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Practice Beyond Boundaries:
Enhancing Musicianship through Historical Clarinet Affordances

Thesis submitted in partial fulfilment of the requirements

for the degree of Doctor of Philosophy (Music)

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Tallinn 2024

Abstract

The thesis “Practice Beyond Boundaries: Enhancing Musicianship through Historical Clarinet Affordances” (“Piire ületav harjutamine: muusikalise meisterlikkuse arendamine ajaloolise klarneti pakutavate võimaluste kaudu”) is part of a creative research doctoral project and it explores how practice and performance on modern clarinet are affected by the exploration of musical affordances on historical clarinet. The concept of affordances identifies the possibilities of action offered by an object to a subject interacting with it. The historical clarinet considered is a 13-keyed instrument, developed by the clarinettist and composer Iwan Müller at the beginning of the 19th Century. The instrument represented a major breakthrough in the history of the clarinet, influencing its contemporaries and the players to come. While the initial interest towards this topic sparked from its history, in this research project Müller’s clarinet is not used as a historical instrument. It is taken into a modern context, and explored in practice sessions alongside its modern relative following a hybrid methodology.

The practice process is organised following the principles of autobiographic design. This method, born in the field of human-computer interaction design, is used here as a support to organize a structured yet flexible series of practice sessions to explore the historical clarinet. The process is documented through a practical journal, which is then analysed following the principles of thematic analysis, identifying recurring relevant themes emerging in the practice. Finally, the whole process falls under an autoethnographic framework, to take into account the self of the researcher in the identification and later application of musical affordances.

The process led to the identification of five main thematic areas encompassing different musical affordances of historical clarinet: technique, air and sound production, articulation, intonation, and interpretation and phrasing. In each area, the historical clarinet afforded different actions than the modern one, showing its potential as an individual instrument. The results showed how musical affordances could be applied in everyday practice, and how they influenced modern clarinet practice not only in its technical aspects but also more abstractly, in the mindset and approach to music. A similar process of exploration and experimentation could be followed on other instruments, breaking the boundaries of traditional practice on a broader level.

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1. Introduction

Although the work for this dissertation began four years ago, the foundation of it – my passion for clarinet, my curiosity, and my desire to explore different paths – has been part of me for much longer. It is difficult to point to exact pivotal moments when these elements emerged, but there is at least one that I can identify.

It was the summer of 2008 and I was a nerdy teenager obsessed with clarinet. I was still playing at an amateur level, taking the first steps towards professional studies. My family and I were having a holiday in Tuscany, and every evening we would stroll on the seafront promenade and check out the craftsmen market stalls. During one of these strolls, we ran into a second-hand books stall, and something immediately caught my eye. On top of a pile of worn-out volumes, there was a special one: *Il Clarinetto* (Brymer 1984) by Jack Brymer, one of the most influential British clarinet players of the 20th Century. My formal music education was yet to begin, but I was already dreaming of becoming a professional player and knowing everything about the clarinet. Quivering with anticipation, I begged my mother to buy the book for me. My begging was overdramatic: the book cost a ridiculous amount of money, less than five euros. Still, in my eyes, it was priceless: it contained the history of the clarinet, the names of famous players and inventors, practice and teaching tips, a list of main repertoire… and of course, there he was: Iwan Müller. A “genius”, “visionary”, “incredibly talented and tenacious” according to Brymer’s recount (1984: 45–48)[1]. I learned from that source that he was born in “Russia”, although I would find out later that there was much more to it. I devoured the book, fancying myself an expert on clarinets. Later I played some of Müller’s etudes in my first year at the Conservatory of Novara, and then relegated him in the back of my mind until the spring of 2020 when his name was brought to my attention once more.

I was spending the Covid-19 lockdown in Estonia, studying, practising, and reading. Brymer’s book was there with me, on my dusty bookshelf, and skimming through its pages I saw again Müller’s name. Something sparked in my head, and after a brief search I found out that the “Russia” cited in the book was actually the territory of Estonia, then a government of the Russian Empire. The more I read, expanding my search to the works of Albert Rice (2003b), Martin Harlow (2006), and Ingrid Pearson (2007) the more I grew fascinated with him. While as a teenager I could not really grasp the magnitude of his contribution to clarinet development, now it was clear what kind of impact he had

[1] Translation by the author.

had with the creation of his 13-keyed instrument and his virtuosity. I became curious to play his instrument, explore his technical improvements, and compare its characteristics to the modern clarinet. These readings and reflections set in motion the train of thoughts that took me from mere curiosity to the topic of this research: using Iwan Müller's 13-keyed clarinet in my practice, to explore instrumental affordances and improve my musicianship on modern instruments.

This thesis is about the musical affordances of historical clarinet outside of historically informed performance. The concept of affordances identifies the possibilities of action offered by an object to a subject interacting with it. Such possibilities depend on both the object and the subject and how they interact. The historical clarinet used in the research project is, specifically, an original thirteen-keyed Müller system instrument from the late 19th century. Although Müller's clarinet is a strongly historically situated object, in this work I take it out of its context and use it in the present as an independent instrument without strong ties to historically informed practice. There are heated debates in the historical performance movement regarding authenticity and historicity (Lawson; Stowell 1999: 16; Haynes 2007). Musicologist Richard Taruskin said on the topic: "Historical reconstructionist performances are in no sense recreations of the past. They are quintessentially modern performances, modernist performances, in fact, the product of an esthetic wholly of our own era, no less time-bound than the performance styles they would supplant" (Taruskin 1982: 346). In this research work, I take one step further, embracing completely the modernity of the historical clarinet, deliberately moving away from engaging with its historicity and the heritage that comes with it. I do not deal with matters of style and authenticity, focusing instead on the journey of practice, exploration, and self-development, with the underlying awareness that everything is arbitrary in music. I provide an artistic research account of a personal experience with a historical clarinet, as hoped by Colin Lawson, who regrets the fact that "individual experience has been less documented than the philosophical debate" when it comes to the practice of historical instruments (Lawson 2021: 252). Throughout this text, I show how engaging with the historical instrument and its individual characteristics from a practice point of view not only affected my technical skills but also challenged my views on classical music. The end goal is to improve my own musical skills or *forma mentis* and to report about these improvements in such a way that could allow others to emulate them in their practice.

Throughout the chapters, I will explore the following research questions:

- How does practising on historical clarinet affect my playing on modern clarinet?
- What are the specific musical affordances of historical clarinet?

- How can I apply these musical affordances in practice to develop my musicianship?

I aim to take the historical clarinet out of the historical performance setting and look at it just like another clarinet, exploring its affordances in a different context than its customary one. I reject the positivist outlook on instrument development, embracing the idea that in instrument making there is always a balance between mechanical development and sound qualities (Lawson; Stowell 1999: 8). The Müller system clarinet in this work is not considered an "imperfect" old clarinet, but a complete instrument in its own right, with its positive and less positive characteristics. Exploring the age-old question "Has the clarinet improved as a musical instrument since Mozart's time, or has it merely changed?" (Lawson 2006: 5) I compare directly historical and modern instruments. Although I entered the research process with the expectation that there would be a winner and a loser in the comparison, I had to accept that the technical superiority of modern instruments does not make them superior instruments *tout court*, merely different ones. It is this difference that constitutes the core of the thesis.

1.1 Literature Review

The main sources used to build the theoretical framework of this work were related to historical performance, clarinet history, and music practice. Even though I distance myself from historical and stylistic matters, first I familiarized with the discourse.

Bruce Haynes (2007) was a fundamental source of information on the development of the historically informed performance movement, the different philosophies animating it, and its challenges and strengths. Colin Lawson and Robert Stowell (1999) provide a concise and insightful overview of the movement, focusing on performance aspects in preparation for a wider series of volumes on specific instruments. Lawson himself is the author of the volume on historical clarinet performance (2000). Richard Taruskin (1982; 2010) piqued my interest with his lucid analysis of the arbitrariness of classical music's strong traditions and the modernity of historically informed decisions. His provocative question "Should we call this progress?" (2010: 288) in regards to the wild development of technique on the piano was particularly eye-opening.

The development of the clarinet has been investigated and described by numerous scholars: Albert Rice (2003a; 2003b; 2012) and Nicholas Shackleton (Shackleton; Rice 1999) researched thoroughly

the changes in the instrument, acknowledging the fundamental contribution of Iwan Müller's invention, and how the invention was disseminated and embraced – or rejected. David Charlton (1988) covers the development of the instrument through the lenses of historically informed performance, following the changes in taste and music interpretation. As mentioned above, Colin Lawson's production gives insight into matters of historically informed performance, instruments' development, and philosophical matters (Lawson 2006; Lawson 2021). Eric Hoeprich's extensive book, *The Clarinet*, provides a deep and detailed overview of the history of the instrument in the classical context, from its early origin to the twentieth century and beyond (2008). These sources focus on the organological aspects of clarinet development.

A more human aspect of clarinet playing can be found in Pamela Weston's work, which is a detailed biographical account of clarinet virtuosi from the 19th and 20th Centuries and their relations with other members of the classical music community (Weston 1971). There are important contributions to the clarinet literature made by active performers: among others, Jack Brymer (1984), Fabrizio Meloni (2000), and Mikko Raasakka (2010). Their manuals cover various aspects, from the birth and development of the instrument to its acoustical properties, from teaching and practice strategies to repertoire. Jane Ellsworth (2021) and Colin Lawson (1995) curated important manuals, collecting contributions from a wide array of experts in the field of clarinet playing. All these sources were fundamental to strengthening my understanding of the historical framework and traditions of both historical and modern clarinet playing. The sections about pedagogical matters were important to situate my practice of musical affordances in the wider discourse of clarinet practice. It was important to be aware of playing conventions, traditions, known practice strategies and approaches. Widening the lens to general practice strategies, I considered literature about embodiment in music practice (Cox 2016; Kaastra 2021), and the use of mental imagery and metaphors in music (Schippers 2006; Wolfe 2018), two aspects that proved to be important in my process. Tullberg's application of the concept of affordances to musical instruments (2021) was a support in devising my own application.

Following this Introduction, Chapter 2 contains an overview of the methods and theoretical framework used to conduct the research project. I present three methods adapted from other disciplines that inspired the design of the methodology: autobiographic design, thematic analysis, and autoethnography. The application of the theory of affordances to musical instruments is also covered.

In Chapter 3 I present a brief history of the clarinet, with the historical context in which Iwan Müller moved and developed his instrument, to provide the context for a fruitful understanding of the qualities of the instrument and its differences from previous and later models. I also provide a close physical comparison between the two instruments used in this project.

In Chapter 4 I focus on the practice process, presenting its organization and then the musical affordances identified through it, how they presented themselves, and the differences between the instrument from a practical perspective. The affordances are presented and divided into five main categories: technique, air and sound production, articulation, intonation, and interpretation.

The practical applications of these affordances in everyday artistic life are covered in Chapter 5, with suggestions on their possible uses for other players and composers. The applications are loosely divided between physical and psychological applications, paying attention to how body and mind intertwine in the practice process. In the Conclusion I present the final reflections on this practice process, how it affected my musicianship, and possibilities for further research.

2. Framework and Methodology

In this chapter, I present the hybrid methodology devised for this research project, as well as the application of the theory of affordances. First, I followed the principles of autobiographical design, which was used as a structuring tool in the initial stages of the research to organize the practice sessions and gather journal notes. Then I categorized the practice journal notes with techniques inspired by thematic analysis. An overview of the theory of affordances will clarify my vision of the content of the thematic areas identified in the second phase. I then show how an autoethnographic framework supports the inclusion of myself, my identity, and my cultural background accountably.

It should be noted that all the methods and theories mentioned are borrowed from disciplines other than music: autobiographical design comes from human-computer interaction design (Neustaedter; Sengers 2012), thematic analysis from psychology (Braun; Clarke 2006), the theory of affordances from ecological psychology (Gibson 1979), and autoethnography from cultural anthropology and social sciences (Ellis 2004). This phenomenon is not uncommon in the field of Artistic Research, and it is connected to the relatively brief history of the discipline. Although Artistic Research has been gaining more and more relevance in the international academic context, coming a long way since its first steps (Sullivan 2006; Busch 2009; Mäkelä et al. 2011), it lacks – and arguably does not need, due to its nature – a set of standardised methodologies ready to apply. Instead, it relies on what Mika Hannula and his colleagues define as “methodological anarchy” (2005: 14) or “methodological pluralism” (2005: 67), where different and sometimes even contrasting approaches, methods, and paradigms can coexist. Such an approach can entail borrowing and adapting qualitative methods from other disciplines. This practice has been extensively covered in methodological literature: Maggi Savin-Baden and Katherine Wimpenny made a remarkable effort to give a practical guide to arts-related methods (Savin-Baden; Wimpenny 2014); the anthology curated by Darla Crispin and Bob Gilmore also represents a valuable resource of different approaches to artistic research, framing the specific experience of the Orpheus Institute for Research in Music without marking it as archetypal of the field (Crispin; Gilmore 2014). Jonathan Impett curated an anthology about different experiences with artistic research in music (2017). Paulo De Assis in his *Logics of Experimentation* explores paths of redefinition of music performance and performers relying on Deleuze and Guattari’s philosophy, codifying his version of methods for artistic research (2018). These contributions are not to be read as strictly prescriptive. In this field every research is a completely unique experience

(Hannula et al. 2005: 19; Lüneburg 2023: 20), making the familiarization with other experiences a source of inspiration more than step-by-step instructions.

2.1 Autobiographical Design

The first method involved is autobiographical design, borrowed from the field of human-computer interaction design (HCI). This method, informally used by designers, has been codified by Carman Neustaedter and Phoebe Sengers (2012), who defined it as "design research drawing on extensive, genuine usage by those creating or building the system" (2012: 514). In its field of origin, it is used to design systems and software for virtual assistance, navigation, chat, or media space, with the designer using the system themselves over a prolonged period, learning from their own genuine user experience.

In my case, the "system" that I designed was a structured practice process to document the playing on two different instruments. The formal designing was particularly necessary in the initial phases of my doctoral research: many aspects of the work were not yet stable, and I was experimenting with methodologies, exploring what the exact focus of the work would be. Just picking up the instruments and playing, although that was technically all I needed to do, was not a sustainable option, because it would have led to unstructured practising and dubious documentation. Through autobiographical design, I was able to give boundaries and rigour to the practice sessions, without constraining the flexibility fundamental for an artist: "While being highly creative and keep openness for serendipities, we at the same time strive for analytical rigorousness and explicitness" (Lüneburg 2023: 10). I started by designing the practice schedule for the following two months, establishing the days, times, repertoire to be practised, and musical aspects to focus on in each session, but always having the chance to revise the design and modify it. Moving forward with the project I kept planning and structuring in the same guise, varying the repertoire and musical aspects to focus on. The five characteristics of autobiographical design (Neustaedter; Sengers 2012: 516–518) were fitting for my needs:

1) Fast tinkering: it was possible to modify the design of the practice sessions immediately if I found any issue or critical point, without compromising the validity of the process. An example is the duration of the use of the instruments: in the first three sessions, I kept very strictly to the schedule, dedicating half of the time to the historical instrument, and the other

half to the modern one. However I realized that this modality of practice was hindering the direct comparison of articulation and intonation, and therefore I added the possibility of switching between the instruments when I deemed it necessary.

2) Real systems for immediate usage: autobiographical design allows one to start using the designed system rapidly, test it, and perfect it through use. The day after finishing the preliminary version of the practice sessions' plan I could start implementing it.
3) Genuine need: as stated earlier, the necessity to create a practice process was crucial for me in the initial stage of the research project, to avoid wasting time in unstructured and undocumented practice.
4) Long-term use: in the HCI field, this translates to more than one year. In this case, my doctoral studies covered four years.
5) Unusual data collection methods: the data was collected through practice journal notes and, to a lesser extent, audio recordings.

The method is not meant for theorising generalisation (Neustaedter; Sengers 2012: 518) and presents some critical aspects, in particular in terms of how to define a "genuine" need, the inclusion of other users during the "self" usage time, and ethical matters of privacy and intimacy (Desjardins; Ball 2018). These issues arise because autobiographical design is used mainly in intimate and private spheres, like the home, therefore touching the lives of family members (Desjardins; Ball 2018: 753). The potentially problematic aspects were mitigated in the artistic research context of my experience: being a solitary practice process, I had not encountered issues of including ethically other users, nor of privacy breaking. Actually, researching through "intimate, long-term, and personal relations between computers and humans" (ibid.), where instead of computers we have a practice system and musical instruments, should be the daily life of a practising musician.

The discovery and application of autobiographical design was a fundamental building brick in the initial stage of the research project. It provided me with a structured strategy to gather data and build my research question, without depriving me of the chance to improvise and go with the flow in the context of artistic practice. With the progression of the research project, its foundational relevance faded, and the method took its place in the background, remaining a valid tool for organising and grounding, alongside the other methodological tools that played a role in this project.

2.2 Thematic Analysis

The second method involved is thematic analysis, borrowed from the field of psychology. It was used as an inspiration to analyse and organise the practice journal notes. Thematic analysis is defined by Braun and Clarke as "a method for identifying, analysing and reporting patterns (themes) within the data" (Braun; Clarke 2006: 79). The attractiveness of thematic analysis for artistic research lies in its inherent flexibility: Braun and Clarke themselves acknowledge and value this characteristic of the method while striving for more defined guidelines in their field (2006: 78).

In its conventional use, thematic analysis is applied to a set of data gathered from external sources by a researcher (or a group of researchers). But in the case of my data, I produced and coded it myself, which proved problematic in terms of reliability: how do I know that I see a theme because it is there, and not because I know what I was thinking while writing that entry in the practice journal? This issue was tackled from different angles:

1) A matter of time: the four years of doctoral studies afforded me the possibility to let time pass between the collection of the data and the categorization. With this approach, I could "forget" about the data, gain distance with it, and approach it with new eyes when the moment of coding arrived.
2) A matter of definition: this approach takes thematic analysis as a conceptual tool to organize data, more than a strict methodology, as done by Boyatzis (Boyatzis 1998 in Braun; Clarke 2006: 78). In this way there is room for adaptation of the method to the specific needs of this situation.

