

Exploring an Instrument's Diversity:
The Creative Implications of the Recorder Performer's
Choice of Instrument

Volume I

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Abstract

Recorder performers constantly face the challenge of selecting particular instrumental models for performance, subject to repertoire, musical styles, and performance contexts. The recorder did not evolve continuously and linearly. The multiple available models are surprisingly dissimilar and often somewhat anachronistic in character, juxtaposing elements of design from different periods of European musical history. This has generated the particular and peculiar situation of the recorder performer: the process of searching for and choosing an instrument for a specific performance is a complex aspect of performance preparation.

This research examines the variables that arise in these processes, exploring the criteria for instrumental selection and, within the context of music making, the creative possibilities afforded by those choices. The study combines research into recorder models and their origins, use and associated contexts with research through performance. The relationship between performer and instrument, with its cultural and personal complexities, is significant here. As an 'everyday object', rooted in daily practice and personal artistic expression over many years, the instrument becomes part of the performer's identity. In my case, as a Chilean performing an instrument that, despite its wider connection to a range of other duct flutes across the world, belongs to European culture, this sense of identity is complex and therefore examined in my processes of selecting and working creatively with the instruments.

This doctorate portfolio comprises six performance projects, encompassing new, collaboratively developed works for a variety of recorders, presented through performance and recorded media. The artistic outputs are accompanied by critical commentary, examining how the creative work addresses core questions that arise from the situation outlined above. In addition to performance, most of the projects resulted in original scores that invite other performers to explore the instrumental diversity of the recorder, encouraging a renewed, creative perspective.

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List of Accompanying (Audio and Video) Material

List of Musical Examples

Chapter 1. Searching for Alto Recorders to Meet the Piano.

- 1.1. Video. First movement, 'Moderato' by John Frith, played by a Moeck alto recorder. Lecture recital. 04:29.
- 1.2. Video. First movement. Comparisons between dynamics and fingerings in the recorder and the flute. Lecture recital. 01:22.
- 1.3. Video. First movement. Exploring the 'either/or' alternative and the contrasting design of the instruments involved. Lecture recital. 06:54.
- 1.4. Video. Second movement, 'Andante misterioso' by John Frith. Searching for distinctive alto recorder voices. Lecture recital. 01:07.
- 1.5. Video. Second movement played by an Aulos plastic alto recorder and a Montero Bressan olive-wood alto recorder. Lecture recital. 04:56.
- 1.6. Video. Third movement, 'Rondo: Moderato' by John Frith. Extending the register to the low E bottom note. Lecture recital. 02:04.
- 1.7. Video. Third movement. Extension of the register to the low E bottom note in the Cadenza. Lecture recital. 01:02.
- 1.8. Video. High notes with the Bressan alto recorder by Montero. Lecture recital. 00:11.
- 1.9. Audio. High notes with the Modern Alto Recorder. Rehearsal. 00:05.
- 1.10. Video. High notes with the flute. Lecture recital. 00:09.
- 1.11. Audio. Cadenza 1 at the end of the Animato. 0:22 – 1:59. Rehearsal. 01:59.
- 1.12. Audio. First version of 'Rondo: Moderato' and cadenza 2, played by the Modern Alto Recorder. 0:00 Moderato; 3:29 Cadenza 2; 5:15 – 5:47 Animato. Rehearsal. 05:47.
- 1.13. Audio. Second version of 'Rondo: Moderato' and Cadenza 3, played by the Montero 'Bressan' alto recorder. 'Moderato'; 3:31 'Animato'; 3:52 Cadenza 3. Rehearsal. 05:40.
- 1.14. Video. Poulenc's 'Allegro malinconico' (excerpt), played by the Modern Alto Recorder, flute and piano. Sir Jack Lyons Concert Hall. Rehearsal. 02:07.
- 1.15. Video. Introduction about 'Borrowing repertoire'. Lecture recital. 03:47.

- 1.16. Video. 'Allegro malinconico' by Francis Poulenc's Sonata for Flute and Piano. Flute version. Lecture recital. 05:22.
- 1.17. Video. 'Allegro malinconico' by Francis Poulenc's Sonata for Flute and Piano. Modern alto recorder version. Lecture recital. 05:36.

Chapter 2. Beyond the Acoustic Environment.

- 2.1. Video. Drilling the hole for fitting the in-mic system in my Modern Alto Recorder. Philippe Bolton's workshop. April 2016, France. Workshop. 01:13.
- 2.2. Audio. Lip (labium) tremolo (my title for the effect). 01:09.
- 2.3. Audio. 'Eclipsim passus tociens'. Ganassi recorder in G. 02:10.
- 2.4. Audio. 'Eclipsim passus tociens'. Ganassi recorder in G and electronics. 02:47.
- 2.5. Audio. *Epigraph*. Sound Poem by Carmen Troncoso and Lynette Quek. 02:21.
- 2.6. Audio. *[Early] Recordeur I* (Troncoso's narrative of her selected material). 03:50.
- 2.7. Audio. *[Early] Recordeur II* (Quek's narrative for her selected material). 03:29.
- 2.8. Audio. *[Early] Recorder III* (overlapped structures). 04:18.
- 2.9. Audio. *[Final] Recordeur I*. 04:18.
- 2.10. Audio. *[Final] Recordeur II*. 04:59.

