> I use the term Sonic Decoupling to describe the complete separation of sound from source, for example, the sound of a Bansuri flute in a virtual instrument is not emerging from its original physical source, but from software instead. The sound has been decoupled from its originating instrument, stored in a software and can be played back in any kind of Controller.

The term Sonic Decoupling also appears in a few patents and publications to describe the decoupling of mud fluid from a drill in oil well drilling operations by acoustic means, either by sonically vibrating mechanisms or sonic wave generators.

<sup>84</sup> By sound byte I am referring to a brief recorded audio sample. I have borrowed the term for its capacity to define the idea of a short recording that can be reused within or without the original context. In the news ‘sound byte’ is commonly used to define people’s recorded statements. According to the Merriam-Webster dictionary, a sound byte is a “a brief recorded statement (as by a public figure) broadcast especially on a television news program; also: a brief catchy comment or saying”.

Gestural Controllerism has been in development for over three decades, and belongs to a stage of musical instrument evolution termed by Enders (2017) as the process of Virtualization which heralds innovations such as the modelling of mechanically impossible instruments, virtual synthesis, the simulation and emulation of traditional instruments, and the development of new interfaces such as eye tracking or gesture controlling.

Michel Waisvisz's 'The Hands' are an example of early prototypical experimentations with gestural Controllerism, and were the first data gloves constructed with musical practice in mind. With the input of various contributors, the efforts of building, coding and upgrading 'The Hands' continued for over 25 years under Waisvisz's tutelage with goal to institute them into instruments of musical expression. This was made possible by the development of a personalized set of expressions and virtuosic skills between artist and instrument (Torre and Andersen 2017:134).

At that time, early Controller prototypes lacked the possibility of programmatic customization due to technological restrictions, but recently, as this growing developmental trend gains momentum, multiple customizable Controllers and interfaces have emerged into the marketplace that allow artists simultaneous control over various elements of the stage, such as lightning, video, mixing effects, and multiple digital instruments among others.

At this point in time, wearable Controllers are an exciting new front in music Controller development, allowing for greater gestural interaction between artist and source of sound. Imogen Heap, a British Singer and Composer, has been at the forefront of gestural Controller development, and has developed the Mi.Mu gloves which wirelessly communicate with her computer instrument. In Heap's words, the gloves allow "...me to gesturally interact with my computer, so that I can make music in the move, in the flow, and more humanly, more naturally engage with my computer software" (Heap 2014)<sup>85</sup>.

Another such case includes Controllers, like MiDi keyboards, that have emulated the architecture of traditional musical instruments but have included enhanced functionality, inaccessible in the instrument that originated their design. A bright example of such a

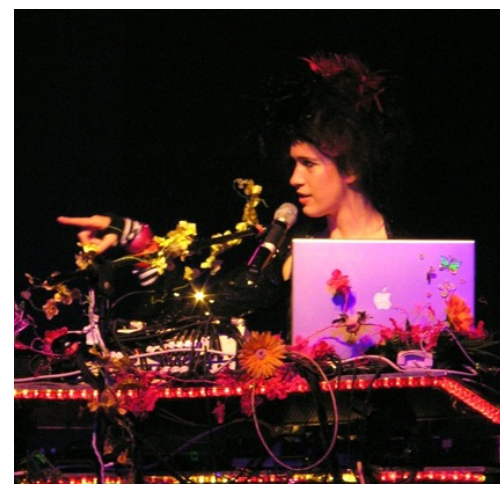


Figure 26 - Imogen Heap. Photo by Noelle Smith. Courtesy of Flickr

<sup>85</sup> Imogen Heap in an interview for Dezeen: <https://www.youtube.com/watch?v=ci-yB6EgVW4> (date of last consultation: 13<sup>th</sup> of June, 2017)

case is the Seaboard RISE keyboard, a “next-generation MiDi Controller with unprecedented expressive capabilities”<sup>86</sup> that elevates the instrumental form to a ‘post-natural’ level of expressivity.

The following statement retrieved from the ROLI website explains the potentialities of this next-gen instrument: “On a piano keyboard you control sound in one way: the force of strike on the keys. The soft silicone keywaves of Seaboard RISE open up a new way to shape sound and make music through Five Dimensions of Touch (5D). These movements are intuitive, so you can quickly start playing with far more expression than ever before”.

The five dimensions of touch are the Strike, Glide, Slide, Press and Lift. Each dimension affects the sound in a different way and can be played seamlessly with another dimension. Not only does this signify that there is a greater instrumental responsiveness from the keyboard, but it also means that the RISE keyboard can use multidimensional polyphonic expression – or MPE – to play a comprehensive Native Instrument KONTAKT<sup>87</sup> library in a manner previously impossible for a keyboard.

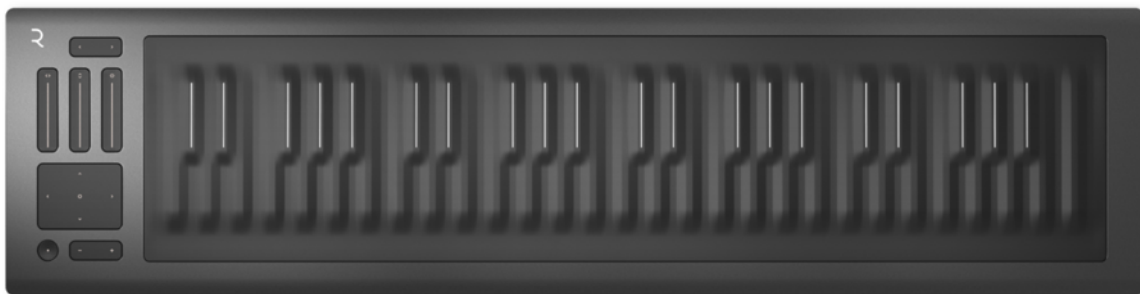


Figure 27- Seaboard Rise, image retrieved from roli.com

Many virtual instrument libraries, such as the Indian Sarod and Sitar cannot be performed to sound ‘genuinely’ with traditional keyboard sensitivity. The force of strike on the keys alone does not render the nuances needed to achieve a realistic sounding Sarod or Sitar performance; smooth slides between notes, microtonal bends and quick vibratos being some of the expressive forms needed to approximate those instruments’ genuine sonic properties.

Thus, in Controllers such as the Seaboard RISE, a process of musical instrument design hacking has taken place, decoupling sound from the original instrument, - in this case the piano -, and

<sup>86</sup> URL: <https://eu.store.roli.com/collections/seaboard-rise> (date of last consultation: 6<sup>th</sup> of June, 2017)

<sup>87</sup> KONTAKT is a Native Instruments sampler. It has the world’s most state-of-the-art modular architecture, an outstanding audio engine, and a unique set of sample manipulation tools, allowing for innovative sample-based instruments to be built. KONTAKT’s unmatched creative possibilities have made it an industry-standard.

introducing enhancements that potentiate a higher level of expressiveness in performance<sup>88</sup>.

Another notable case of Controller instrument hacking is Sunhouse's<sup>89</sup> Sensory Percussion. Sunhouse has manufactured a sensor that captures vibrations from drums and through a software-hardware combination creates a digital overlay on the acoustic sound, turning the drum into an expressive Controller. A proprietary software analyses the signal from the sensor, and is not only able to distinguish where the drum stick is hitting the skin or the shell, but it is also able to algorithmically determine the strength of the drum hit, allowing the player or producer to control the software's sonic response. Although the software is proprietary, it also functions as a MiDi Controller and can send MiDi notes over a bus to any third party software.

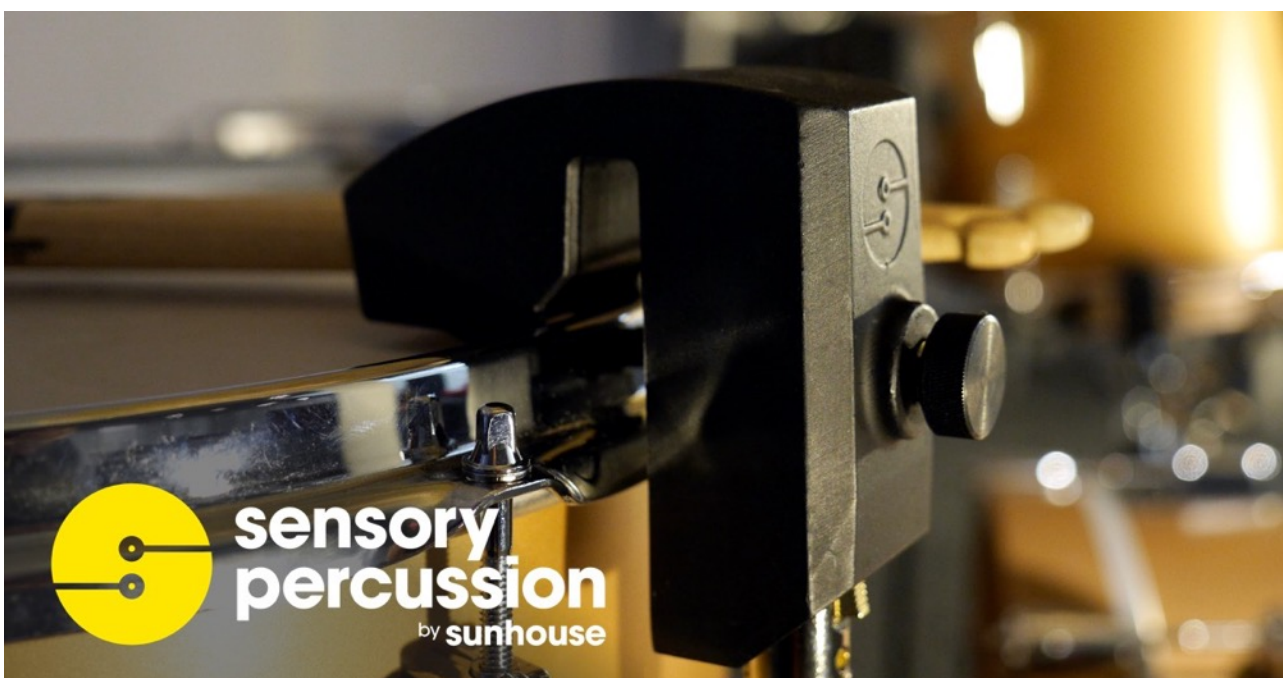


Figure 28 - Sunhouse's Sensory Percussion sensor. Image retrieved from <http://sunhou.se> on 26/07/2017

Akin to ROLI's five dimensions of touch, the SP<sup>90</sup> sensor can do much more than just act as an acoustic drum trigger, and it is precisely with these 'expansions' of expressive behaviour that Controllerism thrives. The capacity for customization is a linchpin of the Controllerism movement. For example, besides assigning sounds to different sections of the drum, or even different drum strokes, the SP can apply effects to different parts of the drum by mapping effects to different drum strokes allowing the drummer to control the effects and parameters by playing the drums. As a

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<sup>88</sup> A performance on the Seaboard Rise demonstrating the Controller's potentialities: <https://youtu.be/jh-hzbG5FzI> (date of last consultation: 7<sup>th</sup> of June, 2017)

<sup>89</sup> URL: <http://sunhou.se> (date of last consultation: 9<sup>th</sup> of January, 2017)

<sup>90</sup> From this point forward I will refer to the Sensory Percussion as SP.



Controller it enables the player to handle various parameters such as timbre, velocity, speed, effects and multiple LFO<sup>91</sup> types through playing alone. It represents a momentous leap forward in the evolution of Controllers, and will certainly dictate future directions in product development and artistic exploration alike<sup>92</sup>.

Yet, this recent trend towards hacking traditional instruments goes beyond evolved keyboard control and dynamic sensor mapping. The overarching drive from macro to micro control is certainly not exclusive to music instruments, and is also entering the realm of DJing. In 2015 Native Instruments announced the release of a new open digital audio file format, the .mp4, more commonly known as STEM format. The long-withstanding understanding of a stem in audio production refers to a stem as a single file – in mono, stereo or multiple surround tracks – from a group of audio sources belonging to the same mix. An audio file containing a recording in mono of the acapella vocal rendition of a song would be a stem of that same song. The difference between that same acapella audio .wav stem file and an .mp4 STEM file of the song would be that the .wav stem file would only contain the acapella vocals while the .mp4 STEM file would contain 4 different mix-downs including the vocals.

As in the case of Sound Decoupling in musical instruments, certain Controllers that cater to the DJ community can play back the STEM format, and allow separate controls over 4 separate audio tracks, usually separated as a mix-downs<sup>93</sup> of the Bassline, Rhythm, Melody, and Voice(s), as well as the master mix track. Native Instruments<sup>94</sup> created the STEMS format in as an open multi-track audio format. The intent was to create a format that would augment creative possibilities for DJs, producers, and live performers using Controllers from any company that manufactured STEMS compliant hardware. STEMS were to expand the possibilities of live mixing and performance by allowing for the mixing together of isolated parts from different songs to take place, with each part having independent control functions and levels. One could then create new mixes of a song, mashups between different songs, instrumentals versionings and acapellas.

Interestingly, this new format could be represented as a return to live 4-track mixing as was performed half a century before in Jamaican Live Dub mixing (see chapter 2.2.1). Clive Chin, producer

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<sup>91</sup> Low Frequency Oscillators

<sup>92</sup> Performance using the SP sensor: <https://youtu.be/CS7rDZhcHL0> (date of last consultation: 14th of August, 2017)

<sup>93</sup> The term mix-down refers to the action of combining of several tracks of audio into a single audio file.

<sup>94</sup> Native Instruments Manifesto: "Native Instruments is a leading manufacturer of software and hardware for computer-based audio production and DJing. The company's mission is to develop innovative, fully-integrated solutions for all musical styles and professions. The resulting products regularly push technological boundaries and open up new creative horizons for professionals and amateurs alike." <https://www.native-instruments.com/en/company/> Accessed 3/3/2017

of the Java Java Dub album in 1973, one of the 3 albums acclaimed as the first ever Dub album ever (Partridge 2010:135), still produces and performs today, and in a video review of the Livid Instruments DS-1 mixing Controller for dubspot.com stated:

“I am using this DS-1 [...] along with some of my lost archive analogue stems. It is a mixing board that has everything an analogue board would have that would replace my record vinyl and my dubplates that were pretty heavy. I had to carry a second person around with me. If I had this back in the 60’s I would probably have doubled the amount of work that I was doing back then because tapes usually take up a lot of time and energy. With this and with your stems coming in ... [nods] beautiful.”

When analysing the performative diversity manifesting in Controllerism today, some noticeable differences in style become obvious, making it possible to divide Controllerism into five different stylistic strands. These are Finger-Drumming, Djing, Live Mixing, Instrumentalisation<sup>95</sup> and Mobile or Gestural Controllerism. Although they are all important, I will not delve too deeply into detailed descriptions and examples of these five stylistic strands because it would not be pertinent to the points being made in this thesis, and so I believe a brief description of each one will suffice.

- 1) Finger-Drumming is a rhythmic musical approach to playing Controllers that can be traced back to beat making on early drum pad Controllers such as the Akai MP60, originally released in 1988. Today, playing beats on a grid Controller has become a highly developed art-form and is quickly gaining popularity. Dedicated Controllers, such as the MIDI Fighter seen below have been manufactured specifically for beat playing and rhythmic control.



Figure 29 – Midi Fighter. Image retrieved from DJ Tech Tools on 27th of July, 2017

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<sup>95</sup> Instrumentalisation in Philosophy refers to the utilization of a concept as an instrument that serves as a guide to action. I have adopted the term in order to describe the act of playing Controllers as musical instruments, for instance playing a software emulation of the Grand Piano using a MiDi keyboard, or using Controllers to hack, alter, enhance or augment characteristics of traditional musical instruments.

Not to be mistaken for Ender’s Instrumentalization, which is a stage in the technological evolution of musical instruments.

- 2) Djing with Controllers, or digital Djing as it is more commonly known, is the art of controlling two or more tracks stored in a Laptop or hard disk as opposed to a vinyl or cd. A digital DJ Controller such as TRAKTOR KONTROL can carry out very complex functions when compared to traditional vinyl turntables, the most notable of which is the ability to play back the STEMS format and mix together the Vocals, Bass, melody and rhythm from four different songs into one.
- 3) Live Mixing is the practice of mixing a song as a performance using Controllers to affect volume, panning, effects sends and the like, much in the manner of Dub mixers. The Livid Instruments DS-1 mixing Controller is a prime example of an analogue mixing desk emulator. Many mixing Controllers have been released in recent years, seeking to cater to the thriving home studio market, but some artists have incorporated them into their live performances, fashioning a new vein of Controllerism.
- 4) Instrumentalisation refers to playing music on a hardware emulation of a traditional instrument that has additional features in relation to its source of emulation, or to the addition of Controllers that interface with the traditional instrument, enhancing its playability or sonic output in any way. ROLI's five dimensions of touch: The Strike, Glide, Slide, Press and Lift, are examples of additional features to traditional piano playing, while Sensory Percussion's sensor provides an example of an interface with a traditional instrument that enhances its sonic output.
- 5) Mobile or gestural Controllerism is divided into two disparate camps, but are united by mobility, or movement. A plethora of smartphone and tablet music apps have surfaced in the past few years, many of which use the devices' gyroscope and motion sensors to affect the sonic output. As described earlier, gestural Controllerism also uses movement in order to control sonic output. Below is a description of the Mi.Mu gloves' different elements and functionalities<sup>96</sup>.

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<sup>96</sup> Imogen Heap at a TED Talk demonstrating the functionalities of the Mi-Mu Gloves: <https://youtu.be/7oeEQhOmGpg> (date of last consultation: 6<sup>th</sup> of June, 2017)

## ANATOMY OF A GLOVE

The Gloves capture the movements and postures of your hands. Our software allows this information to be mapped to musical control messages which can then be easily routed to your favorite music software.



Figure 30 - The Mi.Mu Gloves, developed by Imogen Heap- Image retrieved on the 27th of July, 2017 from [mimugloves.com](http://mimugloves.com)

Going forward, it will be quite interesting to see how developments in Informatization and Hybridization will shape Controllerism. We can expect experimentation to lead us down a path filled with motley mixes of creative compositional systems (software and apps), automatic analysis systems, brain-controlled multimedia synthesizers (audio and video), artistic man-machine-symbioses, interactive 3D instruments and Music production and reception without hardware (see Enders 2005 & 2017) in the years to come.

### 2.3 – Coining the term ‘Controllerism’

In 2005 Matt Moldover and Juley Covello (aka Dj Sharkey) met during an Ableton Live workshop Moldover was conducting at the Burning Man festival. Moldover had begun performing solo with a Laptop computer and different combinations of Controllers in 2003 and was at the forefront of building and using hardware Controllers to manipulate the new generation of software instruments, such as Ableton Live, an interactive performance audio synthesis program, that had first been commercially released in 2001 (see Manning 2013).

After the workshop was concluded, Shakey initiated a conversation with Moldover over the the value and importance of computers and Controllers as live performance instruments. Seeing

that they shared common ideas about the subject, they exchanged contact information. Upon returning to New York where they both resided, Shakey, who was also an event producer, suggested that the two produce an event for Ableton Live performers, which became known as The Warper Party<sup>97</sup>. The event quickly became popular among like-minded performers and evolved into a monthly showcase for boundary-pushing electronic musicians. The Warper Party became a hub where discovery, experimentation, networking, and community building thrived.

The growing *scene* lacked an overarching terminology to help define and consolidate this new kind of performance. What the Warper community was doing; the act of using Controller interfaces; ranging from a myriad of looping devices, boxes with knobs, triggers and drum-pads, to manipulate and play electronic sounds and samples instrumentally<sup>98</sup> was nameless at the time.

Shakey, who had become Moldover's manager was well aware that there were marketing advantages for Moldover in coining the term with a catchy title and presenting it to the world in print. After much debate they opted to term the art of manipulating sounds and creating music live, using computer Controllers and software as Controllerism. Moldover then suggested to Ean Golden, a contact who was at the time a technology columnist for Remix Magazine, that they write an article together and present Controllerism to the music community. The article was printed on Remix Magazine's October 2007 issue under the title "Music Maneuvers: Discover the Digital Turntablism Concept, Controllerism, Compliments of Moldover"<sup>99</sup>. In it Moldover was portrayed as a hardware hacker that explored the confines of Turntablism hardware, emulating - or robbing as he put it - Turntablism technique "to do more with more decks". His ambition with coining the term was to provide "DJs who emphasize performance and approach their tools as musical instruments [...] a way to differentiate themselves from DJs who just play records", as well as giving "performers who use computer technologies as musical instruments [...] a way to differentiate themselves from people 'who check their e-mail'" (Golden 2007).

Yet Moldover was not the only one who had a personal agenda and looked to reap long-term benefits from the article. Golden's rhetoric throughout the article denoted a clear belief that Digitization would eventually permeate all aspects of DJing. According to Golden, he had been DJing live with a Laptop, using TRAKTOR software which offered MiDi control and a modified M-Audio Oxygen 8 MiDi Controller since 2002-2003. With the impending shutdown of Remix Magazine in

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<sup>97</sup> URL: <http://warperparty.com> (date of last consultation: 19<sup>th</sup> of February, 2017)

<sup>98</sup> As in playing a musical instrument.

<sup>99</sup> URL: [http://moldover.com/press/Moldover\\_Remix\\_Oct-2007\\_w.jpg](http://moldover.com/press/Moldover_Remix_Oct-2007_w.jpg) (date of last consultation: 20<sup>th</sup> of June, 2017)

2008, Ean Golden founded DJ TechTools<sup>100</sup> in 2006, looking to give continuance to his Remix column as well as developing a resource for educating digital DJs and capitalizing on the expanding industry surrounding hardware Controllers and Controllerism as a musical practice.



Figure 31 - Golden's Oxygen 8

Meanwhile, The Vestax Corporation, a Japanese firm that designed and manufactured musical instruments and audio equipment, was the first to respond to the rise in interest in the digital DJ market with the production of the first all-inclusive DJ Controller. The VCI 100 had the capacity to control digital DJ software, and quickly became the template upon which ensuing DJ Controllers were modelled.

By July of 2007 Moldover had registered the domain name Controllerism.com<sup>101</sup> and begun working on the website intending to further coin the words “Controllerist” and “Controllerism”, as well as providing downloads of software templates, resource-lists, and a discussion forum. For the next four years the website attracted an active online community of Controllerists, and the forum developed quickly, but the remainder of the website was slow to develop.

At this point, Ean Golden, who was tasked with reviewing the Vestax VCI 100 for the Remix Magazine in August, 2007<sup>102</sup> had experimented with modifying the VCI 100 by adding arcade buttons in order to enable greater control over the software and enhance the playability of the Controller<sup>103</sup>, subsequently releasing a series of videos with further MOD<sup>104</sup> innovations<sup>105</sup> and tutorials for building custom MiDi Controllers<sup>106</sup>.

Finally, in 2009 DJ TechTools released the VCI-100 Special Edition<sup>107</sup>; their first signature Controller in a collaboration with Vestax, which reportedly sold out in under two hours. The growing hype surrounding DJ TechTools and the success of their first Controller demonstrated to all in the budding Controller scene that there was a market demand for Controllers that catered to the DJ and

<sup>100</sup> URL: <http://www.djtechtools.com> (date of last consultation: 9<sup>th</sup> of November, 2016)

<sup>101</sup> URL: <http://Controllerism.com> (date of last consultation: 7<sup>th</sup> of June, 2017)

<sup>102</sup> URL: [https://www.youtube.com/watch?v=a-\\_EKfDXNJI](https://www.youtube.com/watch?v=a-_EKfDXNJI) & <https://www.youtube.com/watch?v=qcaYVnXPZ84> (date of last consultation: 8<sup>th</sup> of June, 2017)

<sup>103</sup> URL: [https://www.youtube.com/watch?v=ptcA6VIKK\\_A](https://www.youtube.com/watch?v=ptcA6VIKK_A) (date of last consultation: 8<sup>th</sup> of June, 2017)

<sup>104</sup> In technology MOD is an acronym for modification.

<sup>105</sup> URL: <https://www.youtube.com/watch?v=Xce2BcNv-Wk> (date of last consultation: 13<sup>th</sup> of June, 2017)

<sup>106</sup> URL: <https://www.youtube.com/watch?v=NAosgd9Cy6U> (date of last consultation: 6<sup>th</sup> of June, 2017)

<sup>107</sup> URL: <http://djtechtools.com/2008/03/18/black-vci-100-the-official-update> (date of last consultation: 6<sup>th</sup> of June, 2017)

Electronic music cultures.

The interest was there, and not only for equipment, but for knowledge as well, and so, in reply to this demand, DJ TechTools developed a forum on their website where techs and users alike could share information, opinions, resources and tips. The forum was maintained by Bentosan, a Controllerist and producer from Perth, Australia. His most relevant contribution was the development of the Mapulator, a popular max for live patch, which provides an increased customization of MiDi mappings in Ableton Live<sup>108</sup>. Another important contributor from the DJ TechTool community member went by the name of Midifiddler, an electronics engineer from New Zealand with a passion for Controllers. Inspired by Ean Golden's customization of the VCI 100 as well as his DIY<sup>109</sup> DJ-101 Controller Midifiddler developed his own Controller and named it MIDI Fighter. The MIDI Fighter contained an important innovation, a 4 by 4 grid of arcade buttons still sold today as the proprietary DJ TechTools MIDI Fighter 3D (Figure 29).