The first approach became less relevant while progressing with the project: the journal entries of my first year were definitely foreign to me by the end of the third year, for example, but I remembered very well the notes of the third year itself, and yet I had to manage them. The second approach, however, was more transversally suitable for this situation. By using thematic analysis as an inspirational tool, instead of claiming its pure use, I also avoided trespassing too far in fields that are not mine: I am not a psychologist nor do I claim to be one. The core of borrowing methods from different disciplines is the adaptation of them to our specific needs and situations.

These were the premises for the analysis of the practice journal. The notes were taken by hand in a small notebook that I could bring anywhere, and I regularly transcribed them digitally. The categorization was done through subsequent read-throughs and colour coding, identifying a preliminary set of eight thematic areas: trills, technique, sound production, articulation, intonation, mental imagery, interpretation, and historical clarinet specificity. It must be noted that themes are not

pre-existing entities embedded in the data, waiting passively for a palaeontologist-scholar to dig them out, but are the result of the choices and perspective of the researcher (Braun; Clarke 2006: 80; Wolcott 1994: 12–17). The initial eight areas were further narrowed down to five on a second analysis, covering basic aspects of clarinet playing: technique, air and sound production, articulation, intonation, interpretation. Each included my impressions on the different affordances of modern and historical clarinet regarding that specific thematic area.

2.3 The Theory of Affordances and Musical Instruments

I use the theory of affordances to formalize the differences between what I can do with modern clarinet and what I can do with historical clarinet, and to acknowledge the role of my identity in how those differences take shape. I first got acquainted with the theory applied in the field of music through the work of Markus Tullberg on the simple system flute (2021) and then proceeded backwards to explore its origin and development.

The theory of affordances was formulated in the field of ecological psychology by James J. Gibson. In his first theorization, he defines affordances as "what [the environment] offers the animal, what it provides or furnishes, either for good or ill" (Gibson 1979: 119), going beyond the three-term theory of perception (subject, object, internal representation of the object), and connecting directly the perception with the perceiver. Affordances depend on both the physical qualities of the environment and the animal perceiving and interacting with said environment: a stick can afford support in walking or striking a blow, and these actions do not depend only on intrinsic qualities of the stick, but from the subject interacting with it.

> An affordance cuts across the dichotomy of subjective-objective and helps us to understand its inadequacy. It is equally a fact of the environment and a fact of behaviour. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and the observer. (Gibson 1979: 121)

This rather vague definition of the relational qualities of affordances stroke heated debates and attempts at refinement and extension (Dotov et al. 2012). One of the main points of contention was whether affordances can be considered relational or dispositional properties. Dispositional properties are "tendencies to manifest some other property in certain circumstances" (Chemero 2003: 183), and therefore never fail if the appropriate circumstances arise; on the other hand, affordances can be interpreted as relations existing between the object and the subject, who can exercise an ability to

actualize the affordance (Chemero 2003: 190; Tullberg 2021: 41). The ability, unlike the disposition, can fail. This is the approach that I align with in this work. Like Tullberg, I found that the relational stance suits better the reality of music making. A musical example of it can be that simply because I have the ability to play a high note does not mean that I will not miss it or squeak occasionally.

In the very first theorization, Gibson affirmed that affordances can be perceived without much learning, just by sight and commensurability with the body of the perceiver. He exemplifies affordances of surfaces, substances, objects, other animals or people, and places, covering actions that do not require repetition and refinement of skills to be acted (Gibson 1979: 122–128). This position may seem problematic when we are to translate the theory of affordances to the field of classical music, where our interaction with the object, i.e. the musical instrument, is based extensively on practice and improvement of skills. Later formalizations of the theory of affordances deal with this aspect, and integrate the concept of skills and their development. Chemero (2003: 189–190) highlights the importance of individual abilities in the perception of affordances, and later Rietvel and Kirstein (2014) further expand the concept by adding the possibility of repeated exercise of an ability in relation to the environment to develop skills. Additionally, the double-endedness of it, i.e. the affordance of the object matching with the ability of the subject, fittingly describes the relationship between a player and their instrument. The exact same instrument will sound differently in the hands of different players.

These theory expansions opened up the possibility for musicians-researchers to apply the concept to their interaction with musical instruments, and although the topic is yet to be fully explored there have been examples of such use. Windsor and de Bézenac, while concentrating on the perception of music, also account for the application of affordances to musical instruments (2012: 108–110). Their argument that "although some affordances are available to an entire group of individuals, each individual has a unique set of affordances available to them, due to their distinct effectivity structure" (ibid.: 110) is a crucial point in the application of the concept to this research. Markus Tullberg applied the theory of affordances in his doctoral dissertation regarding a historical classical flute known as the "simple system flute", exploring the relationship between players and instruments (Tullberg 2021). Additionally, the term "affordances" is appearing more and more often in papers, conference presentations, and abstracts.

In this framework the clarinets are two objects that afford me a set of musical actions, actions I relate to depending on my own experience and education, and that I pursue through attention and habit to develop my skills (Magrì 2019; Rietvel; Kiverstein 2014: 334). Since I was not formally trained in historical clarinets, my relationship with the historical instrument was from the start one of

exploration and experimentation, as hoped for by Windsor and de Bézenac (2012: 104). Folkestad's experience was also an inspiration: in his early study on computer-based music making (Folkestad 1996 in Tullberg 2021: 43–44) he observed that people with musical training were less likely to explore to the fullest the affordances of the computer, while untrained participants were more experimental. Similarly, I approached the historical clarinet as *an* instrument to explore, instead of a *clarinet*. This exploration was shaped by what Rietveld and Kiverstein define as the "normativity of affordances" (2014: 330–335): when engaging a skill, the development of it will be subjected to a normative assessment, declaring whether the learning is going better or worse. Even autonomously exploring what I could do on the historical clarinet, the exploration was bound by my expectations towards the instrument, my standard of playing, my concept of good or bad sound, articulation, intonation, etc. An additional aspect is that the exploration of affordances on the historical clarinet fuelled parallel exploration on the more familiar modern clarinet, in particular for affordances that I normatively declared "good" on the former. This exchange of skills between the two instruments, tied to their different affordances, is the main result of the research process.

2.4 Autoethnography

The fact that the affordances available, and how I reacted to them, strongly depended on me as a player, meant that I was one of the objects of the research. At this point it is generally recognized that in artistic research "the researcher is deeply embedded in this process, which brings advantages and challenges that need to be consciously exploited (in the case of advantages) and addressed (in the case of challenges)" (Lüneburg 2023: 6). During the course of the research project it was important to be aware of my identity to have a better understanding of why I played a certain way, and why I had certain strengths, weaknesses, or reactions. To deal with the accountable inclusion of myself and my personal story I relied on autoethnography.

Autoethnography is a method borrowed from cultural anthropology and social sciences, that considers the researcher as an integral part of the research, not just an external observant; it allows to keep into account the researcher's feelings and experiences, and cultural background; and it supports the use of storytelling techniques in writing, creating a narrative from the data (Chang 2008; Ellis 2004; Holman-Jones et al. 2013). The value of this method in the musical field is undeniable, as can be seen in the different research experiences reported in *Music Autoethnographies* (Bartleet; Ellis 2009),

spacing from composition to performance, from pedagogy to ethnomusicology. Bartleet remarks: "Autoethnography has provided artists with a means to understand, contextualize, and communicate the personal stories behind their artistic experiences." (Bartleet 2022: 133).

I was drawn to autoethnography because I soon realised that in this enquiry I am one of the examined objects: the two clarinets cannot function without me holding them, using my lungs, my fingers, my tongue, my thoughts. The affordances I find in the instruments depend on me, on who I am as a musician, on the education I received, and on the struggles I encountered. The way I approach the practice and the instruments is deeply related to the subculture of classical music and clarinet playing I experienced, in my "specific, perspectival and limited vantage point" (Holman-Jones 2005). My experience cannot, and should not, be turned off. More than unrealistic objectivity, I strive for accountability. It is natural to have prejudices, preconceptions, or some form of cognitive bias. In autoethnography, the aim is not to artificially remove those biases, but to acknowledge them honestly, to add more layers of depth to the interpretation of the research data.

An example of such an occurrence is the prejudice towards the historical clarinet. In the very first draft of the project, the premises from which everything started were that the modern clarinet was much "better" than the historical clarinet thanks to the technical and mechanical improvements it had undergone. The research aimed to investigate how these improvements affected my playing. After a few practice sessions, though, I had to face the fact that those premises were not born from an "objective" inferiority of the instrument, but simply from instilled assumptions fuelled by the prevalent "chronocentrism" of classical music (Haynes 2007: 26–31). Instead of clinging to those assumptions, I decided to question them, re-wiring the project and opening myself up to be challenged by the potential of historical clarinet affordances, accepting that it was not a matter of inferiority and superiority but simply of difference.

Autoethnography is traditionally linked with creative, evocative writing (Ellis 2004: 31–37), a feature that for me was both intriguing and terrifying. From a practical point of view, I feared the obstacle of not being a native speaker of English and the lack of training as a creative writer. Although Ellis claims that compelling autoethnography can be written without being educated as fiction writers (Ellis et al. 2011: 284), the risk of producing something that sounds like a six-year-old gasping through a string of "and then… and then…and then…" is around the corner. From a personal point of view, I knew that using autoethnography would mean that I would sometimes uncover embarrassing or uncomfortable sides of myself, and exposing those transparently could be difficult. As a musician, and a slightly insecure person, it can be complicated to find the balance between recounting a negative sensation and self-pitying, or between presenting a successful event and boasting. There is no single

solution to these challenges: each autoethnography is unique, as well as the ways of writing it. While Ellis pushes for raw, evocative accounts of personal stories, even when acknowledging that they may not be suitable for everyone (2004: 98–99), Chang offers an alternative perspective, providing "an array of ethnographic and autoethnographic writing samples written in different styles" (2008: 140). In this dissertation, I do not venture too deep into the realm of creative writing. Still, I occasionally use short stories from my past to support the more academic reporting of information. Not all of the stories come from the four years of research activity; some are from earlier times, but deemed relevant to the research topic in hindsight (Ellis et al. 2011: 275). Autoethnography was particularly important when working on the interpretation of the data after it had been neatly categorized, and it was present as a mental framework when gathering and analysing the qualitative information from the practice sessions. It allowed me to consider my place inside the research accountably, and to use personal stories to support the interpretation.

The methods and approaches described in this chapter formed the methodology for this practice-based artistic research on clarinet affordances. All of them play their own significant role in a different phase of the research project, and the framework they create mirrors faintly Wolcott's "research formula" of Description, in this case, the raw data obtained through autobiographically designed practice sessions, Analysis, or the thematic analysis informed categorization, and Interpretation, done through autoethnographic lenses (Wolcott 1994: 48–51).

One could argue that this practice process is not different from what any clarinettist who plays a historical instrument already does: sitting, playing, experimenting, practising, and comparing are not groundbreaking activities. This objection is positioned in the general and still debated question of what makes artistic research into something different than artistic practice. I am not alone in finding historical clarinets of inspiration for modern practice: conversations with colleagues and teachers confirm that they also notice a transferring and widening of their skills through historical clarinet, as I did, in their day-to-day use of the instruments. Notable players such as Charles Neidich[2] or Tommaso Lonquich[3] advocate in their masterclasses for more extensive use of historical instruments in pedagogy. The difference between their practice and mine lies in the systematicity, self-awareness, self-reflection, and data collection that I pursue through the hybrid methodology presented in this chapter. Through "Awareness of the paradigm on which we base our research, of our own background

[2] Charles Neidich, clarinettist and conductor, member of the artist faculties of The Juilliard School, the Manhattan School of Music, and the Mannes College of Music.

[3] Tommaso Lonquich, Solo Clarinettist with Ensemble MidtVest and Artist of the Chamber Music Society of Lincoln Center in New York.

and the goal we are pursuing, as well as the systematic and consistent application of our chosen methodological tools" I transform from "pure art-maker to artistic researcher." (Lüneburg 2023: 21).

The combination of autobiographical design, thematic analysis, theory of affordances and autoethnography constitutes the general methodological framework upon which the research project is based. The circularity of the practice-analysis-self-reflection pattern does not have a clear ending, much like the practice of a professional musician does not have an end. The results presented in the following chapters will be susceptible to further expansion, evolution, and change in the upcoming years, following my own evolution and change.

3. Historical Background

In this chapter, I provide a brief historical background on the history of the clarinet, and in particular on the invention and impact of Iwan Müller's 13-keyed instrument. To fully explore and take advantage of the musical affordances of this instrument I believe it is necessary to have a clear understanding of the context in which it has developed, why certain changes in design have occurred, and how the clarinet community of the time reacted to this invention. I briefly discuss the impact that the changes in design had on composers writing for clarinet, and the double-ended influence between the development of instruments and the demands of composers. At the end of the chapter, I offer a direct comparison of the physical characteristics of the two models of clarinets employed in this research project: the Müller-system 13 keyed clarinet and the modern French system. This overview will also serve as a guide to a reader unfamiliar with the clarinet, helping visualise the instruments and better follow the next steps of the research.

3.1 Birth and development of the clarinet

The clarinet is a relatively young instrument: it was invented by Johann Christoph Denner in the early eighteenth century. Whereas the other woodwind instruments developed organically from their immediate predecessors, this is not the case for the clarinet (Brymer 1984: 24). Its ancestor, the chalumeau, was a cane instrument with a single built-it-beating reed, two keys and a mellow low tone. The two keys were placed diametrically opposite each other on the body of the instrument and could not act as speaker keys to produce the higher register, so the instruments had a rather limited range. Denner, attempting to extend the range of the chalumeau, ended up actually developing the clarinet: the new instruments had a smaller mouthpiece, a separate cane reed tied with cord, and a correctly positioned register key to produce the upper register (Lawson 1995: 3).

With its seven holes and two keys, the early clarinet either was missing notes from the diatonic scale, or the notes could only be produced with forked fingerings. Forked fingerings are positions where a central hole is uncovered, while the side holes are covered, and although they did their job for the time being, they were also rather awkward and sometimes dull in intonation. To compensate for these challenging characteristics, makers constantly experimented to improve the instruments. Early

clarinets were generally tuned in C and D, and from 1770, clarinets in Bb and A began to appear. It became common for players to own a set of three clarinets tuned in C, Bb, and A (Hoeprich 2008: 63), a practice that has continued to the present day with A and Bb clarinets being the basic set for a professional player. The different pitches were necessary, at least at that time, to play in different tonalities avoiding too many sharps and flats, which would require the aforementioned forked fingerings. Although these fingerings were problematic, they also gave very particular colour to each tonality, a character that nowadays is partially lost with the standardised clarinet.

By the end of the 18th century, the clarinet had evolved into its Classical form, with five or six keys. Jean Xavier Lefèvre, clarinet teacher at the newly founded Paris Conservatoire, was a master of this classical instrument. He wrote a very detailed clarinet tutor for institutional use, the *Méthode de la Clarinette: adoptée par le Conservatoire pour servir à l'étude dans cet établissement* (1802). In this tutor, he provided a brief history of the instrument, performance advice, twelve sonatas, fingering charts, and an interesting list of technically impossible figures (Harlow 2006: 35–40; Lawson 2021: 251). These "forbidden passages" included uncomfortable or simply unplayable passages due to the still-existing mechanical limitations of the instrument. Despite these limitations, the Classical clarinet had found its place in the orchestra, in chamber ensembles, and as a solo instrument, gaining increasing popularity among composers. Mozart, for one, was a notable admirer of the instrument and its sound (Weston 1995: 93).

The nineteenth century, with the rise of the aesthetic of virtuosity, posed new challenges to the instrument and accelerated the frenzy of experiments done on it by instrument makers. The demands of the new taste and the clarinet virtuosos themselves made it more necessary than ever to refine the clarinet so that it could keep up (Johnston 1972: 6). Virtually every maker tried their hand at adding new keys, and by the 1810s it was not uncommon to see clarinets with nine or ten. But merely adding keys did not entirely solve the instrument's problems: firstly, the keys' construction had to be improved to prevent air leaks and improve their range of motion; secondly, the added keys had to be placed in acoustically reasonable places (Rice 2003b: 24–77). Despite the remaining challenges, these nine or ten-keyed instruments found their users: the story of Louis Spohr's clarinet concertos is emblematic. Spohr wrote a series of four concertos for the Sondershausen-based clarinettist Johann Simon Hermstedt, one of the most popular clarinet virtuosos of his time with a famously outstanding high register (Raasakka 2010: 32; Johnston 1972: 9–12). The concertos were technically demanding to the extreme, so much so that the 1810 edition of *Concerto no. 1* had to include a disclaimer stating that it could only be played on a clarinet with at least eleven keys (Rice 2003b: 168).

It was not until the arrival of Iwan Müller on the European scene that most of the instrument's technical obstacles were addressed.

3.2 Iwan Müller and his invention

Iwan Müller was born near Tallinn on December 3rd, 1786. The preposition "near" is necessary since it has not been possible, with the current archival sources, to prove without a doubt that he was born in the city. Klaus-Peter Koch, a musicologist who compiled a list of musicians of Estonian-German musicians (Koch 2017), uses the same clarificatory term, "*bei Reval*". Likewise, Pamela Weston, in her *Clarinet Virtuosi of the Past*, expresses the same caution (Weston 1971: 157).