Chapter 3. MACROFISTULUS.

- 3.1. Audio. Harmonics study 1. 01:00.
- 3.2. Audio. Harmonics study 2. 01:04.
- 3.3. Audio. Combination of effects 1 (harmonics produced by covering the lip, flageolet tone, microtones with unconventional fingerings and harmonics by playing at the side of the embouchure). 00:38.
- 3.4. Audio. Combination of effects 2 (microtones and harmonics). 00:23.
- 3.5. Audio. Combination of effects 3 (humming, whistling and various). 03:37.
- 3.6. Audio. Tense gesture with humming. 00:08.
- 3.7. Audio. Main humming gesture within movement III. 00:10.
- 3.8. Audio. Percussive elements study: key sounds and sputato. 00:55.
- 3.9. Audio. Combination of effects 4 (upbeats, harmonics and others). 00:24.
- 3.10. Audio. Combination of effects 5 (rhythm, melody and others). 00:33.

- 3.11. Audio. Intervals. 03:30.
- 3.12. Audio. [Meeting within] Chords. 01:28.
- 3.13. Audio. First draft of the second movement, 'Realizing God Within Ourselves'. Exploring upper partials. 03:31.
- 3.14. Audio. First draft of the third movement, 'Wet/Rain – Speed/Rhythm/Train – Humming/Remembrance'. Sound exploration. 04:59.

Chapter 4. Coppel.

- 4.1. Video. Beginning of the live performance of *Coppel* at The Crescent Community Venue, York. 01:56.
- 4.2. Audio. Beginning of the live performance of *Coppel* at York Late Music 2018. 01:05.

Chapter 5. Double Pipes, Antique et Moderne.

Chapter 6. Searching for Recorders to Meet a Chamber Orchestra.

- 6.1. Audio. First movement of the Concerto for Recorders and Chamber Orchestra by Carlos Zamora. Sopranino recorder. Premiere, 2018. 04:21.
- 6.2. Audio. Third movement of the Concerto for Recorders and Chamber Orchestra. Modern Alto Recorder. Premiere. 06:09.
- 6.3. Video. Drilling the hole for fitting the in-mic system in my Paetzold basset. June 2017, Germany. 01:24.
- 6.4. Audio. 'Momento l' and Taking off from the orchestra) for Paetzold basset by Carlos Zamora. Live performance at York Late Music 2018. 08:49.
- 6.5. Audio. Second movement of the Concerto for Recorders and Chamber Orchestra. Paetzold basset. Premiere. 07:25.

Total: 2 Hrs. 16 Minutes.

List of Outputs

- 2.1. Audio. *Recordari: A Cycle in Seven Movements* (2017), collaboratively developed by Desmond Clarke and Carmen Troncoso. 21:05.
- 2.2. Audio. *Oiseaux Metamorphique* (2017) by Desmond Clarke. 07:12.
- 2.3. Audio. *Recordeur Double Recorders* (2017), collaboratively developed by Lynette Quek and Carmen Troncoso. 03:23.
- 2.4. Audio. *Recordeur Whistle* (2017), collaboratively developed by Lynette Quek and Carmen Troncoso. 03:55.
- 2.5. Video. *[Audiovisual] Recordeur I-II* (2017), collaboratively developed by Lynette Quek and Carmen Troncoso. 09:09
- (3.0.) *Macrofistulus* (2016-17), collaboratively developed by Adam Bonser and Carmen Troncoso. The three movements are listed independently as follows:
 - 3.1. Audio. First movement. 'Macrofistulus'. 07:35.
 - 3.2. Audio. Second movement. 'Realizing God within Ourselves'. 05:49.
 - 3.3. Audio. Third movement. 'Wet/Rain – Speed/Rhythm/Train – Humming/Remembrance'. 06:38.
 - 3.4. Video. *Large-Sized Instruments: An Audiovisual Narrative* (2017). Collaboratively developed by Lynette Quek and Carmen Troncoso. 05:00.
- 4.1. Video. *Coppel. A Narrative* (2017-18). 12:38.
- 4.2. Video. *Coppel. A Monologue* (2017-18). 11:30.
- 5.1. Video documentation. *Being in the Sounds* (2018-19). 19:35.
- 5.2. Audio. Studio recording. *Being in the Sounds* (2018-19). 17:04.
- 6.1. Video documentation. Live performance of Concerto for Recorders and Chamber Orchestra (2018) by Carlos Zamora. 18:22.

Total time: 2 Hrs. 29 Minutes

Acknowledgments

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Lynette, you are such a good friend. No words to describe the significance of your friendship and shared research adventures.

The portfolio that I am presenting would not have been possible without the generous participation of the outstanding performers and composers who contributed their time and talent. My sincere thanks to them. I extend my gratitude to Chilean recorder maker Jorge Montero for making it possible to us Chilean recorder performers, who live in the edge of the world, the access to a variety of recorder models otherwise only available from abroad.

I am also grateful for the funding support of the Music Department Research Committee and the 'IBERMÚSICAS: Program for the Promotion of Ibero-American Music' award, which made possible the undertaking and presentation of my research in a number of outstanding institutions and venues.