The principal point that made the MIDI Fighter an important innovation in Controllers was the layout of the buttons; spread out in manner more ergonomically suited for rhythmic performance, or Finger-Drumming as it is known today. The grid model was adopted from earlier production systems such as the Akai's MPC series, developed by Roger Linn and later by Native Instrument's Maschine series. At this time DJ TechTools began to commercialize DIY MIDI Fighter kits, further consolidating its position in the growing market for Controllerism.

Between 2009 and 2010, Ean Golden was invited by Native Instruments to join their development team and design their first MiDi DJ Controller. After six months in Berlin the project successfully produced the Native Instruments TRAKTOR KONTROL S4. He then went on to produce the Novation Dicer, a MiDi Controller for Turntable users and CDJs that allowed them to set and control cue points.

At this point the term Controllerism was becoming more associated with digital Djing than originally intended, and in 2011 Moldover gave in to Controllerism.com's community concerns over the misappropriation of the term by Ean Golden, and reactivated the website. As explained by Moldover "The success and popularity of Ean Golden's company DJ Tech Tools, combined with their frequent use of the term, had created a demographic of digital-DJs who seemed to think that Ean was the originator of the term, creator of the surrounding culture, and that the idea of Controllerism

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<sup>108</sup> URL: <http://djtechtools.com/2012/02/16/mapulator-advanced-midi-mapping-for-ableton> (date of last consultation: 7<sup>th</sup> of June, 2017)

<sup>109</sup> Do It Yourself.

was confined to a specific set of digital DJing techniques<sup>110</sup>”.

From 2011 onwards, Moldover focused on generating new content, sharing information, providing new resources for upcoming Controllerists, and organizing events such as the The West Coast Championship Controller Battle<sup>111</sup>, which included performances by Moldover, Ean Golden and a dozen other Controllerists. A concerted effort was made in order to contribute to the burgeoning international interest generated by growing online content on the practice, and shortly after, Justyn Myers, an event producer from LoveTech<sup>112</sup> joined as Editor in Chief. Under Myers’ short-lived guidance, regular content was produced by a group of different writers, including Moldover.

Spurred on by the success of the MIDI Fighter DIY, DJTechtools began production on the MIDI Fighter 3D, their first proprietary Controller in 2012, and included important innovations such as controlling sound with motion using gyroscopic motion sensing. The popularity of Finger-Drumming as an art surged, largely due to the efforts made by Mad Zach - an in-house tech specialist at DJTechtools - whose technical prowess on the MIDI Fighter have made him one of the leading figures in Finger-Drumming today.

In 2013 DJTechtools crowd-sourced designs for the MIDI Twister from their forum, in order to create an offshoot of the MIDI Fighter that would replace the Sanwa arcade buttons with customizable knobs, opening up DJTechtools to digital mixing as well. With DJing, Finger-Drumming and mixing Controllers for sale and a burgeoning forum, DJTechtools cornered the independent Controller market.



Figure 32 - Crowd-sourced designs for the MIDI Twister. Image retrieved from djtechtools.com

<sup>110</sup> URL: <http://www.controllerism.com/> (date of last consultation: 3<sup>rd</sup> of March, 2017)

<sup>111</sup> URL: <http://www.publicsf.com/events/the-west-coast-championship-controller-battle> (date of last consultation: 19<sup>th</sup> of March, 2017)

<sup>112</sup> URL: <http://web.archive.org/web/20161227205329/http://lovetech.org> (date of last consultation: 7<sup>th</sup> of April, 2017)



In the same year, Myers left Controllerism.com and Vladimir Coman-Popescu joined as editor, helping to expand the range of content, but this too was short-lived. By 2014 it had become clear that Moldover and Vlad were more interested in exploring the creative and performative potential provided by Controllers, than developing credibility among the global surge of Controllerists, or monetizing the website for personal gain. In 2015, Moldover put an end to Controllerism.com.

His farewell post was published on November 2015 under the title "A Brief History of Controllerism.com", where Moldover intertwines his personal history with the history of Controllerism and expounds on the ambitions and motivations behind the term, as well as some of the history since its inception. This cemented the definition of Controllerism as a musical practice, making it clear that Controllerism could not be solely defined as the practice of digital Djing using Controllers. The overwhelming amount of new Controllers that fit the definition of Controllerism as "the art of manipulating sounds and creating music live using computer Controllers and software" is so great that it is impossible to attribute the term to one instrumental practice alone. It is an umbrella term that encompasses a panoply of musical manifestations.

As will be demonstrated in the next chapter, each artist uses their Controllers in a different way, each catering to their specific musical needs and personal visions. In line with the development of Controllers, is the development of Controllerism, a musical practice that cannot be bound to one identity, musical genre or form of practice, but instead encompasses all.

### 3 – Observing Controllerism: The Ethnographic Process

“...[T]he belief that the experience of fieldwork, whatever its methods or even in the absence of methods, constitutes the sine qua non of the state of being an ethnomusicologist. In this credo we have the privileging of ontology (being there) over epistemology (knowing that), and the beginning of a potentially fruitful turn away from fieldwork methods toward fieldwork experience. According to this credo, sometime during or after fieldwork, one becomes an ethnomusicologist. In effect, the self is transformed and reconfigured in the act of understanding one's own or another culture” (Rice 2008:46).

Due to the challenges posed on objectivity through various biases such as non-representative sampling as well as theoretical and personal biases, the process of filtering my findings through my impressions could only be minimized by contrasting focused fieldwork on a single location with in-person interviews – and impersonal ones - from various informants outside my principal location. The degree to which I could recognize noteworthy information from wider regional or national levels, could only be tested in this way. I felt that a relatively microcosmic view could only result in generalized views about the total scope of my research. Hence, I committed to determining the general perspectives as to my principal research questions through various ethnographic strategies, and then funnelling through a single case-study the personal experience there-of.

In most cases, one is expected to develop an identity and role as an actor with his informants and to make in-depth first-hand reflections within a single community, usually only a small part of the entire social matrix and cultural community under consideration. In the case of this thesis, the single community was narrowed down to the musicians with which I collaborated in the same ‘collective space’: the artist residencies. This single community was then contrasted with a wider regional and supra-regional level, as well as a national and supra-national level, through interviews with members that were involved in other artist residencies and shared a living space with us, and other artists that were in no shape of form related to these communal experiences.

Thus I believe it became evident that the principal ethnographic procedures undertaken for this thesis took the form of subject-centred investigation and participant ethnography. Although interactions with informants were many in both kind and number, I have opted to prioritize information gathered through first-hand participatory action during three separate artist residencies with three informants, while using information gathered through secondary sources as a ‘barometer’ with which I could measure the accuracy and relevance of my findings. I denominate the artists with

which I shared an artistic residency as my principal informants, and it was through my conversations with them that the principal questions and topic of this thesis were built, from bottom up.

My choice to proceed in this manner was largely influenced by Slobin and Bakhtin's ideas as explained by Timothy Rice in 'Time, Place and Metaphor in Musical Experience and Ethnography' (2003). I was operating under the understanding that the informants I was collaborating with were - in and of themselves - individual musical cultures, and that our common experience was arising out of the amalgam or juxtaposition of our musical cultures.

As Rice puts it, "experience is not an inner phenomenon accessible only via introspection to the one having the experience. Rather, experience begins with interaction with a world and with others" (2003:157). Under the notion that working through this perspective could lead me to an account of my informants' individual social *authorings*, I situated myself between them, for a first hand experience of an interaction between people that occupied different subject positions but interacted in time and place.

The overarching reason behind my choice to conduct participatory autoethnography is rooted deeply in the shared "understanding that our and our subjects' experiences are no longer contained within local, isolated cultures or even within nation-states but are and have been shaped by regional, areal, colonial, and global economics, politics, social relations, and images" (Rice 2003:160). There were points in common in the different musical character of all my primary informants; they were all proposing innovative musical projects, styles and perspectives, conceptually distant from the mainstream, while using unconventional instrumentation to perform music. As stated by Larkey, "previous assumptions of increasing ethnic and cultural homogeneity ... need to be re-examined as new cultural traditions, language usages ... and musical innovations have emerged in response to the challenge posed by the internationalization of culture" (Slobin 1993).

### 3.1 - Virtual / Digital Interviews

"Virtual fieldwork employs technologically communicated realities in the gathering of information for ethnographic research." (Cooley, Meyzel & Syed 2008:91)

I first learned of the value of virtual fieldwork early on in my research, when I had the opportunity to conduct a telephone interview with Carlos Seixas, producer of FMM Sines World

Music Festival. We spoke of the worldwide growing DJ trend in World Music Festivals, and discussed the ‘exotic’ and ‘indigenous’ presumptions that colour perspectives on World Music today at length.

Due to his nonchalant and humorous demeanour, our conversation was quite informal and at times playful. Yet, there was a particular phrase uttered by Carlos, delivered in a matter-of-fact tone, which I believe exemplifies the pragmatic view, even in World Music circles, that digital music practices have a place in World Music production and performance: “World Music is more than putting barely clothed African ladies on stage with feathers on their head, wearing radiant smiles and their bosoms out as they jump up and down to the sound of stereotyped exotic music. To repeat an aesthetic canon, musically or visually, is to fade into obscurity as progress passes you by<sup>113</sup>”.

How that view plays against what we then called the ‘new World Musics’ that were inclusive of digital instrumentation has become an ongoing debate that leads us to discussions regarding preconceived notions about the authenticity of digital musical instruments when used in a traditional setting, regardless of the artificiality – and, ironically, authenticity – of said setting. Due to the impossibility of meeting in person due to Seixas’ schedule constraints, we were only able to talk by telephone and converse by email. It was Seixas, in one of our ‘virtual talks’ that pointed me towards Batida, a Portuguese Controllerist who had played at the FMM Sines World Music Festival in 2013.

This kind of ‘impersonal’ ethnography has proved quite fruitful in many situations, for it has allowed me to gage ideas and perspectives from informants who would otherwise have no time for me. For instance, talking to Moldover, the foremost pioneer of Controllerism as a musical movement, has only been made possible through online communication, in this case email and video-chat. I approached Moldover by email, having found his email address through the registrar data in a who.is search<sup>114</sup>. Moldover replied and accepted my request for a video-chat interview under the condition that I allow him to record it for use in social media and other marketing actions.

My interview with Moldover was extremely revealing, as his first-hand experience of the various stages in the expansion of Controllerism as a performance practice gave me important insights into its history, developmental tendencies and possible future directions. His emphasis on creativity, sharing and community, when allied to his visionary outlook towards the potentialities present in current technologies, painted a promising future to Controllerism as an art form.

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<sup>113</sup> My translation into English from my notes of our conversation in Portuguese.

<sup>114</sup> URL: <https://who.is> (date of last consultation: 9<sup>th</sup> of October, 2016)

Wikipedia definition of who.is: WHOIS (pronounced as the phrase *who is*) is a query and response protocol that is widely used for querying databases that store the registered users or assignees of an Internet resource, such as a domain name, an IP address block, or an autonomous system, but is also used for a wider range of other information. The protocol stores and delivers database content in a human-readable format.

The differences with what Moldover recounted and what is ‘immortalized’ on the internet were also elucidative as to invested interests - on a self-serving or economic nature - by various important stakeholders in the evolution of Controllerism into its current form.

Early on in our video-chat, Moldover asked what my intentions were in talking to him about Controllerism, to which I replied: “My Master’s thesis is about Controllerism, particularly about Controllerism as a form of music production and musical practice on stage, specifically as a musical instrument that potentiates creativity and allows you to improvise. My goal is also to dig deeper into the history of Controllerism with you. You coined the term Controllerism, can you tell me more about the process that led you to coin the term?”

“I was doing what I call Controllerism a lot for several years before I started using that word for it, and one of the most challenging things I ran into was explaining to people what I was doing and how it was different from existing musical practices. People are familiar with what DJ’s do, and are familiar with what musicians do with musical instruments, and this is somewhere in the grey area in between, and it doesn’t have a great name. I had friends who had been doing it also, and they would say things like: “Oh, I’m a live P.A.<sup>115</sup>”, or “ I do live electronic music performance”.

There were a few words or phrases like that which already existed, but they felt like a mouth-full, and had this roundabout way of explaining themselves that pointed to earlier generations of people that were making electronic music. I just wanted a really easy way to communicate what I do and establish that it is different from previous generations. It was very much about this new generation of music software, and this generation of less expensive, more accessible Controllers that were easier to use.

Those two things were coming together in live music performance; that’s what I was doing and it felt like it needed its own name. So, coining the term made it easier to communicate what I was doing to other people, and it was a kind of wake up call to other people that were doing the same thing. It was a way to build the community, communicate the idea and also establish myself as a kind of leader in that community.”

Hence Moldover’s initial motivations were to build a community, share his knowledge, join like-minded individuals and establish himself in the *scene*, but how did he perceive Controllerism as a creative practice? I asked: “From what I’ve seen, one of your main focuses is creativity. How important is the creative potential of Controllers to you?”

“To me it is very important. I was working on it really intensely at a time when there was this very blank slate, and it felt like I had these incredibly powerful software tools, specifically Ableton Live which was a really amazing sample playback engine; and REAKTOR from Native Instruments, which I was using to do radical things with effects and signal processing. In between those two pieces of software it seemed like anything was possible. I just had to work on it hard enough, and sometimes find someone to help me, but I could develop whatever I wanted, and use it on stage in a matter of days. So creativity to me was

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<sup>115</sup> A P.A. (public address system) is a sound amplification system.

at the core of it. Those two software engines came to the user without a dedicated workflow.

These newer solutions from the same companies...Ableton has the Push hardware, its their own Controller that's tightly integrated with their software, and they worked really hard to find smooth, efficient and specific ways to make music. There's a step-sequencer where you can turn on the lights and you've got a beat. There's a clip grid where you can use these buttons to display information that is normally in the software, and now it is in front of you in the hardware. Native Instruments has done the same thing with Maschine.

I think that because I came into this world using tools in a much blanker canvas than the one that exists now, it is primary to me to develop some aspect of the tool as well as using the tool; because there's nothing defined...to me that's the most exciting part. I have a background as a traditional musician, I play guitar. I've played in bands, and I was never inspired by playing cover songs. I always wanted to write original music; I always wanted my voice on guitar to be an original thing; I was always fascinated by the guitar players who did something really radical with it, and played it in ways that hadn't been played before; processing the sound through effects that hadn't happened before. Some of the things that get me excited about music are innovation and novelty, and just...new ground essentially."

One of Moldover's primary drives appeared to be the assertion of Controllerism through Technicity; by the act of expressing his identity through his relationship with technology; and the extent to which technology in his case could mediate, supplement, and augment the collective life of the community. As the technology that informed the manufacture of Controllers and development of software evolved over time, Moldover had found that the feasibility of many of his ideas had become realizable. I asked: "When you started out, Ableton wasn't as evolved as it is today, and Controllers of course were not as evolved as they are today. You've been building your Controllers all along. Were you trying to control the software in a creative and artistic way, by integrating the *live* aspect of playing with the potentialities inherent in the software?"

"Sounds like you're asking about the physical interface and the importance of that, is that it?"

"Yes."

"That was the important realization that led to the word Controllerism. I had a flash of insight when I started hacking up Controllers for the first time. I had reached the limits of what this relatively inexpensive store-buck kind of Controller could do, and I thought: "This just isn't it, I need to modify this thing, and combine it with that thing...I need to physically change this piece of hardware. Because software was, and is, so much more malleable. I wasn't doing anything radical with the hardware, and when I finally did, that's when I realized the importance of the physical interface for any musical instrument.

You can design any piece of software that outputs generative algorithmic sound based on brainwaves, and you won't have to ever touch it, and it can be doing really amazing things; but there's something about the human experience as a whole that's very much about touching and feeling things, using our senses. It is our agency as physical beings, with physical objects, that makes music the satisfying experience that it is to play. So yes, it was me realizing what a key part of that equation the physical instrument, or what we call the Controller is,

and that's why I thought Controllerism is a great name, because it drew emphasis to that physical thing which – when you start making music with software and computers – is not always obvious. It's like: "Wow! This software can do so much; I can see every menu..." There's so much power in the computer that I think it is possible to overlook the peripherals. We even call them peripherals, not primaries.

That, as well as pointing to the word Turntablism, which was already a recognized term and a musical practice that I thought had a lot of parallels to what I was doing, and a community of performers, which is what I wanted to grow. so Controllers and the live aspect of performance are key to the way I look at Controllerism."

It was interesting to me that Moldover placed such importance to the idea of building a community around Controllerism, and also that he had made allusion to a parallelism between Turntablism and Controllerism. Moldover had mentioned that his friends were also experimenting with using Controllers in live settings, and that he had taken it upon himself to create an umbrella term that encompassed all the different stylistic performance strains that were being created. To what point were all the pioneering artists informing each other, and together defining this new musical practice? Had he somehow come to a realization that in order to develop Controllerism, he would need other inputs? I wondered if Moldover had intentionally sought to promote this kind of interchange, and asked: "When you began looking towards creating a Controllerism *scene* were you looking to create a *scene* where you and other like-minded people, other Controllerists would perform live and you could 'feed off'<sup>116</sup> each other?"

"Yes, there were a couple of experiences that taught me how important community is to grow any kind of creativity, any kind of art form. Maybe it was music school that gave me the impression that's its all about the individual, and the ego, or maybe that's just American psychology, but I then realized mostly in going to Burning Man<sup>117</sup> – basically through people I met in that circle – that there's this very collective vision of creativity.

I was also inspired by learning about Turntablist culture, and how that grew with things like battles. Well, a musical battle is almost an oxymoron, but the idea is to create a competitive spirit; to inspire you to push your crafts to a higher level. Performance can be going deep into your own thing, or it can be looking at other people's things; borrowing ideas from them, building on them. That's what I was excited about; gathering a group of people who's doing it, and how can I get us sharing ideas and inspiring each other. Building a community; starting a monthly event in New York City; building Controllerism.com website, and making the YouTube<sup>118</sup> video that was kind of saying: "Look, here are all my secrets. I've spent all this time organizing them and you can borrow them all." Those are all motivated by the interest in building community."

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<sup>116</sup> To 'feed off' as in to inform, influence and share knowledge.

<sup>117</sup> Burning Man is an annual experiment in temporary community dedicated to radical self-expression and radical self-reliance. Burning Man is also a thriving worldwide community of participants, with events happening all over the globe. Source: burningman.org (date of last consultation: 19<sup>th</sup> of June, 2017)

<sup>118</sup> URL: Part 1: <https://youtu.be/L2McDeSKiOU> & Part 2: <https://youtu.be/dznjQlarboY> (date of last consultation: 5<sup>th</sup> of July, 2017)

This aspect of communal informative experience between progressive thinkers dedicated to an art form is present in Controllerism's early history as a term (see chapter 2.3), and was key in the maturing of various performative strains existing today, yet there was something very unique about Moldover's ambitions for Controllerism that contrasted with the approaches evidenced by independent and corporate manufactures at the time. He was taking the idea of collective growth further than simply building community and the interchange of methods and ideas; by expanding the concept into one that encompassed collective experience in the true sense of the word; as involvement that was experienced in conjunction, collectively by present parties. I asked: "You've built a lot of collaborative Controllers right? You built Controllers that more than one person can play at once, and that's not something that is seen with other Controllerists, or even companies that build Controllers. The aspect of collaboration."

"I called those Jamboxes. I didn't know what to name them in the beginning. They're very much motivated by the interest in getting people to collaborate, and using my skills to circumvent the work it takes. Even now. I was having this discussion in an interview yesterday about how much work it takes if you're just getting into this. What tools to buy? There's different ways to connect them...so many steps between wanting to make electronic music and actually putting music up on the internet. Jamboxes are made to circumvent all that. To have the immediacy of something I would call a Folk instrument, or a Guitar. I was really just using the resources I had at hand to create *that* kind of experience with the tools I use.



Figure 33 - Moldover's Octamasher Jambox is now property of Jesse Stewart (in image), who is an associate music professor at Carleton's School of Studies in Art and Culture. Image: jamboxes.net

They're awesome devices, I don't call too much attention to them because they're still so radical. The way that I'm building them is pretty complex. They're really important to me and I think in the future I'm going to package them in a way that makes them more affordable, simpler, and modular so you can hook them up to other stuff. I think there's a pretty exciting future for Jamboxes. They're in the spirit of not only forming community with people that use similar techniques, but also in them making music together, at the same time."

His altruistic vision seemed to be charged with intended plurality. In my mind I was attempting to imagine what the future of Controllerism would be like if all stakeholders shared that same breadth of view. I envisioned a scenario where physical barriers dissipated and artists could use Controllers



to virtually play any instrument, historical or inexistent, simultaneously with people from all corners of the globe. Yet, before such grandiose ideas were ever made possible, technology, and Controllerism as a performative art form would have a long way to go. Moldover certainly imagined an inclusive future as well, so I had to ask: “Where would you like to see Controllerism go in the near future? Do you have a vision for the future of Controllerism?”

“I had a vision for the future of Controllerism ten years ago, and it more or less happened. I don’t have a huge vision for the rest of it, except for what is happening in that its becoming more pluralistic. My vision for the future resides in the Jamboxes and a more collaborative, simple way to access the ideas of Controllerism.

I love that it’s branching into all these professional realms, professional instruments that are really expressive. Things like the Haken Continuum<sup>119</sup> have inspired things like Roger Linn’s Linnstruments<sup>120</sup>, and the ROLI Seaboard; these multi-touch polyphonic expressive Controllers that are super advanced. Those are the kinds of things...I’ve finally got one in front of me and it’s been a long time coming because they’re so advanced and thus used to be pretty expensive.



Figure 34 - The Haken Continuum. Image: hakenaudio.com

So, there’s stuff like that, there just a proliferation of them, as cheap as Folk instruments, where a Finger-Drumming instrument will only cost \$99 and you can hook it up to your phone and then have an amazing sample-based instrument right there. There are websites that teach you Finger-Drumming. Melodics.com is a website dedicated solely to that. The plurality of it is super-inspiring and my hope is that it continues like that, a little part of me hoping that Controllerism continues to be used as a word to describe it because I still think it is a really useful word.

I also hope that it remains inclusive. I like the idea that this is something participatory and inclusive, that lots of people can participate in, and not like: “No, Controllerism is X, Y and Z, with Controller Q, R and S and everything else is a no. Finger-Drumming is something else, and live looping is something different.” To me they’re all in the same circle.”

I agreed with Moldover’s assertion. This was an art form still taking baby steps towards find its identity, and splitting it into sub-genres may only serve to dissipate the momentum and grind the

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<sup>119</sup> The Haken Continuum is a music performance controller and synthesizer that allows unprecedented real-time performance control. With a greater pitch range than a traditional 88 note Midikeyboard, the Continuum offers continuous control in three dimensions for every finger that is placed on the playing surface. The Continuum is designed by Dr. Lippold Haken, a professor of Electrical and Computer Engineering at the University of Illinois, and manufactured by Haken Audio, located in Champaign, Illinois. Source: hakenaudio.com

<sup>120</sup> See: rogerlinndesign.com/linnstrument.html

movement to a halt. Giving Controllerism a wide berth could allow for sustained growth and be inclusive of peripheral developments, no matter how strange in form, shape or size. The formation of communities surrounding Controllers and Controllerism had certainly fomented this kind of empathetic plurality, yet the blossoming of fringe aspects of Controllerism into embraced commonalities had to be determined by the inspiration –and perspiration - of hard working individuals that were bold enough to trail their own path, no matter how underground<sup>121</sup>. I was interested in knowing what Moldover would answer when questioned about his part in Controllerism going forward, and asked: “What role do you see for yourself in this future vision of Controllerism? Are you going to continue progressing down the path you’ve been following for the last ten years, or have you planned a new direction as an artist and as a Controllerist?”

“I just kind of follow my inspiration, so for the last bunch of years I’ve been doing original pop music and developing hybrid instruments, like building Controllers into Guitars, things like Guitar Wing which is a Controller that you can attach to a Guitar. I’m working on an augmented Microphone instrument I call the MC1...have a new prototype that I’m working on... I’m taking the instruments I know best, the Guitar and now the Voice<sup>122</sup> and trying to build controllers that augment those instruments in a more fluid and expressive way. That’s been a big focus for me as far as Controllerism goes, and I think that’s a cool direction. I was listing all those other kinds of instruments for Finger-Drumming and Looping<sup>123</sup>, and I think that augmented instruments are a whole other category.

Also the Jamboxes, they’re not a primary focus, but are a secondary thing that I am doing that I think is a really good service. It’s not very self-serving, I think it’s a great idea that still has yet to be fully realized on the scale that it could be.

And then there’s supporting other Controllerists. In the last few years I’ve made some Controllers for Bassnectar<sup>124</sup>, I set up DJ Shadow’s<sup>125</sup> current performance setup, and I maintain that. I did a bunch of work for Mickey Hart<sup>126</sup> you know, these artists that have been doing stuff at a higher level, and have a lot more resources, are using my skills to support the work that they do. It’s really gratifying for me actually. I just see how valuable the work that I have done is.