His surname suggests German origins. Hence, it could be assumed that, if he had been born in the city, he would have been baptised in one of the protestant churches. The birth registers of the protestant churches of Tallinn were checked with the assistance of the historian and archivist Kalmer Mäeorg, who is the chief specialist in the Tallinn City Archives (*Tallinna Linnaarhiiv*). The birth registers of St. Olev Church (*Oleviste kirik*) and St. Nicholas Church (*Niguliste kirik*) do not contain any data about the birth of Iwan or Johann Müller. Unfortunately, the birth registers of the Tallinn Holy Spirit (*Pühavaimu*) congregation for the period 1774–1794 have not been preserved. If he was born on Toompea, it is not possible to find out either, since the registers of the Tallinn Cathedral for the period 1776–1792 have been lost. No Johann or Iwan Müller, or any boy with that surname, appears on the 1795 soul audit of the city of Tallinn. However, the data provided by the census is not comprehensive, since it does not account for tax-exempt residents, such as nobles, clergy, and officers. Primary education information is unavailable as there are no records of school registers during that period. Speculation remains the only possibility regarding his involvement with military bands, which was a common pathway for approaching wind instruments at the time.

Using the archival database "Saaga" I searched for Müller's origins in other parishes "near Reval": Jõelähtme, Keila, Kuusalu, Jüri, Harju-Jaani, and Hageri. No traces of people named Müller were found in Jõelähtme, Keila, and Jüri. The birth registers in Kuusalu began in 1793, after Müller's birthdate. The records are lost for the period between 1767 and 1801 in Harju-Jaani, and the same happens in Hageri for the period between 1778 and 1834, leaving out the years when Müller was living in Estonia. Although this specific research work is not historical, it would have been a missed

opportunity to not exploit the local archives to at least attempt to shed light on Iwan Müller's early years.

His life can be followed from 1800 onwards when he relocated to St. Petersburg to become a chamber musician at the court orchestra. He was already then experimenting with the clarinet mechanics, corresponding with the renowned French instrument maker Simiot (Rice 2003b: 66). In 1808 he left the court to travel across Europe, meeting instrument makers in person to commission them the construction of his invention: a 13-keyed clarinet. This new model of clarinet was patented in 1812, marking a crucial milestone in the history of the instrument, despite the initial rejection by the Paris Conservatoire committee (Shackleton; Rice 1999: 183–184). Iwan Müller was not a maker himself and instead used the expertise of the German Grenser, the Austrian Merklein, and the French Simiot (ibid.: 184). His design was soon taken over by other master makers like Lefèvre, Gentellet, Stengel, and Oehler (Rice 2003a: 183) who made instruments for other virtuoso players of the time. Among others, Simon Hermstedt played a custom-made Müller system (Johnston 1972: 10; Weston 1971: 82), as well as Frédéric Berr and Giovanni Gambaro, with the latter publicly endorsing its dissemination (Charlton 1988: 398; Trasher 2006: 2). The virtuosos, in turn, influenced the composers with the increased technical possibilities of these new instruments.

Müller's enhancements addressed various challenging areas of the instrument. Specifically, he added eight new keys to the standard five of the classical clarinet, and most importantly he was careful to position the new and old tone holes in the optimal, acoustically correct position, improving resonation and intonation; he created new keypads paired with countersunk tone holes that prevented air leakage, which had been the principal issue with the addition of new keys in previous models; he introduced the metal ligature for the reed and the thumb rest on the back of the instrument. From the perspective of the performer taking in their hands his newly designed instrument, these inventions meant better intonation and homogeneity, improved resonation on certain notes due to the acoustically correct tone holes, and the elimination of some forked fingerings thanks to the new keys, easing the finger technique. Müller was careful to maintain the fingerings as close as possible to the classical clarinet, to fight the resistance of older clarinet players who would be reluctant to change their habits and adapt to a new system. He succeeded since already in the 1820s some adventurous players were using his instrument (Rice 2003a: 182) and thousands of thirteen-keyed clarinets were manufactured throughout the nineteenth century (Rice 2003b: 70). The rest of Müller's European career is of little interest in this context. It suffices to say that after the development of his clarinet, he continued being a successful clarinettist, working in England, France, the Netherlands, and finally settling in Germany. He passed away in Bückeburg in 1854 (Weston 1971: 160–165). His invention changed the field of

clarinet playing for the years to come: his instrument constituted the foundation for both the German and French modern systems.

3.3 The instruments side by side

Müller's clarinet is the common ancestor of both the modern French and German systems. The former retains the acoustical characteristics of Müller, particularly in the bore width, while the latter is closer to Müller's in terms of fingerings. Today, the German system clarinet is the standard model in German-speaking countries, while the French system is the worldwide standard. As a user of the French system, I will concentrate on this model.

Figure 1. Left: modern clarinet; Right: Müller clarinet. Notice the slight difference in size.

The modern French clarinet has remained virtually unchanged since its early days: the instrument was presented at the 1839 Paris Universal Exhibition by the maker Louis Buffet, who had realised the ideas of the clarinettist Hycinthe Klosé. It has a cylindrical bore about 70 cm long, usually made of dark-grained wood such as ebony or grenadilla, with 17 keys and 6 finger rings that control a total of 24 tone holes. Müller's padding and countersinking of the tone holes are still in place, having proved their efficiency (Bangham 2022: 62). The most visible change from Müller's time was the use of metal rings, an invention borrowed from the flautist and flute maker Theobald Bohem. Although Bohem had not been involved in the development of the clarinet and was only an inspiration to Klosé, his name has remained until today to identify the French instruments as "Bohem-system clarinet" (Brymer 1984: 50–52). After Klosé, the instrument virtually stopped changing. The "improved" clarinets that Buffet Crampon, now a world-renowned factory, and its competitors release every year are all the same clarinet, with minor changes in the alignment of the keys, the quality and type of materials used, or the extra keys for tune correction (Hoeprich 2008: 206).

The exact instruments used in this research project can be seen side by side in the picture (Figure 1). The modern clarinet is a French-system Yamaha Custom. The Müller instrument dates from the 1870s and comes presumably from Eastern Europe. It is tuned at 440 Hz and does not require a period mouthpiece to be played, as the bore width is similar to that of the modern instrument. During the practice sessions, I simply switched my mouthpiece between the two clarinets. I borrowed this instrument in 2020 from the Italian clarinettist, recorder player, and teacher Stefano Rapetti. Rapetti, who is highly skilled on a wide range of historical instruments, gave me a few tips on how to approach this new (to me at least) instrument, especially regarding fingerings, but in the end, stated that the best way to find out how it worked was just to play it and experiment on it. The instrument was in good condition upon receipt. Unfortunately, it cracked on the barrel during its first Estonian winter, and it was swiftly repaired. It lacks finesse systems to facilitate shifting in the lower keys, such as key rollers, which would have been a must for a professional soloist (Shackleton; Rice 1999: 189). This, coupled with the fact that it dates so late in the 19th century, in years when more advanced systems were already available and established, means that this instrument was probably intended for use in military bands or other semi-professional environments where there was neither the need nor the opportunity to spend large sums on the latest clarinet models. This thought put into perspective the modern expectations towards instruments and materials, and the constant search for the perfect setup combination of clarinet, mouthpiece, ligature, and reeds that will solve our problems. When practising historical clarinet, I found that my approach was always concentrated on making the most of the equipment I had, instead of obsessing over the perceived quality of said equipment. Chapter 5 will clarify this shift in perspective.

In terms of a direct physical comparison between the two, it is easy to see from **Figure 1** that the modern clarinet is slightly longer and larger. The tone holes as well are larger on the modern clarinet. The higher number of keys makes the instrument heavier, which affects some aspects of my playing (see section 4.2). It also took some time to get used to the different fingerings. Aside from the differences in size and keys, I kept reporting during the practice sessions that the historical clarinet felt more "alive" in my hands, like a creature I had to try to control, but would try to have its way. Anthony Pay, an outstanding British clarinettist, describes a similar feeling when recalling his first approach with the clarinet as a child: "When we begin to play, we do think of the clarinet very much as an object […]. It is an object we must try to persuade to do what we want it to, and which often seems to resist us. So we are in the business of *doing* the right *something* to it in order to play well." (Pay 1995: 107). In a way I was a child with a new clarinet as well, exploring the instrument and finding out by trial and error the possibilities it afforded me. Finding what *something* I had to do to

play well, and discovering not only that the *something* could be different from what I normally did on the modern clarinet, but that it could be an inspiration, expanding my skills. This sensation of exploration and discovery permeated various aspects of music-making, which I will examine in depth in the next chapter. I found that the differences between the instruments and their impact on my playing were mostly meaningful from a practice perspective: the changes in my mouth, head, and hands, were more important in the practice room, during the act of perfecting, progressing in my skills, and preparing for a performance, than in the performance itself. What mattered was not that the audience heard historical clarinet staccato in my playing, but that the staccato was of high quality and in style for the repertoire at hand. Only I knew how exactly I had achieved such staccato. This led me to make the focus of the research first and foremost in the practice room, more than the performance hall. Still, the historical clarinet appeared on the stage in my artistic projects. It was a minor appearance in the second and third, while the fourth project focused entirely on Müller's clarinet as a contemporary instrument, through an international call for scores (Appendix).

In conclusion, Iwan Müller's clarinet was a major breakthrough in the history of the instrument. He provided players with an instrument that could stand up to the challenges of virtuoso culture, and even though the instrument has since changed further, Müller's clarinet was the base for the modern models. The physical differences between the historical and the modern instruments are found mainly in the size, the number of keys, and their placement. In the next chapter, I show what these physical differences mean from a practical standpoint.

4. The Thematic Areas

The physical differences shown in Chapter 3 translated into different musical possibilities that I discovered and experimented with in the practice sessions. In this chapter I present first how the practice was organized, and then the five thematic areas of musical differences and affordances that I identified from my journal notes:

- Technique
- Air and Sound Production
- Articulation
- Intonation
- Interpretation

The first four are strongly related to the physical characteristics of the instruments. The last, although stemming from the physical differences, leans towards an internal, psychological perspective. I will show how the differences in each area presented themselves in my playing, how they relate to standard clarinet practice, and what they afford me to do from a musical perspective.

4.1 Organization of Practice

As much as I strove to organize and contain my practice for research purposes, artistic research tends by its nature to be chaotic and unpredictable. In this section I present the organization of the practice sessions, discussing significant moments of the research process. Reporting transparently about the challenges I faced, the uncertainty, or simply the changes I had to implement promotes a realistic view of the research process: it is not a linear path from A to B, but an intricated road with dead ends and unexpected turns that I have to account for. The goal here is "[making] the messiness of the research process visible to the researcher who can then make it visible for those who read the research and thus avoid producing, reproducing, and circulating the discourse of research as a neat and linear process" (Ortlipp 2008: 704).

The main unexpected turn that I had to face was my change of opinion on historical instruments. When I started to research this topic, my approach was quite negative towards the historical clarinet: I wanted to compare the two instruments with the hypothesis that I would be documenting how much “better” – easier to play, powerful, and technically advanced – the modern clarinet was in every aspect. I selected Müller’s clarinet for this purpose not only because of his connection with the Estonian territory but also the impact and extent of his mechanical and acoustic improvements on the instrument, presented in the previous chapter. I aimed to reflect on the overall impact of mechanical developments on the player. This positivist positioning was challenged quite soon in the practice sessions, and through the practice of technical passages, no less. Exactly the kind of passages that I was so sure would have been easier on a modern clarinet. What I assumed would be mechanical shortcomings were actually affording me different possibilities, showing me that Müller’s clarinet was not a “bad version” of modern clarinet. More than an ancestor, it was a relative, an instrument of its own (Lawson; Stowell 1999: 8), with its strengths and weaknesses, and through the exploration of both I could improve my musical practice. From this change in perspective, the entire research project started to bloom.

This paradigm shift was supported by the design of the methodology: the alternation of organization, analysis, and reflection fostered a positive environment for recognizing and acknowledging changes early on. For example, I was positively surprised by the smoothness of some technical passages on historical clarinet during the practice sessions and wrote about it in the journal; then, when transcribing and analysing the notes, I noticed how often these sensations were emerging and noted that they were important; I reflected on this occurrence, planning new practice sessions with the goal to explore it more deeply; and I went back to practice with the additional strength of this information. I want to stress the non-linearity of the research process, and how the different phases communicated and informed each other (Markussen et al. 2011).

Other smaller changes occurred throughout the practice, framed as “fast tinkering” to respond to ineffective aspects of the planned sessions (Desjardins; Ball 2018: 755). The very first practice plan laid out was quite strict, setting plenty of boundaries: I set which musical aspects I would concentrate on, the length of use of each clarinet, and which music I would practice, and I timed strictly the “only doctoral studies” practice. The initial parameters were good starting points, a sort of crutch to rely on while tentatively exploring the clarinets: since I thought I would be facing technical issues due to my prejudice towards historical clarinet, the musical aspects I chose to concentrate on were mostly related to fingers’ technique:

- presence and execution of embellishments (grace notes, turns, trills)

- execution of arpeggios
- execution of wide register leaps
- presence and execution of chromatic passages

But those technical passages actually showed me that there was much more to explore beyond technique and that it was not necessarily an issue. I kept my practice plan in place, to have guidelines to stick to, but allowed myself flights of fancy in different directions instead of obsessing over the technical aspects.

The amount of time spent on each instrument was also rigid at first: half session on the historical clarinet and the other half on the modern. It was later loosened to accommodate the need for exploration:

> "But now I am […] just interested about everything, every little change and nuance that I find when I switch between the instruments." (Practice Journal, 10/01/2021)

The decision to switch between the clarinets more freely afforded me the possibility to compare shorter passages and specific aspects of playing more closely and was another step towards developing the use of the historical instrument as a practice tool.

Having made the switching more active, I noticed that the "second" practice (be it on the modern or historical instrument) was of course on some level influenced by the first. After noticing the importance of such "before and after", I started integrating it into the practice sessions, planning the order of instrument use between different days. For example, practising the clarinet solo from Giuseppe Verdi's "Traviata" " Act II I felt this way:

> "On the 13-keyed clarinet, you really have to hear and savour the note internally because you don't know certainly what/how it will come out. Playing first on the 13-keyed instrument and then on modern instruments was great for constructing the legato and phrasing, and the connection between all the notes.
>
> Tomorrow: try the modern instrument first and then 13-keyed to experience the opposite difference. Check if I retained the impressions and outcomes of today's practice when playing on modern instruments." (Practice journal, 31/08/2022)

And so, on the following day, I would start with the modern instrument, see if I had indeed retained anything from the previous practice, and then go back to the historical clarinet to refresh those impressions. These "before and after" moments were not only about positive aspects, though. I

occasionally reported about transferring bad habits on the historical instrument. This happened in particular with my embouchure, during a period of unusual stress and pressure. When playing I would lose control of my lips, tightening excessively and blocking the sound. Since the historical clarinet requires slightly less air (see section 4.3), this problem was at first lessened on it. The issue would show up anyway after a few minutes, showing me that it was not related to actual effort or air quantity, but my own stress and rigidity:

> "After a while, I start playing on the 13-keyed instrument as I do on modern clarinet. It blocks the instrument." (Practice journal, 07/02/2022)

This occurrence, even in its negativity, showed me once again the potential of the transferring of skills and habits between the instruments.

When the practice started, I concentrated on reading music by Iwan Müller himself, in particular his quartets for clarinet and strings, to get a feeling of how he treated his invention and how he exploited in music the new possibilities he had created. I could see how he made extensive use of embellishments and in particular trills, bordering unplayability, and how he wrote in tonalities, such as Ab major, which were unusual for clarinet at the time to show the alleged "omnitonality" of his instrument (Rice 2003a: 181–182). I was soon bristling to experiment more, and I ventured to use it on other music: "Still trying out articulation – on Beethoven's 6th and 8th Symphony orchestral excerpts. So much easier to control." (Practice Journal, 30/12/2020). At first, I played other works from the beginning of the 19th century, including orchestral excerpts, like in the example above; then late 19th century works, Romantic cornerstones of repertoire like the Brahms' Sonatas; and finally, commissioning new works for historical clarinet or using it as a practice support on specific aspects of 20th and 21st-century music. The impact of historical clarinet on my playing was such that the idea of strict "only doctoral practice" time became soon obsolete. The things I was learning came up in my everyday playing, in chamber music, in orchestra… and I included observations from those times in the practice journal. Flipping through its pages it is easy to see the evolution of note-taking style: from sterile bar numbers followed by short observations to extended reflections going beyond the single practice sessions, encompassing my daily life, work, practice, and even memories from my earlier studies. The transcriptions used as examples in the thesis are taken directly from the journal, with the only adaptation of writing out words and expressions that were abbreviated for speed during the note-taking. I want to stress the fact that what I am presenting in this thesis as neatly categorized between thematic areas, musical affordances, and in the next chapter practical applications, was all tightly knit together quite chaotically during the practice. It is only through *a posteriori* self-reflection that I could disentangle all the elements and identify what had happened and how it had impacted me.

4.2 Technique

The first, the most immediate and at first glance, superficial difference was in the technique. With this word, I indicate the differences in keywork, fingerings, and speed of execution of technical passages. When I began the practice process, technical differences were the first musical parameter I had in mind to pay close attention to. It is of course the most visible one: the historical clarinet has 13 keys, the modern one at least 17[4]. Four keys may seem a small number, but they do make quite a difference, also because some of the keys do not match in purpose (**Figure 2**). I expected that I would register extreme difficulty in playing technical passages while finding it much simpler on modern clarinet, and so have a broader reflection on the impact of technical developments on musicians. Despite this initial negative attitude I had an open mind, and I was ready to be surprised by the historical instrument: while working on a passage in Iwan Müller's *Quartet No. 1* I wondered "Could it be easier on the historical instrument?" (Practice Journal, 3/12/2020), considering the possibility that my expectations were only a prejudice.