But first and foremost, I would like to thank my family, who have been my lighthouse, my deepest motivation, my home. A huge thanks to you, Carlos, Ignacio and Sofía, for these unforgettable, creative years of family adventure in York.

Author's Declaration

I declare that this thesis is my own work except where due acknowledgement has been made in the text to all other material used.

The work has not been previously presented for an award at this or any other Institution.

All sources are acknowledged as references. Except for duly referenced exceptions, the images included are my own.

“Allegro Malincolico” (from Sonata for Flute and Piano)

Composed by Francis Poulenc

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Introduction

Any sense I have of myself as a creative entity is ... deeply bound to embodied experience of the instrument.

(Catherine Laws, 2018)¹

Any musical instrument is connected to a certain culture or cultures, representative of certain historical epochs and certain places, in which it plays certain roles that finally mark its cultural relevance.² Despite its wider connection to a range of other duct flutes across the world, the *recorder*, as we know it today³, belongs to European culture. Its design and associated repertoire have adapted, since its origins in the fourteenth century, through the continuous transformation of European musical tastes and the subsequent emerging aesthetics, manifested in styles. Anyone who decides to study the recorder becomes somehow connected to the European tradition. As a non-European, Chilean recorder performer, this observation, perhaps so basic as to be taken for granted or considered irrelevant by most players, has strongly influenced my perception of and relationship with my instruments.

When I started my recorder training at the age of five, in a conservatoire, the repertoire that I studied consisted of European dances and songs: for me, all of them were from distant countries, epochs and styles, and in foreign languages. Since then, my musical background has been markedly rooted in the European tradition of classical music and instruments, especially with regard to the recorder, its repertoire and its place in the history of music.

Parallel to that, I grew up in a country whose national identity is as dynamic as it is diverse, and this led to a complex, sometimes uncertain sense of belonging. Moreover, life in Santiago, the capital city of Chile, with its extremely divided society in terms of social classes

¹ Catherine Laws, 'This Is Not A...', in *Collaborative and Distributed Processes in Contemporary Music making.*, ed. Lauren Redhead and Richard Glover (Newcastle upon Tyne: Cambridge Scholars Publishing, 2018), 175.

² Ethnomusicologist Eliot Bates suggests that the instrumental classification system should include details of the social function of the instrument: 'basic aspects of the instrument's relationships to individuals and to society', 'stories about a particular instrument' and '[the instrument's] pre-death life in the hands of living players' (among others). He stresses the significance of instruments in shaping and expressing a culture's identity and 'the unique powers and roles of instruments within lives.'

Eliot Bates, 'The Social Life of Musical Instruments', *Ethnomusicology* 56, no. 3 (2012): 363-95, <https://doi.org/10.5406/ethnomusicology.56.3.0363>. Similarly, I argue that the huge recorder family needs to be re-classified as well as re-valued. The ethnomusicological approach would, in my view, contribute interesting insights which could enrich our perception and use of the instrument.

³ In basic terms, the recorder is a duct flute with a block (or fipple) in the mouth piece, fingerholes or keys in the front and a thumbhole or additional key in the back for the upper hand, to soften and better control the production of the high register. This latter feature was added in the fourteenth century, probably to play contrapuntal music, differentiating the recorder from those duct-flutes which need to overblow the octaves. However, the current variety of recorder designs demands a re-definition of the instrument.

and their inhabitation of different areas of the city, did not provide me with a clear sense of cultural identity.⁴

Overall, I think of myself as having two ‘half identities’: firstly, my performance identity, ‘housed’ in a foreign European tradition but nevertheless still perceived as my own, and secondly and more broadly, my Chilean nationality, which I somehow carry as an outsider. Throughout my professional development as a recorder performer, the crossing of these two half identities has triggered reflexive processes that have fed my performative creativity. This combination of identities, which more or less consciously coexists in all non-European recorder performers, has marked my artistic style.

Curiously, this ambiguous context mirrors my perception of the recorder situation in which my research is framed. Currently, a variety of instruments, significantly different from each other, share the name *recorder*, and each recorder model, in turn, represents and conveys distinctive epochs and aesthetics, all combined in a single instrumental *design*. Thus, my identity and that of the recorders are housed (or hidden?) in diversity: there is *multiplicity* in any self, and the particularities are creatively significant.

The fact of having systematically played an instrument and repertoire from distant epochs generated a connection with and perception of a *past alive*. The present is therefore experienced somehow as an unsettled crossing of paths and temporalities: the ‘here’ as both movable and multiple.⁵ In performance, my personal voice is carried in my performative voice: through my instruments and my theoretical and embodied knowledge, I am deeply aware of and feel myself to be expressing this experience of coexistence – of epochs, styles, stories and distinctive agents in performance. Linked to this, at certain times in performance there arises, for me, a sense of uncanniness, remembrance, of wandering through time and place. This has long been part of my performing experience, but the PhD offered an opportunity to explore it in some depth, as part of my more concrete examination of the status and possibilities of the

⁴ I subscribe to María Elena Donoso’s challenging of ‘the view, long sustained by many Chileans that their country is culturally and ethnically homogeneous’. She argues that Chileans need to ‘come to terms with the fact that they have some amount of “Indian” blood in their veins,’ and that only when they are ‘able to take that step, will they be able to appreciate and take pride in the ancient cultures they descend from because in that way they will shed light into that dark corner of their identity.’ See: María Elena Donoso, ‘The Chilean National Identity and the Indigenous Peoples of Chile’, (PhD Thesis, University of Warwick, 2004), <http://wrap.warwick.ac.uk/1210/>.