When you do a lot of work as a performer, as an artist, making your own things ... regular people do not necessarily recognize the value of that. They think it’s cool, but they’re not saying: “Hey, come over to my house and teach me how to do that.” So it’s cool to take validation from artists that are essentially more famous, established and successful. Validation for my crafts, seeing that they have a use for it, like: “Oh, I’m going to get the godfather of Controllerism to set up my Controllers, because I can.”

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<sup>121</sup> In music ‘underground’ is representative of forms, sounds, attitudes etc. that are not mainstream or have not been popularized.

<sup>122</sup> Capitalized due to its interpretation as a musical instrument.

<sup>123</sup> Capitalized due to its interpretation as a musical practice.

<sup>124</sup> See [bassnectar.net](http://bassnectar.net)

<sup>125</sup> See [djshadow.com](http://djshadow.com)

<sup>126</sup> See [mickeyhart.net](http://mickeyhart.net)

Moldover was invested in the technological evolution of the art form as well as promoting its comprehensive aspects, but Controllerism's inclusiveness also gives way for a significant array of expressive manifestations, particularly as virtualization technologies continue to grow and proliferate. Some of the promising examples – like the ones discussed in chapter 2.2.3.2 – are poised to revolutionize our very understanding of what Controllerism represents as an art form and as a performative practice. The shining beacon of which are wearable Controllers, and the possibilities of interfacing dance and light shows with music, for example. In my next question I intended to ascertain what Moldover's views on these possible near-future outcomes were. "Do you see any future in the world of Controllerism for wearable Controllers? Controllers for dancers, or wearable Controllers that control lightshows for instance?"

"Yes, it's funny you bring up dance, because I've actually been getting more dancers and looking at ways to collaborate with dancers over the last couple of years. That's where I think *wearables* come into play, because I've realized by playing with a few wearable Controllers that the kinds of gestures translated by things like a connect camera which is watching your skeleton, or gloves where you're doing intricate movements with your hands or fingers aren't quite as intuitive to me as an instrument is. There's something about hitting objects, striking strings that's fundamentally different from the kind of movements that are demanded by wearable Controllers.

So I think it's just that: it's dancers who cross the line between dance and music, or a dancer/musician, or someone really good at working with those Controllers. I'm super fascinated by that whole realm and really want to do something with it. I don't think I'd be much good at performing with those Controllers, but I think I'd be really good at setting those up and working with movement artists, to develop how they play them and create better systems for them to control lights, or sound. So I hope to do that in the near future."

Our ethnographic interview was coming to an end. Moldover had given me much to think and write about, leaving me with the impression that I had not glossed over any important questions or issues, but there was something which I could still ask him; something which was not particularly about Moldover at all, but that could possibly be pertinent to this thesis. I asked: "Moldover, outside your own vision, what has been the most surprising form of Controllerism for you?"

"In the last three years I've become friends with Beardyman<sup>127</sup>, mostly it's because in the last four or five years, when he started making his Beardytron5000 - his custom setup with all these ipads, custom software, and Controllers everywhere -, he went from using the Kaoss pads - this off-the-shelf Controller *looper* device - to using a highly customized system, and he's a super-virtuosic improviser, performer and humourist. He's got all these different skills and he's operating them as a phenomenally well designed performance instrument, or array of performance instruments that he designed himself. He struck me as someone that is

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<sup>127</sup> See [beardyman.co.uk](http://beardyman.co.uk)

More at <http://djtechtools.com/2012/12/12/the-beardytron-5000-mkii-building-beardymans-ultimate-live-production-system/>

doing the kind of things that I do but on a level that truly blows my mind.”



Figure 35 - Beadyman performing with the Beadytron5000. Image: twomathews.net

My interview with Moldover was instrumental in clearing up my doubts concerning certain discrepancies in Controllerism’s historical timeline – as found online<sup>128</sup> –, as well as outlying various new investigative routes to follow. It was an instrumental moment in the ethnographic process in that it shaped not only the understanding upon which my further inquiries were based, but also incentivized me into getting more involved with Controllerism on a practical level.

This commitment led me to my next case of virtual and digital ethnography. It was also an important moment to the outcome of this thesis, albeit peripherally. My contact with Kim Bjørn, author of “PUSH TURN MOVE”<sup>129</sup> was born out of the desire to become more involved and actively participating in sharing my love for musical practice. I found “PUSH TURN MOVE” through a kickstarter<sup>130</sup> campaign, and felt compelled to become a part of the collective investment team in its publication. After *pledging*<sup>131</sup> for the campaign, I was given access to an internal contact form with which I could write to the owner of the campaign, which happened to be Kim Bjørn; the author. Upon receiving my message Kim was kind enough to reply and give me his personal email. We then exchanged emails

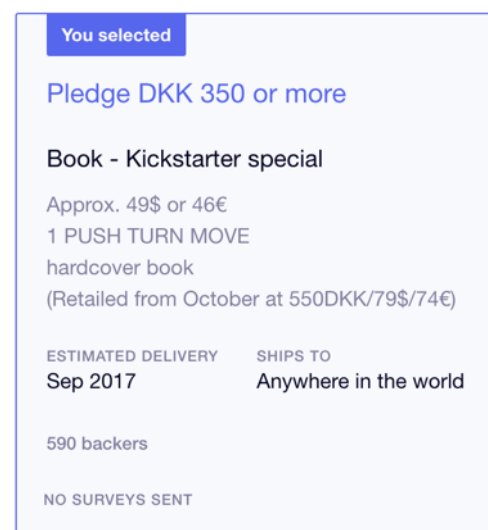


Figure 36 - My pledge for the book 'Push Turn Move'

<sup>128</sup> No official literature exists to date detailing Controllerism’s timeline.

<sup>129</sup> URL: <https://www.kickstarter.com/projects/1795693416/push-turn-move-interface-design-in-electronic-musi> (date of last consultation: 7<sup>th</sup> of August, 2017)

<sup>130</sup> URL: <https://www.kickstarter.com> (date of last consultation: 7<sup>th</sup> of August, 2017)

<sup>131</sup> To ‘pledge’ a campaign is to financially support it by ‘buying into’ one of the available ‘rewards’.

regarding the subject of ‘Controller evolution’, which spurred me on to investigate developments in Controllers such as the ROLI Seaboard, the Linnstrument and the Sensory Percussion.

Virtual ethnography has also allowed me to be in direct contact with other researchers, with whom I have collaborated with in pursuing certain avenues of research in mutual benefit. For instance, I have much gratitude to show to Dylan Kell-Kirkman from Canada who I met in an online forum<sup>132</sup>, and with whom I maintained an ongoing conversation on the structural analysis of Augustus Pablo’s “King Tubby Meets Rockers Uptown”. As this song marks a seminal moment in the development of Dub music and by association Controllerism, Remix Culture and most electronic musical genres (Chang 2006; Hess 2007; Burnard 2012; Sullivan 2014), it plays an important part in this thesis. Dylan had produced a paper for Phillips Tagg’s “Analysis of Popular Music” class<sup>133</sup> utilizing Tagg’s methodology for analysis, which I found most instructive and helpful. He allowed me to read his paper, and compare his extrapolations with my own, helping to substantiate my analysis and fine-tune my methodology.

Although a minor part of my fieldwork (if one can call the internet a ‘field’), this channel for investigation has yielded great results. It gave me the initial orientation for this Thesis, and it has allowed me to speak directly to the originator of Controllerism; to an author in the process of providing a state of the art on Controllers today; to various academics with shared interests; to other Controllerists, and numerous other minor informants conversed with via online forums, social media and email.

### 3.2- Classic Interviews

Much of my fieldwork was not conducted as subject-centred ethnography, for that methodology was reserved for my principal informants during artist residencies. Of the remaining 17 interviews conducted with musicians who were not Controllerists, responses were for the most part homogenous and congruent. I aimed to establish a baseline from which to build a picture of the general awareness about Controllerism as a musical practice among other musicians, and also gather their responses to other questions that could possibly give me new clues or investigative directions. It was important for me to gauge how they viewed the increasing role of Controllers in the studio and

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<sup>132</sup> URL: <https://www.talkbass.com> (date of last consultation: 11<sup>th</sup> of February, 2017)

<sup>133</sup> A course entitled MUL 6250 Analyse de la musique populaire, offered at the Faculté de Musique, Université de Montréal between the years of 2005 and 2009.

on the stage. Was the general outlook towards Controllers cast in a positive or negative light, or were there divided opinions? The following bullet points detail some of my findings:

- Almost all informants were unaware of the wide variety of Controllers in the market.
- There is a generalized negative view surrounding DJ's that 'just press play', because of a lack of 'musicality' in their performance, yet played electronic music and usage of samples in live performance is welcomed.
- Less than half of my informants had ever heard of Controllerism as a musical practice, although all admitted that playing Laptops and Controllers musically should be deemed as an instrumental or musical practice.
- Most were welcoming of the possibilities Controllers introduce for faster workflows in the studio, while few preferred 'traditional' workflows.
- All artists coincided on the opinion that Controllers are erroneously not classified as musical instruments.
- All artists agreed that traditional instrument classification does not have a 'proper taxonomy' for Controllers<sup>134</sup>.

The homogeneity of these findings, although making perfect sense to me, made me doubt as to how 'clean' my ethnographic process was. In fact, I became suspicious of the outcome of many of these interviews with what I was considering to be 'random' informants. If all local informants considered me 'one of their own' and had a preconceived idea of who I was, what I represented as an artist, and where I was heading artistically, could they not be 'playing' into my intended results? This doubt ruled out more than half of them, and although the remaining half did not know me personally at the time of the interviews, the fact that they had met me through introductions by mutual acquaintances, or meetings in social spheres or varied provenances, I still suspected that the results might have been tainted by some degree of idealization due to my standing in Portuguese music. I was essentially suspicious that the early success I had achieved with my band<sup>135</sup> had translated into a reputation that preceded me, and potentially influenced the behaviour of my informants. So, to test this hypothesis and challenge the homogeneity of my results I resorted to two

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<sup>134</sup> Electrophones were added in 1940 as a fifth category to the Hornbostel-Sachs classification system, which includes three sub-categories:

- 1) Electrically actuated acoustic instruments
- 2) Electrically amplified acoustic instruments
- 3) Instruments which make sound primarily by way of electrically driven oscillators (Fehér, 2017)

None of the above sub-categories include the possibility of Controllers, which cannot make or create their own sounds but instead trigger or actuate sounds from an external software or hardware source.

<sup>135</sup> Primitive Reason (since 1995).

situations that I knew would either confirm or debunk my previous findings.

In winter 2016 and spring 2017 I travelled to two completely distinct areas of the world. Distinct in nature, culture, setting and rhythm; the dichotomy between the two being such, that I considered similar findings to be irrefutable proof of a generalized standpoint. The idea among musicians that Controllers were in fact musical instruments and as such deserved a place 'at the pantheon' was confirmed by these two ethnographic encounters. They were particularly note-worthy due to the off-hand nature of the informants themselves, because my reputation in the 'Portuguese music *scene*' was unbeknownst to them, and could in no way affect their responses.

### 3.2.1 – Tokyo

During winter, 2016, I travelled to Tokyo to meet up with Tact Hirose, a musician I had met in Portugal when his band 'Kiwi Papaya Mangoes' performed in Lisbon, at the second edition of the Japan Festa<sup>136</sup> in 2011. Their music can be described<sup>136</sup> as a mix of various World Music 'flavours' with a prominence of influences from musical genres found in Brazilian, Jamaican, Japanese and African musics. For all the 'globalized' diversity found in their music, it was clear that they placed emphasis on the aesthetics of traditional acoustic instruments; bringing with them various instruments that made travelling logistics complicated for a band that flew from Japan to Portugal. The fact that they'd made the effort to bring a 20" Brazilian Surdo which was used sparingly, rather than use a drum trigger with audio samples of the Surdo, told me that they placed a lot of importance in the World Music acoustic aesthetic.

When I heard their mix of Japanese Enka and Jamaican Dub Music, being a fan of different qualities in both genres, I became enamoured with the resulting sonority and decided that I really had to meet with them and 'talk music'. So I made my way to where the musicians were resting after the show and introduced myself to them. Tact, who was clearly the band leader, recognized that my interest went beyond an ephemeral fascination, and made a concerted effort to answer my questions in broken English. We were then joined by a representative of the Japanese embassy, who upon seeing that we were communicating, approached us with the intent of making sure that neither of us became 'lost in translation'. As the conversation progressed, he told Tact that the previous year, I had given a concert on the same stage performing interpretations of traditional Taiko rhythms on hybrid drum kits with another drummer<sup>137</sup>. Tact seemed impressed and assumed a more relaxed

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<sup>136</sup> A yearly event in Lisbon that is organized by the Japanese embassy and showcases Japanese culture and recent trends.

<sup>137</sup> URL: <https://www.youtube.com/watch?v=SJwg5rQpa2Y> (date of last consultation: 6<sup>th</sup> of June, 2017)

posture, allowing himself to move the conversation into another level of familiarity. I was thankful for the gesture and after a long talk we exchanged contacts, eventually developing a lasting friendship through various internet chats and personal visits when in each other's country.

Last winter I met Tact in Ueno for dinner at a local Izakaya<sup>138</sup> to interview him 'officially' for this Thesis. He knew that I was going to press him with questions about electronic instrumentation, or lack there-of in his band's live set, and was worried that his English would not suffice to put his points across, but he was comfortable as we were in his local turf, and trusted that I wouldn't put him 'on the spot'.



Figure 37 - Tact and I at the Izakaya

We ate whale bacon, Kusaya grilled 'stinky' fish, Natto (rotting beans) and drank our fill of beer and schochu (potato whisky) while we conversed the night away. The setting was perfect for me to get the 'non-political truth' from Tact; the drink making our gestures adamant and our tone boisterous as we discussed heart-gripping topics such as the dichotomy between hand-crafted instruments

and mass-produced Controllers; the aesthetic effect on stage; the benefits – or losses – from not necessitating countless hours of practice to master an instrument; and other themes that led to the bottom-line issues of Authenticity, Appropriation, Technicity, Mobility and improvisational Flow present in this thesis. Tact had already corroborated the homogeneity of my findings with other 'non-Controllerist' musicians, but he gave me more insight into important considerations for chapter four.

After we parted I was lost for hours inside - the impossible to navigate for a foreigner - Tokyo railway system on my way home, which gave me a great opportunity to jot down notes and piece together a transcription from a recording I had made on my smartphone. An unsound methodology I'm sure, but useful at the time nonetheless.

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<sup>138</sup> A local Japanese 'watering hole' one could call it, similar to Portuguese 'tascas', or Spanish tapas restaurants, where one goes to drink and eat local delicacies.



### 3.2.2 – Órgiva

In Spring 2017, I travelled to the Alpujarras in the mountains of Granada, Spain with my brother, the anthropologist Ruy Blanes. Between the two of us there were several avenues for investigation we wanted to explore, one of which was to travel to Órgiva, so that I might talk to local musicians and hopefully find an informant that would confirm or disrupt my preliminary findings.

On a previous trip to the region I had become fascinated by the cultural diversity of this small town, with its mix of hippies, retired foreign expats, Sufi Arabs and local Spaniards. Órgiva is a small town, in many ways a typical Andalusian one, a little on the empty and slow side; but something about it was peaking my musical interest. What, if any, kinds of musical mix occurred between these three communities? Was there any mixing at all, or was there intended avoidance? How did the people from the hippie communes, some of which have no electricity, or internet for that matter, view more electronically hybrid World Music? And how would they feel about Controllerism if it were used to play traditional World Music? How do the locals feel about the musical practices brought into town by the foreign communities? In theory, we might have found a musical hub where the ‘Duende’ in Flamenco had an ongoing dialogue with both Sufi trance and mysticism, and the habitual hippie ‘openness’ to altered states of conscience.

We arrived at Órgiva at lunch hour, under the searing heat that typically haunts the mountains of Granada. Ruy and I decided to take a reconnoitring stroll around the town before visiting ‘Baraka’, the local halal<sup>139</sup> café where most ‘alternative types’ usually gather. As we came to understand later, mobile technology was rarely used by most community dwellers, which meant that central gathering places were sought after as meeting points, places in which to socialize, advertise services, connect to the internet and communicate with the ‘outside’ world.

Our hope was to talk to resident musicians from one of the communes located at the surrounding mountain range. After conversing with the owner of Baraka, he introduced us to Abdullah Bravo, a Spanish convert to the Sufi faith, who had adopted a lifestyle without modern commodities. Abdullah explained that very few ‘mixed bands’ were formed in the area because of the transitory nature of the foreign inhabitants. There were bands of course, but they were formed by the local Spanish youth, and rarely included outsiders because their lifestyles did not sufficiently coalesce so as to warrant such ventures. For the so called ‘outsiders’, generally foreigners that

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<sup>139</sup> Halal, is also spelled as hallal or halaal and habitually refers to permissible food and drinks in traditional Islamic dietary laws.

ascribed to alternative social structures and points of view, it was more a case of ‘jamming when together’, in a free spirit of flowing improvisation, as opposed to scheduled rehearsals and writing structured songs. There were no schedules at all among them, people gathered spontaneously and those that brought musical instruments and were in the right frame of mind and inclination would

play music together. Seeing that these improvised events were usually outdoors there was no possible application for Controllers, and so I could find no example of Controllerism in such an environment, yet the visit was still a fruitful one, as the ascribed tendency towards improvisation and ‘going with the flow’ was very informative as to what local musicians were looking to get out of their music-making practices.

I concluded that the simplification of processes and quality of experience vastly outweighed any need from lasting results in song form or music reproduction; each moment returning to the finite ephemeral condition of yesteryear lived once in an unique and unrepeatable moment.



Figure 38 - Advertising board with various messages demonstrating predominant activities.

Surprisingly, there was no ill sentiment towards Controllers. Abdullah felt that he represented the general outlook on this subject as he told us that ‘making music’ was not something that could be boiled down to classic musical instruments and singing alone. For them it was a question of keeping it simple, reducing attachments and lessening possible complications that could hinder the quality of experience. Electronic instruments weren’t necessarily bad in that that they did not necessarily make ‘bad’ music. What they represented was a need for electricity. A limitation much better avoided when looking to freely play when inspiration struck. On the other hand, if one was living in a fully electrified environment, if Controllers provided access to sounds otherwise inaccessible, and if they made playing those sounds easily manageable in an organic manner, then

Controllers were a boon for creative agency and conduits for musical flow.

Finally, Abdullah reported that some music groups in Granada were producing a hybrid kind of World Music, mixing electronic elements with traditional musics from North Africa, the Mediterranean and elsewhere, but that to his knowledge there was no retrofitting of Controllers into traditional instruments. This was in accord with other research I had conducted on that topic, and also matched the opinion of a Granada-born Controllerist that now resides in Berlin and with whom I had the pleasure of conducting an artistic residence in 2015 (see chapter 3.3.2).

### 3.3 – Residencies

In the Springs of 2014, 2015 and 2017 I was invited by the Westway Lab<sup>140</sup> - an organization that hosts yearly PRO Conferences and artist residencies - to participate in three distinct artist residencies in the city of Guimarães in Portugal. This provided me with the opportunity to conduct subject-centred study into the experience of individuals and groups of individuals linked together by commonalities such as a place, space, time, work, all within the overarching sub-genre of World Fusion Music. Spread out during the three different residencies I was coupled with five artists, three of which are Controllerists and became my principal informants for this thesis. They were: Yannick (Cairo Liberation Front) from the Netherlands in 2014; José (Kid Simius) a Spaniard living in Berlin for the 2015 residency, and Pedro (Batida) from Angola and Portugal in 2017.

In all cases, my target was to conduct a cohesive mix of participant observation and in-depth interviewing for all three residencies, which I believe to have accomplished. The interviews at the artist residencies revealed to be the greatest ethnographic source for this thesis. The challenge of living and working day-in and day-out with complete strangers proved conducive to the creation of what one could define as an 'improvised familiarity', where a blurring of private and public spaces spurred us on to prioritize tasks, simplify objectives, and show each other compassion, as well as indulgence. Private spaces became less important than would normally be the case in situations with less time constraints, and in return, socialization gained prominence in lieu of its therapeutic value.

In general, daily routines were established by empathy. There were certain hours in which we gravitated to common areas, such as the living room or the kitchen, where we shared our meals, our

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<sup>140</sup> URL: <https://westwaylabfestival.com/2017/03/24/residencias-artisticas-2> (date of last consultation: 6<sup>th</sup> of June, 2017)

stories and details of our lives. Usually we all invested our mornings in our allotted studio; diligently working on our sets<sup>141</sup>, and then we would meet in the kitchen at lunch hour, where we would digress between customary small talk and deeper conversations about our lives in our home countries, and about our careers as musicians. Although we all hailed from geographically distant areas, there was a noticeable sense of community, perhaps ascribed by a common dedication to music as a way of life and profession. When discussing this issue we arrived at the conclusion that - in the end - we all 'spoke the same language' as if we were born of the same land. Our shared interests and desires effectively imbued a 'team spirit' among all participants of the artist residencies.

Perhaps a second influence was at play in fomenting the notion of familiarity of all participants. It could be that the act of continuously repeating processes together; sharing objectives and concerns day in and day out made us feel as if we were in vacuum; haunted by the impending urge to materialize our creations on stage, hoping to, in the end, step back from a consuming creative process that was taxing to say the least. This familiarity with my informants made them receptive to my questions about matters of professional or personal nature, without showing me any kind of restraint or suspicion.

Fortunately, in our daily routines there were plenty of moments for me to sit down with them and talk, as it was common to take frequent breaks to rest our minds from work. These moments provided me with the perfect opportunity to conduct interviews. In some occasions, early morning sessions were slow and we would naturally converse lightly; skirting around subjects related to our profession: either voicing frustrations or recalling happy times and good experiences. These informal moments were very valuable to me; for they granted me a glimpse of their personal opinions and their preoccupations in relation to their musical practice and career. Curiously enough, these kinds of situations and workflows tended to repeat themselves with some consistency throughout all three residencies.

I found another ideal setting at the local café, one which always provided an abundance of information; where the older men of the town usually gathered to play cards or domino and watch the football matches on television together. It was the perfect location to dispel the lethargic feelings and the mental saturation provoked by the demands of intense concentrated effort for hours on end. A noisy environment, but one which lent an adequate sense of privacy to our group conversations, and it was common for all the musicians involved in the different groups within the artist residency

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<sup>141</sup> A 'set' in this context pertains to the 30 to 45-minute musical performance each group was expected to create, produce and perform *live* at the end of our residency.

to visit the café; some after lunch, and most after dinner to wind down after a day's work. In that setting, I interviewed many of my secondary informants, some of which became good friends of mine.

### 3.3.1 – 1<sup>st</sup> Artist Residency – From Cairo and Tilburg

For the 2014 residency I was allowed to choose between a roster of over one-hundred different artists and bands. After spending many hours listening to over fifty of them, I finally came across the music produced by Cairo Liberation Front<sup>142</sup>. Although I do not understand Arabic, I was immediately struck by their sonic representation of a revolutionary philosophy that mixes old and new musical genres in a dualistic reverential and challenging tones. I should explain why it was so recognizable to me: since 1993 I have had the fortune of belonging to a band<sup>143</sup> that has raised a flag of non-conformist philosophies and critical thought in Portugal, a band with a very similar philosophy. Thus, from experience, their music clearly sounded like a music that spoke out, on the one side joyous and danceable, but on the other laced with meaning and social critique. As I researched deeper I discovered that not only was this genre of music spear-pointing and heralding social change in the streets of Cairo during the revolution of 2011, but that new technologies and Controllers were being used as bastions of this new sound.

My choice was made, and fortunately their interest was reciprocal, and so I was paired with Yannick Verhoeven and Joep Schmitz, the Dutch DJ duo that go by the name of Cairo Liberation Front, and specialize in Electro Chaabi, otherwise known as Mahraganat music<sup>144</sup>. Yannick, Joep and I had three and a half days to compose and prepare a half-hour performance, yet upon meeting in person for the first time, and discussing this time-constraint, I sensed that this would not be a source of stress for us. Their demeanour was relaxed and they seemed genuinely appreciative of the opportunity to share such an adventure with a complete stranger.

That first afternoon and ensuing night we spent debating artistic direction and discussing which instruments we should each play. I was very curious as to CLF's<sup>145</sup> choice of musical influences, as the principal genres that informed their production were an interesting mix of 'eastern' and

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<sup>142</sup> URL: <http://cairoliberationfront.com> (date of last consultation: 8<sup>th</sup> of May, 2017)

<sup>143</sup> Primitive Reason

<sup>144</sup> Mahraganat originated in the slums and poor neighbourhoods of Cairo. The name appropriately translates into Festivals in English, for it is considered to be a combination of Chaabi popular music, that is frequently played at weddings, and electro dance music (see Hubbard 2013; Peavy 2014)

<sup>145</sup> From this point onward I will shorten Cairo Liberation Front into its acronym CLF.