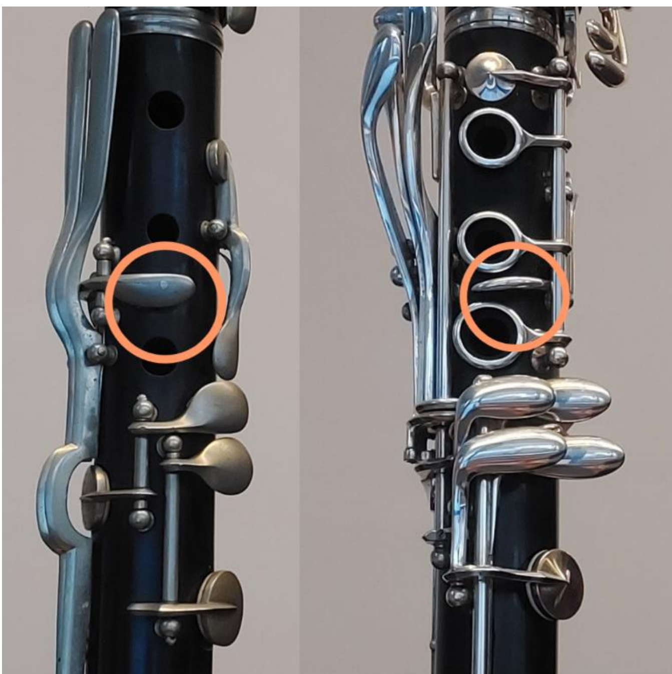

Figure 2. Left, in the circle, key for Bb/F. Right, in the circle: key for B/F#. The scope of the key changed with the addition of the metal rings.

It is undeniably more complicated to master technical passages, especially having in mind the kind of speed and virtuosity taken for granted in the contemporary taste (for more on speed tendencies as registered in popular music, see Leveillé Gauvin 2017, and the Bach333 project for classical music). Regardless, much to my surprise, after a few intense practice sessions, I found myself writing the following thought:

> "I started convinced that period clarinet was a 'less developed' instrument. Like a child that has to grow. I'm finding out that, at least this 13-keyed instrument that I'm using, it's not. It's an adult instrument, just different." (Practice Journal, 10/01/2021).

[4] There are some modern models with more keys, aimed at adjusting intonation. E.g. Buffet Tosca's low F adjustment key, or Yamaha Custom lower register thumb key.

I could finally answer from experience to Colin Lawson's question "Has the clarinet improved as a musical instrument since Mozart's day, or has it merely changed?" (2006: 5). In particular, regarding technique, I was surprised to find that a mechanical shortcoming was actually helping me in the execution of a passage (**Example 1**):

> "The lack of rings makes it so much lighter, faster on trilling with the right ring finger, the keys are less heavy." (Practice Journal, 14/04/2021)

Example 1. Iwan Müller, *Quartet no. 1*, I movement.

After these observations, my attitude transformed. Various mentions of trills appear in my journal entries until September 2021. Then, I understood why they were so meaningful to me: they were not important by themselves, but they represented the one musical affordance that had made me change my mind about the historical clarinet. This ease in executing trills, especially with the ring finger, was connected with the difference in size and the lack of metal rings in the lower half of the instruments, which were a small impediment. Finding that some allegedly "underdeveloped" aspects of the instrument, i.e., the lack of metal rings and the smaller holes, were not negative in themselves but could translate to a positive impact on my playing, was a turning point in the research. Acknowledging this discrepancy between my expectations and the reality of practising helped me shape my question and aim, focusing on pinpointing the other differences I found between the instruments and using such differences as practice tools in my artistic life, abandoning the negative judgement of the historical clarinet. It was not anymore a matter of being better or worse: I was simply dealing with another clarinet. Proceeding with the research I became more proficient on the historical clarinet, appraising and working around the technical difficulties to achieve the best possible result, as I explain more in-depth in Chapter 5. Even though the instrument was not strictly built for it, I used it, for example, to practice passages of Nielsen's Clarinet concerto for my third artistic project. The process helped me find perspective in the apparently insurmountable technical difficulty of the concerto, identifying support points in the phrases and shaping the fast passages. The fourth artistic project (Appendix), where the program featured contemporary music written for historical clarinet,

was also a chance to explore the fingers' technique outside of 19th-century repertoire, overcoming the technical challenges posed by contemporary musical language and finding the right way to perform the best possible version of the pieces.

4.3 Air and Sound Production

The second area of difference is air and sound production. This area is also strongly influenced by the difference in weight and size, with the Müller clarinet requiring less air quantity to be operated. Talking about breathing techniques can be rather ambiguous since the airstream is mostly an internal and invisible phenomenon. The diaphragm, a dome-shaped muscle positioned under the lungs, is usually referred to when teaching new clarinettists the correct way to support the airstream. I myself was taught breathing techniques through long talks about the diaphragm and the right ways to "pull" it down to take air in, and then "push" it out. To my surprise, I learned at an older age that the fabled diaphragm is an involuntary muscle, and I cannot do anything with it of my own will: it is the surrounding abdominal muscles that are engaged to affect indirectly the contraption of the diaphragm and controlling inhalation and exhalation (Meloni 2000: 199–213; Pay 1995: 108–110). It is becoming more common in pedagogy to discuss the concept, or image, of "support" rather than concentrating on the alleged contraption of the diaphragm (Raasakka 2010: 33–34). Support and air quantity are the two fundamental aspects of breathing techniques for wind players. They are connected but must be treated as independent in the mind of the player, and their relation depends on the dynamic and the register being played. For example, very strong support is not always paired with a big air quantity (Raasakka 2010: 34). What I observed in the practice was that the historical clarinet not only requires an average smaller quantity of air but in some registers also requires a different type of abdominal support than the modern clarinet.

This difference stands out especially in the production of the *altissimo* register, above written C6. On modern clarinet, the higher register requires firm air support, but little air quantity (Raasakka 2010: 33). Biting a little, with caution, can even be helpful to produce the harmonics for extremely high notes. On the other hand, on the 13-keyed instrument, the higher register is produced in quite the opposite way: a relaxed embouchure and regular air pressure work very well to obtain clear and transparent notes. This is also related to the fact that the standardization in the construction of modern instruments has lessened the resonance of the harmonics that produce the higher register, while this

limitation is not present in historical clarinets. In simpler terms, older instruments “squeak”, i.e., hit higher harmonics, with less effort on the player’s part.

The production of high notes on the historical clarinet was consistently associated with positive feelings during the practice: the keywords that appear are, for example, “powerful, resonating, not afraid, round”. The difference in sound production in the lower and middle registers was less noticeable. Both are described as well resonating, in particular the middle register, which I will describe more in depth in section 4.5. Overall the sound quality of historical and modern clarinet were not strikingly different: what mattered more for me was being aware of what went on internally to produce those sounds, because it brought advanced awareness of my breathing technique.

4.4 Articulation

Another theme associated with positive feelings was articulation. With the term articulation, I am referring to the action of the tongue lightly hitting the reed and briefly interrupting the airflow to create different types of staccato. The technical description of what happens inside the mouth and the physical sensations of what is done to obtain good-quality articulation can be apparently contrasting. Jack Brymer explains well this conundrum in his clarinet manual (1984: 184–185). When discussing my experience with articulation I will be relying more on the description of the physical sensations, because I naturally cannot see what happens inside my mouth, only perceive it. I also preferred the use of the term “articulation” instead of “tonguing”, because I agree with Anthony Pay that the second term can be a “stumbling block”, while the first term is “suggestive of both separating and joining”, and therefore brings better imagery in the discourse (Pay 1995: 114).

The rendering of articulation is related to several overlapping factors: the tongue movement and the airstream, which can be trained and explained by teachers and manuals (Brymer, 1984: 184–188; Pay, 1995: 100–117; Raasakka 2010: 37–40); the mouthpiece and the responsiveness of the instrument, which depend on the player’s set-up. In this specific case, the mouthpiece remained the same throughout the practice because the historical instrument’s bore width allowed me to use my modern mouthpiece without issues. Assuming that my tongue movement did not change when switching between instruments, the varying factors were the airstream, covered in the previous section, and the instrument’s response. They influenced the articulation considerably: there were no differences in the speed of staccato I could achieve between the two clarinets, but the type of articulation, the length,

colour, and character, were another matter. While it may seem that the tongue is the main character responsible for good articulation, the airstream is actually equally important (Raasakka 2010: 37). Since the historical clarinet required a smaller airstream, the production of articulation was comparatively easier. This was noticed very early on in the practice process: “In particular articulation is another world, I find it easier to produce […]” (Practice Journal, 22/12/2020), and “Still trying out articulation […] So much easier to control.” (Practice Journal, 30/12/2020). Even when I was still on the fence about the technical aspects I felt that the historical clarinet was affording me lighter, bouncy, lively articulation, with less effort and risk of unwanted accents. Articulation was also the first area of musical affordances that I consciously applied across the clarinets, as I will show more in depth in Chapter 5, finding applications to improve my general skills.

4.5 Intonation

Intonation proved to be a challenge. In terms of stability, the modern clarinet was of course ahead of the historical one. This is due not only to the inherent technical and acoustical issues of the historical instrument but also to a substantial difference in attitude towards intonation between the 19th century and contemporary times: flexibility of intonation was highly valued, while nowadays the taste leans more towards standardization and stability. The acoustical characteristics of the clarinet also play a role in the struggle for stable intonation: the tuning of the clarinet across registers is a sensitive topic even nowadays. Modern clarinets follow factory standards, and their intonation is quite stable, but it is not possible to make them perfect without sacrificing the sound quality: “There is a trade-off between excellence of sound and excellence of intonation. If you design the clarinet to be well in tune between the registers […] you necessarily make the instruments less resonant and responsive.” (Pay 1995: 121). This is reflected especially in the throat register (**Example 2**). Brymer states that this register’s construction still suffers from the somewhat “brutal experimenting done in its early days by trial and error”[5] (1984: 93).

Example 2. The clarinet’s throat register.

[5] Translation by the author.

It is weaker, duller, and less resonant than the rest of the notes, because of compromises made in the size and position of holes to equalize the upper register without radically changing the keys and fingerings. It also tends to be quite high in intonation in comparison with the rest of the extension (for more details on the evolution of throat register, see Brymer, 1984: 55–62 and 93–97). Paradoxically, Müller's clarinet throat register is safe from some of these brutal compromises and therefore it sounds open, resonant, and homogeneous. The rest of the registers, although unstable to modern ears, were improved in terms of tempered tuning from its predecessors, since Müller had been particularly careful in placing tone holes in acoustically correct positions (Rice 2003b: 87). The different responsiveness of the historical instrument afforded me to affect the intonation of a note with minimal change in embouchure or throat: "historical clarinet is totally more out of tune but there is a big margin of modification, it's flexible. The modern instrument is tuned and there is less space to modify intonation if there is a problem, but it's stable." (Practice Journal, 30/12/2020). With time I grew more accustomed to it and learned how to react appropriately, also taking into consideration the fact that intonation is not merely a green light on the tuning machine, but it is a matter of tonality, atmosphere, and chord positioning.

4.6 Interpretation

Finally, I present how the differences between the instruments influenced my interpretation and phrasing, affording me new ways of conceiving music. I found that the physicality of the historical clarinet, and its technical characteristics, forced me to bend and shape phrases differently, challenging my vision of their interpretation. The lack of certain keys, the forked fingerings, and the intonation challenges all influenced the way I tackled a musical phrase. For example, these characteristics would make me dwell longer on some notes to get better "footing" for the rest of the passage shape the phrase to hide a note that was not very well in tune or play a passage slightly longer to prepare for an uncomfortable jump. The experience also forced me to reflect on how 19th-century music sounded with these instruments, and how distant (or close) I could be interpreting it with a modern clarinet. The historically informed performance of Classical and Romantic repertoire does not have a solid tradition like Baroque, relying on the misconception that there is a "'continuity of tradition' […] from the classical period onwards that marginalized the necessity for historical awareness" (Lawson 2006:

6). Lawson exposes the inaccurate myth, exhorting clarinet player to be more stylistically aware (2006: 12). Even though historical stylistic accuracy was not necessarily my main goal during the artistic practice, relating with the physical differences of the historical clarinet prompted important reflections in my interpretational choices and consideration of the implicit legacy of the instrument (Lawson 2021: 252).

The theme of interpretation started to emerge later in the practice compared to the more practical or technical themes, only when I had grown accustomed to them. This relation between performance aspects is similar to what I experience, on a smaller scale, practising a piece of music: once the notes and technical aspects are solid, I can move to the next level and concentrate on the music making. In the autumn of 2021 I started experimenting with this new area: "To make up for the missing technique and dexterity, I make more music. I gave more space, looked for every note more carefully, phrased with more meaning." (Practice Journal, 17/09/2021). Once I realized how this was impacting my phrasing, I started using it consciously: "Historical clarinet forces me to break my 'mindless' (i.e. automatic) phrasing to lean on notes or to take an uncomfortable position." (Practice Journal, 07/02/2022). It may seem rather vague at first glance, but this experience played a significant role in affecting my approach to music and my self-reflection.

These five thematic areas, each including different instrumental affordances, if left alone would remain simple curiosities. The following step in the research was to explore them further in practice, testing different applications and observing how the affordances influenced me. The next chapter covers in detail the results of this process.

5. Practical applications of musical affordances

In this chapter I finally delve into what were the benefits and the artistic outcomes of this research project, presenting practical applications of the musical affordances identified through the practice process. The following diagram shows the connection between the various elements of the methodology and the results of the research project (**Figure 3**).

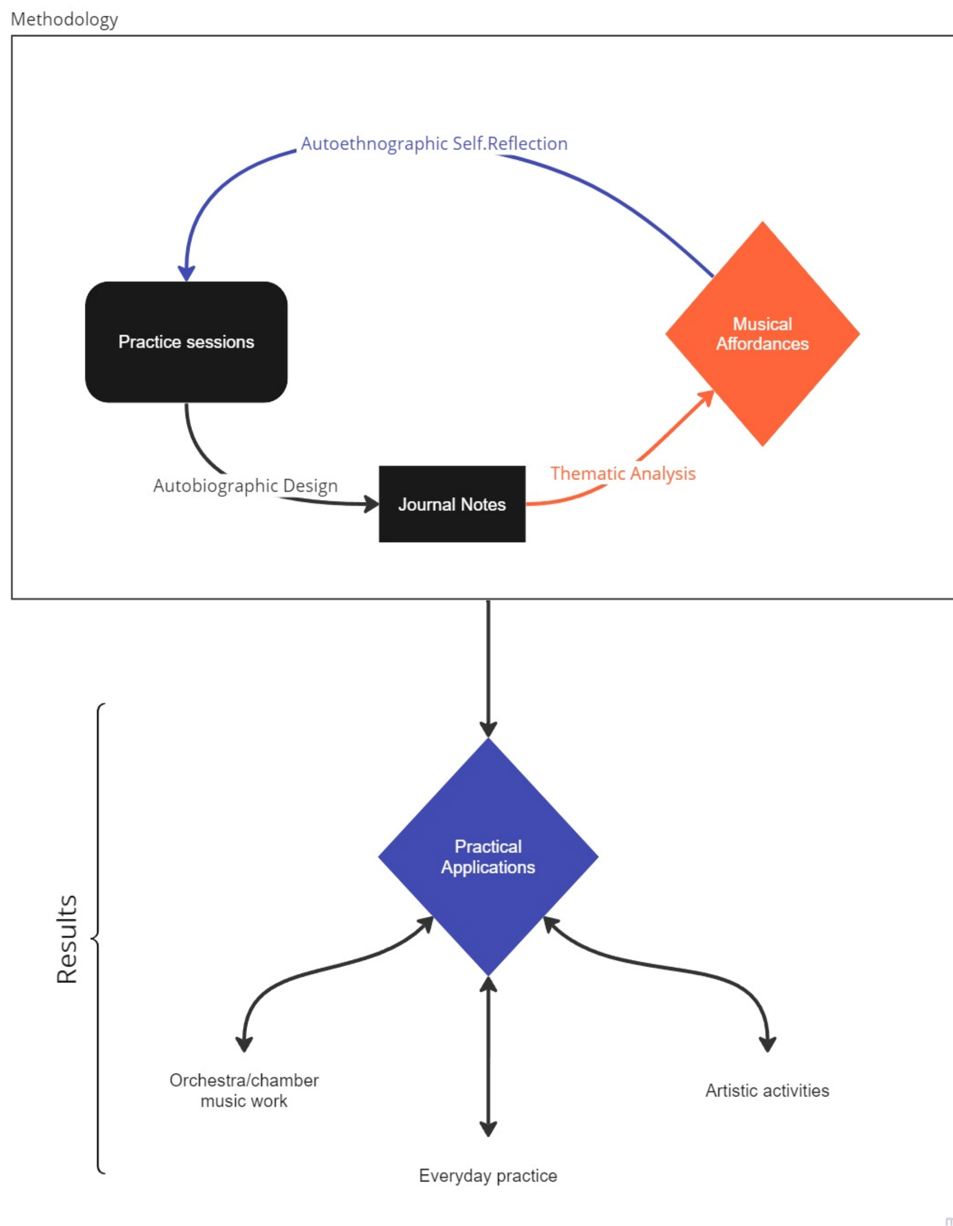

Figure 3. Methodology and results diagram.

The circular process of practice, analysis, and reflection brought me to identify various practical applications of the clarinet's affordances, which are used outside of the strict research context, in my everyday life as a practising musician. The conclusion of the circular process is, in a way, arbitrary: I will continue practising, exploring, and adjusting my understanding of clarinet playing beyond the limits of this doctoral research. Growing and maturing, I will change the way I apply these practice tools, and change how I think and react to musical challenges. The applications here presented are the ones that I found most helpful and relevant, but I encourage the reader to take this as an inspiration to find a personal way of expanding their musical and artistic skills through the use of "unfamiliar" instruments.