⁵ My understanding of this is informed by Michael Pickering, who, as part of his exploration of ‘the relations between experience, everyday life and historical time’, refers to the German historian Reinhart Koselleck’s broad theoretical articulation of the relationship between past, present and future: ‘the ways in which the temporal dimensions of past and future are related in any particular present’, and ‘the specific kinds of experience in everyday life generated by modern conditions.’ See: Michael Pickering, ‘Experience as Horizon : Koselleck , Expectation and Historical Time’, *Cultural Studies* 18, no. 2 – 3 (2004): 273, <https://doi.org/10.1080/0950238042000201518>.

recorder. Across the research outputs, therefore, this compound musical and reflective voice appears, sometimes implicitly but sometimes as an explicit part of the research, and subtly different in each project. This is generally referred to as a *personae*: the embodied combination of the performer and the instrument, filtered through the musical material, emerging expanded, transformed and therefore anew in collaborative artistic frameworks. The performance projects that I present in this portfolio have mainly arisen from this perception of multiplicity and simultaneity, examining the interconnection of distinctive instrumental identities and thus delving into the relationship with my instruments and their associated repertoires, contexts and aesthetics.

Author's background

My career has developed around performance and teaching. I graduated as recorder performer from the Pontificia Universidad Católica de Chile, with Sergio Candia and Octavio Hasbún as my teachers, and from the Master of Arts (Künstlerische Ausbildung, 2002) at the Musikhochschule Köln, Wuppertal campus, with Manfredo Zimmermann.

Since 1996, I have delivered teaching and tutoring sessions on recorder performance, chamber music, aural skills, instrumental pedagogy and practice research in several institutions. I have also assisted with programme development, student assessment strategies and assessing students in a large number of Chilean universities and schools.

As a recorder performer, I have commissioned, co-created, performed and recorded more than forty works for recorders in different instrumental settings. Also, I have researched and performed medieval, renaissance, and European and Hispano-American baroque repertoire, as well as contemporary music. I have performed as a soloist with several orchestras in Chile and beyond. Core elements of my practice have included developing interdisciplinary projects with theatre, dance and text, often exploring the juxtaposition of epochs and styles in creative ways.

I have performed in a large number of ensembles, from duos through to chamber opera projects, and from early music through to contemporary acoustic and electronic contexts. Amongst the recordings I have produced, there are several that are particularly relevant to my doctoral work: *Beyond: new works for recorders and electronics* (compact disc, independent, 2018); *Concertos for Recorder and String Orchestra by Chilean Composers* (compact disc, with Marga-Marga orchestra, independent, 2013); *New Music for Recorders by Chilean Composers* (book and compact disc, editorial Universidad Academia de Humanismo Cristiano, 2012); *A Lágrima y a Fuego, Santísimo Sacramento en la Música de la España*

Virreinal (DVD, with Ensemble Terra Australis, independent, 2009); and *The Language of the Birds, Confabulations of Music and Poetry* (compact disc, with La Compañía de Céfiro recorder quartet, 2009).

The Recorder Context

As a twenty-first-century recorder performer, I constantly need to select recorder models to perform different repertoires and styles, in different venues and instrumental settings. The recorder performer's familiarity with using different models is largely due to the historical development of the instrument: its construction in consorts or families, integrating recorders of different sizes according to their registers. Additionally, the recorder did not evolve continuously and linearly. The multiple available models are surprisingly dissimilar and often somewhat anachronistic in character, juxtaposing elements of design from different periods of European musical history. In the context of current European early music practices, it is expected that recorder performers study the instrument's history. They are therefore used to matching historical instrument design to historical repertoire.

I discuss relevant aspects of the development of the recorder in more detail in chapter one, but certain key facts underpin my doctoral research and need brief outlining here, to introduce my topic. The evolution of the recorder prior to the twentieth century is something that can be studied purely in terms of historical and stylistic matters: its manufacturing adapted continuously to developing aesthetics of sound and music, the old fashion orientated towards the new. In contrast, the activity around the recorder's reinvention in music of the twentieth century is more complex. After the Baroque period, the recorder was displaced by the modified, renewed flute: an instrument that fulfilled emerging musical requirements. The recorder lost its popular role in mainstream Western art music and, consequently, its refined tradition of production by experienced recorder makers. Thereupon arose instruments with some characteristics in common with the recorder, such as the Austro-Hungarian csakan and the English and French flageolet. However, these were sufficiently detached from the previous recorder making tradition and its performing contexts – the changes of name emphasising this – that it becomes difficult to decide whether they represented the next natural step in the evolution of the recorder or should rather be regarded as separate instruments. In any case, these instruments constituted a bridge between the decline of the recorder from its heyday in the Baroque period, to its later re-emergence in the twentieth century, when old instruments began to reappear.