‘western’ influences. Their approach to Electro Chaabi (or Chaabi as they have popularized) is at once provocative, revolutionary and anti-system, in that they advocate the use of cracked software for music production, and combine American Hip-Hop, Eurohouse and Arabic rhythms to create their own particular version of Egyptian wedding party music; much in the manner of the originators of the genre in Cairo<sup>146 147 148</sup> (see Hammond 2005; Hubbard 2013; Peavy 2014; Meddeb 2013<sup>149</sup>).

When I questioned Yannick<sup>150,151</sup> as to CLF’s inspirations and motivations for making music, he answered: “Both me and Joep were quite frustrated how such a big part of the Western society had a crooked image of Arabic culture, caused by negative stereotypes spread by media and extreme right wing political parties.”

The political motivation in choosing musical influences was one I knew well from childhood. Having grown up listening to a good deal of protest music had taught me to recognize those traits well, and so when I retorted: “Are you trying to spread a particular message with your music?”, I expected Yannick’s answer to expand the conversation in that direction:

“We are trying to show the positive side of Arabic culture, with playing music from the popular neighbourhoods of Cairo, working together with several Arabic vocalists and mixing traditional Arabic rhythms and instruments with music from our own cultural heritage.”

This production choice, to mix music for the neighbourhoods of Cairo with their own cultural heritage – which in short might be labelled as Western music – had in essence spawned a new musical subgenre of crossover<sup>152</sup> music, and I was very interested in knowing if – from a production standpoint – with their decision to mix such different musics together they were consciously attempting to break musical boundaries and create a new direction.

“To be honest: yes, I am. When I had just turned twenty I quit making music, as I discovered so many interesting new musics and thought I couldn’t add anything to the musical

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<sup>146</sup> Video showing the musical ‘rise of Mahraganat’ (Hubbard, 2013): <https://nyti.ms/2qWJ175>

<sup>147</sup> Originally wedding music bands consisted of a group of musicians, belly-dancers and a singer, yet as digital DJ equipment became more accessible and gained popularity, all but the singer were replaced by the DJ, and Chaabi popular music evolved into Electro Chaabi as performed today outside Egypt by Cairo Liberation Front (Peavy, 2014): <https://youtu.be/hziO8XoFLzY>

<sup>148</sup> I should clarify that ‘local’ Electro Chaabi also borrows musical elements from Sufi, religious trance and even Reggaeton from Jamaica, and Cairo Liberation Front, although playing an important part in popularizing the genre differ slightly as to their musical influences (Peavy 2014).

<sup>149</sup> The only documentary made to date about this musical genre was directed by Hind Meddeb in 2013. URL: <http://www.imdb.com/title/tt2887002>

<sup>150</sup> Yannick is the Producer/Dj of the duo, and is responsible for musical direction with Cairo Liberation Front. For that reason, I am confining my transcripts of their answers to his commentaries alone.

<sup>151</sup> The cited answers to my questions have been compiled from written transcripts, and audio recordings, as well as email and social chat conversations between the years of 2014 and 2017.

<sup>152</sup> With crossover music I am making reference to music that mixes genres.

spectrum. A couple of years later I found out I was able to add something by doing new stuff, experimenting with different genres and reaching new audiences. My mainspring is just bringing weird music to the masses, as I believe it will move the border of what people think is ordinary. And actually every musician or artist I admire is doing something similar, all on their own way.”

From the next morning onwards we began the creative process, and by the second day had established a workflow that was the most adequate for both creative and rehearsal purposes. The musical flow was very good, interspersing between hours of jamming<sup>153</sup> and hours spent structuring and organizing songs. In our breaks we continued to debate issues such as musical Authenticity in contexts that challenged generalized understandings; Technicity on stage as an enabler of musical flow and aesthetic innovations; Appropriation and Authorship in the Remix Culture, and also musicianship, innovation and creativity.

The discussion on musicianship was a particularly interesting and fruitful one, principally because Yannick’s main musical instrument is a Laptop, and also because his views on the subject are representative of a modern approach to the paradigms of musical classification, musical innovation and musicianship.

“I consider myself definitely as a new-gen<sup>154</sup> kind of musician. I’m not a great musician, although I’m able to play several instruments. I think 30 years ago I wasn’t able to make, create and distribute my own music and be a full-time musician, but now I can, ‘cause of the creation of Ableton. I feel like Ableton is my second nature, a place where you don’t have to know theoretical knowledge of music theory (scales, solfèges etc.), but you can make amazingly new innovative stuff at the same time. And these days, electronic innovators like ‘Flying Lotus’<sup>155</sup> and his following are showing the current music industry that you don’t need a degree in jazz music to be innovative.”

Before the residency, Yannick had accessed Soundcloud<sup>156</sup> to listen to my music, and knew that I specialize on a variety of musical instruments, but in his consideration we, in a way, had similar approaches to music. He considered that my interest in playing so many ‘ethnic’ instruments - as he called them - probably arose from a genuine passion with experiencing other musical cultures, experimenting with their sonorities and creating my own unique mix from these influences. Like me, he stated, he was incorporating elements from the worlds of Egyptian Chaabi music and western

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<sup>153</sup> Originally used by Jazz musicians, meaning to improvise freely without structure or form. A process used for the creative pleasure of the experience alone, or for ‘looking’ for parts to add to a musical composition.

<sup>154</sup> New generation, as in modern.

<sup>155</sup> See [flying-lotus.com](http://flying-lotus.com)

<sup>156</sup> SoundCloud is the world’s leading social sound platform where anyone can listen to or create sounds and share them everywhere. Source: <https://help.soundcloud.com/hc/en-us/articles/115003570488-What-is-SoundCloud->

electronic music into his own musical version<sup>157</sup>, Electro Cha3bi. His motivation in seeking out and experimenting with other musical 'languages' was earnest, authentic in nature, even if the resulting sound was deemed as inauthentic by some. CLF had adopted a revolutionary identity by incorporating a sonority that had grown out of the streets of Cairo immediately before the Egyptian revolution of 2011, and had gained impetus throughout it, rising to popularity throughout the country.

Egypt's importance to Yannick was symbolic, and it was clear that he aimed to incorporate Egyptian Chaabi music into a personalized version of it by adding his own local influences, but did this appropriation pose a moral problem for him? Was musical authenticity even an issue for him? I thought that it took courage and a good deal of that 'fringe' attitude I so much admire to embark in this kind of endeavour, and so I asked him if he was concerned with being musically authentic, to which he replied: "To me music authenticity is about adding something to what's already there, instead of just copying the sound of some music bands, which have been there for ages."

A very interesting answer, I thought. It tied very well to concepts that are central to Remix Culture. As we explored this idea further in our conversation, I better understood the gist of what Yannick was putting across. It is entirely possible that people get too hung up on authenticity, speaking of authenticity as if it is defining a musical truth of sorts. Yannick wholeheartedly believed that the predominant thinking surrounding the issue of authenticity in music was channelled through puritanical logics, and was representative of an existing close-mindedness in today's musical context. He was pointing at a generalized notion that argues that in today's information age we are free to chose our influences from all the things we hear and see on an everyday basis.

Sweeney & Curran have posited that the internet has opened up music consumption, distribution and production in a way that was impossible just a few short years ago, and that many artists are finding it a liberating and stimulating experience (2009). I was beginning to assume that a world where information could be owned would be a world too restrictive for people like Yannick.

"What is it that they are trying to defend," he continued, "what is authentic anyway? Isn't music and culture always in motion? Isn't preserving something just freezing it in time? I'll tell you what is authentic, making music from the heart is authentic, making music to move people is being authentic. Making music exactly as someone else before you did, using the same instruments, copying the music style or trying to do so is less authentic than inauthentic. No, authenticity is definitely not a concern to us, but it may be a concern to others who do not understand this art form. Maybe people who think that I am not playing an instrument just because I use a Laptop as an instrument think that I am not an authentic musician, but I am doing it with my heart and out of love for music in an authentic way. Also, I am not an

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<sup>157</sup> A concept once again borrowed from Jamaican Dub music.



accomplished musician, but I am making music live. If I do not press that key, turn that knob, hit that pad or press that button, the sound does not come out. The sound is a reaction to my action. It is real, it is happening, it is authentic.<sup>158</sup>”

I asked Yannick about Remix Culture and his views on the subject. I was finding that CLF was highly representative of the principles and philosophies put forth by proponents of the Remix Culture. His reply was elucidative of the reigning mind-set of musicians who use the internet as a resource from which to draw upon; produce music in their homes, and think little or nothing of appropriation or established rules about copyright infringement.

“I’m all up for that. I think in so many ways it’s pushing borders, where different cultures clash and lead to something new, even new music genres or a new kind of style of youth culture. I think this increase made me hyped about ‘world’ music as well, as when I was younger wasn’t quiet hyped about the Mongolian throat singing etc. Mixing traditional rhythms of the South-America, Africa and the Middle-East with electronic music (which I could relate) made me understand the importance of these musics. “

Do you think copyright laws should change?

“Well, I do it myself, so it would be weird if I don’t agree with it. It connects with the whole movement of remix culture, so I definitely dig it. At the same time, I hate the whole hassle it brings along with copyrights etc., so most of the time I still make my own music with just my own material. But I hate that I’m getting limited because I can’t use everything I want. I definitely think in this Internet era the current copyright laws are outdated. At the same time I don’t know how they must change.”

I found his straightforwardness refreshing and told Yannick that I was grateful for the opportunity to learn about his views, and see how someone can turn an ordinary item into a musical instrument and play it on the stage. This was a common topic of discussion for us, and when I asked Yannick “Is the music concert stage moving away from normal instruments towards one filled with Laptops and Controllers?”, his answer went straight to the point:

“That’s is a good question, which is definitely something that keeps me busy. I experience that most audiences still prefer to see traditional music instruments (like guitars, keys or drums) as they understand what the artists is doing on stage. You can bring so many different Controllers on stage, but for a lot of people (who aren’t musicians themselves) it looks not real and they miss the authenticity of real instruments, but I do think the Laptop is an authentic musical instrument. In a way it’s the most complex and comprehensive instruments of them all, as you can re-create or sample every instrument that’s around. At the same time, I also see the limitations of a Laptop and (midi-)Controllers are in my opinion the best extension, as you can decide yourself what a Controller should do. I also like they’re not that expensive, and lightweight, so they’re easy for touring. I dig the release of every new

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<sup>158</sup> A transcription from the short annotations in my field notes, hence the difference in discursive style. I was unable to piece together the exact sentence and compiled the citation from annotated pieces and keywords.

Controller, 'cause in a way it changes the way we as musicians or producers make and create music."

Yannick's answer made me ask myself: "If we consider the evolution of musical instruments to be determined by improvements in playability and sonic quality, do enhancements in the ergonomics of musical instruments augment the experience of flow?<sup>159</sup> Unsure if Yannick was familiar with the term I simply asked: "What does 'musical flow' mean to you?" to which he answered:

"Last year the doctor diagnosed me with ADHD<sup>160</sup> and I'm aware of my problems with concentration. But making music is the only thing in my life where I don't have this problem. It's just me creating new stuff instantly and at meantime it's five hours later which I haven't noticed and forget to pee, eat, sleep or picking up my phone."

During this artist residency I learned a great deal from Yannick and Joep. We discussed at length what their ambitions and expectations were for CLF; usually spending our nights informally chatting about personal philosophies and ideologies regarding various aspects of their music and others' as well. I cannot understate the importance of this first immersion into 24/7 field-work for me, and it was there, through that ethnographic saturation that I first experienced ethnomusicology as it is traditionally understood. Timothy Rice defines the experience of fieldwork as constituting that which an ethnomusicologist cannot be without. In other words, it is through fieldwork that one becomes an ethnomusicologist (Rice 2008:67).

Conversely, alongside personal growth, it is also important to mention the significance of Yannick and Joep's brand of Electro Chaabi to the principal rationalizations present in this thesis. This first residency paved the way for the following two residencies, in that it defined what kind of artists I should seek to collaborate with in order to pursue investigations into Controllerism today, with an emphasis on topics such as Authenticity, Technicity, Appropriation, Mobility and Flow. For instance, it is common for Chaabi keyboard instrumentalists to use the motion pads on their keyboard to effect the notes in their performance, essentially using the keyboard much as a Controllerist would<sup>161</sup>. That spirit, to make do with limited resources and break new musical ground, spoke volumes to the key topics in this thesis, and in more ways than one; that initial experience with Cairo Liberation Front gave me the direction to follow. When finally - after 3 days of rehearsal - we performed our music on

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<sup>159</sup> The ease with which the musician translates his articulated musical ideas or 'feelings' into executed notes on the instrument.

<sup>160</sup> Attention Deficit Hyperactivity Disorder.

<sup>161</sup> Video example: <http://www.rai.it/dl/RaiTV/programmi/media/ContentItem-45ec4839-58d7-4829-9e33-d1ade0737cf0.html> - p (date of last consultation: 15<sup>th</sup> of May, 2017)

stage, we filmed the set so that we could revisit it at a later date<sup>162</sup>. We had settled that Yannick would play his Laptop and Controllers, Joep (usually an MC<sup>163</sup> for CLF) would play the drums and Darabukka, and I would in turn play the Bass Guitar and the Darabukka as well.

A few years after our residency I again reached out to Yannick and asked him about his stage setup. I was curious to know if he had incorporated any new Controllers into his live performances. Yannick replied:

“So it really depends on every show I’m doing. My usual set-up with Cairo Liberation Front is with an Akai MPD323, with is kind of hybrid DJ-set. Sometimes with CLF we’re performing live or doing artist-in-residency projects like we did together in Guimarães, then I prefer more hardware gear like my Oriental Casio AT3-keyboard, Korg MS20, fender bass guitar and fx<sup>164</sup> like Boss Space-echo, Ibanez Delay Echo-7 and my Ibanez Tubescreamer.”

The Laptop is implied as the central instrument through which his musical output is conveyed, but it is interesting to note that the increased used of Controllers has spurred Yannick to adopt other classic forms of electronic instruments such as the the Bass Guitar, and also explore with hardware effects pedals in a way reminiscent of Dub mixing (see chapter 2.2.1.1).

### 3.3.2 – 2<sup>nd</sup> Artist Residency - From Berlin and Granada

For the 2015 residency, I was again allowed to select an artist with whom I would like to collaborate, and having gone through an extensive list of candidates I was very interested in working with José Antonio Garcia Soler - also known as Kid Simius -, a Spanish electronic artist residing in Berlin. Luckily, the interest was once again reciprocal, and in a joint three-way email stream between José, the organization and I, it was finally agreed that we would have a week-long residency. The organization was very happy with the previous year’s outcome and felt that more could be accomplished with extra time.

Composing mainly in electronic genre’s such as Dubstep, Grime, Glitch, EDM and Trap, mixed with Flamenco, Mexican and Surf Rock music, José was a perfect choice taking into account the orientation of this thesis. He had undergone training as a Flamenco guitarist in his youth and had developed a unique brand of electronic music, in which he incorporated his guitar playing while using

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<sup>162</sup> URL: Part 1: [https://youtu.be/CU\\_053BrdNc](https://youtu.be/CU_053BrdNc) Part 2: <https://youtu.be/FTHtqSXs3E8> (date of last consultation: 7<sup>th</sup> of June, 2017)

<sup>163</sup> Master of Ceremonies.

<sup>164</sup> Effects pedals.

Controllers to trigger parts of the music, manipulate sounds and affect (effect) them as well, making him a one-man show of sorts.

As was the case with CLF, a Laptop using Ableton Live as the software from which all electronic sounds and audio samples were output was the centrepiece of his live setup<sup>165</sup>. Surrounding the Laptop were various Controllers, strewn around the table, which José used to control and interject with Ableton. Yet, what truly set him apart from CLF's approach in performance, was his interest in interacting with the Controllers as one would when playing a traditional instrument. Rather than simply triggering loops and then applying effects on those loops, José was creating his loops on the moment, and then layering sounds over them in a way that was less pre-arranged and more spontaneous. In a fashion, his approach was to *instrumentalize* Controllers in a process commonly known today as Controllerism.

Upon José's arrival, and after a quick introductory conversation, we dropped off our bags in our allotted accommodations and headed directly to our rehearsal room, so that we could have a look at all our equipment and make plans for our residency together. I had driven up to Guimarães with a car full of musical instruments, Controllers and studio gear, and José had brought two pieces of luggage filled with Controllers as well as his guitar. As we gazed at all the gear strewn before us, we stood in silence, enthralled by the possibilities; and I asked: "José, what is the main instrument you use to create with?" José replied:

"It is not about instruments for me Guillermo, it is about mediums that can facilitate ideas. It is not important if you are using drums or a guitar, what is important is the idea. Method is at the service of the idea. It does not matter if you are using a paper and pen, a camera, a Laptop, a Guitar. What is important is transmitting an idea from within to without. For me the fascination with music comes through the possibility of recording; through the ability to write songs, record them and then listen back to them. This is what called my attention to music. Being able to write and record my songs, to transmit my ideas."

Without discussing any sort of work-plan we spent the next two days jamming<sup>166</sup>, having by the third day of work eased into a creative workflow, and also defined our roles as instrumentalists. We divided our musical responsibilities into two parts; that of the acoustic musician, principally using various Percussions such as the Doumbek and the Cajoncito, the Turkish Saz, a Bass Guitar and Vocals, and that of the electronic musician, using the Laptop and various external Controllers. It was more fitting to my goals that I take the acoustic role and José the role of electronic musician. In that way I

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<sup>165</sup> The gear and equipment the used by musicians and DJs on stage.

<sup>166</sup> Playing music without pre-determined direction, structure or intent.

could study his approach to Controllerism without influencing him in any way with my own experience, and thus avoiding tainting my observations.

As we progressed in our work, it became more evident to me that José truly ‘played’ the Laptop as a musical instrument, by controlling and manipulating sound in a spontaneous and creative manner via the use of external Controllers. This turned his performance into a more organic experience for both himself and for the viewer or listener. As I watched José cut up and reorder beats using KORG’s Kaoss Pad KP3, applying effects and filters to the sounds using Ableton controlled by a Theremin emulator, mixing the audio levels, jumping back and forth in the tracks’ timelines, and switching between sounds at will, I became more and more convinced that the Laptop, if controlled organically<sup>167</sup> as a source of sound, in fact becomes a part of a complex musical instrument. But what of these gadgets; these Controllers as it were? Could we postulate that they were also musical instruments in their own right?

When questioned about this, José replied that he treated every Controller instrumentally, as a musical tool with which he could not only control what parts, clips or samples were playing, but also effectively alter, modify or ‘play’<sup>168</sup> them at will. He placed a good deal of importance on musical improvisation, and stated that Controllers could also elevate his role of interaction with the music he played to one that superseded individual sounds or individual instruments.

“Some of the parts in my sets are more adequate for improvisation, but because I use so many Controllers I really need to be ready and prepared, or else something bad may happen which destroys everything. I am functioning like an orchestra director, adding and taking out things as I go along and if I lose the plot and become confused the crowd really notices because all the music is coming out of one place. With instruments it is easier because if you get one note wrong you just go to the right one, but with the Laptop running everything you have to be very careful.”

For the next few days we spoke at large about the subject of Laptops and Controllers not being considered instruments in today’s musical panorama. For José it wasn’t an issue that bothered him on a personal level, and he reiterated on more than one occasion that it was more important to be acknowledged than it was to be understood. The public acknowledged that he was using technological means to create spontaneous live music, and they acknowledged that he was positively trying to communicate with them through music. It was not important if they knew what he was

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<sup>167</sup> By organically I mean humanly played or acted upon in order to generate sound.

<sup>168</sup> ‘Playing’ as in spontaneously changing notes, rhythms and harmonies at will.

doing, or how he was doing it, as long as they knew that he was actually doing it for them, not just pressing play on some finished piece of music and playing it back for them.

It was becoming apparent to me that José placed a lot of importance on the quality of experience for the performer as well as the public. He explained to me in more than one occasion that the public connected to the performer on stage and responded to the artists visual and sonic output, usually positively if they considered that some semblance of authenticity was present on stage.

“You are looking to connect with people. That’s what is important. The only way to do this is to have a good time yourself. If it is sounding good, if you are in a positive flow, and you are enjoying it you know others will enjoy it too. If you are having a good time, then so are they. If you have given yourself to the music, become lost in it, flowing within it, many will follow.”

His understanding of ‘flow’ as an operative condition, and of the importance of connecting with the public, was inherited from his training in Flamenco Guitar. In Flamenco, the ‘Duende’ is a physical and emotional response to an artistic performance and is largely connected with ideas of the intangible aspect in music, such as unmitigated abandonment, playing with soul, being authentic and pure in expressiveness (see Hirsch 2003). This belief in fluidity, in a naturalistic response to abandonment, was also patent in José’s opinion about how musical influences inform the creative process. As is evident in the following statement, José considered musical influences as resulting from the ebb and flow between local and global forces: “What influences you changes over time. Sometimes you are influenced more by local music and sometimes it is the global music that influences you more, it is a fluid path.”

As had happened with CLF, the topics of Authenticity, Appropriation, Technicity, Mobility and Flow naturally appeared in our discussions and interviews, further strengthening their defining role in this thesis. This topical coincidence was making it clear to me that, when discussing musical performance from the prism of Controllerism, these issues were very present in the minds of performer and public alike, and were worthy of investigation. For instance, José’s perspective about authenticity coincided with Yannick’s in that musical authenticity was more of a question of approach or attitude than one of musical form or genre. In his own words:

“It is not important to belong to a genre, or have a formula. You may have an idea of where you want to go but then things happen that change the way you are heading, and that’s what keeps things interesting and alive. An artist has to make music that represents him as a person. That is being authentic to one’s true identity. Your musical barriers and limitations are the same barriers and limitations you have as a person, and so if you simply are yourself,

without reaching to be something you are not, then you are being authentic and the crowd will respond to that.”

José’s preference was to discuss topics of technicity and improvisation more at length than others. He was more interested in the freeing experience that advanced use of Controllers can provide, rather than making a statement through transgression. His ideas were implied in his work, he asserted, and needn’t be made a statement, as the music could speak for itself. The important role of technology was not only present in the prism of musical Controllers but was also operating in José’s views regarding the music industry and artistic independence. When I asked him if finding a major label was important to him, or if he preferred to remain independent, he replied:

“If it will help you spread your music, then going to a major label is not a bad thing. I’ve had a few offers from big labels but I’m not interested because I can do it all myself. I can make my records in my own studio with my own equipment. If, for instance, I had a band and would have to pay for studio time I would maybe need the help of a label, but in electronic music it is not something you need to do, or even want to do. Anyway, that’s not what is important, what is important is being free to make your own music, whether or where it is released is another story.”

Yet, when confronted with the following question: “What if someone makes you a good offer and asks you to change your music?”, his reply was: “No! If they tell me that they like so and so songs from the album and want to use those, then that’s all right with me, but changing my music? No way.”

In this sense, technology has also permitted that José and other like minded artists become independent from the influences and pressures that major labels exert on creative practices. An artist’s technicity, or rather, the extent to which an artist possesses technical skills and technology, has provided the artist with an opportunity through which to forge their own independent path in a marketplace largely changed by communication and information technologies. The abundance of resources and development of new tools for expression, such as Controllers, has in turn fomented the birth of new performance practices, of which José was a prime example as can be seen in the video recording of the performance we made for the purposes of this thesis<sup>169</sup>.

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<sup>169</sup> URL: [https://youtu.be/a2\\_ot2kiNMU](https://youtu.be/a2_ot2kiNMU) (date of last consultation: 20<sup>th</sup> of August, 2017)

### 3.3.3 – 3<sup>rd</sup> Artist Residency – From Luanda and Lisbon

In 2017, the Westway Lab offered me the opportunity to do my third residency with them and asked if I would like to suggest names that were not part of a pre-selected list. I had recently been finally able to sit down with Pedro Coquenão for an interview, and learned that he would be staying in Portugal for a time in order to begin work on his next album, so I talked with the organization, gave them his name, sent in the application and hoped for the best. Due to Pedro's rising fame in the modern electronic music scene with his project Batida, the Westway lab was quick to accept our application. The group was then completed with the inclusion of a common friend and very competent musician named Júnior.

Júnior's band, Terrakota has been trailblazing World Music Fusion pathways since the year 2000 and constitute one of the best examples of ethnic-crossover music in Portugal. Júnior is a multi-instrumentalist and vocalist for Terrakota, being as at ease with singing as he is with playing the Guitar, Balafon, Percussion or Drums. For that reason – other than the pleasure of making music with a good friend from another band – we invited him to join our group for the residency of 2017, which we then named 'iii', as a symbol of the equal standing with which we would embark together in our new adventure. We were three people, from three different groups, banding together in equal footing.

Like the two residencies before 2017, all of us quickly fell into a living and working routine that promoted dialogue and fomented creativity. We decided that in our sense of group equanimity, shared exploratory spirits and desires to disrupt preconceptions as to the identity of our common project, we would rotate instruments as the concert progressed. In that way, none of us would be 'the drummer', 'the bassist' or 'the guy on the machines'. In addition, in order to challenge paradigmatic understandings of what a musical instrument was, we introduced a radio from the 1980's into our selection of instruments, and connected its output into a loop and delay pedal, which forced us to search the airwaves for a suitable sound which we could capture and layer into our music in a spontaneous, improvised and 'organic' manner, not coming out of our Laptops, but out of the very radio waves. In that way we brought people who were not present into the stage, and posed the following questions: "Must musical sounds derive from local sources? Can everything, and anything, translate into a musical sound if it is sonically captured, manipulated and controlled in a musical way?"