I loosely divide these practical applications between **physical** and **psychological**. In the first group fall articulation, fingers, air flow, and intonation. There is of course a strong mental component in the production of good articulation, a smooth technical passage, good air emission and intonation. For example, if I want to play a middle C but distractedly put down the fingers for a middle B, neither note will work, and I will either squeak or produce an out-of-tune sound. The note has to be perceived internally and then executed, the fingers alone otherwise will not work. Still, I classify these practical applications as physical because the way I applied them was first and foremost related to the physicality of the instruments, in their touchable differences. The hours spent exploring the historical clarinet impacted my sensitivity, creating an embodied experience used to train these skills (Kaastra 2022; Cox 2017).

The psychological group includes phrasing, mindset, and metaphorical thinking. I will present how practising on historical clarinet affected my overall view of music and myself as a musician: how I made interpretation choices and why, my mindset in front of challenges, and the use of metaphors and mental images in practice. The division between physical and psychological is not set in stone: there is a strong mental component in the most practical of musical skills, and there is a physical aspect connected with executing the finest of mental images. Some of the issues addressed through these applications could be solved via different means, practice techniques, or strategies, as each practising musician is unique in their approach. In this case, I developed tools that go beyond the mere quick-fix tactic to improve articulation in a passage or legato in another: in the psychological applications I will discuss how the historical clarinet impacted not just my way of physically playing, but my way of thinking and approaching music. In the end, the result of this type of practice was not a strict, rigid "how to play the clarinet", but more an encouragement to explore, question, and remain mentally open and flexible.

I will close the chapter by presenting two collaborations with composers which were part of my second and third artistic projects, as an additional, performance-oriented application of historical clarinet affordances.

5.1 The Taste of Articulation

The first practical application of historical clarinet practice has been in the development of articulation. The way I practised it reminded me of what my clarinet teacher, Toomas Vavilov, called "savouring the taste of articulation". During a lesson at the time of my master's studies, I encountered some issues with finding the right character for a staccato passage. My teacher suggested trying a different model of the mouthpiece, but I resisted his advice at first because I thought it would just make me more confused. Why would I try a different set-up, if I did not have the intention of actually changing my mouthpiece? Toomas insisted, saying that I did not need to change the set-up in the long run, but just to feel the "taste" of a different mouthpiece and its different response in my mouth. Then, with this "taste" in mind, I could work on recreating it on my own set-up. Brymer proposes a similar concept in his manual, in regards to the quality of sound (1984: 177–178). It is not unlike using a mental image, but the image is rooted in the embodied experience of building the embouchure and training my tongue touch. The strategy worked during the lesson and then worked with the historical clarinet as well.

The 13-keyed clarinet affords me to achieve the kind of light and bouncy staccato that, for example, I wanted to create in Bernhard Henrik Crusell's *Clarinet Concerto no. 2*, in my first artistic project (Appendix). The scales upwards (**Example 3**) with dots under ligature (bar. 76 and 78) called for a flowing *detaché*-type of articulation, which at first was coming out too heavy on the modern clarinet, especially in the change of register between Bb and C.

Example 3. B. H. Crusell, *Clarinet Concerto no. 2*, I movement, bar. 74–78.

In the lower register passage (**Example 4**), where the notes are dotted without ligature, I relied on the round and bouncy kind of articulation that I could achieve on the historical clarinet and worked to transfer the sensation and obtain a similarly satisfactory result on the modern clarinet.

Example 4. B. H. Crusell, *Clarinet Concerto no. 2*, I movement, bar. 200–202.

Experimenting and eventually choosing a certain type of articulation strengthened my interpretation of the piece because my musical choices were rooted in conscious decisions, more than external inputs and suggestions from either teachers, recordings, or traditions. Being assured and convincing even in the smallest musical choices can make the difference in delivering a performance.

Another occasion where small details can really make the difference is the audition for an orchestral job. Audition preparation is a whole world of thorough practical and psychological practices (Greene 2001). A core element of good audition preparation is the concept that nothing should be left to chance: every musical or logistical element that can be controlled and prepared should be with utmost care (Sparrow 2016). I integrated historical clarinet in my audition preparation practice, to experiment with different colours and styles to have a wider palette to choose from. Regarding articulation, it was a useful tool to perfect my rendering of early 19th-century orchestral parts. For example, in Beethoven's *Symphony no. 8* (**Example 5**) the beginning notes of the solo are crucial: missing the mark with their character and articulation would spoil the rest of the excerpt, likely resulting in a rejection. The way I worked on them was similar to the first Crusell example, creating a lively *detaché* that has an exact balance of connection and separation between the notes on the historical clarinet, and then transferring the sensation, the "taste", on modern clarinet. The repeated B in bar 49 is another spot where the lightness and bounciness of the historical clarinet articulation were crucial in creating the right character without breaking the phrase, as well as the repeated G in bars 66 and 70. The construction of my interpretation through historical clarinet gave me a solid understanding and control of the excerpt. I received very positive feedback from different sources after working on it extensively with the 13-keyed clarinet, confirming that this work was making a difference in my performance.

The same approach can be beneficial to orchestral solos from other Beethoven symphonies, as well as Mendelssohn's, Brahms', Italian opera repertoire. Overall, the familiarity with historical clarinet helped me develop a wider palette of articulation styles and enhanced my awareness of the physical experience of their production.

Example 5. L. van Beethoven, *Symphony no. 8*, III movement, trio.

5.2 The Flexibility of the Fingers

I have often remarked in the previous chapters how the historical clarinet is slightly smaller in size than the modern one, and how it lacks metal rings around the tone holes. The lack of metal rings in particular was crucial in changing my perspective on the faults and merits of the instrument. Learning to quickly adapt to the different hand positions while switching between the instruments helped me strengthen my flexibility. Reacting quickly to an instrument change is an important skill to have as an orchestra player, especially one that has duties with secondary instruments such as bass clarinet or

Eb clarinet (Raasakka 2010: 27). For example, in May 2021 I began practising Eb clarinet for an audition. I had tried to play one two years earlier, out of curiosity, and I had not been very successful: I had not been able to produce a decent sound, and the instrument had felt incredibly strange and alien. The main mistake of my younger self had been to treat it rigidly like a Bb clarinet: breathe, blow, handle it exactly how I would do those actions on my main instrument. When I picked it up again in 2021 I was surprised to see that I was able to work my way around it. I self-taught myself the basics and when I had a lesson I received positive feedback about my individual work. I wrote about this surprising experience in my journal, noticing how practising on Eb clarinet reminded me somewhat of practising on historical clarinet, because it required me to be receptive to what the instrument wanted from me, how it felt physically in the moment, instead of trying to force previous rigid expectations on it. This awareness and flexibility become fundamental when I practice bass clarinet or saxophone as well.

5.3 The Embodied Awareness of Breathing

The differences in air and sound production described in Chapter 4 were applied to my practice mainly in two ways: for recovery and for the embodied awareness of breathing.

During the summer of 2022, I fell ill with COVID-19. Even after I healed, I experienced what is informally called "long COVID": the post-recovery persistence of a wide array of symptoms. In my case, I was suffering from fatigue, brain fog, and most annoyingly dyspnoea (breathing difficulties). Even though I could allow myself to rest during the remainder of the summer break, soon came the moment to go back to work and practice. It was on this occasion that I found an unexpected source of help in the historical clarinet: the lesser amount of air required to play it meant that it was not as tiring and demanding as the modern clarinet. I could use it as a support to ease myself back into practice, rebuilding stamina through long tones and other technical exercises, and even practising repertoire without getting as tired. Slowly, I was able to recover and go back to my baseline playing. I cherished the support of the historical clarinet not because it would have been an impossible feat to recover otherwise, but because its usage gave me the comfort of knowing that I was still able to play:

> "It helps me to focus on the results I want to hear on the modern instrument. I feel better in the sense that I *can* do stuff, I just need to practice more to rebuild strength." (Practice Journal, 25/08/2022)

And this sense of accomplishment, albeit small, sustained me through the recovery process, keeping me away from losing motivation and self-esteem.

The second application of the differences in airflow happened in the development of embodied awareness of breathing. The solo from the second movement of Beethoven's *Symphony no. 4* (**Example 6**) provides a good example of this application. It is a long, beautiful phrase that floats over the strings accompaniment, and I decided to practice it on a historical clarinet to concentrate on how to shape it (see also section 5.5 on phrasing). What I realized when switching between the instruments was that the lesser quantity of air required for the historical clarinet not only affected my phrasing but also made me more aware of my breathing on the modern clarinet. How much air am I taking in? How much of it am I actually using? How is it distributed throughout the phrase? At which point do I start feeling uncomfortable? And so on, reflecting on all kinds of breathing aspects that I would otherwise do unconsciously. Becoming aware of the unconscious processes, and making them deliberate, makes the practice an embodied process (Kaastra 2022), improving its quality.

Example 6. L. van Beethoven, *Symphony no. 4*, II movement, adagio.

A similar reasoning was applied also in the practice of the clarinet solo in the second act of Giuseppe Verdi's *La Traviata* (**Example 7**). The focus was on connecting the notes seamlessly through my internal feeling of the air needed to produce them: "Using the 13-keyed clarinet first and the modern clarinet was great to construct […] the connection between the notes" (Practice Journal, 31/08/2022). In this case, the internal perception of intonation played an important role as well, in preparing for the interval jumps. The next section covers intonation in a more detailed manner.

La Traviata

2. Akt

Giuseppe Verdi

Adagio

I. in B

p dolce

pp

[espress.]

dim.

Edition Peters

31816

Example 7. G. Verdi, *La Traviata*, II act.

5.4 The Inner Intonation

Approaching the Müller instrument for the first time it was easy to get frustrated at how volatile and unstable intonation could be. Only after a few months of practice sessions, did I start to acknowledge, and then value, the fact that instability also meant flexibility, as it was valued in Müller's times. When I started working with this perceived "weakness" instead of against it, it proved to be a valuable tool to develop my sensitivity to intonation: with a slight change in my embouchure or throat, I could greatly affect the sharpness or flatness of a note. This afforded me to adjust intonation faster than it is manageable on the modern clarinet, where the standardization of the instruments has locked tuning (and tuning issues) in a more rigid design. On modern clarinet it is customary to affect the intonation of the throat register through alternative fingerings, to react to the structural shortcomings discussed in the previous chapter (see also Brymer 1984: 93–97), but for other registers, this kind of adjustment is not as immediate as it can be on historical instruments. As I mentioned in the introduction to this chapter, it is of utmost importance for a wind player to have a precise internal image of the notes that they want to produce: this internal image influences not only pitch and sound quality but also intonation. Regarding the "Traviata" solo shown in **Example 7**, the wide interval jumps call for a precise internal perception of the second note. I observed that on modern clarinet I tended to first go to the higher note and then adjust it, while on historical clarinet I was forced to "hear the note internally" before the jump because otherwise "I don't know what will come out" (Practice Journal, 31/08/2022). While I do not aspire to go back to 19th-century intonation instability (or flexibility), dealing with it supported the development of a more precise inner ear, which in turn improved the internal image of the pitches.

5.5 The Shape of a Phrase

Iwan Müller advertised his instrument as “able to play in any tonality” (Rice 2003a: 181–182), a bold claim to show the radical difference from its predecessors. In reality, adding sharps of flats to a piece meant for historical clarinet is not without hearable consequences. The execution becomes harder, and the sound more nasal because of the intricate forked fingerings that become necessary. These technical limitations influence the execution of a musical phrase: for example, if something is marked *agitato* but there are restraints on speed due to technical issues, I could convey the character *agitato* in other ways, e.g. by speeding and slowing the phrase on a micro level. Working around these issues can be fascinating and add to the interpretation: the nasal sounds have a special colour, and the time required to shift position in a passage can shape the musical phrase. The technical characteristics of historical instruments forced me to shape phrases in unexpected ways and brought fresh thoughts to my practice of modern clarinet.

This feature showed its use when dealing with the development of personal interpretation of a piece of music. Nowadays recordings are an integral part of the life of the practising musician, in a way that was unthinkable just a few decades ago. When it comes to standard repertoire (e.g., Brahms’ Clarinet Sonatas or Weber’s Concertos), it is nearly impossible to approach a piece without having heard it and having been influenced by the performing traditions. For a younger student, the pervasiveness of recordings is an incredible tool, and the awareness of traditions can save precious time during lessons, where time can be spent working on other issues. An example of brilliant use of tradition awareness is the work of Christian Jones, bass trombone tutor at the Royal Northern College of Music (UK). By creating an open database of recorded orchestral excerpts, he gives his students the possibility to familiarize themselves with the traditional execution of the orchestral parts and focus on other points during the lessons, optimizing them[6]. But traditions can be a double-edged sword: as a young professional, I found myself wondering sometimes whether I was playing in a certain way because I wanted to, because I believed in it, or just because I had been taught it like that. Historical clarinet became a way to break automatic performance decisions, challenging my standard interpretation. “A way to disconnect, break pattern of ‘how we should play’” (Practice Journal, 5/03/2022). An exemplary piece of music to try this approach on was Brahms’ Clarinet Sonata op. 120 no. 2. The piece has been one of my favourites from the clarinet repertoire since I was a teenager. When I was studying at the Conservatory of Novara, even before entering the Bachelor’s degree

[6] I heard Christian Jones present his work at the 2023 Doctors in Performance Festival Conference, London (UK). His orchestral parts database can be viewed on his YouTube channel, “Christian Jones Bass Trombone”, in the playlist “Audition excerpts series".

program, I religiously attended all the exams of my older classmates. It was an unwritten rule in our class: I even skipped school sometimes to go sit in a corner of the chamber hall and listen to hours and hours of clarinet repertoire played by Bachelor and Master students. Brahms' Sonatas of course were a constant presence. Thinking back to the experience, I would say it was the epitome of Italian Conservatory culture: every student played beautifully, but with very little room left for personal choices, following the rather strict directions received in class. When I approached Brahms' *Clarinet Sonata no. 2* during the doctoral practice sessions, I found myself in the middle of two opposing forces: years and years of listening to other people's interpretations, and the strong desire to make my own musical choices. Even if the result would be similar to someone else's, I wanted it to be born in my own conscious decisions. Historical clarinet was the means to balance these tensions. Its different feelings and technique meant that I could not rely automatically on what I knew. I had to adapt and construct my choices around the characteristics of the instrument, re-discovering the musical subtleties of each phrase (Practice Journal, 05/02/2022).

This strategy was not used to address long-term issues, but to make the brain click, get a new approach, perspective, colour, or simply unblock myself when I got stuck on playing the same thing over and over without being satisfied. The end goal was not necessarily to replicate *tout court* on the modern instrument the same phrasing that was necessary on the historical instrument to work around its technical issues, but more breaking automatisms and standardized ways of performing, and on a secondary level also accepting the inevitable key click or little squeak of the instrument as part of the process.

5.6 The Problem-Solving Mindset

I have shown earlier how dealing with the historical clarinet intonation forced me to face the fact that I could not expect intonation to happen perfectly outside of me, but I had to work on my internal perception and then materialize that perception through the instrument. This is particularly evident when playing with other people, either in an ensemble or in the orchestra. Additionally, the intonation instability of historical clarinet made me reframe my approach to intonation challenges, and through that to musical issues in general.

In the autumn of 2022, I played in a production of *Rigoletto*[7] for chamber ensemble: wind quintet, second clarinet, double bass, and piano. After the first few days of rehearsals, the first clarinet and I decided to have a sectional to work out some intonation issues. The setting was not the most professional one at first glance: we were staying in a little hostel in the middle of the countryside, rehearsing in the shabby dining room. The first clarinet and I sat at a table in the corner with our parts spread out on top of the plastic tablecloth, ignoring the coffee machine hissing softly in the background, to negotiate how to approach the intonation issues. It is an unspoken but widely recognized rule that in case of intonation uncertainty it is the responsibility of the second clarinet to quickly react and adapt to match the first player. In that production, then, it was my responsibility. We were out of tune in some delicate places and the first clarinet kept correcting me and pointing out the issues we were having, as I struggled to reach a perfect match with him. We finished the sectional rehearsal with him politely blaming my instruments, an inferior model in his opinion, which frustrated and embarrassed me to no end. How was it possible that I found myself in that position? Was I not a professional clarinet player? Did I not have a job literally doing that exact same thing? I kept asking myself these questions. And I knew that I had to find, if not a solution, at least some kind of balance because the premiere of the opera was approaching. The extra rehearsing and overthinking were making me more uncertain exacerbating my problems, since "uncertain attitude is the death of intonation" (Practice Journal, 6/10/2022). I started jotting thoughts down in my practice journal to work out any mental blocks that were fuelling the overthinking, and I found myself wishing for the historical clarinet, to detach myself from the unrealistic perfection constantly expected from modern instruments. "I wish I had the 13-keyed clarinet here", I wrote, "to reframe myself and my mistakes" (Practice Journal, 6/10/2022). I decided to go practice alone and at least visualize the sound production of the historical clarinet, aiming at a more relaxed and flexible embouchure. Then the day of the premiere came. I sat in the orchestra pit with the tuner in front of me, stressing and expecting the worst… and then I just ordered myself to *stop*. "Do what you can to achieve the best possible result", I wrote later (Practice Journal, 19/10/2022). I thought again about the historical clarinet, and how at first, I blamed it for its unstable intonation, only to realize that it could have been under my control all along. As cheesy as it may sound, I had accepted that the intonation was not inside the historical clarinet, but it was inside me. This reasoning applies to modern clarinet as well: even if it were a problem of my instrument, as the first clarinet had suggested, ultimately it did not matter. I was in control of it, I could do my best to adapt, and I would make it work to the best of my ability

[7] Giuseppe Verdi, *Rigoletto o la Maledizione*, arranged by Alessandro Palumbo for "Festival Verdi" 2022 and performed in "Teatro Verdi Busseto" with Ensemble Victor Hugo.

without stressing over some unreasonable perfectionist ideal. I started aiming for the best possible version achievable.