In the twentieth-century re-establishment of Renaissance and Baroque recorder models, an anachronic situation developed: the recorder was no longer contemporaneous with its time. The passionate movement of historical reconstruction provided access to instruments of ancient times, subsequently provoking studies of everything from types of wood and processes of instrument design to pitch, tuning and temperament, tessitura, dynamic range, fingerings, as well as considerations of repertoire, instrumentation, and matters of style, interpretation and technique. Alongside this ran the desire of the performers themselves to include these instruments, brought forward from much earlier times, in their musical explorations of emerging aesthetics. This effectively disintegrated the previous direct relationship between a specific manufacturing process or instrumental design and an associated musical aesthetic, manifested in the sounds and images of a specific period. Composers placed the recorder in new and foreign musical environments, outside of its old framework, opening up possibilities for sonic exploration in different kinds of collaborative work with recorder players.

Recorder makers experienced the same double incentive as performers: reconstruction and innovation. Variations on old models and new designs both attended to the demands for new sonorities and performance contexts. Thus, many new models arose in the twentieth century and more, still, continue to appear in our dispersed and globalised twenty-first century: the process of innovation is ongoing and inexhaustible. The incorporation of current technologies into new models has brought into question the very designation 'recorder', applied to these new, different objects. I found myself wondering: why are significantly different models still regarded as *recorders*? What is a recorder now?⁶

The Research Topic and its Aims

As noted above, on one level I perceive the recorder as a foreign instrument, an *outsider*. Nevertheless, as an 'everyday object' for me, rooted in my everyday practice, it has become part of my identity, even beyond its musical function. In my personal practice, I am often more concerned with the instrument than with the questions of a specific style, which might range from early to contemporary music. I enjoy trying different recorder models and perceiving their sometimes very subtle differences. With such a number of available recorder models,

⁶ Similarly, Bates asks: 'How do makers adapt/respond to changes in the available raw materials, construction tools, and instrumental forms/designs available to them and subsequently alter the way in which instruments are made? How far is *too far*, or in other words, how much can construction techniques, materials, or formal aspects change without resulting in a new instrument?' Bates, 'The Social Life of Musical Instruments', 388.

both early and modern, the process of choosing has become a complex but also interesting stage of performance preparation. My research examines the variables that arise in that process, aiming to examine the criteria of instrumental selection and to explore, within the context of music making, the creative implications of those choices. The study combines research into recorder models and their origins, use and associated contexts, with research through performance, to understand better the questions and processes surrounding the search for and choice of a particular instrument.

The following questions underpin the research:

- How does the particular diversity of available recorder models influence artistic ideas and processes?
- What are the variables that arise in the process of selecting a recorder for a particular performance context? How do these variables affect the choice and subsequent use of the chosen model?
- How do these considerations develop a better understanding of instrumental affordances and agency⁷?
- How can processes of collaboration, improvisation and devising be used to explore the relationship between performer and instrument?
- How does knowledge and perception of the instrument's history, design and manufacture inform their selection and use?

Sometimes these questions led to specific comparison of different recorder models in the performance of the same work; sometimes to consideration of the role of early instruments in contemporary practices and, vice versa, recent models in playing earlier music. The research also opened up questions about instrumental innovation and performers' openness or – perhaps more often – resistance to new designs: as Bates asks, 'why is there a resistance to the adoption of ergonomically "improved" versions of some instruments, and what does that resistance tell us about instrument-performer relations?'⁸

⁷ Bates examines [instruments] as 'characters with agency', rather like protagonists in novels and movies. He discusses the ways in which instruments sometimes become anthropomorphised; 'for example, being regarded as capable of crying or feeling sorrow'. Bates, 'The Social Life of Musical Instruments', 387.

⁸ Bates, 387.

Methodologies

The above questions underly my practice; they are rooted in my everyday experience of instrumental decision-making. They are, therefore, approached phenomenologically: following Husserl, the focus is towards ‘things as they appear in our experience, or the ways we experience things, thus the meanings things have in our experience’.⁹ More specifically, my approach to instruments also draws on Heidegger’s thoughts about ‘the Being of beings [entities]’, and the differences between being and Being.¹⁰ Throughout the projects I have regarded instruments and associated objects as beings, delving into their specificities, which define their ways of Being. Thus, my understanding of Being manifested in my ‘comportment towards beings’, and in the specific activities and actions undertaken in relation to the instruments.

All of this involves self-reflective, iterative processes,¹¹ with elements of autoethnography¹² and action research: drawing on Mary McAteer’s definition of action research, in the context of my work this ‘consisted of a series of commitments to observe and problematise through practice’ the process of selecting and using the instruments, so as to ‘contribute to the development of professional knowledge’.¹³ The questions opened up processes in which I examined and challenged artistic intentionality by questioning inherited notions of instrumentation and exploring and opening creative paths, often towards unusual and original outcomes: new artistic work, with novel uses or combinations of specific instrumental models. This also involved considerations of *agency*: of myself and my collaborators, but also that carried by extant compositions and instruments. Matters of subjectivity underly these processes of instrumental selection, in which ‘I pay attention to my

⁹ ‘Phenomenology’, *Stanford Encyclopedia of Philosophy*, accessed 8 August 2019, <https://plato.stanford.edu/entries/phenomenology/>.