Since Pedro's aesthetic connections to his work go beyond music, and into dance and stage decoration, we took inspiration in that vision and agreed to set up all our instruments in a circular disposition both for rehearsals and for the final concert. This would mean that at times our backs would be turned to the public, but this did not mean that the circle was closed, as it was our intent that the public be allowed to enter the stage and experience the music as we do, through the acoustic and amplified electronic sounds coming out of the amplifiers and stage monitors.

During a full week we played and toiled; each day building upon the previous day's creative sessions, as well as the interviews we conducted. To daily evolve a musical project as a response to a progression in conceptual notions emerging from the previous day was a most interesting experience, for all of us, I believe, but I am quite sure we all share in mind when I state that the actual concert took the prize as to the most tantalizing moment and the pinnacle of our experience<sup>170</sup>.

I think it may be appropriate to mention at this moment that great friendships can sometimes arise from ethnographic projects. At other times these ethnographic projects lead to deeper involvements that go beyond research. In our case, we have remained friends, and are continuing to build on the 'iii' project, looking to travel to Namibe, Angola, and record one of our songs there. As Junior and I were jamming at the residency, Pedro suggested that he'd like to use what we had come up with in his next record. We continued working on the song and named it "À esquerda do Namibe". At this moment we are waiting for the right time to travel to Namibe in Angola and record more of the audio, and video components of the song.

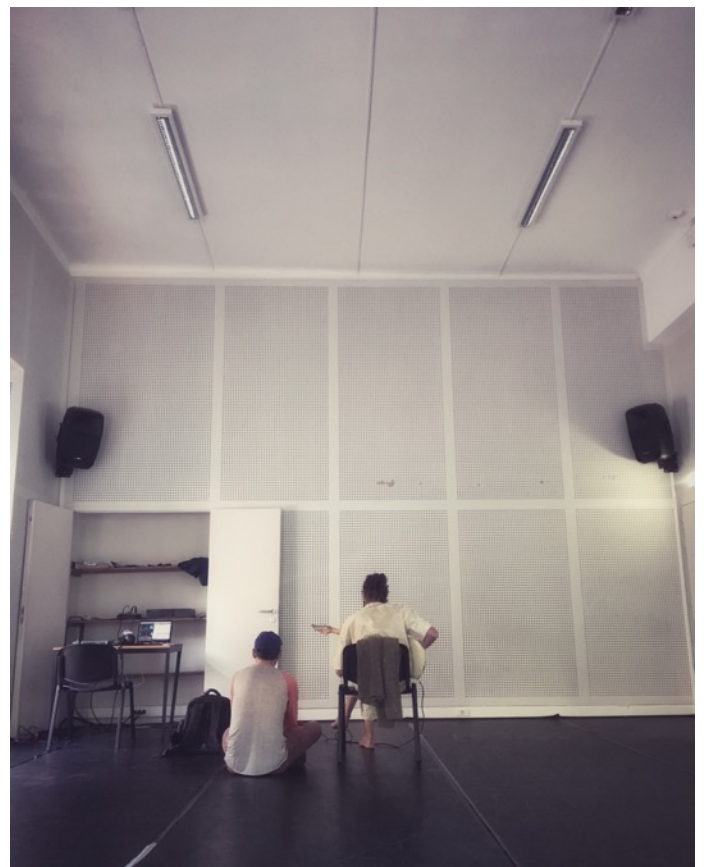


Figure 39 - Júnior recording Guitars for 'À esquerda do Namibe' in Lisbon (after the artist residency had finished)

<sup>170</sup> URL: <https://youtu.be/VFFA8VEy6XI> (date of last consultation: 23<sup>rd</sup> of June, 2017)

### 3.4 – Controllerism in Portugal, the Batida case

Batida is an important exponent of today's Lusophone musical acts that are achieving success on an international level. Batida's music could be described as a melting pot consisting of ingredients; such as Angolan musics from the 1960's and 70's, and modern urban music from Africa and beyond. After buying back the rights of his debut album from the Portuguese label Farol due to personal dissatisfaction with their modus operandi, the album was picked up by Soundway Records, receiving accolades from BBC<sup>171</sup> and The Guardian<sup>172</sup>. Outside Portugal, his show was presented at Summerstage, global FEST, Lincoln Center, Kennedy Center, twice at Glastonbury, Roskilde, Pitch, Lowlands, Eurockéennes, Les Suds à Arles, Transmusicales, three times at Eurosonic, Womex and Womad Festival, where it was described as "Fantastic" by The Guardian<sup>173</sup>.

Batida is Pedro Coquenão's stage name. Pedro was born in Huambo, Angola, and raised in the suburbs of Lisbon, Portugal. As a former radio personality and now fulltime video and music producer, Pedro has always been very involved with the spreading of a more encompassing Lusophone identity – and although it would have been interesting to debate musical identity<sup>174</sup> from the perspective of Controllerism for this thesis –, what made me seek him out was the fact that he is the brightest case of a Portuguese artist performing real-time<sup>175</sup> as a Controllerist.

After an extensive search for professional Controllerists that make a living through the practice of Controllerism in Portugal, I discovered that Batida had gone beyond digital Djing using Controllers, and developed a very unique form of Controllerism that was akin to a form of musical instrumentation; relying heavily on flow, inspiration and improvisation in his performance.

Pedro's background is in radio, which until today remains present in his musical discourse. At the age of eighteen he debuted as a radio host at Rádio Marginal, a radio station that focused on alternative music in Carcavelos, on the outskirts of Lisbon. After moving to Voxx radio, Pedro founded the Fazuma collective, with the objective of promoting independent artists and music, as well as

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<sup>171</sup> URL: <http://www.bbc.co.uk/music/reviews/c3b6> (date of last consultation: 13<sup>th</sup> of June, 2017)

<sup>172</sup> URL: <https://www.theguardian.com/travel/2015/jan/23/lisbon-new-clubbing-scene-nightlife-reports> (date of last consultation: 11<sup>th</sup> of July, 2017)

<sup>173</sup> URL: [https://www.soundwayrecords.com/ArtistDetails?Aid=SWR\\_AR\\_17](https://www.soundwayrecords.com/ArtistDetails?Aid=SWR_AR_17) (date of last consultation: 19<sup>th</sup> of August, 2017)

<sup>174</sup> Researching the identity of musicians, instruments and genres as challenged by Controllerism would have given for a very interesting thesis. Yet, the sheer volume of exploratory text as well as an inevitable change in investigative direction would have entered in conflict with the very substance of this thesis as was originally intended.

<sup>175</sup> In the actual moment during which a process or event occurs. In this particular case I am referring to the act of using a Controller to interact, act upon and affect sounds

producing documentaries detailing ‘mestizo musics’. Throughout the years Pedro’s artistic expression has moved from the radio, to the recording studio, and finally to the stage; incorporating videography, dance, poetry, photography and documentary as ancillary forms of expression<sup>176</sup>.

Pedro and I first met in 2005 during a radio interview he did with Primitive Reason to talk about our album ‘The Firescroll’. At the time he showed particular interest in the presence of African rhythms in our music, and asked me why I had specifically chosen to include Angolan beats in my music, particularly since we had been living in the United States at the time and had access to so many Latin music influences. I found the question intriguing, and the only reply that came to mind was illogical but entertaining: I claimed that as a baby, when living in Luanda, the local rhythms that came to my ear had inadvertently become an integral part of me. That even though my family had immigrated to Portugal during the war of Angolan independence, and that many years had since passed, the rhythms had never left me because they were a part of my early formation as a being. As an Angolan-Portuguese, Pedro related to what I was saying, stating that the relational memories from those of us who had been both here and there, were complex and capricious; often surfacing and informing our actions many years later.

When I first began to investigate Controllerism in Portugal, the name Batida cropped up repeatedly. Although I knew his music, I didn’t know who the artist was until I sent Batida an email and received a reply signed by Pedro Coquenão. From that moment onwards Pedro and I were in touch via email and social networking chats, trading ideas and trying to plan a meeting for the better part of a year without ever being able to actually meet due to schedule incompatibilities.

In January of 2017, upon my return from Japan we finally met for our first introductory interview. It was cold outside, not as cold as Tokyo, yet I remember thinking half-way through our talk, that so much talk about Africa was making the cold go away. I asked him to tell me about his beginnings as Batida, and his reply was<sup>177</sup>:

“It began with the need to create space for the music I was finding in cities like Luanda and Johannesburg, in the existing dialogues between capitals and also from the desire to contribute to the idea that sophistication exists in places that we normally associate with exoticism and other condescending concepts. It arose from a need to create bridges and connect points that are only distant apparently, not only in space, but in time as well. I proposed a radio show to Antena 3 radio which was approved in 2007 and was to be aired in RDP Africa as well. In the process of recording the shows, and because I have always used

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<sup>176</sup> URL: <http://www.mtv.pt/musica/artista/Batida/tb08kd> (date of last consultation: 2<sup>nd</sup> of June, 2017)

<sup>177</sup> All of Pedro’s answers are translated by me.

Ableton, I began experimenting with mixing different things together that – to me – seemed to fit well together. This is how Bazuka<sup>178</sup> was born.”

At this point I thought we could revisit certain topics we had approached when the tables were turned and he was interviewing me, so I asked Pedro, “Would you say that your music belongs to a particular country or nation, and if so, which?”, to which he replied:

“Well, my first record looks at and attempts to talk with and for Angola. The second is freer. These days I do not feel that need but I am never without how and where I grew up, or without the things that have touched me and made me dream. Yet, I do not feel close to the concept of nation. I’d rather talk about complicities, emotions, peoples, communities, experiences and memories. My music is simply human. I bring Angola into my music with my heart, with the memories I have inherited and with the friends I have made.”

This dialogue with the past. How important was it to stay true to one’s roots? Could music be a means through which to homage the past? Pedro is clearly having a deep connection with Angola that goes beyond Batida’s musical aesthetic, possibly down to a cultural, political and even spiritual level. I asked if it was important to him to be rhythmically authentic to Angolan beats in Batida’s music.

“Somewhat so,” he replied, “but that being said, I should explain that I only associate ‘being authentic’ with my own actions and with my actions with those that are close to me and have watched me grow up. To be authentic to an entire country is more difficult because I was raised moving about. In that context however, I very much enjoy being accepted as part of the family of Angolan rhythms, although it is something I don’t seek or force in any way. I prefer to contribute rather than replicate. My idea of authenticity has more to do with something that is intrinsic to what you do and not so much a process of emulation of something else. It is not for me to define if what I do is authentic or not. You feel authenticity as your own or you don’t. You are accepted as being authentic by your peers or you are not.”

We again met in February 2017. A raging storm had been causing floods along Lisbon’s coastline for the past two days, and although the possibility of heavy downpour was imminent, we decided to rendezvous at a traditional Portuguese comfort food establishment in Santos. The location could not be more appropriate for what we wanted to discuss. Set up like a classic fast food joint, without much interior design artistry to boast of, the two Portuguese bread ovens, and the choice of traditional foods such as ‘caldo verde’ and ‘pão com chouriço’ were a dead giveaway of Pedro’s intent to discuss both the homely and the modern pragmatic take on the subject of traditional music in an electronic environment. He knew that I wanted to ask him about his dual positioning in the World

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<sup>178</sup> Bazuka (Quem Me Ruscou?) is a single from Batida’s self-titled debut album (2009).

Music and Electronic Music genres and had considered the location carefully, making a point beforehand, and very much true to form, thinking always a few moves ahead. We sat down, ordered a bit to eat and in between morsels I asked: “Pedro, in terms of aesthetic philosophies, are you seeking, through your sonority, to pass on a message to the universes of World and Electronic Music?”: “Well, by accepting to be in both, I may be passing the idea that there needn’t be any borders between the two. Or at least that the border does not need a wall.”

He continued further, telling me that these days it was not uncommon for him to play one night at a World Music festival and the next at an Electronic Music one, but that it had not always been so. His songs were first accepted by the...

“world of Electronic Music, that quickly realized, or picked up on something that I had not been aware of, because I had not done it with any conscious intention. What I was doing was filling a musical gap in my radio show that I was not being able to fill with other music simply because there was no other music that bridged my musical memories of growing up in Africa and what is going on now. There weren’t many connecting bridges between American Hip-Hop and the Angolan sounds of the time, or between Portuguese music and African music. Some things can indeed be found, but what you find usually has a twisted African aesthetic, much more connected to Afro-Latin music than a purely African sound. Even in America, the notion of African-based music is much more connected to Cuban music, and South African music which is not in any way representative of what I was looking for to fill that gap for the show. The Batuque<sup>179</sup> rhythms, those rough, rude sounding rhythms were nowhere to be found. They were not as refined as Cuban or Afro-Latin rhythms and so were not incorporated into other musics at the time. Or the melancholic guitar melodies, the Angolan style of playing which is very ours, it went against the desired image of African guitar. It does not sell. The melancholic side of Africa is not well loved. The desired image is people laughing and smiling even if they are starving, always partying, and what I did was to begin to fill the gap by mixing new and old sounds together.

Akin to Yannick and José, Pedro was crossing over between contexts and sonorities, experimenting with genres associated on the one hand with World Music, and on the other with Electronic Music. This macro-genre has been fruitful to artists who have managed to engender sonic mixes of interest to influential circles, as Batida would corroborate in his next statement. I began to think about these crossover genre mixes, about the problems defining them, and about their reception from public and professional circles in various cultural and economic contexts. An email I had recently received came to mind. It had been sent by the hosts at *generasianradio*<sup>180</sup>, who were inquiring about including some of my music in their radio show. They had referred to the mix of World and Electronic Musics as ‘Ethnotronic’ music. Although I knew that I was somewhat digressing from

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<sup>179</sup> A Batuque is a percussion. To *batucar* is to play the percussion.

<sup>180</sup> URL: [generasianradio.com](http://generasianradio.com)

the central concerns I had outlined for this thesis, I wanted to know how Batida's music was received when he first presented his original 'Ethnotronic' songs.

"I quickly realized, when I started to send the songs out to be heard and criticized abroad, that it was something new and very different from what people were doing in Electronica<sup>181</sup> at the time. Sampling and mixing beats is a very old practice, decades old, but I felt that there was a very strong 'novelty factor' and because I am not a beat-maker per se, everything I was doing was not what people were expecting. It was not traditional, nor-post traditional, and not even in the tradition of modern music at the time. It had no culture to speak of, but had something which people, mainly DJ's who travel a lot found recognizable. I felt that there was immediate acknowledgement by the DJ community, a validation not of the technical aspect but of the subject matter. Later I came to realize that there is a semblance of a fellowship between DJ's worldwide, people who share common interests and ideas, people who I've come to cross paths with over the years.

A bit like us right now, I have a feeling that I know quite a bit about you even though we are just starting to communicate now. This feeling is not only because I know your music and your experience, it is more. I have a notion that this is because you are a similar type of person as I am, and that there is something that bonds and unites common types of people. In our case, observant people that have made roots in various locations and lived in countries with sometimes contradicting realities, that are eager to make connections between them."

Thus it seemed that Controllers, because they are not identifiable as instruments that cater to specific musical genre, and because of their 'adaptable nature', when allied to Pedro's unorthodox methods, had allowed him to engender a music that was 'between worlds' and had a polarizing effect upon like-minded individuals. The use of Controllers has been adopted by the DJ community and certainly has had its detractors, but the fact remains that the higher level of control and customizability provided by Controllers has fomented a level of experimentation that has resulted in cases of artists transcending musical genres, and in many instances bridging them together. Yet I was under the impression that Pedro was leading me towards another conclusion, and I asked: "So, has your particular musical approach been a beacon for people, that like you, come from backgrounds that are similar in their difference from the norm? Do you feel a sense of community with other people who love both tradition and modernity?"

"Not all are good encounters among common types, for instance there is the figure of the academic that comes to analyse the exotic. It is a frightening figure and it exists. You meet those people all the time in your studies no doubt, and I am faced with them as well. They ask why this and that, and try to decode you in a grotesque way, as if they were examining a rat in a laboratory. It is frightening, opening up a rat ...I mean, you are alive, you are here and you want to live things and feel them. You do not want to be dissected.

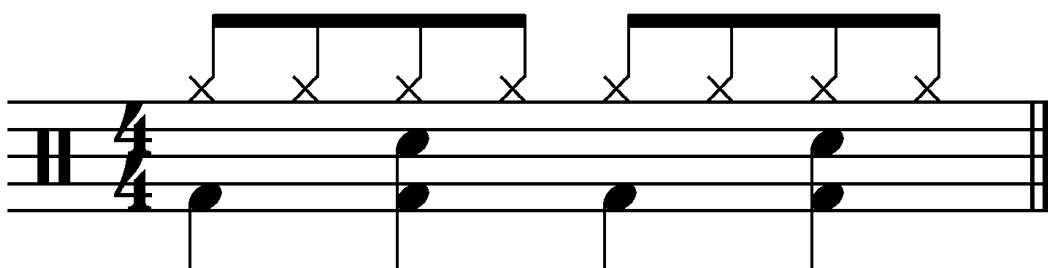
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<sup>181</sup> Electronica is the overarching genre of Electronic Music.

Then there are the others, either people who have had to travel a lot, by good or bad luck, maybe they had to escape a war, or maybe their parents are diplomats, it does not matter. Even though some have been privileged and some underprivileged, people who have migrated have something in common, they develop a curiosity or a love for things that are at times disparate. On a good day, that is wonderful and on a bad day it is horrible because on that day you do not belong anywhere. Not from the left nor the right, from the north or the south, nor white nor black or yellow...I felt that in the case of electronic music there were some identifying marks like the techno from wherever, the house of whatever or the drum and bass from such and such a place. Yet there was a thing with the rhythmic patterns. Normally in electronica rhythmic patterns are not so rich. When you hear some of the crossover experiments from the 80's and 90's, they might consist of grabbing a didgeridoo sample from Australia and adding a 'four to the floor' beat<sup>182</sup> on top of it. It has an appealing effect, but that's all it is; a straight beat with something else looping behind it. Something else that already existed but with the addition of the straight beat became more appealing. There are a lot of songs that were ethnic, tribal or traditional and with the addition of the 'four to the floor' rhythm became more appealing and marketable in the west. That scene wasn't what I was looking for, it's not my thing.

Then there's World Music scene which seemed like it had stopped in time, with people trying to maintain it as it was. I think that originally it was something interesting, from what I have heard, Peter Gabriel used to spend a huge amount of money bringing bands from remote locations to play in music festivals in the west, bringing them as they were, but that was financially unsustainable. People had to be predisposed to pay a lot of money to watch bands that they do not know and it wasn't quite so. Just the love for the world and for Africa isn't quite enough, a festival has to be made with all that it means. Costs must be cut, and tours organized to share costs, a scheme put it place, all normal...but then comes along a more pragmatic agent looking for a band that is not necessarily the best at a sound or that has something different to give, but instead seeking out the band that does not fail him; the band that is not late, that has their visas ready, that has dual-nationality, whatever. It facilitates the whole bureaucratic process of migration and all else. He understands the international market. Notice, if you are screening bands like this, maybe you get to the Congo and can't find anyone with the conditions. Maybe no one understands the international market. Why should I go to France and make 100€ in a concert when in my own town I do not make as much but can work more often playing in weddings and funerals? Then if I go there and everything is so rigid, music so formal... So, World Music and the industry mutually limited themselves. It becomes not so much about the music but more about the band that can meet certain expectations, less about searching new people from remote locations that bring something different with them, and more about finding people that can replicate something that already exists. That musician that comes, has always played the Tabla a particular way and will continue to do it exactly the same for the rest of his life, and not necessarily the musician that

<sup>182</sup> The 'four to the floor' beat is commonly found in Electronic Music genres such as House or Techno. It consists of straight bass drum notes on the beat and hi-hats on the offbeat, usually with a snare on the 2nd and 4th beats.



is creating a new way to play the Tabla. In some fortunate cases it has happened, but in most cases there is a concerted effort to get bands that dress a particular way, play a particular way and will give people exactly what they are expecting; that meet people's ideas of what it is to be Moroccan, or from the Congo, or South-African. Bands that don't 'invent' too much, because the western world does not have to much free time to look at what is happening 'on the other side'."

At this point I felt compelled to ask Pedro if he had felt any kind of resistance to his music using electronic elements in World Music festivals. How would someone that specialized in performing 'traditional' or 'world' music feel about an artist whose artistic presence and demeanour symbolized an avant-garde of new-school world musics; one who would play a controller, a radio or an oil can with the same matter-of-fact nonchalance?

"Music has become sterilized, like that Club Med experience where you go, have your pool-time and your meal with just a dab of spiciness to it, then be taken one day to the desert to validate your exotic experience before heading back to your hot-shower and clean living. So I think that World Music at the time was a little senile, or sterile and Electronic Music was somewhat distant from the rhythmic patterns that I introduced. What I felt was that for World Music, what I was doing was interesting 'four to the floor' music, a little richer than usual, maybe with more identity, a little 'something else'. For the world of Electronica, I wasn't just bringing in another poor beat into the pool, it was a beat that had nuances that these people recognized as interesting. In short, I've never belonged to any, I've been to Boiler Room<sup>183</sup> and to Womad<sup>184</sup> but I've never won the places over by storm because I can never belong fully to any. I remember having a conversation with João from Buraka<sup>185</sup>, who is the embodiment of efficacy and musical pragmatism and asking him: "João, you've heard the record. What do you...do you have anything to say? Would you improve on anything from it?" He replied, "I think that you have to better define if it is Clubbing music<sup>186</sup> or if it is a 'World thing'." His answer actually made me not want to define. I thought "Ok, I get it. If that's what is expected, if that is the necessity of others..." I don't have that necessity, there are plenty of jobs out there I'd rather do over raffling off my most intimate expression. I'll just have to deal with that lack of definition. This also has to do with the problem of double-nationalities. Why do I have to give one up? Why would you have to give up being electronic to be ethnic or vice-versa. That kind of thinking is sad. What is Electronica? It is the same music that was being done before but that is being done with machines today."

Through sinuous paths we had arrived at a point I had hoped to visit. Pedro was considering that electronic music-making is but a technological extension of acoustic music-making and Controllerism - by extension – simply a modern form of musical instrumentation (see chapter 1.3.4).

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<sup>183</sup> The Boiler Room is a global online music broadcasting platform commissioning and streaming live music sessions around the world. Source: boilerroom.tv

<sup>184</sup> Womad is an international arts festival. The central aim of WOMAD is to celebrate the world's many forms of music, arts and dance. Source: womad.co.uk

<sup>185</sup> João Branko from Buraka Som Sistema.

<sup>186</sup> Music to be played in nightclubs, after-hour parties, raves and festivals.



He was hinting at the fact that generalized understandings of what a musical instrument is can be charged by association to the musical practices or contexts in which the instrument is embedded, in a type of musical relativism. He affirmed that like people, instruments can be said to reflect their originating culture, although more often than not that assumption does not ring true, particularly in multi-cultural contexts or movements between more than one culture.

If such a reflection exists, it is a phantasmagorical one, largely dependent on personal experience and interpretation. What Pedro was describing to me was a personal vision where migrants' processes of self were imbued in a cultural relativism that although unique to each individual made them of a same kind, a migrant species of sorts. Going further he would explain that the idea of going 'beyond one culture' was not limited to migrants and travellers alone; all of us that live in an information society that is technologically driven have in some way transcended local culture, and adopted outside influences in one guise or another. Making a parallelism with the concept of what 'Ethnic Music' is he stated:

"What about Ethnic Music? What makes something ethnic exactly? Does it have an end, or a lineage, is there a seriousness to it that distinguishes it, or can we simply claim it is because there are some *batuques*<sup>187</sup> playing in the background? Reductive definitions such as 'ethnic' or 'urban' are frightening to me. All the migrations that have happened throughout history, at first on foot, later on boats and now with flights have resulted in a world where we know much more of each other. Everyone today has travelled, even if it is in their mind, they have information about other cultures and have lost that ingenuity that isolation, if ever, brings. For instance, I think it is impossible for someone in Japan to be making purely Japanese music that is disconnected from outside influence. In the same way, someone in Nigeria or Ghana no longer makes purely local music. Fela Kuti was not making purely African music, but he was not making purely American music as well, he was making *his* kind of Nigerian music. That is why I began to expressing myself as well. When I recognized that things were being expressed from the voyage and not from either ends of the journey. A good example would be *coupé-decalé*<sup>188</sup>. It is hard to define where it comes from. Is it from the Ivory Coast or is it from France? Maybe neither, maybe it is from the process of dialogue between both places. I think it is important to understand that particular music as fruit of a journey".

Pedro had given me much to think about. We had talked of issues that coincided with points brought up in the previous artist residencies, and at this point, Authenticity and Technicity were gaining strength as topical centres through which I could ethnographically approach the upcoming

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<sup>187</sup> Percussions.