Another strategy was found in the possibility of identifying and isolating the root of technical and musical issues. Playing a musical instrument is a complex action, the process and the outcome are made up of a myriad of different variables. In a woodwind instrument, additionally, part of those variables, like air management or tongue movements, are hidden inside the body. There is much to keep track of, and when a problem arises it is not always easy for the player to pinpoint the cause of it. One of the most important duties of a skilled teacher is exactly to identify, from the outside, what the cause of a student's problem may be, and suggest solutions (Harris 1995: 123–133; Brymer 1984: 193–212). And one of the duties of the student is to build upon that knowledge so that in the future they become able to identify the root of a problem and develop strategies to address it independently. Switching between two instruments was a useful tool to further develop this ability to problem solve. For example, this is what I reported in the practice journal regarding an issue with my embouchure: "The beginnings of notes are fine on historical clarinet, while on the modern instrument I 'hit' too much giving an accent. So it's not a mouthpiece problem, it's me not using it correctly. Must be the airflow." (Practice Journal, 24/08/2022). When an issue was not presenting itself in the same way between the instruments, it was easier to isolate it and investigate the root of it. From another practice session: "The different emission on the historical clarinet threw me off at first but forced me to realize I was biting." (Practice Journal, 04/09/2022).

Finally, I present a more philosophical take on problem-solving: a change in my approach to technical difficulties. This change of attitude is better portrayed through the example of my third doctoral concert (Appendix). The program included Nielsen's *Clarinet Concerto*, one of the most technically demanding concertos in standard clarinet repertoire (Hoeprich 2008: 223). I wanted to not only challenge myself as a clarinet player but also use the practice of this concerto to test out on stage the idea of striving for the best version achievable against CD-like perfection, to concentrate on the artistic experience offered to the audience more than the egocentric (and unrealistic) desire to be perfect. I had been practising on historical clarinet for two years and a half at that point, and the entire concept of the artistic project revolved around reflecting on challenges and mistakes (see also section 5.8). Dealing with historical clarinet and the music written for it made me reflect on what I considered "doable" on my instrument. It reinforced the idea of developing a solution-oriented approach to musical challenges, i.e. "what can I do to improve this", against a result-oriented approach such as "it must sound perfect and anything less means that I am not good". Some tell-tale lines from my practice journal show this idea in the making, in a relatively early stage of the practice sessions:

> "When I play the historical instrument I know things won't be perfect. I think in a problem-solution-oriented way, I think in a "become better" way that I don't have as much when I play only on the modern instrument. The approach is something I can get from the historical instrument. There is nothing strictly mechanical that can help me in learning Nielsen Concerto but the relaxed approach that stemmed from this train of thought." (Practice Journal, 6/09/2021)

There are always challenges in music, and that is part of its charm for the musician. Working through this approach I found healthier ways to deal with this reality and tackle those challenges. This way of thinking will be a lifelong work in progress because my approach towards music will likely continue to evolve, but through the research project, I moved the first steps towards a healthier and more fulfilling practice.

5.7 The Missing *Ghëddo*

There was an expression from my late teacher Sandro Tognatti[8] that used to drive me crazy from frustration in our lessons: "*Manca il ghëddo*" ("the *ghëddo* is missing"). *Ghëddo* is a word from the Piedmont dialect, hard to translate even into Italian. It indicates the momentum, the personal stamp of authenticity, the special touch given by a person to a certain action, be it a theatrical performance, a musical interpretation, or even a social or professional situation. I did not speak the same dialect as my teacher, and when he understood my confusion, he simply translated it saying that *something* special was missing from my phrasing, a tension, a vibration. The *ghëddo* was usually an issue in long phrases, romantic pieces, and expressive moments: Brahms's Sonatas, Weber Concertos' slow movements, Poulenc's Sonata's *Très calme*, etc… I was not really sure how exactly to make up for the absence of this mysterious special character, and I graduated without having a real idea of what my *ghëddo* could be.

A few years later I found myself hearing a request put in very similar terms: working on Poulenc's *Clarinet Sonata* during a masterclass with John Kruse[9], he lamented the lack of "something special, some underlying tension, something more" that he could not quite explain in the slow section of the first movement (**Example 8**). The sound was beautiful, he said, but not enough by itself.

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[8] Sandro Tognatti (1960-2021), Professor of Clarinet at Conservatorio G. Cantelli, Novara, Italy.
[9] John Kruse, Associate Professor of Clarinet at the Royal Danish Academy of Music, Copenhagen, Denmark.

Example 8. F. Poulenc, *Clarinet Sonata*, 70–75.

There it was, the infamous *ghëddo* missing once again. But this time I knew what to do. The idea appeared already in my practice notes when I noticed that with the historical clarinet, I tended to look for something "extra" in my slow phrases to make up for the little technical issues (Practice Journal, 17/09/2021).

"Let me try something," I told the teacher, finally ready to try out the idea. I played the passage once again, this time imagining playing it on the historical clarinet instead.

"That's it! What did you do?" asked Kruse. I had cracked the code, at least in a way that worked for me. This lightbulb moment had actually been building up since the first lesson with John Kruse, in April 2021. In that first encounter, he had asked me about my studies, and he had shown interest in my research topic. The focus of the lesson was Mozart's *Clarinet Concerto*. At the end of the first movement's exposition (Example 9) he found my lower register too aggressive and "biting" for the piece.

Example 9. W. A. Mozart, *Clarinet Concerto K622*, I movement, 129–137.

"You know how the clarinet was back then. Imagine how that would have sounded. You don't have to exactly copy that, of course, we are using another instrument. But just imagine it to improve your understanding, be more coherent", he suggested. Müller's clarinet is actually very different from the

clarinet of Mozart's time (a five-keyed classical model). In that lesson, I simply lightened my articulation and we moved on, but the suggestion planted a seed that I cultivated in the following practice sessions, reflecting. I realized that the secret to special tension and character was there, I just needed to summon the right image in my head to convey it. Historical clarinet playing could become a mental image to be evoked at the right time.

Metaphors and mental images are powerful tools in music pedagogy and music practice (Schippers 2006; Wolfe 2018), turning around the rendition of a phrase just by thinking the right thing. For example, playing legato on the historical clarinet means that I have to be particularly careful with connecting the notes: the instrument is less predictable, the keywork less smooth, and I have to pay special consideration to the fingerings. Therefore, I place more intensity, attention, and meaning in the phrase. "Intensity" and "intention" are two keywords that appear often in the thematic area of interpretation. Once I opened this dam, several possibilities flooded my practice: I practised *cantabile* orchestral parts on historical clarinet before auditions to build the feeling, and then recreate the tension and intensity in performance; I applied this mental imagery not only on 19th-century musical pieces but also on 20th and 21st century: for example I used this trick to practice the *espressivo* passages in Nielsen's *Clarinet Concerto*; I applied the same principle of mental visualization to improve the connection in big interval leaps, register changes, shape of phrases, support points. This idea is not so different from using other kinds of common metaphors to improve expression or technique: "This phrase is like honey", "think of bouncing balls", "imagine a flowing river". Metaphors in music pedagogy are also widely used to help the learning and understanding of breathing techniques (Raasakka 2010: 34). The advantage of the historical clarinet-related images lies in the fact that they are not only mental but are related to an actual physical activity that can be practised and experimented with on its own before applying it to other contexts. In the spectrum that goes from cliché to obscure metaphor (Schippers 2006: 214), this embodied metaphor falls in the middle, in the creative metaphors that can produce "distinctly audible evidence that these concepts influenced the musical sound produced" (ibid.: 212).

5.8 Collaborating with Composers

The practice of composing new music for historical instruments is hardly ground-breaking. Composers are always looking for new expressive means, and I am not the first performer who felt

the desire to take a historical instrument out of the historical context and treat it independently. In this section, I present the collaborations with two composers for two pieces: a quartet for historical clarinet and strings and a piece for solo modern and historical clarinet (Appendix).

The first commission, *No/Where Now/Here* by Bonnie Yung (1996), a composer from Hong Kong, was performed in my second artistic project. The commissioned piece was for the same ensemble Iwan Müller himself had written two pieces for: clarinet, violin, viola, and cello. But while the strings were all modern, in this particular piece I asked the composer to write with historical clarinet in mind. This discrepancy brought up some interesting textural and tuning issues. All the instruments were tuned at 440 Hz, but the strings' tuning was more stable and homogeneous in comparison to the volatile historical clarinet. The composer chose to toy with the resulting intonation instability throughout the piece, using the beatings as unexpected musical elements.

♩ = 48
Clarinet in B♭
n
mp
(non-cresc.)
Violin
con sord.
p
mp
Viola
con sord.
p
mp
Violoncello
con sord.
p
mp

Example 10. B. S. K. Yung, *No/Where Now/Here*, 1–6.

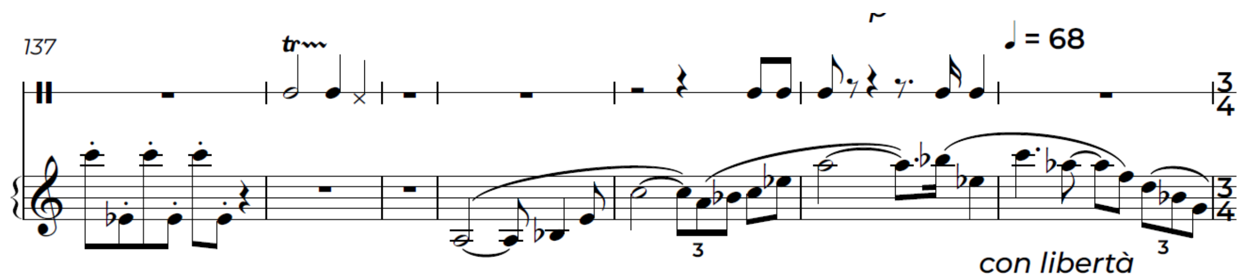
The clarinet enters softly on top of the strings' long tones with unexpected unisons, exploiting the resulting beats as part of the melody before moving the line away. In **Example 10** the very opening of the piece is shown. Throughout the piece the clarinet keeps fluctuating around the strings, mingling in their themes, suddenly matching them. This treatment of the sound creates a dreamy, misty atmosphere. In this collaboration, I left complete freedom to the composer besides requesting the historical clarinet instead of the modern clarinet. I simply provided Yung with a few recordings of historical clarinet playing, to let her familiarize herself with the type of sound available.

The second collaboration was built on tighter communication and directions on my part. The Italian composer Fabrizio Nastari wrote a piece for solo modern and historical clarinet titled *Elogio dell'Errore* (Praise to the Mistake). The piece was designed as a reflection on the ideas of mistake and perfectionism, turning on its head the negative connotation attached to the action of making a mistake while playing, and instead integrating apparent mistakes as musical elements.

Besides the clarinets, the performer is required to use a foot tambourine and walk (or run) around the stage. The work brings on stage the direct comparison between the instruments that I was doing only in the practice room, showcasing the sound qualities of the historical clarinet. Our collaboration started in a very traditional manner, with a meeting where I showed Nastari the Müller instrument, played some examples, and answered his questions. The questions soon went beyond the mere practical aspects, to general considerations about music, performance aspects, and the possible connection to both our interests. For example, the marching in the beginning is a playful reminder of my "origin story" as a musician, which took place in the town's marching band. The march slowly evolves into a tango, growing more and more frenzied, leading up to the change of instrument. The moment where I switch from modern to historical clarinet is not a simple change, but an integral part of the performance. After running away from the music stand in a frantic accelerando I stop my flight at the centre of the stage, where I find the historical clarinet on a stand. I observe it, walk around it, and finally pick it up and start playing a theme that faintly recalls the beginning of the piece, played on the modern instrument (**Example 11**).

Example 11. F. Nastari, *Elogio dell'Errore*. Modern instrument's thematic material bar. 3 (above); period instrument's thematic material bar. 119–121 (below).

The historical instrument's part continues hinting at thematic materials heard before, twisting them and adding its own character to them. They might sound wrong if the listeners compare them directly to their previous appearances, but they are not. From bar. 140 a new theme appears, with a special use of the foot tambourine: until then, the tambourine had been a simple rhythmical and timbrical counterpart to the clarinet part, but from 140 it has a different scope. The new theme (**Example 12**) purposefully includes intervals that are uncomfortable on the historical instrument, be it because both notes engage the same finger, because they call for an awkward fingering or because they require shifting a finger from one key to another adjacent one (e.g., the C-Eb in bar. 141). Whenever there is an uncomfortable passage that might result in a squeak or a poorly executed legato, the tambourine hits the floor, covering – or rather adding musical material – to the alleged "mistake". The piece closes with an eye to the past and one to the future: a chromatic scale from the lowest note to written G6, as an homage to Iwan Müller's invention of an *omnitonique* instrument, and a long multiphonic.



Example 12. A new theme from bar. 140. The tambourine covers uncomfortable passages.

The collaborations with Yung and Nastari are examples of two different ways to conceive the historical clarinet in a modern context. There can be as many approaches as there are artists and composers. Similarly, the various practical applications of historical clarinet affordances presented in this chapter, whether physical or psychological, are meant to be an inspiration to explore, more than prescriptive rules.

6. Conclusion

There is no conclusion to the practice process and the artistic development of the professional musician. There must be, however, a conclusion to this research. The main goals throughout this doctoral research have been to investigate the musical affordances of the 13-keyed Müller system historical clarinet, the effect they had on my playing, and whether they could be consciously applied to obtain certain musical results. Although these questions were present in different capacities in the artistic projects organized during my studies (see Appendix), the main focus of the research was in the practice room on the process leading up to the performance, more than the performance itself.

To pursue this goal I devised and applied a hybrid methodology inspired by methods borrowed from disciplines in the field of humanities. First, I planned a structured but flexible practice process following the principles of autobiographic design, borrowed from the field of human-computer interaction design. The design took into account scheduling, repertoire, focus of the practice sessions, and means of data collection. The latter were a practice journal and, to a lesser extent, audio recordings. The practice journal was then analysed and the information was categorised following the principles of thematic analysis, borrowed from the field of psychology. I identified from the practice journal five main thematic areas, which contained the musical affordances of historical clarinet. The concept of affordance, created by James J. Gibson (1979) in the field of ecological psychology and then spread to other disciplines, is here intended in its relational sense. It means that the affordances found in an object depend on the relation between the object and the individual interacting with it; different individuals would find different affordances in the same object (Tullberg 2021: 41). Since this outlook puts heavy importance on myself and my identity, the research has an overarching autoethnographic outlook. Autoethnography is a method borrowed from the field of cultural anthropology and social sciences, whose main characteristic is the inclusion of the researcher and their cultural identity as an integral part of the research. Another characteristic of autoethnography is the employment of storytelling and personal narratives in the reporting of the research work, which in this thesis has been used to a minor extent. The combination of these methods forms the hybrid methodology followed to investigate accountably my personal artistic experience with historical and modern clarinets.

The choice of this specific model of historical clarinet, i.e., a 13-keyed Müller system instrument, was influenced by my curiosity towards its inventor, the clarinettist Iwan Müller. Born in the territory

of nowadays Estonia, he travelled across Europe showcasing his virtuosity and collaborating with instrument makers to develop his 13-keyed clarinet. The thought of the impact his clarinet had on the history and development of the instrument intrigued me, prompting me to explore it. The physical and mechanical differences between historical and modern clarinet translated into different musical affordances during practice, as reported in the practice journal. These affordances affected both the physical and psychological aspects of my playing, providing me with new practice strategies but also a different outlook on music and my approach to it.

From the practice journal notes, I identified five main thematic areas of interest: technique, air and sound production, articulation, intonation, and interpretation. In the technique area I found that the technical limitations of the earlier instrument affected my speed of execution; at the same time, the historical clarinet could afford surprising lightness on certain passages where the absence of key and metal rings weighed down the modern clarinet. In the area of air and sound production, there was a clear difference in the quantity of air required by the two instruments, and how the production of different registers worked: historical clarinet required generally a lesser quantity of air, had a more resonating middle register, and a rather effortless high register. In the articulation area, historical clarinet afforded me to execute a light and bouncy articulation, in style with how 19th-century clarinet articulation is generally viewed. Regarding intonation, I found that the historical clarinet was less stable and standardized, but it afforded me the possibility to bend a note's pitch farther than the modern clarinet, adjusting intonation internally instead of relying on the stability of the instrument. Finally, the interpretation area covered all the instances where the different physicality of the instrument affected my interpretation of a piece of music, forcing me to reflect, make different choices, or reconsider my musical decisions.

The musical affordances of historical clarinet then found their way into my practice, first in the doctoral research and then outside of it, in my everyday life as a professional musician. Doctoral practice turning into real-life practice happened almost without my notice at first, with split-second decisions during a performance or a passing thought in a practice session. With time and awareness, it evolved into a conscious process, and finally into an automatic way of thinking. It is also in constant development as I develop as a musician. When reflecting *a posteriori* on the practical applications of historical clarinet affordances, I loosely divided them between physical and psychological applications, although is it near impossible to draw a hard line between body and mind in music practice. In essence, I observed that the applications could be very direct, e.g. the development of certain types of articulation, the enhanced flexibility of my fingers, the improvement in the embodied awareness of my airstream, the development of internal intonation; or they could be more abstract,

e.g. it influencing my interpretation choices, re-evaluating my approach to musical difficulties through the awareness of the technical challenges of historical instruments, developing healthier attitude towards intonation, taking responsibility for my influence on the instrument, or using historical clarinet as a model for mental images, to recall like embodied metaphors at need.