¹⁰ Martin Heidegger, *The Basic Problems of Phenomenology*, trans. Albert Hofstadter, (Bloomington: Indiana University Press, 1982 [1927], 16-17.

¹¹ I draw on Bolt’s discussion of iterative artistic research which, through the repetitions of practice, ‘allows us to begin to recognise the conventions (context of theory, context of practice) and map the ruptures that shift practice’. Bolt argues that ‘within the repetitive and reiterative behaviour, ... possibilities for disrupting the “habit” or the “norm” exist.’ As such, new practical knowledge – and new forms of practice – can emerge. See: Barbara Bolt, ‘Artistic Research: A Performative Paradigm?’, *Parse*, no. 3 (2016), <http://parsejournal.com/article/artistic-research-a-performative-paradigm/>.

¹² My understanding of autoethnography draws on the approach outlined by Carolyn Ellis and Arthur Bochner in, ‘What is Autoethnography’, *Handbook of Qualitative Research*, no. 28 (2000): 739, <https://doi.org/10.1017/CBO9781107415324.004>.

¹³ Mary McAteer, *Action Research in Education*, (London: Sage Publications Ltd, 2013), 27. An action research cycle ‘shows a cycle of action and reflection, broken into phases of planning, acting, observing, and reflecting. ... This form of research then is an iterative, cyclical process of reflecting on practice, taking an action, reflecting, and taking further action.’ See: University of Lethbridge, ‘An Introduction to Action Research’, accessed 8 August 2019, <https://www.uleth.ca/education/research/research-centers/action-research/introduction>.

[perceptions], feelings, thoughts, and emotions'¹⁴ triggered by the distinctive affordances¹⁵ of each of my instruments. As part of this, I collected a wide range of research 'data': notes and recordings from rehearsals; videoed presentations and concerts; compositional sketches and musical scores; videoed workshops with recorder makers; interviews with performers and instrument makers; written texts; and studio recordings and edited videos of the final works.

Of course, this research is centred in *myself*. I situate the work in relation to relevant practice and theory, but in most of the projects I chose not to consider comparable processes undertaken by other performers. Inevitably, therefore, the work is bound up with my own artistic processes and development. However, I argue that this research is more than this, opening up questions and processes in artistic creation. Moreover, as Jennifer Cohen argues with regard to her own self-reflective performance research project, in work of this kind, 'not only would observation of other performers fail to address covert issues of phenomenality, but even if my studies were based on other performers' personal accounts of subjective experience, it is likely that their recollections would not be directed specifically to the phenomena I wish to investigate.'¹⁶ Similarly, the kinds of questions I wanted to explore are ones that all recorder players might encounter, but can only be properly addressed through the specific, individual performer's process of critical understanding.

The Practice Research

During my doctoral work from 2015 to 2019, I undertook six practice research¹⁷ projects in the Department of Music, University of York. These have been presented in various contexts and formats. In the thesis, each project is discussed in a separate chapter. At the beginning of each chapter, I provide an overview of the respective project, including a description of its framework and general aims. Chapter one is somewhat differentiated from the subsequent in

¹⁴ Carolyn Ellis and Arthur Bochner, 'Autoethnography, Personal Narrative, Reflexivity: Researcher as Subject', *Handbook of Qualitative Research*, no. 28 (2000): 737.

¹⁵ 'Affordances are an object's properties that show the possible actions users can take with it, thereby suggesting how they may interact with that object.' 'Affordances', *Interaction Design Foundation*, accessed 9 August 2019, <https://www.interaction-design.org/literature/topics/affordances>. Don Norman argues that affordances are not just properties of an entity that facilitate its use, but also determine the 'relationship between a physical object and a person, (... or any interacting agent ... even machines ...)'. This underpins my own work. Don Norman, *The Design of Everyday Things* [1998], (Philadelphia: Basic Books, 2013), 11.

¹⁶ Jennifer Louise Cohen, 'Playing with Time: The Creative Embodiment of Knowledge in the Performance of Baroque Flute Music', (PhD Thesis, University of York, 2018), 30.

¹⁷ Schroeder suggests the use of the term practice research, rather than the more 'apologetic' practice as research, practice-based or practice-led research (and so on). Franziska Schroeder, 'Bringing Practice Closer to Research – Seeking Integrity, Sincerity and Authenticity', *International Journal of Education Through Art* 11, no. 3 (2015): 343-54, https://doi.org/10.1386/eta.11.3.343_1.

that it addressed exclusively extant repertoire: one piece, plus an additional movement, formed a case study, designed to explore aspects of instrumental selection and the relationship to the instrument, and this research then fed into the subsequent, more creative projects. As such, I consider this a pilot project. Here, I was placing my topic in an interesting explorative and reflective context, simultaneously questioning the possible methods by means of which to undertake my research and to document my findings.

In contrast, projects 2 to 6 delved into collaborative processes of instrumental exploration which fed into newly created works specifically designed for the purposes of my topic. New pieces were performed and recorded, sometimes in film versions. Where appropriate they were also captured in collaboratively devised scores, to share the musical propositions of my research with other performers. Figure 1, below, provides an overview of the six performance projects.