<sup>188</sup> Coupé-Décalé is a type of popular dance music that has originated through the diaspora between the Ivory Coast and France, particularly Paris. It is heavily influenced by Zouk and Zouglou, uses African samples in repetitive arrangements, and features deep bass.

residency with Pedro and Jùjú<sup>189</sup>. His statement resonated strongly with what I recalled reading from Bruno Nettl:

“Still, it makes sense to me to continue, as ethnomusicologists, to approach the world as comprised of many discrete musics, but now, as musics (always as sound, behavior, ideas) that relate to each other and influence each other in lots of ways, far more than may have been the case before the explosion of communications technology [...] But the music that a people regard specifically as their own traditional heritage is preserved in isolated pockets of existence, often under the protection and patronage of government agencies. The population recognizes this music but regards it as something belonging to the past or as a musical ideal rarely experienced and reserved for special purposes, events, social classes. Musical organizations are created and tour the nation in order to exhibit its own musical past” (1993:432 & 439).

This idea, that technology mediates and augments collective social life, stripping it from hermetic exclusionary cultural forces and infusing them with external influences which provide comparative understandings has, in essence, ended *pure* and unadulterated local tradition. One could argue that such a thing never existed, that a culture’s relationship with adopted technology from abroad, with “Technicity”, presupposes a fundamental alteration that rewrites collective experience. Can it not be true that music traditions the world around - when looked at from a historical perspective – are fluid in nature and flow down a path filled with external pressures and influences that are sometimes assimilated and other times utterly ignored?

The image a flowing stream came to mind; with water circumventing the large rocks and boulders in its way, while melting and assimilating the soft clay accumulated at its banks, and patiently rolling small pebbles in the current; breaking them down into sand that will become one with the stream; telling a story of adaptation and assimilation. Defining fluid forms and determining any kind of authenticity is a difficult and often futile task, and although the various problems posed in debates about music heritage, cultural memory and cultural identity do not fall within the scope of this thesis, they do represent some of the important challenges posed by Controllerism to nurtured understandings of what traditional musicking *is* and what it represents.

Pedro and I once again parted ways, leaving with the vow to pick up where we left off. My car was parked a mile from where we had met, and on my way back the storm caught up with me, making my drive home a wet, and cold affair. Fortunately for me it was no bother, for I was too caught up in my own thoughts, playing the conversation over in my mind, and dreaming up new questions to ask Pedro. For the following days I organized my notes and transcribed the audio recording into text, and

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<sup>189</sup> Júnior from Terrakota.

in the process I maintained a conversation with Pedro over a messaging application on my smartphone. By now, we had developed a friendship and communicated frequently, commenting on random topics in each other's feeds<sup>190</sup> and keeping up to date on each other's comings and goings.

Pedro had put me at ease, letting me know that he would welcome any questions that pertained to this thesis in any shape or form. I had been investigating an issue that had recently surfaced as I researched Batida's music in various prominent online sales points. It had again reminded me of the term 'Ethnotronic', and the problems with genre classification. Beatport, Bleep, Juno, Traxsource, whatpeopleplay and iTunes all classified Batida's music under different musical genres. I wondered what Pedro thought about this disparity, was it a problem for him when navigating the different worlds of Electronic and World Music? His answer spurred on a flurry of other questions which I transcribe below.

I asked: "When navigating digital sales platforms, your songs appear catalogued under various genres. For instance, in Beatport your music is considered to be part of the 'Breaks' genre, at Bleep it appears as 'World', 'Electronic' and 'Electronica', at Juno as 'Broken Beat' and 'Nu Jazz', at Traxsource as 'Beat' and 'Afro House', at whatpeopleplay as 'IndieDance' and 'Alternative', and finally at Wasabeat as 'Crossover World' and 'Bass/Breaks'. In iTunes it appears under the generic 'Electronic' genre. What do you think of this disparity?"

"I think it's fantastic. It is a problem for those doing the classifying. It is a need for those that have to sell. Of course I also need to pay the bills, but in what I do, it is not in my list of priorities, but rather in my list of conditioning factors. It is un-pragmatic to adopt more than one genre, and unintelligent not to plant the idea of having a genre of my own and thus be called a pioneer. The reason could be that I would rather not belong to any of the genres I am usually classified as. I much prefer being between zones A to Z."

I wondered how an artist positioned between the genres of Electronic and World musics; not belonging solely in any of them, was received by the different festival crowds. Pedro had already spoken about how the world of Electronic music was more readily available to the inclusion of novelty elements, particularly of an ethnic origin, but how did the actual World Music festival crowds respond to this ambivalent sound in a *live* context? With this in mind I asked: "This miscellanea of terms that have been used to define your music, places you in the orbit of World Music festivals as well as Electronic Music ones. How has this shaped your experience in World Music festivals? Pedro replied:

"It is interesting because having to cater to two camps does not let me stagnate or become fixed to one kind of stage format. It forces me to adjust in order to better

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<sup>190</sup> By 'feed' I am making reference to social network profiles, be it facebook, twitter, instagram etc.

communicate with the crowd, and ultimately yields a richer experience. The experience in World Music festivals has been a very good one. I feel that I am not redundant in that setting. Sometimes the vibe is strange at first, but then the inherent ideas of celebration, gathering and sharing that are normally procured in these contexts eventually prevails.”

It was clear that a lack of definition as to which musical genre Batida belonged to was allowing him to operate in two macro-fields of the music industry. Pedro was at home in both fields and his positioning between them was a boon for his career, yet although navigating without a map could yield a richer and fuller experience, did Pedro define his own sound? Wasn't there a semblance of self-identification in his music that was consolidated by his choices in both creation and production processes? After all, although the categorization of musical genre is historically attributed to the contribution of media, record labels, politics academics, audiences and musicians, these days the internet plays an important role in their creation, one that allows artists ample opportunity for the creation of new genres out of the amalgamation of other related genres, or by straightforward invention of new ones, if enough clout is available to carry the intended concept far through social dissemination (see Castelo-Branco 2008; Lima dos Santos 1988; Middleton 1990).

“So how would *you* best define your own Sound?”, I asked Pedro, knowing that this is a question usually not well received by artists that specialize in musical hybridization. “Well,” Pedro replied after a few moments, “I’ve been asked to do so various times, mainly because some music festivals make a point of labelling you with a genre, but I have never been able to do so properly. For my first record I somewhat jokingly used ‘Dance Mwangolé’, which was a term used by Sbem in a documentary to define anything electronic made by Angolans. Last year with Konono<sup>191</sup> the journalists claimed that the album was in a new musical genre and termed it ‘Afro Electro’. A New York DJ has labelled what I do as ‘Post-Kuduro’, but, as it was with radio, my preferred format is ‘Free Form’; limited only by my vision and intention of materializing it.”

I felt that I could press Pedro a bit further. If he considered that his music did not belong in a particular music genre *per se*, he might still consider that it did belong to an umbrella term or macro-genre, and I asked: “Then, would you consider that you belong to an emergent Electronic African Music scene, and if so, is your mix purely Luso-Angolan or do you incorporate rhythmic patterns from other Lusophone countries and beyond?”

“There has been a notable increase in internet access in Africa, which allowed for a better communication between African countries and with the Diaspora as well, and a natural interest from the public as well as labels and promoters. I belong to the class of non-musicians;

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<sup>191</sup> Batida and Konono collaborated in a record in 2015 receiving a rating of 8 out of 10 by Spin: <http://www.spin.com/2016/04/review-konono-no1-and-batida-konono-no1-meets-batida/>

people that wish to communicate and do not disassociate music, dance, message, experience and life. Musically, as in every other facet of life, I am, and have been certainly contaminated by other influences outside Angola and the Lusophone world. We have all been marked by American and English music, for instance. There is no getting away from it.”



Figure 40 - Spin.com gave Konono Nº1 meets Batida a rating of 8 out of 10

This answer cemented my understanding that Batida considered himself a product of the Diasporic flow between Portugal and Africa. Yet, although Pedro identified himself as part of the Afro-European diaspora, he was not attempting to ‘re-live’ the past musically, but rather be informed by it in his present creations. As Ramnarine stated in 2007: “While diaspora has something to do with ‘history’ it is also about ‘newness’. Ethnographic research has encompassed both modes, from analysis of historical specificity, musical memory and the preservation of tradition to the musical creativities, new performance spaces and new musical sounds of diasporic practices” (2007:2).

Acknowledging that one’s personal affiliations to times and places in no way warranted protection from external musical forces, Batida incorporated these influences without prejudice. Rather than chose musical ‘sides’ to better define a path for his career, Pedro had opted to embrace any and all directions, reacting spontaneously to the possibilities provided by its unfolding, allowing *it* to flow, and allowing him to improvise freely to the vicissitudes of the life as they arise. His lack of predetermined musical identity *was* his identity, and so his choice to perform live utilizing a MiDi Controller that is - for the most part – generally unidentifiable as a musical instrument, came as no surprise to me.

I was reminded of Leonard B. Meyer’s first paragraphs in “Universalism and Relativism in the study of Ethnic Music”:

“It is remarkable with what persistent and single-minded intent human beings strive for inner security and psychic certainty. We cling tenaciously to familiar ways and accepted explanations, blandly disregarding or rationalizing away incongruities and inconsistencies, if only we may be permitted the tranquillity of a system and certainty of a set of principles. Only a few can tolerate ambiguity and its attendant tensions [...] Not only does a principle of parsimony govern our perception of music, through the unconscious operation of principles such as those of simplicity and good shape, but it also influences the explanations we give of the nature of music, the development of musical styles, and the relations of music to the culture in which it arises. In short, it shapes both musical experience itself and our thinking about musical experience. And it seems possible that the operation of this principle is responsible for the strong tendency toward simplistic monism which has marked our thinking in the area of Ethnic music” (1960).

It was not for another month, in April, that I again met Pedro at his studio, this time to pack my car chock-full with musical instruments, gadgets, and Controllers of all shapes and sizes; and then continuing on to pick up Jùjú and travel to Guimarães to begin our artist residency. We were to live and work together for a week, and since I had experienced the process twice before, I knew exactly how intense and exhausting it would be, so I decided that for the first few days I would tell the academic in me to ‘lay low’ and simply become more artistically - and emotionally acquainted - with Pedro and Junior.

Although I kept my questions to myself for those first few days, both of them initiated different conversations which skirted around topics they sensed were important for me. Eventually, after seeing that we were in a good place musically, we decided to take a day off. Junior had to travel to Barcelona and play a concert with Terrakota, which gave Pedro and I the chance to sit down for an extended amount of time, our minds clear from the pressure of producing enough music for a forty-five-minute performance in under a week. It was the 8<sup>th</sup> of April; we woke up late, had our breakfast and took in the sun outside. As most musicians that have been involved in the full immersion process of pre-production can attest, prolonged intensive concentration for days on end tends to result in mental distraction, and a certain absent-mindedness: a calm and meditative state swathed over us, making us lose track of time as we basked in the sun.

By the time we came to it was the afternoon, and Pedro and I decided to walk up to the local café for our next interview. Since we were nearing the end of our artist residency and were by then familiar with each other musically and personally, I was looking to ask Pedro questions pertaining his use of Controllers, Controllerism in general and his opinions on the use of samples in composition. We arrived and chose a place to sit in the shade, near the other groups of musicians who were also taking a lunch-break at the local café.

As I switched my portable recorder on Pedro asked: “So what is your particular fascination with Controllers, why are you so motivated in talking to me about them?” I was slightly taken aback, firstly because I had not actually asked myself that particular question before, and secondly because I did not want to direct the conversation. Upon thinking about it for a moment, I suspected that Pedro was the one leading the conversation with that question; that the best course of action would be to simply answer him, and then let him develop upon my reply; and so I said:

“The general issue with Controllers for me is potentially symbolic and representative of a series of prejudices surrounding music which I have the desire to investigate. Prejudices in what is understood by musical composition, musical instrumentation, musicianship, and also in musical notation and sight-reading as well. Deeply ingrained generalized preconceptions appear to exist concerning what a composer is, and what the process of composition is like. Similar preconceptions appear to exist about what a musician is, and what his or her set of technical skills, and knowledge as a musician are supposed to be.

Since Controllers represent a new form of musical sound manipulation and interaction with software and computers, they allow us a different – as-of-yet un-investigated and previously impossible – creative control that also heralds in new freedoms in composition and performance alike. I also focus largely on Controllers as a way to enter debates about the hybridization of musical identities, and crossover of genres existing today due to rapid changes in music markets and musical distribution mediums made possible by the internet. I feel that Batida as a case-study has a lot to teach about how this may be a verified case in Portugal.”

Pedro, who was not taken aback by my reply, had obviously been capable of scrutinizing my motivations from our previous encounters. We had talked about these issues in passing quite a few times, and I was under the impression that he had given considerable thought to what he wanted to say. He responded through a series of interesting analogies:

“Some people say that artisanship is never art. They distinguish between the two. For me they are sometimes separate things and sometimes the same thing. There are extremely talented people who can do many different things well, and then there are some that can only do one thing well. In music there are multi-instrumentalists who can dialogue naturally with any instrument and have that capacity, and then there are others who cannot; that don't possess the technique, don't have the motor skills, or haven't trained their brain in that way, but their brain still has the will and inclination of expressing itself naturally. A Controller is a tool that can enhance an instrumentalist's expressiveness. I would say to all instrumentalists that feel threatened by this new form of instrumentation that, before treating it as an enemy or a competitor and denying it, I would take what I have acquired in coordination skills, in sight reading and other developed skills as a musician and potentiate those skills into greater expressivity through this new musical technology. The expert musician has a clear advantage over the novice who has never played any instrument before picking up a Controller. Having developed coordination and technical ability over years of practice puts a seasoned instrumentalist a step ahead of the others. The Controller can now serve to challenge one's own music and the way in which it manifests.”

In my consideration this was a commendable approach. To embrace change without prejudice, using one's experience as a foundation upon which to interpret unfamiliar concepts, and then incorporate them into our musical vocabulary in order to formulate adaptations and promote growth sounded like a positive approach; one that could yield tremendous benefits. I wondered aloud: "Whenever confronted with a challenge that is outside our comfort zone, are we informed by fear to stop and to resist, or are we spurred forward by curiosity to opt for a change, even though we have no way of knowing where it will lead?"

Pedro nodded, adding: "If we look to the past, we can see that this very point where we find ourselves with this question about the monumental change presented by Controllers as a repetition of times in the past when developments in technology have changed the face of music expression. Electrification, and amplification come to mind. In the last thousand years, if one is to measure the changes instruments have undergone as they evolve to meet the needs of instrumentalists, one notices that never have they evolved so quickly as in the last fifty years. The amplification of the voice, the electrification of the guitar or the development of Controllers are defining moments that have changed how music is done on a global scale. If we doubt the authenticity, or even the validity of Controllers as musical instruments, then we should look back and ask ourselves certain questions about earlier technological developments in music.

We could argue that in the past, before the amplification of the voice, actors and singers had to know how to project their voices, and that vocal potency and vocal technique allied to that potency was a necessity in order to perform adequately. Nowadays, thanks to the quality of microphones it is possible to use the microphone as a musical instrument in that it is no longer the voice alone reaching the ears of listeners, it is the voice captured through the microphone.

Does this make the singer less valuable?

Is the microphone more valuable than the person?

Is using a microphone cheating?

I don't know. We are used to it and it is a non-issue today. This conversation, for instance, I've never had it with anyone else. I am only reasoning it now. I've never thought about it before because it is not a recurring conversation.

Does the microphone alter?

No, it is only another instrument through which we can express our humanity. The way we use proximity, distance, and projection yet again. Who ever possessed the skill of projection had an advantage in utilizing the microphone, but those that could not project had another advantage, which was precisely that, an inability for projection. The way in which one would interact with the microphone would be forcedly different than that of one who could project, not necessarily less interesting or worse in any way, just different, and the Controller represents just that; maybe the rhythmical approach of someone who has created beats on



an MPC<sup>192</sup> all his life and never played the drums, will be different when picking up a modern Controller and they will interpret patterns differently than a drummer would.

Not worse, nor better, only different. Therefore, I always see it as a process of summation. So, the world does not belong to those with better vocal projection but to those that can touch us through their voice. That is what we want to hear; feeling. And Controllers allow us just that, to express with feeling, be it by interpreting keys, or a beat or whatever else we chose to express. It is a democratizing agent.”

Therefore, Controllers can be seen as mere tools for artistic agency; tools with intricate implications. Tools that have enormous potential for individual configuration, and hence musical expressivity. As a customizable instrument, a Controller cannot fix the user into a preformatted canon of usability, for it is the Controller that adapts to the artist’s needs and limitations and not vice-versa, as it traditionally experienced with music instruments. Pedro continued:

“As time passes the arguments of scepticism crumble. I could bet that in the 1960’s many people said: “This music sounds like this because they are all high on drugs...” Now, what does that mean? That it is the drugs that is playing, or is it the person under the influence that is playing the music? Now that so much time has passed, maybe those people that now say that Jimi Hendrix was great or even a God set the limit of their scepticism at Controllers, and Controllerism. Maybe in thirty years or so the reasoning will be the same. There will be other ways of making music and people will look back at Controllers not as as things that defined music-making but simply as tools of the time.

I am not speculating that drugs are tools, but they certainly were facilitators of the time. Drugs did not define Jimi Hendrix. What defined Jimi Hendrix was what his Soul had to give, certainly not the drugs he took. If that had been so then ‘it’ would have been too easy to emulate, and we would have had millions of Jimi Hendrix’s. Likewise, Controllers are facilitators for what the Souls of today have to give. What I am saying is that the Controller allows a way to shorten the distance between what is going on in the brain and what is going on outside. It may permit, on the one hand, a certain dishonesty because we cannot easily perceive what is actually played or what is ‘playback’, but on the other hand it permits a fuller kind of honesty in that creates a greater facility between the person, what it thinks, what it has felt, what it does. It is not limited to anything, or rather it is increasingly limited to little. Electricity added things to music making, television added others; the internet added more but the logic remains the same...”

Flow, human agency and ease-of-access. It was fascinating to me that Pedro would bring that up, because it verified what is being heralded by the corporations that are producing the new generation of Controllers. The repeating motto has been that Controllers are instruments that

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<sup>192</sup> One of the first MIDI production Centers (Now re-defined as Music Production Controllers), built by AKAI, a Japanese company, from 1988 onwards. The MPC2000 was a popular electronic musical instrument principally used in the creation of beats using samples. Accessed on 26/6/2017: [http://www.samplekings.com/akai\\_mpc2000.html](http://www.samplekings.com/akai_mpc2000.html)

enhance creative output through a faster and more intuitive interface. The Maschine Jam is an example of such a Controller. Native Instrument produces the Maschine Jam, which is a Controller with enormous potential for live composition, and announces its strengths with the following sentences: “MASCHINE JAM is the modern digital instrument – your shortest avenue from inspiration to reality. Capture ideas and create tracks in an intuitive production ecosystem. Sequence and arrange on the fly [...]. Shape and perform sounds in inspiring ways [...]”<sup>193</sup>.

If we note the keywords used to pitch this particular Controller, such as ‘shortest’, ‘inspiration’, ‘capture’, ‘create’, ‘intuitive’, and ‘on the fly’, we notice that what they are advertising is an instrument with which we can establish a fast and intuitive connection with our inspiration, and capitalize on it quickly by producing music instantaneously; without extraneous processes or added steps in the production workflow. ‘Your shortest avenue from inspiration to reality’ is a sentence that exemplifies this reigning philosophy to perfection, because in today’s technology driven world, we tend to procure tools that enable us quickly and effectively. More so, than at any other time in history.



Figure 41 - Maschine Jam, image courtesy of Native Instruments

With this in mind I wanted to ask Pedro what his thoughts were about Controllers as tools for ‘performances of production’. We had talked at length about Controllers as musical instruments through which we could play beats, melodies or harmonies, but could we see them as instruments for the performance of live music production? This was closer to how Batida used his Controller on stage, and although I had - out of respect - opted not to ‘dissect’ his methodology - as he would have put it - this issue was still relevant to the argument, and so I felt that I should press him on it. Pedro replied:

“Performances of Production? One needs only imagine how Lee Scratch Perry<sup>194</sup> would have done it. Those that have never produced music, or tried to produce, or had the instinct to do so, or those that have never realized the value that a producer has on the creative process would never be able to understand what you have asked me, or proposed. Those

<sup>193</sup> URL: <https://www.native-instruments.com/en/products/maschine/production-systems/maschine-jam> (date of last consultation: 9<sup>th</sup> of March, 2017)

<sup>194</sup> Lee Scratch Perry, sometimes referred to as Lee Perry is a highly acclaimed and widely respected pioneer of Dub Music production. He is a seminal figure in the development of Dub as a musical art form and as a musical genre.

people might as well stop reading this, or hearing it, or maybe they may choose to try and learn something different to what they know.

Again in the case of Lee Perry, deep down, the first stimulus is a very emotional, very human thing. As someone who tries to break conditioning and move forward. Lee Perry preferring to stand in his mixing booth rather than sitting down at the mixing desk. Or wearing shorts instead of a suit as he would in Abbey Road<sup>195</sup>. Or the fact that he prefers to be alone with his multi-track<sup>196</sup> recreating a recording session and interfering with it in a musical dialogue of sorts. That is the producer acting out spontaneously, that is a live performance, is rather, what a Dub producer does live.

Some still do it that way: bring along a 4-track mixer, hit play and interfere with it by adding effects, or cutting tracks out. It is exactly the same as having a Laptop with Ableton playing the audio tracks and then interfering with them using a Controller. The reasoning is exactly the same. Are there more possibilities today? Yes, of course. Can we achieve an even richer sound? Yes, of course. But the reasoning is the same, and Ableton is born out of that first instinct that producers like Lee Perry had to make the producer's experience alive and break away from the conditioning of being a sound engineer alone. Of the man who is only there to capture and correct. As a cameraman and not a director. The cameraman that tries to break away from the conditioning of only filming and moving on into a director's role, choosing angles, making choices, cropping and editing, selecting parts in detriment to others, doing post-production. That 'work of choosing' which today may be called curatorship, a producer can do all that, just like a director. "

This notion of production as curatorship was interesting to me; not only was it a good analogy for the process of selecting what to present and what not to present, but also because it represented the passion of presenting what was selected in a manner resulting as greater than the sum of its parts, sometimes with the aid of 'artificial' means which have an effect on the original pieces. Curation as an operative term also opened the conversation to the controversial issues of sampling, mashing-up and remixing, with the unavoidable underlying associated debates about authorship and appropriation. I asked Pedro: "Do you have any opinion about the process of curation with the work of others?", and he replied:

"I don't like to judge, particularly because there are different schools of thought on the matter and they are not all of the same grade. For example, today there are many producers that don't care about the provenance of their samples, and they couldn't care less if they are mixing Taiko drums from Japan with African Harps. They put together things that sound good to them. There. Maybe that's the future. Maybe total de-contextualization is the freest form of evaluating anything. That is, to have no context and have to deal with the emotions. Not knowing if someone is black, white, brown, yellow or red, tall, thin, if they smell

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<sup>195</sup> Abbey Road Studios is located at 3 Abbey Road, St John's Wood, City of Westminster, London, England, and is known for the innovative recording techniques developed there and adopted by the Beatles, Pink Floyd, the Hollies, Badfinger and others in the the 1960s'.

<sup>196</sup> Mixing desk with multiple tracks.

good or bad... to de-contextualize everything and analyse each thing in a way that is free from any prejudice or concept. You create your own context.

That may be the future, or a possibility of a future. Personally I like it, because I like the emotional side of things. By emotional I mean exchange, and interaction. Listening to de-contextualized things and letting your emotions do the hearing is almost like falling in love with a hand that you've once seen, then an eye you've seen elsewhere, and a nose in another place, and then creating the ideal person that doesn't exist but within you. It is a little abstract, and a little scary but we may be going in that direction.

The virtual, the inexistent, the de-contextualized, the appropriated. Suddenly, the person who is creating in that way is not robbing anyone, because they are taking pieces and fashioning something new that is a creation of their own that is not in itself dehumanized but a little dehumanizing. It is a little strange now, but it does not mean that in the future it won't be normal.

For now, I personally still like and appreciate being there, which does not mean I won't evolve into the path I described. I like the idea of Lee Perry wearing his shorts, feeling the heat in the studio, standing closer or further from the speakers in order to find his 'sweet spot'<sup>197</sup>, seeing the musicians around, liking some and disliking others, feeling and having a literally corporeal experience on site. All of that, the tension, the love, the living it. Accepting it as an important part of what you do. That it's not just me, me, me. I like that, it seems to be a little closer..."

To which I retorted: "Being *part* of the context?"

"Yes, I like it because it seems a little closer to what is sacred; to what the older, ancestral processes that took us places were. Normally it started in a vision someone had. Someone is the shaman; another is the chief of the tribe. This is only possible if there is a tribe to be a chief of, and being a shaman to someone who needs healing. I am still at a point where I need references, contact, interaction, context. It's funny, someone recently told me that my record with Konono was a dangerous record because it lacked proximity between the people involved, but that is his judgement and it is profoundly wrong. Proximity was the aspect I worked the most at in this record. But that opinion is only a prejudice. That is why I avoid developing a conclusion that de-contextualization is a bad thing. I think that kind of reasoning only proves that we are too old and that you have ceased evolving; that you are a burden on those that want to move forward. Since I see that kind of reasoning as limited or limiting I don't see anything as wrong. It's just that I still need emotions, to create an emotional connection to the sounds I use. Some semblance of a human ritual; or togetherness that connects two parts. That objectively subjective side still has to exist for me, or else there is no enchantment in the music.