An additional outcome, more performance-oriented than practice-oriented, was the collaboration with composers who wrote contemporary pieces for historical clarinet. The composers were encouraged to exploit the characteristics of the instrument, and these collaborations showcased its potential to a wider audience.

Besides the development of technical skills and practice strategies, this research project gave me a path to challenge standardization and to find a personal outlook on artistic practice and mindset. It became more than a clarinet-specific endeavour, showing its wider and more comprehensive nature. I am not the first musician who finds out that the instrument is *teaching me* something like it has a life of its own. Violinists, clarinettists, guitarists, flautists, cellists… these were some of the musicians who shared their similar experiences with me throughout the course of the research project. I believe more will be added in the future. Many times during the practice sessions I thought back to an event of my youth: when I was sixteen I played bass guitar for a couple of years, in an attempt to increase my coolness. I bought the bass with my savings, my friends all pitched in and gifted me an amp for my birthday, and I took weekly lessons in my parents' basement with a jazz player. He assigned me repetitive drills to build my hand strength and span, and I complied, eager to make the instrument less alien. At the same time, I had been playing clarinet for five years, and I was just starting to become serious about it. During a clarinet lesson, my teacher complimented me on the improvement of a passage involving ring and pinkie finger that had previously been problematic. I was rather surprised as well: my practising at that time was not exactly consistent nor focused, and I had not worked specifically on the passage. I realised that the constant bass guitar drills had strengthened my hand in a way that was benefiting my clarinet playing! At the time it was just a fun realisation without any particular consequence. I abandoned bass guitar before graduating high school, entered the clarinet performance Bachelor's program, and continued with my life as a classical musician. The skill transfer between bass guitar and clarinet could have remained a minor and forgettable event if I had not started doing the same thing deliberately between historical and modern clarinet. That small memory resurfaced. If as a young and inexperienced player, I had stumbled upon the positive effects of playing different instruments, imagine what I could do with purpose, planning, and awareness. So I encourage other players to implement this approach, with any instrument other than their own and

observe with curiosity how the new musical affordances they find will shape their playing and their understanding of art.

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Töö lühikokkuvõte

Väitekiri „Practice Beyond Boundaries: Enhancing Musicianship through Historical Clarinet Affordances“ („Piire ületav harjutamine: muusikalise meisterlikkuse arendamine ajaloolise klarneti pakutavate võimaluste kaudu“) on loomeuurimus teemal, kuidas ajaloolise klarneti võimaldused (*affordances*) mõjutavad esituspraktikat kaasaegsel klarnetil. Käsitletav ajalooline klarnet on Tallinnast pärit Ivan Mülleri poolt 19. sajandi alguses välja töötatud 13-klapiline instrument.

Praktikapõhise uuringu jaoks on püstitatud järgmised uurimisküsimused:

- Kuidas mõjutab harjutamine ajaloolisel klarnetil minu mängu kaasaegsel klarnetil?
- Milliseid spetsiifilisi muusikalisi võimalusi ajalooline klarnet pakub?
- Kuidas ma saan neid muusikalisi võimalusi praktikas rakendada, et arendada oma muusikalist meisterlikkust?

Ajalooline klarnet on uurimuses käsitletud väljaspool ajaloolise esituspraktika valdkonda ning käsitletud iseseisva pillina, mis eksisteerib tänapäevases kontekstis. Vältides positivistlikku mõtteviisi instrumentide arengust käsitletakse kaasaegset ja ajaloolist klarnetit kui erinevaid, kuid võrdse kvaliteediga instrumente. Uurimistöös tuginesin kirjandusele klarneti ajaloost, ajalooteadlikust esitusest, loovuurimusest ja interpretatsioonikunsti probleemidest.

Töö koosneb kuuest peatükist. **Esimene peatükk** esitleb töö teemat, sõnastab uurimisküsimused ning puudutab teoreetilist konteksti ja uurimisseisu.

Teine peatükk annab ülevaate uurimisküsimuste lahendamiseks välja töötatud hübriidmetoodikast, mille moodustavad erinevatest humanitaaria valdkondadest laenatud ja süsteemseks tervikuks ühendatud käsitlusviisid. Uurimuse käigus kavandati esmalt harjutusprotsess, järgides autobiograafilise ülesehituse põhimõtteid: see meetod on laenatud inimese ja arvuti interaktsiooni uurimise valdkonnast. Protsessi kujundamisel võeti arvesse ajakava, repertuaari, harjutamissessioonide fookust ja andmekogumise vahendeid. Selline lähenemisviis tagas harjutamisprotsessi korraldamise paindlikkuse, tasakaalustades loomeuurimuses ühendatud kunstilise ja uurimusliku aspekti. Harjutamissessioonide dokumenteerimiseks peeti praktikapäevikut ning kasutati vähemal määral ka helisalvestistust. Järgnes praktikapäevikute kvalitatiivne analüüs ning selles kogutud teave kategoriseeriti vastavalt temaatilise analüüsi põhimõtetele, mis on psühholoogia valdkonnast laenatud meetod.

Praktikapäevikutest eristati viis peamist teemat: tehnika, hingamine ja toonikujundus, artikulatsioon, intonatsioon, tõlgendus ja fraseerimine. Kõik need teemad on seotud ajaloolise ja kaasaegse klarneti pakutavate erinevate muusikaliste võimalustega. Sobimuste ehk võimaldavuste teooria (*theory of affordances*) lõi James Gibson 1970ndatel aastatel ökoloogilise psühholoogia valdkonnas ning hiljem laiendati seda ja võeti kasutusele ka teistes valdkondades. Sobimus ehk võimaldavus on see, mida keskkond (või objekt) pakub (inim)loomale kas hüvanguks või takistuseks. Käesolevas väitekirjas kasutatakse mõistet selle suhtestatud tähenduses, st. objekti võimaldavused ei ole objektile ainuomased, vaid sõltuvad sellega suhtlevast inimesest. Erinevad indiviidid leiavad samast objektist – käesoleva töö kontekstis siis erinevad muusikud samast instrumendist – erinevaid võimaldusi. Kuna võimaldavuse individuaalsus paneb suurt rõhku uurija identiteedile, on uurimuse üldine vaatenurk autoetnograafiline. Autoetnograafia on kultuuriantropoloogiast ja sotsiaalteadustest laenatud meetod, mille peamine tunnusjoon on uurija ja tema kultuurilise identiteedi kaasamine uurimuse lahutamatu osana. Autoetnograafiale on iseloomulik isiklike narratiivide loomine uurimistöös, mida kasutatakse mõnevõrra ka käesolevas töös.

Kolmas peatükk annab ajaloolise tausta klarneti ajaloost ja arengust, keskendudes Ivan Müllerile ja tema leiutisele. Klarnet on teiste puupuhkpillidega võrreldes suhteliselt noor instrument. Esimese klarneti töötas 18. sajandi algul välja Johann Christoph Denner ja sellel oli seitse sõrmeava ja kaks klappi. Sellel lihtsal konstruktsioonil olid mitmesugused tehnilised ja akustilised piirangud, mida pillimeistrid püüdsid järgnevatel aastakümnetel ületada. 19. sajandi alguses oli kõige levinum klarnetimudel – nn. klassikaline klarnet – viie või kuue klapiga. Virtuoossuse esteetika tõus avaldas survet pilli arendamisele, et see vastaks heliloojate ja publiku ootustele.

Klarnetist ja helilooja Ivan Müller (1786–1854), kes sündis Tallinna (Revali) lähistel ja sai juba kahekümneaastaselt õukonnamuusikuks Peterburis, tegi koostööd Prantsusmaal, Austrias ja Saksamaal tegutsevate instrumentalistidega, et viia ellu oma nägemus täiustatud klarnetist. Seejärel lahkus ta Venemaalt Kesk-Euroopasse, kus ta veetis oma ülejäänud elu rändvirtuoosina. 1812. aastal patenteeris ta 13 klapiga klarneti, millel oli mitmesuguseid tehnilisi ja akustilisi täiustusi. Tema lisatud uued klapid asetsesid optimaalses asendis, et tagada hea resonants ja intonatsioon, ta lõi uued klapipadjad, et vähendada õhulekkeid, lisas trostile metallist klambri ja pöidlatoe pilli tagaosasse. Pärast esialgset konservatiivset vastuseisu võtsid tema pilli varsti kasutusele paljud tuntud mängijad ja sellest sai põhiline klarnetitüüp, millest arendati välja hilisemad süsteemid. Käesolevas uurimuses tõmbas mind Mülleri klarneti juurde tema leiutise murrangulisus 19. sajandil ning tema 13-klapilise klarneti kunagine suur mõju äratas uudishimu, mida see instrument võiks mulle pakkuda.

Võrreldes kaasaegse pilliga on Mülleri klarnet veidi väiksem ja lühem. Ka sõrmeavad on väiksemad ja vähem hulk klappe annab pillile kergust. Pillide sõrmestus ei kattu päriselt ja sarnaste klappide funktsioonid pole alati samad.

Harjutamisel ilmnesid pillide mitmesugused erinevused ja neid on käsitletud **neljandas peatükis**. Muusikalised võimaldused, mida ma harjutamise käigus täheldasin, on jaotatud viide peamisse teemavaldkonda:

- tehnika,
- hingamine ja toonikujundus,
- artikulatsioon,
- intonatsioon,
- tõlgendus ja fraseerimine.

Tehnika puhul täheldasin, et ajaloolise instrumendi mõningad tehnilised piirangud mõjutasid ootuspäraselt minu soorituse kiirust, samal ajal võis ajalooline klarnet pakkuda üllatavat kergust käikudes, kus klapid ja metallrõngad muudavad kaasaegse klarneti raskepärasemaks. Enne seda tähelepanekut eeldasin, et ajalooline klarnet on kaasaegsest klarnetist „halvem", tehnikas leitud positiivsed aspektid seadsid selle hoiaku aga kahtluse alla ja kutsusid esile paradigmamuutuse. Siitpeale hülgasin kujutluse paremast ja halvemast pillist ning hakkasin käsitlema neid kahte täielikult võrdse, kuid erineva instrumendina.

Mis puutub hingamisse ja toonikujundusse, siis märkimisväärne oli erinevus kahe pilli jaoks vajaliku õhu hulgas ja erinevate registrite toimimises. Ajalooline klarnet nõudis vähem õhku, tal oli kõlavam keskmine register ja üsna pingevaba kõrge register. Artikulatsiooni osas leidsin, et ajalooline klarnet võimaldas kerget ja paindlikku artikulatsiooni, mis vastab üldiselt levinud arusaamale 19. sajandi klarnetimängust. See tulemus oli seotud instrumendi tundliku reageerimisega õhuvoolule. Kuna ajalooline klarnet nõudis tänapäevasest vähemat õhuvoolu, tundus artikuleerimine võrreldes viimasega lihtsam. Intonatsiooni osas täheldasin, et ajalooline klarnet on vähem stabiilne ja standardiseeritud, kuid see lasi mul painutada helikõrgust enam kui kaasaegne klarnet, reguleerides samal ajal intonatsiooni sisemiselt, selle asemel et tugineda pilli stabiilsusele. Lisaks on nn „kurguregister" 1. oktavi *g*-st kuni *b*-ni ajaloolisel klarnetil avatum ja kõlavam kui tänapäevasel klarnetil. Lõpuks hõlmas tõlgendamise ja fraseerimise teemavaldkond kõik juhtumid, kus pilli füüsilised erisused mõjutasid muusikapala interpreteerimist. Klappide puudumine, erinev sõrmestus ja intonatsioonilased väljakutsed mõjutasid kõik seda, kuidas ma muusikalist fraasi kujundasin. See

kogemus aitas ka kujutleda, kuidas oleks muusika kõlanud 19. sajandil ja milline on olnud selle pilli pärand.

Neid võimalusi rakendasin erineval moel oma igapäevases harjutamispraktikas. Doktoriõppe jaoks organiseeritud harjutamine muutus tasapisi tõeliselt teadlikuks harjutamiseks ning aitas mul välja töötada uusi strateegiaid ja lahendusi. **Viiendas peatükis** kirjeldatud praktilised rakendused ei ole ettekirjutava, vaid inspireeriva iseloomuga. Iga teine mängija võib samadest eeldustest lähtudes leida erinevaid lahendusi, kohandades neid oma probleemide ja vajadustega.

Väitekirjas kirjeldan seitset viisi, kuidas ma rakendasin ajaloolise klarneti muusikalisi võimalusi oma igapäevases loomingulises töös, arendades nii füüsilist kui ka mentaalset võimekust. Esiteks kasutasin ajaloolist klarnetit selleks, et arendada artikulatsiooni kaasaegsel pillil. Esimeselt pärit 19. sajandile omane *staccato*-stiil ja tunnetus kanti üle teisele, luues sarnast mõju. See lähenemine oli eriti kasulik detailidele orienteeritud harjutusprotsessis ettemängimiseks valmistumisel. Teiseks suurendas harjumine kahe pilli erineva suurusega käte paindlikkust ja reageerimisvõimet, mis on kasulik Es-klarneti, bassklarneti või saksofoni harjutamise juures. Kolmas kogemus oli seotud hingamise ja õhuvoolu juhtimisega. Ajaloolise pilli erinev õhuvoolu vajadus osutus kasulikuks ka haigusest tervenemisel, sest väiksem õhukogus võimaldas mul sellel pikemalt harjutada, aidates samas taastuda. See aitas ühtlasi paremini teadvustada hingamisprotsessi, muutes õhukasutuse teadlikumaks ja tõhusamaks. Neljandaks arendasid need kogemused mu sisemist intonatsioonitaju ajaloolise klarneti ebastabiilsusest tekitatud väljakutsete kaudu. Kuna instrument on ebastabiilsem, peab mängija enne heli realiseerimist seda sisemiselt selgelt tajuma. Kaasaegsel klarnetil võib see pilli suurema standardiseerituse tõttu tunduda vähem vajalik, kuid see on ometi väga kasulik oskus. Viiendaks arendas see minu muusikaliste fraaside kujundamise oskust ja interpretatsioonilisi valikuid. Ajaloolise klarneti tehnilised piirangud mõjutavad muusikapala esitust ja nende probleemide kallal töötamine aitab värskendada tõlgendust. Uued ideed jäid üleminekul kaasaegsele klarnetile kehtima, esitades väljakutseid ja sundides mind oma muusikalisi valikuid uuesti läbi mõtlema. Pilli tehnilised piirangud mängisid rolli ka kuuenda praktilise kogemuse puhul, mis oli seotud mõtteviisi ja probleemide lahendamise oskusega. See kogemus on üsna abstraktne ja isiklik: ajaloolise klarnetiga tegelemine juhtis mind uute arusaamadeni sellest, mis on või ei ole klarnetimängus raske ning mida ma saan teha nende raskuste ületamiseks ja arendamaks tervemat suhtumist püüeldes pigem parima võimaliku tulemuse kui saavutamatu täiuslikkuse poole. Viimane kogemus oli seotud kujundliku mõtlemisega: ajaloolise klarneti mängimine tekitas minus tundmusi ja kujutlusi ning ma õppisin neid tänapäevasel klarnetil mängides meenutama ja taaslooma, et saavutada soovitud tulemust. Ajalooline klarnetimäng sai metafoorse kujutluspildi kehastuseks.

Uurimuse täiendav, eelkõige esitamisele suunatud tulemus oli koostöö heliloojatega ajaloolisele klarnetile uue muusika loomisel. Väitekirjas käsitlen kahte näidet: Bonnie Yungi teost „No/Where Now/Here“ klarnetile ja keelpillitriole ning Fabrizio Nastari teost „Elogio dell'Errore“ sooloklarnetile. Need kompositsioonid esitlevad ajaloolise klarneti unikaalseid omadusi kaasaegses kontekstis. Nii praktilised rakendused kui ka koostöö heliloojatega ei piirdu käesoleva uurimusega, vaid see töö jätkub ja laieneb erinevates kontekstides.

Kokkuvõttes mõjutas ajaloolise klarneti teadlik harjutamine sügavalt minu mängu kaasaegsel pillil. Ma kogesin ajalooliste instrumentide unikaalseid võimaldusi ning mõtiskledes ja katsetades sain neid oma igapäevasel harjutamisel erinevas mahus rakendada, parandades nii tehnilisi kui ka mentaalseid oskusi. Uurimistööd ja kunsti ühendavas doktoriõppes omandatu muutus igapäevase loometöö loomulikuks osaks. Uurimisprojekt juhtis mind eemale standardsetest lahendustest klassikalise muusika vallas ning aitas luua isiklikku vaatenurka harjutamisele ja enesearengule. Samas on see kogemus universaalsem kui võib esmapilgul näida: ajalooliste või harjumatute pillide uurimine ei aita uusi mänguviise avastada ainuüksi klarneti puhul, vaid see avardab kõigi instrumentalistide vaatevälja. Muusikud võiksid seda lähenemisviisi rakendada ja leida käesolevast uurimistööst inspiratsiooni, et leida uusi muusikalisi võimalusi ja jälgida, kuidas need mõjutavad nende oskusi.

Appendix

Artistic Project 1

Program:

Antonio Fraioli (b. 1966)

Quattro pezzi per clarinetto solo – four pieces for solo clarinet (2012)

I. Allegro
II. Andante con libertà
III. Vivace
IV. Vigoroso

Luciano Berio (1925–2003)

Sequenza IX per clarinetto solo – Sequence IX for solo clarinet (1980)

Ester Mägi (b. 1922)

Sonare for clarinet and piano (2000)

Clara Wieck-Schumann (1819–1896), arr. Mark Thiel (b. 1949)

Drei Romanzen op. 22 – *Three Romances* op. 22 (1853)

I. Andante molto
II. Allegretto
III. *Leidenchaftlich schnell*

Bernhard Henrik Crusell (1775–1838)

Clarinet Concerto no. 2 op. 5 (1818)

I. Allegro
II. Andante pastorale
III. Rondo

The central concept in this artistic project is the investigation of virtuosity. The concert will be a travel back in time, touching virtuosity from different angles. It will be possible to follow through with the performance of some of the changes that affected this concept, starting from nowadays and reaching back to the beginning of the 19th Century, when virtuosity started to flourish as a fundamental part of the musical discourse. Some of the pieces reinforce the paradigm of virtuosity, others take a distance from it, and others touch it without putting it at the centre.