<p>1- Searching for Alto Recorders to Meet the Piano: performance of extant repertoire</p> 	<p>4- Coppel: Collaboratively developed new repertoire for a set of recorders across a range of sizes, and their coppel (a carrying case).</p> 
<p>2- Beyond the Acoustic Environment: Collaboratively developed new repertoire for the electroacoustic Modern Alto Recorder and other recorders, and electronics.</p> 	<p>5- Double Pipes, Antique et Moderne: collaboratively developed new repertoire for different combinations of double recorders.</p> 
<p>3- Macrofistulus: Collaboratively developed new repertoire for contrabass recorder, double bass and electronics.</p> 	<p>6- Searching for Recorders to Meet a Chamber Orchestra: Collaboratively developed new concerto for sopranino recorder, electroacoustic Modern Alto Recorder and electroacoustic Paetzold basset.</p> 

Figure 1. Overview of the six performance projects.

Strategies

Collaboration with composers, performers and recorder makers was essential for the development of my research. In each chapter I explain the specific type of collaborative work or the different forms of distributed creativity,¹⁸ examining the collaborators' roles and inputs in the creation and performance of new works.

In recent years there has been a proliferation of research into diverse modes of collaboration between composers and performers,¹⁹ either from the perspective of the performer²⁰ or the composer.²¹ This research has often reached beyond music, drawing on valuable studies from other fields so as to question, examine and appraise the various forms of interactive work.²² Collaboration is not the prime focus of my research, but its significant role obliged me to outline the collaborators' perspectives, forms of enquiry, creative processes and critical reflections, according to the nature and aims of each project.

Improvisation also played a key role, especially in exploring recorders whose features were new to me, such as the Modern Alto Recorder, the contrabass recorder, and different combinations of double recorders, utilised in the projects 'Beyond the Acoustic Environment' (chapter two), 'Macrofistulus' (chapter three), and 'Double Recorders, Antique et Moderne' (chapter five). In projects 2 and 3, working with practitioners in live electronics and towards the development of electroacoustic and audiovisual works, improvisation was incorporated as a process by which my collaborators and I could get to know each other's performative characters and characteristics, exploring the sonic possibilities of our musical interactions, finding a shared language, and creating materials through iterative processes of performance,

¹⁸ Distributed creativity is a term for the various 'networked systems' in which musicians work 'on musical problems as a group', combining 'the creation of music, knowledge, and an understanding of collaboration.' See: Lauren Redhead and Richard Glover, eds., 'Introduction', in *Collaborative and Distributed Processes in Contemporary Music making* (Cambridge: Scholars Publishing, 2018), 4-5.

¹⁹ Particularly useful sources include: David Gorton and Stefan Östersjö, 'Choose Your Own Adventure Music: On the Emergence of Voice in Musical Collaboration', *Contemporary Music Review* 35, no. 6 (2016): 579-98, <https://doi.org/10.1080/07494467.2016.1282596>; and Fabrice Fitch and Neil Heyde, "'Recercar"-The Collaborative Process as Invention', *Twentieth-Century Music* 4, no. 1 (2007): 71-95, <https://doi.org/10.1017/S1478572207000539>.

²⁰ See: Catherine Laws, 'This Is Not A...', in *Collaborative and Distributed Processes in Contemporary Music making.*, ed. Lauren Redhead and Richard Glover (Newcastle upon Tyne: Cambridge Scholars Publishing, 2018), 167-84; Paul Roe, 'A Phenomenology of Collaboration in Contemporary Composition and Performance' (PhD thesis, University of York, 2007); Stefan Östersjö, 'SHUT UP' N' PLAY! Negotiating the Musical Work' (Lund University, 2008).

²¹ See: Mary Bellamy, 'Developing Instrumental Sound Resources Through Collaborative Compositional Practice', *Journal for New Music and Culture* 1, no. 10 (2013): 1-18; and Sam Hayden and Luke Windsor, 'Collaboration and the Composer: Case Studies from the End of the 20th Century', *Tempo* 61, no. 240 (2007): 28-39, <https://doi.org/10.1017/S0040298207000113>.

²² See: Patricia Montiel-Overall, 'Toward a Theory of Collaboration for Teachers and Librarians', *Research Journal of the American Association of School Librarians* 8 (2005): 1-31; and Vera John-Steiner, *Creative Collaboration* (Oxford University Press, 2000).

listening back, reflection, discussion and more performance. Therefore, documentation of the rehearsals (audio or video) was essential.

Further exploration of instrumental affordances involved the creation of cadenzas to highlight some of the novel characteristics of the Modern Alto Recorder, the newest recorder of my collection: this formed part of the work in projects 1 ('Searching for Alto Recorders to Meet the Piano') and 6 ('Searching for Recorders to Meet a Chamber Orchestra').

Email correspondence and workshops with instrument makers were important in my research: the luthier's individual understanding of recorder models and recorder making broadened my knowledge and also facilitated the transformation of two of my instruments: the Modern Alto and the Paetzold basset, utilised in projects 2 and 6. Throughout the thesis, I draw on those communications and the experience of the workshops.