Yet I still see the whole thing of downloading, or sampling from a distance as possibly. Imagine someone samples your music, someone who has seen you live. There is an interaction there, they have seen you performing live and studied what you do. On the other hand, there are people who sample sounds that were created to be sampled, from sample libraries that probably were created with no emotional involvement. That, in my opinion seems to be lazy, uninteresting or else as posing a huge challenge, which is to use something sterile and make poetry from it. To get this cement on the floor and create something inspiring from it. That is

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<sup>197</sup> Audiophiles and recording engineers refer to the 'sweet spot' as the focal point between two speakers, which enables an individual to hear the stereo audio mix fully as it was intended to be heard by the mixer.

how I see that kind of samples. There is no kind of interaction between parties, no poetry in that cement, but if you are a poet, you can still carve your poetry out of it.”

It seemed to me that a distinction was being made between two opposing forms of sampling and a line drawn between them, based on whether there was a subjective dialogue between the sampling agent and the object of sampling. The intent to connect between source and destination was key in defining if a song built from pieces of other songs told the story of an artist, or simply appeared as a collage of haphazardly unrelated sounds. I could see what Pedro was getting at, as I had previously understood that Batida’s songs used sampling as a contextualizing force, and had deep emotional bonds to the source from which they were sampled. Batida’s music has a strong connection to a source sonority that is representative of more than sound; is inclusive of a sonic place in time and space, and is a spiritual root for his music. I conveyed this idea to Pedro and asked him if there was any truth in it, and he replied:

“Of course. Spirit is the right word. I’m not knowledgeable about spiritual matters at all, it is something I have developed very much on my own, and so I don’t have many references on which to base my assumptions, and consider myself spiritually ignorant. Very early on I realized that formalities in relation to spirituality were a flop, but I am open-minded and there are things that are fixed for me. For example, I remember that in the song ‘Tá Doce’, from my second album, there was a hidden old Angolan percussion sample and the song seemed complete, but I felt that something was missing. When I would play back the song I would always feel the need to add a guitar line, but not the need to call in a guitarist to play over the song, it was more a need for a certain type of sound. I later realized that what I was looking for was a type of guitar typically found in The Clash’s music. Unknowingly to me at the time, that specific kind of sonority comes from machines I have naturally, over time, been collecting, which made me very proud of myself when I discovered why I liked the Space Echo so much, or why I had felt the urge to have a Jazz Chorus in my possession. Once I turned on a Jazz Chorus and immediately exclaimed: “I have to have this! What is this sound!?” I had never seen one before, and didn’t know if having one was ‘sexy’ or not, but I had to have it. Then someone who knew a great deal more about amplifiers said: “Of course you like this, so and so uses it, and so and so, and the other too.” From The Cure to the African Guitarist almost no one else knows used it, and it made perfect sense for me to use it as well. The important thing is that I first discovered it by ear. That is why I try not to spend too much time learning about technical things. I think you are much more convinced when you discover something by smell, with your eyes closed.”

This aligning of the emotions with the task at hand; of focusing one’s motivation deeply in the service of the song, in a single-minded immersion (see Goleman 1996) was once again reminiscent of Csikszentmihalyi’s concept of flow, but to interpret his last assertions as purely so, seemed like a reductionist or at least simplistic analysis from my part. I began to think about other factors at play in this process. Pedro had not been simplistically allowing things to happen ‘as they will’, but instead

was gathering *meanings*, or rather, gathering musical sounds and items that *meant* something to him; that evoked an emotional response associated to meaning. From a state of flow, he was picking out musical significances with which he would patch together his compositions. This idea again reminded me of Meyer's words:

"In the case of contiguity, some aspect of the musical organization – an instrumental timbre, a mode, a melody, etc.-becomes linked by dint of repetition with a concept, quality, activity, or mood [...] Such associations by contiguity are culture-bound. A particular raga will not, for example, evoke the appropriate associations in a western listener unless he has learned its "meaning." The sound of an organ will not arouse religious associations in the members of a primitive tribe which has not been visited by missionaries - if such a tribe exists. Because contiguity creates associations which are contingent rather than necessary, they are subject to change and modification [...] Most connotations arise as the result of similarities which exist between our experience of music, on the one hand, and our experience of concepts, objects, activities, qualities, and states of mind found in the extramusical world, on the other (1960:51).

Thus Pedro was 'following his gut', but more importantly, he was intuitively striving for *meaning* with which to imbue his songs. I was curious as to what the process might be like for him, and pressed him to extrapolate further, so that I could understand how 'the making of' "Tá Doce", a primarily electronic song with African traditional roots, could suddenly incorporate a sample from The Clash, to which he replied:

"So, at the time I felt that I needed that texture from a guitar by The Clash, and I knew that it wasn't from one of the better known songs. Eventually I picked up the 'Combat Rock' album, listened to it through, and there it was. I placed the song over 'Tá Doce' and it fit perfectly without having to change the pitch, the tempo or anything else, and I found myself dancing alone at the garage, perfectly convinced that nothing was missing for the song to be complete any more.

For ethical reasons I was always going to credit The Clash, obviously, but legally I needed their permission, and this brought on some stress, as I could not fathom the song without that sample any more. The song could not exist without the sample for me, and lack of permission by The Clash would inevitably shelf the track. So I began to search for people who could get the songs into the hands of the musicians so that I could ask for their blessing, and also for people who could unblock the sample legally.

The first to arrive was the musicians' consent, which was the most important to me. On top of it, I was doubly fortunate because the sample that I used only included Bass and Guitar, and as it happens, the only two remaining musicians from The Clash still alive are precisely the Bassist and the Guitarist. I had the blessing from the two members who were sampled and they were genuinely interested in the song's context, which made me even happier. They were interested in knowing what the song was about, and why I wanted to use a sample of one of their least famous songs, which had never even been released as a single or ever been sampled before. They were also interested in the lyrics, wanted to know what the rhythm was called, and where I was from. Eventually they told me they liked it very much, and as far as I was concerned their consent was all I needed."

At this point I find it important to return to a point raised in chapter 2.2.2.1. Maybe Pedro, like Tabla players in Hindustani Classical Music, and many other musicians in cultures the world around, was making allusion to others' compositions, and referencing them by inclusion in his own music not only as a sign of respect, but also as an acknowledgement of their importance in his personal musical culture. Aware of the inevitable conundrum imposed on this approach to authorship by today's intellectual property laws, I wanted to question Pedro – without steering the conversation into more debates concerning authorship – about how he had legally cleared the sample, and asked: “You had the author's consent, but surely there is more to the process of clearing samples. How did the experience play out for you?”

“I was enthralled to have their blessing and honoured to share song credits with Joe Strummer, Paul Simonson and Mick Jones. Unfortunately, permission from the sampled parties is not enough. My label had to have legal clearance from the Publishers, it was only a matter of ironing out percentages, but then there was Sony, who owns the rights to the master recordings. Legally and financially we had to reach an agreement with Sony who was proposing a price that we could not pay.

Thankfully, in time they relented, probably because they didn't want to enter into an argument with the band, or maybe they realized that I wasn't necessarily a mega-star. By and by we reached our agreement, but it did take a long time. My record release was put on hold in waiting for the process to conclude and I was advised by my label hire musicians to record the parts.

I was able to recreate the sound, and sonically the recorded parts sounded better than the original in the mix but emotionally it just wasn't right, because I needed that sound, that time in history, that emotion, that relationship I had with their music, and to return to that time when I was fourteen and someone lent me the record which I proceeded to play countless times on my record player. I needed to return there for my magic to work again. If that has any effect on the listeners I can't say, but I did do my best to bewitch them.”

Bewitching listeners... this was truly an interesting idea for me. What if an artist's song, sound, performance or demeanour on stage could in fact bewitch his or her fans to the point that said fans were able, by contiguity, to perceive meaning as ascribed by the artist? Going beyond, could it be



Figure 42 - Batida's DIY Controller.

possible for a Controller, as an object, to transmit an intended meaning to an audience? I felt compelled to ask: “Does your use of a Controller on stage have any effect on your public?”

“Well, when playing live I use my Controller to interact with everything, even with the space itself. I am careful to leave my ‘can’<sup>198</sup> somewhere where it is visible to the public, not out of vanity, but because it symbolizes something else: This is not just another stage, not just another Controller.

I admit that from a functional point of view I would be better served with another kind of Controller. I may work with a maker in the future who can build me a Controller suited to my needs. Suited only to my needs, without any additional ‘bells and whistles’, not a button more than required for my performance. It may serve its purpose for only one album, or one tour, and then become obsolete and outdated, but it will have perfectly served my needs.

I try to be minimal in my thinking when I analyse what I need out of a Controller: “Why would I need 4 returns when I only use 2? I’ll just have 2! Do I need 2 effects or do I only need filters? I’ll just use filters, but I’ll just use one. I need pads, but how many do I need? I don’t need 16, but I need...Is it good to have a preset for each song? Maybe I can change presets per song that change only the pads and not the faders. A session control for faders but individual pad controls for each song would work...

The instrument’s physicality moulding to your mind. The creation of a unique object that reflects how you individually think, allowing you to play it naturally, intuitively as an extension of your self. That is much more important to me than the sophistication of the object itself.

The level of customization in Controllers is very different to what you get with musical instruments. The fact that the Controller is a musical instrument that adapts to your way of thinking is very good. You are graphically assuming what you are. My ‘Can’ assumes my personality much more so than the Ableton *Push* for instance. The *Push* is much more complex than I am. It is an incredible machine, but I just don’t have the skill for it. I’d rather use the ‘can’, which has a similar potential to the *Push*, only much more limited. The ‘Can’ not only is a physical representation of my limitations, it also symbolizes other things. The actual can originally had belonged to Shell, so we can talk about that;

the presence of Petrol in some places, principally at my birthplace. It also has to do with my love for that post-industrial African recycling, particularly as can be found in Angola and South-Africa. Grabbing an object and transforming it. It has to do with the fact that it is in fact a can, not just any can, not a perfect can, but a specific can from the 1970’s that took me a long time to find; with the right size, and the right shape. A certain kind of red that is not used today, because reds are now much more open, or richer. That red on the can looks like an old red, like blood-red; a red that looks real to me. That red excites me... So having that red, that rust, that profane object and transforming it is inspiring to me, and to others as well. Some

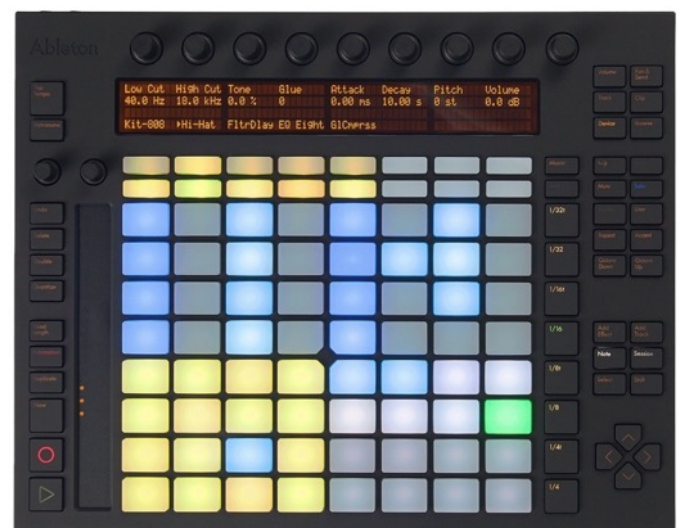


Figure 43 - Ableton's Push. Image: ableton.com

<sup>198</sup> Pedro built his Controller out of a gasoline can.



like it because it looks like a geek thing, others because it is graphically strong, and others because they sense a certain emotional or intellectual charge present on other levels.

That to me is so much more interesting than any guitar I could have put on stage. If I was from the musician tribe I could put an amazing guitar in my live show and two or three guitarists in the crowd could exclaim: “wow, that is a so and so guitar!”, except I am not too interested in communicating with musicians, I am interested in communicating with people.”

Rather than use a traditional music instrument or even a pre-fabricated Controller, Pedro had chosen to fashion his own Controller, and build himself a musical instrument that catered to his needs, and represented his philosophy as well. The ‘Can’ as he calls it, has always attracted my attention whenever I’ve seen Batida on stage, on the internet or on TV. I was meaning to ask him about his D.I.Y.<sup>199</sup> Controller before, and the opportunity had just presented itself, so I asked Pedro: “Where did you find the other pieces for your Controller?”

“I bought a kit. There were some guys from San Francisco, the DJTechTools people who make the MIDI Fighter who were selling a DIY kit which had a hardware board that translates the inputs into MiDi, and these great buttons. The buttons were what called my attention because because they looked like toys, were very undignified for musicians, but made perfect sense at the same time. I thought to myself: “Ah, this looks like a toy. A lot of musicians will call this a toy, but the industrial and industrious logic behind it appeals to me. The idea of using the best of what industry has made possible. Those buttons

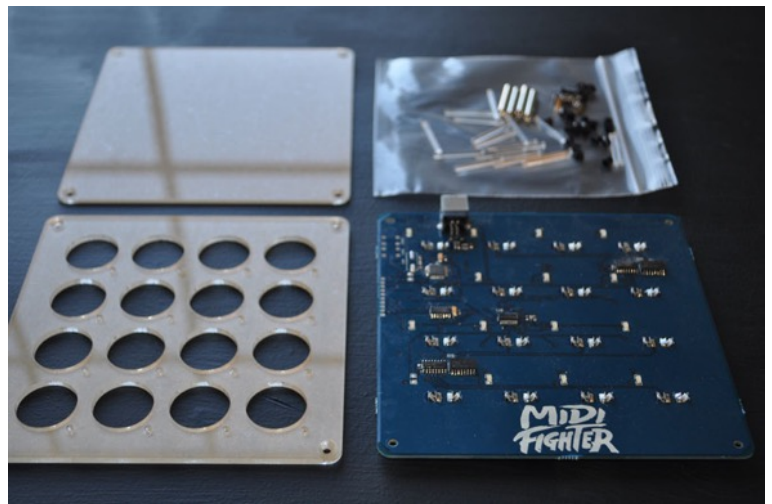


Figure 44 - The MidiFigher DIY Kit. Image: djtechtools.com

were not made to be well played, or badly played. They were not made to look pretty. They were made purely to function; to take a beating from a bunch of frustrated kids playing video-games for hours on end. From the start, they had to be well suited to my unrefined playing skills, blinded to dynamics. There aren’t 127 levels of volume with them, there are only 0’s and 1’s, and they always work. Getting a dynamic wrong between 60 and 70 is something in MiDi, but missing between 0 and 1 is a total tragedy, a life or death situation. So you want a button that will work when you press on it, and those buttons do. They are sturdy and reliable buttons that are more associated to the old arcade gaming scene than to musical instruments. I was not a big arcade gamer because I was either too young or didn’t have enough money when they were around, but arcade parlours did mark my past. It was an emotional connection with the buttons allied to an automatic empathy with a small company that was breaking new ground that influenced my decision.

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<sup>199</sup> Do It Yourself.

I liked the idea of accepting the fallibility of a small company, of accepting the human side and having an interaction with them regarding their product. So I made my decision to purchase the DIY kit and build my own Controller. The can took me a lot longer to find than to actually build and design the instrument. Initially I made one only with pads. Then I realized that the motherboard had the capacity for expansion and that it was possible to add rotary encoders<sup>200</sup>, so I bought more buttons, removed the motherboard and fixed it to another can, adding four rotary encoders and four bank preset buttons so that I could have 16 x 4 capacity. Now I had 64 options instead of 16, and what initially was little more than a totem and could only trigger the beginning of songs became something much more interesting, making me really want to interact with it live. It is interesting, but nowadays there is a tendency to play sideways to the public, allowing them to see the Controller, much like scratchers do by having a camera on top to allow the public to see what they are doing.



Figure 45 - Pedro Coquenão, Júnior and I performing live (in a sideways position) at the Westway Lab 2017. Photo courtesy of Westway Lab Festival

It is a much more interesting experience for an artist to interact with the crowd and for the crowd to interact with the stage, and being a shy person, it is still difficult for me to initiate contact, but the 'Can' is an ice breaker. It is almost a situation of "look at the can and don't look at me". It represents what I do far better than any expression I may have on my face as it is analysis-proof. It does not become altered under scrutiny and is always present in its entirety. It really has worked well for me, as it is the first conversation initiator when I arrive at venues. It starts with the stage-technicians, usually the young ones are very interested because they have seen Controllers before, but most of the old generation is interested as well as they see themselves reflected in the can and in the original spirit of

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<sup>200</sup> Rotary encoders are absolute or incremental electro-mechanical devices that convert motion information or angular positions into analog or digital signals.

machines from the 1950's and 60's, so they feel identified to it. They wouldn't interact with an APC but they would interact with my Controller. "What is this? What is going on here?"

It had become obvious that Pedro's 'Can' Controller did more than add meaning to his performance, spike interest in his audience and allow him to perform his music in a completely original fashion. The Controller is an artistic, aesthetic and philosophical statement, which makes it an integral part of how Batida portrays and presents himself to the world, so much so that it features in the cover of one of his albums (see figure below). Pedro continued:



Figure 46 - Batida's DIY Controllers. The yellow one is the first model. The red one is used in Batida's performances.

"The choice to use the 'Can' is a statement; the need to take it one stage, to play it, to run it through an amplifier explains more than I can do with words. That attitude is sometimes a provocation, as if I'm saying: "Look at me playing Guitar, this is me playing Guitar. Not look at me playing samples, but me playing Guitar samples. Look!" For some people this must be very irritating, but I think it is cool. If it is annoying I think it is cool. I'm not trying to upset anyone, but I'm stating: "Look how I don't know how to play but I will play, want to see?", and you can't really say that I am copying because I am playing it in a completely different way than the Guitarist who originally played the original sample. I am just using it as a sound, and being musical in my own way."

Herein we had not only entered the debates of decoupling sound and the appropriation of music discussed earlier in this thesis, but also touched upon topics that I find important for future research, particularly musical transgressions: such as musical activism, and fringe identities in instrumental and performance practices. With this in mind I asked Pedro to elucidate me as to how far his interests in experimenting with a fringe art-form were actually representative of a need to 'provide an example of difference' in a voice of musical activism.

"I am glad you asked. The best term that someone has ever used to define my sound was with the word uniqueness. It is a dear term to me because I consider that it is best gift that we could offer to our family, our friends and the world. The best activist statement that you can offer others is not your attempt to be unique, or to be forcefully unique, but to try to be as close to your natural instinct as possible and with that you will inevitably will be a little more unique than otherwise. You will be less your ego and more a synthesis of the things that happened uniquely to you, but at the same time in many things you will not be so unique because you are just like everyone else. Another friend once said: "I think that it's great that

you stick to what you know. You only try to do what you know.” Some people may consider that condescending, or not necessarily a compliment, but to me it is.

I interpreted his comment in the sense of trying to use that which you know and which you have readily available; the buttons and techniques you have at your disposal and expressing yourself through them. Not trying to be more. If your artistic and spiritual expression is free and honest you will naturally be more than what you know, but having the desire and the ambition to be more can ruin the process, and Controllers can lead you in both directions. They can give the idea that the performer is doing more than he knows because he can be playing a chord with one finger on a button, without even knowing what chord it is, but at the same time they can be bounding forces, because the performer may only want to use one chord in one button and play it in a particular place of the music. So, the Controller has the ability to reflect the potential of the artist using it, in that it can act as a limiting or exponential force with or without any criteria.”

Pedro’s decision to build his own Controller, develop his own musical method and forge his own playing style, makes him a primary example of Controllerism in the service of artistic agency. It would have been easier, by far, to adopt standard techniques and emulate what other successful Controllerists are doing outside Portugal, but it has been made clear by Pedro’s answers that the musical essence to which Batida clings has outlying roots that reach far into the distant past, while simultaneously embracing the technological future.

### 3.5– Final Remarks

Doing fieldwork as a musician, and in so doing under familiar terms, took the better part of three years, and finally provided me with enough research material to work and develop the bulk of my ethnographic project. I had created, worked and performed music with various people who used Controllers of all sorts in their production and performative practices, and all those experiences were valuable to my research. Yet most importantly, I found that it was their opinions, dreams and aspirations that informed me the most. The drive that motivated their decision to use Controllers in the way that they do, stemmed from a purposeful striving for creative liberation. Liberation from travelling down predictable career paths, so often confined by musical canons, or by aesthetic and theoretical dogmas.

Going in, my investigative goals for these residencies were: to analyse the usage of Controllers in live performance; and to investigate possible commonalities between all participants using participatory action research and auto-ethnographic methodologies.

All three artist residencies were successful endeavours - as claimed by all participants, members of the organization and public alike – and allowed to me to understand that artist residencies - through these ‘trial-by-fire’ experiences - are conducive to the creation of group *microtopias* and imagined cultures, giving us glimpses of the internal motives, objectives and aspirations, as they develop within a ‘group-imagined’ system that defies traditionally conceived socialities.

It is important to note at this point, that my concern with finding a Portuguese case-study was finally resolved during the 2017 residency, when I was paired with Pedro Coquenão. Finding and establishing a relationship with Batida was not easy, as it took me the better part of three years to complete ‘the journey’ with him. This turned out to be a blessing in disguise, for in the meanwhile I was allowed the time and opportunity to further ethnography with many other musicians, in Europe, Japan and the United States. As the only Portuguese case study of sufficient weight and import to the theme of Controllerism that permeates this thesis, Pedro Coquenão (Batida) eventually became central to my Thesis. Equally important has been the cooperation of Moldover, the pioneering force behind Controllerism as a performative and creative practice, and also as the individual who coined the term in the early stages of Controllerism.

## 4 – Conclusions

### 4.1 – Considerations

“The act of making music becomes the art of creating new sonic locations and creating new timbres, new instruments: the most basic materials of the musical experience” (Eno 2000: xi–xii).

This thesis is the final result of a three-year study on the emerging art of Controllerism and its evolution as an alternative to the use of traditional musical instruments in the processes of musical composition and live performance. It provides a discussion as to the practice of Controllerism; its origins, history, musical logics and technological developments.

Controllerism is a form of instrumentation that has increasingly permeated modern live performance in recent years in the fields of music, light and video. It can be understood as an emergent paradigm shift in live musical performance, particularly when considering cultural aesthetics associated with live electronic music, usually associated with digital DJ acts. As I explained throughout my thesis (in chapter two), several performing categories emerge from Controllerism. These categories include not only digital DJs, but also MiDi instrumentalists, live loopers, mashup mixers, beat makers, finger-drummers, button pushers, and sound tweakers.

Today’s Controllers offer a level of customization and control beyond what is possible with synthesizers and other early proto-Controllers that were focused on sound synthesis and hardware-centred emulation. Precisely because sound is decoupled from the instrument<sup>201</sup>, hardware limitations are bypassed and sound synthesis is relegated to a minor role with Controllerism, as it is but a small part of the musical possibilities offered by this new form of instrumentation. Essentially Controllers are, to use a Native American colloquialism, ‘Hollow Bones’<sup>202</sup>; they are customizable user interfaces, adaptive receptacles of artistic vision, created under the premise of facilitating cultural flow as musical sound.

This notion of flow, of unencumbered interaction between artist and computer is one that resurfaces in this thesis in various places, such as talks with different un-related informants, or the rhetoric used by companies that produce Controllers, making it a telling theme of some importance,

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<sup>201</sup> Meaning that the instrument does not generate sound in and of itself.

<sup>202</sup> The term ‘Hollow Bone’ is a metaphor for a condition of a vessel through which wind passes and makes sound. More specifically, the ‘bone’ is a bone found in the eagle’s wing which is hollow and was traditionally used to make eagle-bone whistles. In being hollow the bone is ready to be filled with the breath that will bring forth its song. Neo-shamans refer to the process of becoming clear receptors as becoming a ‘Hollow Bone’ (see Deatsman, 2011).

as it points to the current underlying tendency towards manufacturing systems that promote intuitive creative practices and performances.

It also informs us that the drive towards development of better interfaces between humans and machines has reached the world of musical instrument manufacture, but with one important distinction in relation to past manufacturing directives; the evolution of Controllers now dictates that music technology be adaptive, allowing users to customize their instrument and not be subservient to, or overwhelmed by, limitations in design, cultural standards, or their own technological ignorance.

In fact, we could argue that this is not a new process. As I exemplified in chapters 1.3.4, 2.1, and 2.2.3.2, throughout history musical instruments have been improved upon in order to allow the musician to play and sound better, but also to achieve a greater connection to 'the muse' or musical genius, wherever it comes from. Is it not conceivable then, that new technologies, when applied to the construction of new musical instruments, will finally allow for the transcendence of physical and cultural limitations; make instruments more customizable, mobile and far-reaching; and go in the direction of all other technologies for communication?