It must be mentioned that there is another focus in my main research, the clarinettist and composer Iwan Müller (1786–1854). He is absent from this first recital in terms of repertoire but he will be invisibly present through other musical choices.

The first piece, by the Italian clarinettist and composer Antonio Fraioli (hosted at the Estonian Academy of Music for a masterclass in 2019), is dedicated to a renowned Italian clarinet player, Giovanni Punzi, famous for his outstanding musical and technical skills. It is a set of four short pieces for solo instrument, where tonality and modality intersect. Virtuoso sections and melodic ones are equally balanced, with a touch of jazzy character. It echoes in my mind Iwan Müller, with Fraioli being a clarinettist and a composer too, very well acquainted with the potential and limits of the instrument, and willing to make the most of it without forgetting to entertain.

The geographic setting of the second piece remains the same, with the clarinet *Sequenza* by the Italian composer Luciano Berio. It is one of the few Sequenzas that was not tailored for a specific artist, although it is dedicated to the French clarinettist Michel Arrignon. In this case, the limits of the instrument itself, not of a specific player, are tested on a more intellectual and abstract level. It is also, in a very different way than Müller's music, (who wrote his pieces for a 13-keyed instrument invented by himself) written for an instrument that is not mine: during the 80s in Italy it was very in fashion to have a "complete" clarinet, i.e. one that could play low *eb*, an instrument that later fell in disuse. The low key would be required in two instances, to produce two different multiphonics, and its absence is conventionally compensated by building an elongating cardboard tube to place into the bell, sordino-like.

The first half of the concert is focused on music for solo instrument, an individualistic 21st Century replication of the virtuoso concerts in the 19th Century, then focused on the star of the moment, be it Niccolò Paganini, Iwan Müller or Theobald Boehm.

In the second half, the concert reopens paying homage to Ester Mägi, the First Lady of Estonian music, close to her centennial. The one-movement piece *Sonare* was dedicated to the clarinettist Toomas Vavilov, who is also kindly supervising my artistic work. The piece contains a Cadenza in

the middle, which requires a lightness of fingers and disposition, while the other sections are more centred on exploiting the melodic characteristics of the instrument.

The three Romances by Clara Schumann that I selected next were originally written for violin and piano and dedicated to Joseph Joachim. They stand here as an instance of the new romantic taste and sensibility that developed in the second half of the 19th Century, when recitals, as we know them today, developed, and the focus of a concert was not so much on the virtuoso player but on the music played. In addition, I thought it interesting to deal with music adapted from the violin, which is with the piano, the archetypal virtuoso instrument.

Bernhard Henrik Crusell's Clarinet Concerto no. 2 is the natural conclusion of this journey. A famous and talented clarinettist, composer and translator, Crusell was held in high esteem by Müller, who dedicated to him his Clarinet Quartet no. 2, one of the pieces I will investigate in my thesis.

Artistic Project 2

Yung Sin Kan Bonnie (b. 1996)

No|where Now|here (2021, maailmaesiettekanne)

Bernhard Henrik Crusell (1775–1838)

Quartet for clarinet and strings no. 2 op. 4 (c. 1817)

I. Allegro molto agitato

II. Menuetto

III. Pastorale

IV. Rondo

Krysztof Penderecki (1933-2020)

Clarinet Quartet (1993)

I. Notturno, Adagio

II. Scherzo, Vivacissimo

III. Serenade, Tempo di Valse

IV. Abschied, Larghetto

Iwan Müller (1786-1854)

Clarinet Quartet no. 1 (1821)

I. Allegro

II. Adagio con espressione

III. Polonaise

The focus of the concert is on the connection and the intertwining of past and present in the history of the clarinet embodied in a performance that features both modern clarinet and historical clarinet travelling back and forth in time. The music from the past, by Iwan Müller and Bernhard Henrik Crusell, is played on the modern instrument; the music from the present, by Yung Sin Kan, is composed specifically for the historical instrument that I use, a 13 keyed Müller system clarinet; the music by Penderecki acts as a bridge between the two moments.
This concert will be my first attempt to bring on stage both instruments in an artistic display of my practice-based work, showing the interactions between the past and the contemporary time through performance.

"We were nowhere, but we are now here.
There is a process to everything, it always seems that we are going nowhere and that the process seems futile.
But we are always getting somewhere, every tiny little step means a step.
We are now here."
Yung Sin Kan

*No/Where Now/*here, which premiered today, was commissioned for this artistic project by the Hong Kong-based artist Yung Sin Kan. The piece is meant to be played on a 13-keyed Müller system clarinet, breaking the separation between past and present, between the concepts of now and then.
The Quartet for clarinet and strings no. 2 in c minor by Bernhard Henrik Crusell follows. Crusell was a clarinet virtuoso, composer, and translator, active in the first half of the 19th century. He was born in the territory of nowadays Finland when it was part of the Kingdom of Sweden. After joining a military band at the beginning of his career, he moved to Stockholm, and lived there until the end of his life, occasionally travelling to the continent to study, give concerts, meet other famous musicians, or purchase the latest novelties in clarinet craft.
His compositions are predominantly for clarinet and are still widely performed nowadays. The Quartet, no. 2, part of a series of three, is the most melodic and melancholic of the series. The great virtuosity of Crusell himself, very evident in the concertos, is slightly restrained in the quartets, which were intended as enjoyable salon pieces.

We jump forward in time to Krysztof Penderecki's Clarinet Quartet. The piece opens with a solo of the clarinet, but when the music unfolds in the following movements the four instruments interact

with each other on an equal level, creating a highly evocative soundscape. The static first movement is followed by an aggressive *Vivacissimo*. A brief *Serenade* is the last moment of lightness and mockery before the finale begins. The fourth movement, *Abschield,* Farewell, is emblematic of the type of sustained harmonic structures Penderecki was pursuing in his late music when he started leaning towards more traditional tonal constructs. This Quartet was premiered in 1993 in Lübeck, for the Schleswig-Holstein Music Festival.

We close the concert with Iwan Müller's Quartet no. 1. Unlike Crusell, who looked for lightness and enjoyment in his Quartet, Müller had no such restraints: having developed in 1812 a new clarinet with 13 keys he had all interest in writing technically demanding music to show the qualities and potential of his instrument, and shine on stage. Müller, like Crusell, arrived in central Europe from the North: born near Tallinn in 1786, and employed as a court musician in St. Petersburg, as soon as 1800 he started to travel, living the uncertain life of the touring virtuoso. His new clarinet was fully developed and patented in Paris, and regardless of the initial rejection by the Conservatoire commission, the design was quickly adopted by renowned clarinet makers across Europe, and consequently by players. To advertise his instrument, Müller composed the music to perform during his tours, making a point of stretching the boundaries of clarinet technique. In Quartet no. 1 this approach is clear in the extensive use of embellishments, in particular trills, in the wide register changes, and in the tonality of the second movement: Ab Major, with its four flats, would have been virtually impossible to play on any less advanced model.

Artistic Project 3

Fabrizio Nastari (b. 1990)

Elogio dell'Errore for solo clarinet (2022/2023, esiettekanne)

Karlheinz Stockhausen (1928–2007)

Tierkreis – for clarinet and piano (1975/81)

Widder – Aries

Stier – Taurus

Zwillinge – Gemini

Krebs – Cancer

Löwe – Leo

Jungfrau – Virgo

Waage – Libra

Skorpion – Scorpio

Schütze – Sagittarius

Steinbock – Capricorn

Wassermann – Aquarius

Fische – Pisces

Carl Nielsen (1865–1931)

Clarinet Concerto op. 57 (1928)

The main theme of this doctoral concert is the reflection, through different pieces of repertoire, on the difficulty in music, what purpose it serves, and what are its different facets. The exploration of difficulty will happen from different angles, going from technically demanding passages to less common struggles, like incorporating theatrical gestures and characters in a performance. The concert opens with a newly commissioned piece by the Italian composer Fabrizio Nastari, Elogio dell'errore (Praise to the Mistake). Written for solo clarinet(s), modern and historical, the piece puts them side by side, mirroring their musical gestures, and asking the audience: what is, actually, a mistake when playing music? It will be your call, in the end, to determine whether you actually heard any mistakes in the performance, or if everything was staged. The composer explores the sound qualities of both modern and historical clarinet and showcases some of their specific characteristics in terms of sound, articulation, and technique, paying homage in some gestures to the inventor of this model of historical clarinet, Iwan Müller (1786–1854). The piece is the result of a tight collaboration between clarinettist and composer, exploring together the possibilities of historical clarinet, testing the boundaries of the instruments, and of the performer herself with the inclusion of theatrical action. This last feature is meant to display some elements of my identity as they were perceived by the composer, echoing the beginning of my musical studies in a marching band, the current state of my artistic life, and researching the clarinets. Extending the theme of body movement and theatrical gestures, the second piece is Karlheinz Stockhausen's Tierkreis in the version for clarinet and piano. The twelve movements are organized serially both in pitches and rhythms and represent one zodiac sign each. We open the concert tonight with Aries, the current sign at this time of the month, and close with a remembrance of it. In order to give a sense of continuity, mirroring the signs moving through the sky, the performer is required to move around the stage, turning in different directions, and embodying different characters. These characters represent typical attributes of the different zodiac signs, as they are described in the short poems attached to the score by the composer to provide extra-musical information. A cornerstone of clarinet repertoire closes the concert: Carl Nielsen's Clarinet Concerto brought here in the version for clarinet, piano, and snare drum. This concerto is commonly seen as one of the pinnacles of technical difficulty for clarinet players. The constant change of musical characters, often very contrasting, reflects the bipolar disorder of the dedicatee, the clarinettist Aagen Oxenvald, and probably also the personal struggles that Nielsen was going through during the composition. Steering away from the classical concerto form, the piece is in one continuous movement divided into four sections, challenging the technique, articulation, and endurance of any player. It is deeply musical, with some themes inspired by Danish folk dances like the Fynbo (Funen's

polka), the Schottisch (Scottish), and the Vals (Waltz), keeping in its own way to the fil rouge of physical gestures embedded in music.

Artistic Project 4

Alessandro Malcangi (b. 1993)

Mindfulness on an Ancient Body for solo Müller-system clarinet (2024)

Dominic McGonigal (b. 1962)

Chazal for solo clarinet (2024)

Jude Duane (b. 1999)

Dynatox Delirium for clarinet and tape (2024)

César Ortiz (b. 1998)

Incisivo for solo clarinet (2024)

Francesco Ciarmatori (Ib. 1991)

The Birth of "io" for clarinet and live electronics (2024)

Tomas Friberg (b. 1962)

Conversations with Crusell for solo clarinet (2023)

Willyn Whiting (b. 1993)

Deep Time for solo clarinet (2024)

RD Wraggett (b. 1953)

…there is a Mountain, then… for clarinet and tape (2024)

Alyssa Aska (b. 1985)

Fluo for solo clarinet (2024)

Brian Magill (b. 1960)

Plastics for Clarinet and Processed Plastic Waste (2024)

Leonardo Tommasini (b. 1994)

Act! (Do something!) for clarinet and live electronics (2024)

Leopold Brauneiss (b. 1961)

Three Reflections on Tintinnabuli for solo clarinet (2024)

- *I. Marsyas*
- *II. Greetings from Italy*
- *III. Silentium*

Fabrizio Nastari (b. 1990)

Ricordo Rumore for solo clarinet (2021/2024)

During the course of my doctoral studies, I have been exploring the possibilities offered by a model of historical clarinet: the 13-keyed Müller system clarinet, invented by Iwan Müller at the beginning of the 19th century. The instrument that I play in this performance is an original 13-keyed Müller system clarinet from the 1870s. From the far past to tonight's concert, the Müller clarinet will come to life, its limits tested and stretched.

The program of "Mosaiik" is the result of an international call for scores that took place between December 2023 and February 2024. Composers from all over the world were invited to explore the unique timbral and expressive possibilities of historical clarinet, breaking the boundaries of time and history. The result is a series of short pieces that, placed beside one another like mosaic tiles, create a colourful sound picture of the historical clarinet in a modern context. Each composer found their own way to exploit the possibilities of the instrument, blurring the border between past and present.

Alessandro Malcangi's *Mindfulness on an Ancient Body* opens the concert. Malcangi, also a clarinettist, visited me in Tallinn to investigate the historical instrument in person. His piece, like a slow meditation, explores the unique possibilities of the historical clarinet, experimenting with timbre, multiphonics, and microtones that are peculiar to the instrument and would not be achievable on a modern clarinet. The historical clarinet becomes then both ancestor and successor, and above all an acoustic field. Dominic McGonigal in *Chazal* takes a different approach, staging through his melody a dialogue between the three registers of the instrument. The lowest register, the chalumeau, has a dark, woody sound. The middle register is called the clarion because of its similarity with the trumpet. The highest register is the altissimo, which has a pure, sweet tone, perfect for the lyrical melodic themes in *Chazal*. Polymodal in style, the monody creates a three-part texture between the three timbres, even though there is obviously no polyphonic writing. It takes its name, Chazal, from the metro stop in Brussels where the sketches were written *en route* to a New Year's Eve party. Jude Duane's *Dynatox Delirium* shakes the audience with its feverish atmosphere and aggressive tape accompaniment. The composer worked on the piece during a period of sickness, transferring his delirium into the music. César Ortiz, a young Peruvian composer, purposefully takes the historical clarinet into the realm of contemporary sounds and techniques. The title of his piece, *Incisivo,* refers to the treatment of sound, texture, intervals and high-pitched notes, as well as the use of contemporary language on a 19th-century instrument, as a sharp rupture (or union) with it and its way of being played. In the composer's words, the piece aims to be different from the usual style of the historical instrument's repertoire in order to bring it abruptly into modern times. Francesco Ciarmatori in *The Birth of "io"* draws inspiration from the intricate mental journey that unfolds when a new idea or dream takes shape in my mind. Initially, the composer tends to dismiss the concept, subjecting it to

mockery along with self-deprecation. Should the idea persist, it engages in a wrestling match with doubts and fears. Following extensive contemplation, numerous instances of self/doubt, and an array of seemingly insurmountable challenges, certain ideas and dreams emerge with a resilience that ultimately persuades him to accept it. It is at this juncture that their rhythm bestows upon the composer a newfound confidence akin to the birth of a tangible certainty. In the following piece, *Conversation with Crusell*, the composer Tomas Friberg stages yet another kind of struggle: between the romantic themes from the second movement of Bernhard Crusell's Clarinet Concerto no. 3 and a modern counterpart of the same themes. Crusell was a famous clarinet player and composer, contemporary of Müller, and likely played a similar clarinet to the one you are hearing tonight.

We move on to the piece *Deep Time* by Willyn Withing. Deep Time is a concept used to describe time on geologic time scales: time scales within which life can evolve, animals can speciate and go extinct and continents move. Compared to these time scales the difference between a modern clarinet and a historical instrument is very slight, but in the hands of the performer this difference is all that matters. The silence in this piece is there to remind the listener of the vast gaps in our understanding of the distant past. Portions of the music are in fact erased. The piece *There is a mountain, then…* by RD Wraggett takes its title from a famous quote by the Zen master Qingyuan Weixin: "Before I had studied Ch'an for thirty years, I saw mountains as mountains, and rivers as rivers. When I arrived at a more intimate knowledge, I came to the point where I saw that mountains are not mountains, and rivers are not rivers. But now that I have got its very substance, I am at rest. For it's just that I see mountains once again as mountains, and rivers once again as rivers." The piece is based on the profound understanding expressed in the Zen master's statement and is a kind of aural counterpoint to the central idea. It is written in an unmetered score that guarantees that no performance will ever be exactly the same. Alyssa Aska with her *Fluo* focuses on phrasing, register changes, and microtones, painting a colourful picture of historical clarinet timbral qualities. Aska regularly composes for historical instruments and ensembles, and read sections of my dissertation as an inspiration for the piece. The following piece, *Plastics* by Brian Magill, takes yet another angle to look at the discrepancy between historical clarinet and modern music. He puts the historical instrument side by side with sounds from a very contemporary time: the clarinet melody is accompanied by field recordings of processed plastic waste. Next, there is *Act! (do something!)* by Leonardo Tommasini. The piece describes a very common occurrence: the human reaction to the overwhelming amount of inputs, tasks and responsibilities that the world might present to a person. This reaction has two phases. The first: doing nothing hoping that things will work out by themselves. The second: starting to act but becoming overwhelmed, due to being accustomed to doing nothing hoping things will work

out. The electronics part enhances the sense of powerlessness and overload. The following piece, *Three Reflections on Tintinnabuli* by Leopold Brauneiss, explores Arvo Pärt's characteristic compositional technique from a different perspective. The three reflections are titled *Marsyas, Greetings from Italy*, and the pensive *Silentium.* Finally, I close the concert with a final distortion of the instrument's sound. Fabrizio Nastari, with *Ricordo Rumore*. The title means "I remember noise", and it expresses the sensation of having only fragments or distorted images of known events and sounds. The musical elements are simple and a small quotation of the theme from the movie "The Good, the Bad, and the Ugly" contributes to suggesting familiar elements not fully expressed. The sound of the antique clarinet is masked with aluminium foil and amplified with reverb to accentuate this effect.