It was not so long ago that we could only see what was in physical range, and hear what was within ear-shot. Mobile phones allow us to speak instantaneously to someone on the other side of the planet, while video-chats permit us to see another place in space - and in time if we consider different time-zones - where it may be night to our morning. We are not physically present, but we are communicating beyond the confines of our physicality. Technology allows our voice to emanate further away from its source; and be present where the body is not. I argue that this is a form of sonic decoupling, one that is slowly percolating into modern musical instruments, particularly Controllers.

We have historically been accustomed to associating sound to source. While in earlier centuries we were required to be within physical listening range of the 'sounding' object, more recently we have recorded sounds into transportable media. This has allowed us to replay them at will in any location, in what can be considered a first process of decoupling sounds from the original source - the entity making the sound, such as people, animals, the nature or machines -, and associating them to a second - the medium playing it back, such as vinyl records, cd's and cassettes - (see Eckel, Iovino & Caussé 1995).

With the advent of the digital medium and the internet, sounds were converted into 0s and 1s, and disassociated from physical objects, effectively decoupling them from their source. In this second step of disassociation, physicality was subdued, lending sound a virtual and at times impersonal nature.

It can be argued that, under the prism of Controllerism, traditional instrumentation will suffer at the yoke of this powerful metamorphosing agent, propelling musical performance from a sonic art-form to a multifarious one, where modern instruments are expected to do more than just produce notes. In such a scenario, old habits may be abandoned in lieu of modern customs, and many instrumental practices lost.

Conversely, we could argue that Controllerism will rekindle interest in instruments that are fading in importance as their cultures of origin are absorbed into overarching macro-musical logics and structures, assuming the conceptualizations, fashions and tendencies inherent in processes of globalization. In this view, the progressive process of virtualization has allowed for a very interesting musical phenomenon to occur. As virtual instruments simulate and emulate traditional instruments - in my opinion with great and growing accuracy - they are marketed to a new wave of music composers, whose sonic source is the computer, and control sources are Controllers of various shapes and sizes; to Controllerists of various worldviews and cultural representations.

These are globalized individuals, whose window to the world is the internet; create and imitate global musical trends without being imprisoned by their own locality, navigating artistically and professionally through transnational and translocal networks; (em)powered by the ubiquity of electronic media (see chapter 3.3). Thus, borrowing from Mark Slobin, “we are all individual music cultures” (Slobin 1987: ix), and in this individual music culture, the field is a personal experience instead of a physical place (see Hellier-Tinoco 2003).

The effect of globalization on the development of musical instruments reflects the need to be adaptive to individual or group expression; to cater to the urge to customize and shape the instrument to the projected needs of the instrumentalist. To this effect, to Rice’s notion that “experiences are no longer contained within local, isolated cultures or even within nation-states but are and have been shaped by regional, areal, colonial, and global economics, politics, social relations, and images” (2003:160), I would add that under the umbrella of globalization, experience is also individualized by the freedom to tailor one’s involvement from numerous options, be they local, national, transnational or supranational.

Inherent in the Globalization stage of musical instruments - particularly with Controllers and hence deeply affecting Controllerism – are the global exchanges of MiDi files, mappings and note information, as is observable in internet exchange forums for Controllerists<sup>203</sup>. Likewise, the download of resources such as virtual instruments, sound packs, sample libraries and the like from

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<sup>203</sup> See example here: <https://maps.djtechttools.com/mappings>



servers scattered around the globe are other examples of the globalizing equation as it pertains to music. Online video tutorials and virtual public performances also weigh in, showing us that territorializing agents can become non-existent as web-based musical communication takes place freely. Lastly, the transmission of sound in real-time or as files, with varying degrees of compression have made music streaming another good example of the process of decoupling sound and object.

Roger Linn, proclaimed 'father of the drum machine' because of the many contributions his drum machines have made to the recording industry<sup>204</sup>, could just as easily be called 'grandfather of the modern Controller' for his guidelines for making "products that didn't require much technical skill to operate" (Chun 2015). In an interview for wired.com in 2015, Linn retorted:

"Young musicians aren't buying violins or cellos or saxophones. For better or worse, these instruments are becoming obsolete. Instead, they're buying a variety of sound Controllers—mixer type things—and they're playing music with them in a variety of ways. They may buy a grid Controller, and then use it with Ableton Live as a clip launcher, where they sample these little musical objects, and paste them together in a unique way to form a sonic collage" (Chun 2015).

This statement heralds a transformation of the musical performative stage, entailing a 'technological stage invasion' in the years to come which will probably affect all musical styles and genres, including music categories such as World Music. What will happen when technological progress supersedes the – now – traditional models of creation, production and manufacture in countries that are commonly exoticized by the World Music industry? When home-recording studios, cheap hardware, customizable Controllers and fast internet connections are readily available everywhere in Mali, what will happen to Malian musical expression as it is understood today? What will be of sonic and cultural identity?

The misconception that only electronic music genres will be affected by the ensuing – and extremely rapid – growth of Controllers is not without naivety and presumptuous incline. The presence of Controllers in stages and studios today is growingly evident, and makes them ideal representatives of the exciting debate concerning the very definition of musical instruments. Arne Bense has argued for a revision in organology that includes Controllers, affirming that:

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<sup>204</sup> Linn developed the LM-1, the world's first programmable sampled-sound drum computer, claimed by many to be beat box of the '80s. The LM-1 was used for every drum sound in Michael Jackson's Thriller, the best-selling pop album of all time. Linn also was responsible for creating the Akai MPC60, the classic 16-pad Controller that made sampling beats accessible to the technically uninformed. The MPC60 became a staple in hip-hop production, helping to propel hip-hop out of the projects and into to MTV mainstream (Chun 2015). Date of last consultation: 17th of September, 2017

“All sections in music production are by now affected by virtualization and are thus subject to various transformation processes – including the musical instrument. It seems to have disappeared between software synthesizers, sound samplers, groove boxes, ‘virtual instruments,’ digital audio workstations, diverse Controllers and musical interfaces. Today, organology is undergoing a phase of reconfiguration – the organology of the computer society has yet to be developed” (2013:149).

This evolution, or some might say, revolution in organology that hails for the inclusion of ‘instruments of computer society’ is one that will further place Controllerism as a musical practice under academic analysis. As the design and usage of Controllers are informed by techno-cultural processes such as Digitization and Virtualization, their study gives us a more complete picture of contemporary musical practice. Controllerism; the art of making and playing music with Controllers and computer software is a new form of ‘speaking’ music, a musical language that emerges from the interaction between technology and music performance; one that I believe will change the status of Controllers from peripherals to bona-fide musical instruments.

As mentioned by Bense, an organological re-definition could also shed light on certain transformational processes that are, in many cases, relegating musical instruments with consolidated sonic characteristics to secondary roles in composition and performance.

The sound of a guitar is characteristic thereof, and if played without any effects essentially sounds like itself. This limit, of having one unique voice, has been transcended with musical Controllers, as it had already been transcended with the invention of synthesizers, foot pedals and the such. While synthesizers can also be described as proto-Controllers, because they were designed to modulate more than one voice, they are more akin to traditional instruments because they produce their own sound, yet MiDi keyboards – on the other hand – are Controllers because they do not produce any musical sound without external sound sources.

Yet, triggering sounds and samples is but a part of what a modern Controller can do, as it is not solely used for that purpose. Neither is mixing, Djing, etc. A modern Controller is essentially devoid of the processing of sound, but instead ‘actuates’ it, communicating with other machines or software and controlling their sonic output. For instance, a Controller can initiate a sequence of events or individual actions in a software, control sweeping parameters such as filter and effects on a hardware or a software emulator, trigger sounds from a virtual sample library, control tracks in a digital mixer, and do much more. As Moldover originally described Controllerism when he coined the term:

“Controllerism borrows its name from Turntablism. These terms are essentially the same idea, but they revolve around different instruments. DJs who emphasize performance and approach their tools as musical instruments needed to differentiate themselves from DJs who just play records. In the same way, performers who use computer technologies as musical instruments needed a way to differentiate themselves from people who “check their email.” Controllerism is the art of manipulating sounds and creating music live, using computer Controllers and software. Simple as that.” Matt Moldover, composer/producer (Golden 2007).

For this thesis I took up various forms of fieldwork with Controllerists from multiple countries in order to ascertain principal issues and concerns that inform the experience of Controllerists internationally. A case study in Portugal was conducted, with the goal to compare information provided by a local professional Controllerist, with those provided by informants from other countries, and try to ascertain if there was any correspondence between them. In this regard various topics emerged consistently across the interviews with my informants, providing me with a better glimpse of the focus’, motivations and preoccupations that typically affect - and sometime afflict - Controllerists.

Bottom-line issues such as Authenticity, Appropriation, Flow, Mobility and Technicity were reiterated in our conversations, emerging time again in our interviews, as documented in chapter three. Generally speaking, the Controllerists I worked with were technologically savvy to the extent that they had a clear grasp on how to use their Controllers to achieve a greater state of flow within the processes of music creation and musical performance.

“According to Csikszentmihalyi, flow is completely focused motivation. It is a single-minded immersion and represents perhaps the ultimate experience in harnessing the emotions in the service of performing and learning. In flow, the emotions are not just contained and channelled, but positive, energized, and aligned with the task at hand. The hallmark of flow is a feeling of spontaneous joy, even rapture, while performing a task although flow is also described (below) as a deep focus on nothing but the activity – not even oneself or one's emotions” (Goleman 1996).

Controllers as adaptive instruments are facilitators for creative output, but in and of themselves, do not provide the inspiration needed to create music. That comes from within, from a musical dialogue between internal and external forces, that is largely dependent on flow.

Of all my informants, only one had received training in a traditional instrument, while the others had used adaptive software and hardware to ‘teach themselves’ how to make and perform music. They had begun by creating music long before they could ever play a musical instrument,

embracing the opportunity provided by Technicity; the chance to create a relationship with technology that would allow them to express their personal musical identity; and the power to make music happen.

Musicianship arises as an important issue to Controllerists. When faced by the question: “If Controllers aren’t officially thought of as musical instruments, do Controllerists consider themselves to be musicians?”, most did not know what to answer, mainly because even in their own mind the image of a musician was attached to the idea of playing a traditional instrument. Yet, upon deliberation – usually in a playful tone – their answers coincided in that they represented a non-traditional form of musician; a music-making type of artist; instrumentalist, composer and producer all rolled into one difficult to define item, much like Controllers, and like Controllerism.

But how did they feel about the 'blurring of identities' that resulted from these alternatives to traditional musicking? Technology has allowed them to bypass a cumbersome learning curve, usually associated with years of training in a musical instrument or musical theory. It had become the impelling force behind new musicking processes by the non-learned, much to the benefit of self-taught musicians and composers who did not use or know staff musical notation.

Again their responses were unanimous: being bogged down by pre-conceived identities would disallow them from taking their own path, interfere with their self-determination and affect the quality of experience in their creative and performative processes. There appears to be an empathetic connection between Controllerism and DIY culture, in that both are a “self proclaimed movement, that challenges the symbolic codes of mainstream culture” (Purdue 1997).

Is it a surprise that building DIY Controllers has gained such popularity? The open-source Arduino<sup>205</sup> platform is representative of a modern instrument hacking movement in DIY culture that promotes performing and sharing experiments that use extendible components to explore novel expansions and new developments in various fields of electronics, including music Controllers. Today<sup>206</sup>, in the Arduino forum<sup>207</sup>, contained within the audio section, there are 3171 entries discussing different musical applications of the Arduino technology.

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<sup>205</sup> “Arduino is an open-source platform used for building electronics projects. Arduino consists of both a physical programmable circuit board (often referred to as a microcontroller) and a piece of software, or IDE (Integrated Development Environment) that runs on your computer, used to write and upload computer code to the physical board.” Source: [learn.sparkfun.com/tutorials/what-is-an-arduino](http://learn.sparkfun.com/tutorials/what-is-an-arduino) (date of last consultation: 13th of April, 2017)

<sup>206</sup> As of 15/07/2017

<sup>207</sup> Source: [forum.arduino.cc/index.php?board=8.0](http://forum.arduino.cc/index.php?board=8.0) (date of last consultation: 3<sup>rd</sup> of June, 2017)

Thus my investigation answered my original question in the issue of musical education. By confirming that technology, in the guise of Controllers, has added value for the non-traditionally or non-classically trained musicians and composers. Furthermore, it has also added the same value to the musical layman as well, by democratizing processes in the creative economies of musical production, creation and performance, leading us to the question: “Should musicking be an erudite affair?” Perhaps a return to a time when music was not considered something to be made by a prepared elite is upon us. After all, years of studying language do not necessarily make the poet. In working with musicians from various ‘walks of life’, I have come to firmly believe that musicking is an inherent trait, but that not all are convinced of their capacity to make music, and that Controllers are instruments that can help ameliorate these misgivings. With the development of increasingly intuitive production systems that narrow the technical gap between inspiration and performance, another step is taken towards a more musicalized society.

As far as musical instruments go, the Laptop has suffered the same fate as Controllers; their status as instruments still being unrecognized today, and source of much confusion and apprehension on all parts due to a problem of definition. While one is still deemed to pilot an airplane although it is an almost fully automated process, the idea of using Laptops and Controllers as musical instruments in a live music setting is still considered somewhat fake by many in the live music community<sup>208</sup>. I believe that this is partly because most parties are committed to an outdated paradigm of stage performance and instrument classification. These notions are deeply embedded in their own stage experience, spanning in many cases to decades of experience. Yet in the last decade a technological spurt of growth and evolution has resulted in possibilities that do not fit the ‘old’ paradigm that deems – for instance – an electric guitar as a ‘real’ instrument and a Controller as a ‘fake’ one.

As to the question: “Where and how does one situate the paradigm shift occurring with the use of Controller interfaces, that have led to the development and wide-spread adoption of the term Controllerism, and possibly an entirely new set of cultural aesthetics, understandings and values of ‘authenticity’?”, I would have to refer back to my research in chapter two that traced the evolution of Controllerism as a musical practice through the following five stages:

- a) Its original surfacing in prototypical form from within the Jamaican musical ecosystem of the 1960s;

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<sup>208</sup> By ‘live music community’ I mean people involved in the production process of live music, such as music promoters, front-of-house engineers, monitor engineers, roadies, musicians and others.

- b) its role as part of the genesis of Hip-Hop with Turntablism at its forefront in the 1970s;
- c) its consolidation in Hip-Hop with the development of Controllers such as the Akai MP60 as well as the creation of the MiDi protocol in the 1980's;
- d) the rise of Controllers as tools for creation and performance in electronic music and DJ Culture in the 1990's;
- e) the observable exponential increase from the turn of the century until today, which includes Controllerism's five principal stylistic strands: Finger-Drumming, Djing, Live Mixing, Instrumentalisation and Mobile or Gestural Controllerism.

Today, Controllerism is situated as part and parcel of the Remix Culture, and relies heavily on sampling and compositional logics such as the block-thinking logic. In chapter 2.2.2.1 I used block-thinking analysis of an Indian Tabla solo in order to demonstrate that this logic has had musical applications throughout history and is not exclusive to modern digital culture.

Could we not surmise that block-thinking logic is a naturally human form of musical rationalization? Are there not examples of the same logic at play in countless others musical cultures? In the end, do we not build upon the successes of the past?

Also expounded in chapter two are the logics and the methods involved in Sampling which are very much a part of the lexicon of Controllerism. Sampling is a widespread practice that permeates music production around the globe, and is not limited to using audio snippets. The website [whosampled.com](http://whosampled.com), a valuable resource for research, is a database boasting 474,449 songs that contain samples to date<sup>209</sup>. The samples are divided into direct and replayed samples (interpolations), which can be further categorized as Drum Loop, Bass, Hook / Riff, Vocals, Sound Effect/Other or Multiple Elements. The important aspect of these categorizations for this thesis, is the fact that melodic interpolations are also considered as samples. Therefore, all "long, distinctive and clearly identifiable hooks, melody lines and vocals, where the reference is obvious and, more importantly, clearly intentional<sup>210</sup>" are considered samples.

From this perspective, samples are abundantly found in contemporary music as well as traditional music; in popular musics and counter-cultures alike. From major to minor genres, in the musics of first, second and third world countries, Sampling has been used in one form or another,

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<sup>209</sup> As of the 14th of July, 2017

<sup>210</sup> [whosampled.com/faq/#2](http://whosampled.com/faq/#2) (date of last consultation: 9th of April, 2017)

sometimes sparingly, and sometimes extensively. Could we then not deduce that Sampling, rather than a form of authorship theft, is a reverential methodology instead, where homage to past compositions is paid in the form of inclusive adaptation?

The logics that inform Controllerism, as described in chapter two attest to the paradigmatic shift occurring with the use of Controller interfaces today, and communicate the emergence of a new set of cultural aesthetics, understandings and values of authenticity.

In 1887 Franz Boas established an axiom by articulating that "...civilization is not something absolute, but...is relative, and... our ideas and conceptions are true only so far as our civilization goes" (Layton 1997:184). It hints at the notion that truth - as what is true, and thus authentic - is of a conceptual nature as opposed to an intelligibly determinable expression. Therefore, we could situate the paradigm shift occurring with the use of Controller interfaces in a transitioning period where rigid definitions of authenticity in music are challenged by the very factors that contribute to its conceptualization, as multi-cultural forces put strain on preconceptions and prejudices inherited from mono-cultural definitions (see Schippers 2006).

Controllerism thrives in an era of mobility; during a time of constant flux, within the continual circulation of things material and immaterial. Music has always been mobile and sound without mobility is not sound, for it is movement by nature. Daily we find ourselves submerged in oceans of sound created by the sonic emanations from all kinds of devices, and these soundscapes have become main staple in our lives as we live our lives on the move. We are multi-sited as we interact not only with our physical surroundings but also with multiple other sites around the world. A continual circulation of persons, objects, cultures, media, ideas and information cross the globe daily (Salazar 2010), and because we are always connected by technology, we are free to pick and choose our own direction among the many possibilities. But more importantly, we are free to 'sample' from that wealth of information, and turn that 'sample' into music. That is what Controllerism has come to represent to me throughout my investigations; a musical freedom of choice, unencumbered by affiliations to genre, form, culture or school of thought.

My ethnographic experience can best be explained in the words of Patricia Shaw who stated: "despite the ubiquity of our intentions, plans, rehearsals and scripts, all the effort we put into anticipating, what happens next is never a done deal, because we can never completely predict or control even our own response to what is happening, let alone the responses of others" (2006:2). I made a gamble by attempting to manage performing participatory investigation during three

separate artistic residences and simultaneously writing an autoethnographical narrative piece from an emic perspective recounting my experiences as well as my findings.

Earlier I had made the decision to study Controllerism as a musical practice, and concluded that I could only do so from within. My aim was to make use of Timothy Rice's (2003) ideas in my research. That required conducting subject-centred studies into the experience of individuals linked together by commonalities such as a place, space, time, and work. To do so I had to play a part in the group dynamic and become one of the musicians involved in the process, which implied more improvisation than planning, and no safety net. I would have to act out this thesis in line with the philosophy of Heraclitus who stated: "You can't step into the same river twice. The water changes, you change, everything changes". The thesis would have to write itself.

Yet to put oneself out there, bare to the world, can be very liberating, as I have learnt over twenty-five years of experience as a professional musician. One feels naked, as if the public can see what we feel within; and is bearing witness to that which we so often keep tucked away in our deepest internal recesses, hidden somewhere between our dissociative memories and our unique arching sense of identity; so laboriously built from our childhood to the present day. Once embraced, the idea of having nothing to hide can present us with a new freedom of mobility; untethered by the shackles of self-imposed behavioural limitations and excessive self-awareness. After all, improvisation is tantamount to spontaneity. One simply cannot be without the other, and spontaneity is in turn associated to emotional content; a quality of expression highly regarded in most types of musical performance.

This thesis is a result of performing abandonment. Abandonment of my prejudices as an instrumentalist, a student and a music aficionado; abandonment of my preconceptions about authenticity, appropriation and authorship; abandonment into my fieldwork, into experiencing, learning, flowing, and improvising. In conducting my research, I was proven wrong about many things, and for that learning process I am deeply grateful.

With this body of work, I aimed to explore central questions, theoretical perspectives and methodologies pertaining to a double conceptualization; that of Controllers as musical instruments and of Controllerism as a musical practice. In this thesis I explored participatory action research as a method for exploring creative processes involving musicians from different backgrounds that used Controllers and other musical instruments. From the experience I concluded that additional inquiries into the subject would further better understandings of this new 21<sup>st</sup> Century musical culture. This thesis was a point of departure for future research, where using comparative analysis, on-site



observation, and *hands-on* experience, will shed light on the various processes involved in hybrid analogue-digital performances and creative activities in today's increasingly virtualized musical cultures.

#### 4.2 – Suggestions for future research

There are various other potential directions for further research associated to this thesis, in particular to Controllerism as musical practice. One investigative avenue of special interest to me is the analytical exploration of the dimensions of realism in virtual instruments today, particularly those of stringed instruments from India. Due to the comprehensive use of articulations in Indian Music, such as the use of subtle ornaments and micro-intervals (micro-tonal leaps), both the Virtual Instrument (sonic source), and the Controller (control system), are required to be of an extraordinary programmatic intricacy and responsive efficacy.

Firstly, an in-depth interpretation of the original instrument at the source would be required, preferably in the country of origin, or in a country with a large representative population of the musical culture from which the instrument originated.

Secondly, the Controllers would be selected, ideally more than one, in order to ascertain comparative expressive potentials and pitfalls.

Thirdly, a study from an emic perspective of the instrument's gamut of musical expression would be required so as to enable the researcher to appropriately interpret articulations by ear and sight. In way of example; if we were to take the Indian Sitar as our instrument of reference, a series of expressive articulations (Shankar 1969) would need to be covered by both Virtual Instrument and Controller, of which I will describe but a few in lieu of a simpler, more direct explanation:

- a) *Krintan* – Melodic figures produced by actions of the left fingers alone.
- b) *Meend* – Notes on the same fret produced by pulling the string with the second finger (bending)
- c) *Gamak* – Note achieved by pulling the string from one note to the next and back again in rapid succession.

If the Controllers selected for comparison were the triple play wireless MiDi guitar controller<sup>211</sup> and the Seaboard Rise, we would soon discover that the physical limitations of the guitar

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<sup>211</sup> URL: <https://www.fishman.com/products/series/tripleplay> (Accessed the 17th of September, 2017)

neck would render the *Meend* inoperable, while the *Krintan* and *Gamak* could be expressed to a limited degree. In theory, the soft silicone keywaves (keys) of the Seaboard RISE, in turn, would be able to fulfil those musical expressions, as one could assume that the five dimensions of touch present in the Seaboard Rise (Strike, Glide, Slide, Press and Lift) would be sufficient to convey all the articulations present in the Sitar. At which point, provided that the Virtual Instrument, such as Native Instruments' India was also able to emulate the *Krintan*, *Meend* and *Gamak*, blind tests and ethnographic interviews would be performed with various control groups so as to derive conclusions about viabilities, limitations, expressive authenticities, prejudices, etc.

Personally, this would be my preferred avenue of investigation, but there are other equally interesting ones, such as issues raised by conceptualizations about musical identity. Originally in my considerations for objective studies, researching what is understood as the identity of musicians, instruments and genres as challenged by Controllerism was included. Yet, the sheer volume of exploratory text as well as an inevitable change in investigative direction would have entered in conflict with the very substance of this thesis as was originally intended. Yet the possibility still remains to conduct such research in the future, possibly aligned with investigations into problems posed to music heritage, as challenged by globalization and 'instruments of the digital age', such as Controllers.

Controllerism as cultural transgression, as could be understood by musical activism or *hacktivism*, and fringe activities in instrumental and performative practices would provide an equally fruitful avenue for investigation. The idea of transgressing; of going beyond boundaries is inherently woven into Controllerism, which has almost always been a 'fringe' practice, breaking into the mainstream on few short-lived occasions. I consider that further publications as to the motivations, concepts, idealizations and objectives of Controllerists that embrace Controllerism as a way to challenge the musical status quo and make controversial statements through their practice, would also add value, I believe, to the field of Ethnomusicology.

As pertaining to the quality of experience in musical performance, and in this case Controllerism; I would suggest that further inquiry into rationalizations of the experience of flow may bring about interesting debates as to the potentials in technologically driven instrumentation, creation and performance. Understanding fluidity as both an opposite of rigidity and as lack of containment, when analysing processes such as musical production, composition and performance could allow for an understanding of the role that technology - such as is found in Controllers - has on the processes of conceiving, making and performing music today. A comparative study between

these processes in the past and in the present, with particular focus on the psychological aspect of musical rapture, hyper-concentration, and flow, based on interviews and first-person accounts may prove, once again, fruitful to Controllerism studies.

One last suggestion for future research again touches upon historical inquiry, in an effort to understand present transformative practices. Tracing 'block-thinking' logics into musical genres past and present, could provide us with alternate glimpses into the actions of composition and performance. When investigated from the *angle* of music cognition, brain-motor-sensory functions and mechanisms involved in memory, thinking in blocks appears like a logical form of managing information by grouping it into macro-structures, which can then be 'chained' together into compositions or phrases in improvisations. The observable manufacturing trend that is moving towards better ergonomics and simplification of musicking processes attests to the possibility that Controllers are being designed with the emulation of human intuitive operations as informed by our inherent mental architecture.

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