Residencies – involving informal interviews and performance – with recorder performer Pierre Hamon, composer Guillermo Eisner and maker Philippe Bolton, were undertaken for the development of project 5. The material from those residencies, in the form of recorded and transcribed interviews, informs the discussion in the relevant chapter, but also fed directly into the final work, *Being in the Sounds*.

Projects 1 and 2 included the selection of existing repertoire, to explore either the possibilities of instrumental choice, as in project 1, or the idiomatic features linked to the historical repertoires of specific recorders, as in project 2. Otherwise, collaborative devising of newly created material predominated.

In addition to the production of artistic outputs in the form of musical works, in projects 2, 3 and 5, audiovisual narratives were developed as a creative means of highlighting various aspects of instrumental exploration. The aim here was to explore and creatively foreground the agential properties of instruments and associated objects, the intimate relationship between performer and their instrument, and synergies of interdisciplinary collaboration.²³

Historical research into the origins and development of the recorder and its use has been undertaken. As part of this, I have drawn more widely on aspects of the etymology of the instrument's name and also the ways in which it, or stories about it, have appeared in literature: on the more allusive, narrative aspects of its historical manifestation.

²³ Collaborative Synergy is '[a]n interactive process that engages two or more participants who work together to achieve outcomes they could not accomplish independently, in an open, integrated process (operational, procedural and cultural) that fosters knowledge collaboration, influenced by a transformational leadership that encourages participants to expand connections beyond typical boundaries.' 'Synergy', *IGI Global: Disseminator of Knowledge*, accessed 11 August 2019, <https://www.igi-global.com/dictionary/collaborative-synergy-leadership-business/4429>.

Theory and practice have acted in dialogue with one another throughout my research, the core aim being to enrich the understanding of the variables to attend to when choosing and working with instruments, and to re-assess the expressive potential of instruments in new contexts. In different ways, the performance projects presented in this submission emerged from or otherwise drew on different forms of theoretical research, from a range of sources. However, this more theoretical side to the work was always responding to the fundamental aim of ‘making’ through practice research.

List of Recorders Utilised

Moeck ‘Rottenburgh’ ebony alto recorder in F. Pitch at A= 442 Hz.	Chapter 1
Moeck ‘Rottenburgh’ palisander descant recorder in C. Pitch at A= 442.	Chapter 4
Moeck ‘Hotetterre’ boxwood stained antique tenor in C. Pitch at A= 442.	Chapter 2 Chapter 4
Stephan Blezinger ‘Bressan’ European Boxwood alto recorder. Pitch at A= 415.	Chapter 1
Hiroyuki Takeyama ‘Bressan’ Maple alto recorder. Pitch at A= 415.	Chapter 1
Aulos ‘Robin’ 209 BE plastic (ABS) alto recorder in F. Pitch at A= 442.	Chapter 1
Aulos ‘Robin’ 211 A plastic (ABS) tenor recorder in C. Pitch at A= 442.	Chapter 5
Aulos ‘Symphony’ 507 B plastic (ABS) sopranino recorder in F. Pitch at A= 442.	Chapter 5
Hohner ‘Melody’ 9508 plastic descant recorder in C. Pitch at A= 440.	Chapter 5

Jorge Montero 'Bressan' olive-wood alto recorder in F. Pitch at A= 442.	Chapter 1 Chapter 2 Chapter 5
Jorge Montero (Chilean wood) descant recorder in C. Pitch at A= 440.	Chapter 2 Chapter 4 Chapter 5
Jorge Montero (Chilean wood) descant recorder in C. Pitch at A= 415.	Chapter 5
Jorge Montero (Chilean wood) sopranino recorder in F. Pitch at A= 415.	Chapter 5
Jorge Montero 'Ganassi' (Chilean wood) alto in G. Pitch at A= 462.	Chapter 2
Jorge Montero 'Ganassi' (Chilean wood) alto in G. Pitch at A= 440.	Chapter 5
Jorge Montero 'Ganassi' olive-wood soprano in C. Pitch at A= 440.	Chapter 5
Jorge Montero transitional (early Baroque) olive-wood soprano in C. Pitch at A= 440.	Chapter 5
Jorge Montero (Chilean wood) whistle in A. Pitch at A= 462.	Chapter 2 Chapter 5
Friederich von Huene 'Rippert' European boxwood alto recorder in F. Pitch at A= 440.	Chapter 4 Chapter 5
(Unknown maker) Indian cane whistle. Pitch at A= 440.	Chapter 5

<p>Mollenhauer 'Modern Alto Recorder' grenadille with E-extension and modern voicing. Fitted with electroacoustic system (2016), by the French recorder maker Philipp Bolton. Pitch at A= 442.</p>	<p>Chapter 1 (acoustic) Chapter 2 (electroacoustic - effects processor) Chapter 6 (electroacoustic - amplified)</p>
<p>Küng 'Classica' (discontinued in 2008) bubinga wood basset. Pitch at A= 440.</p>	<p>Chapter 4</p>
<p>Küng 'Classica' bubinga or iroko wood contrabass. Pitch at A= 440.</p>	<p>Chapter 3</p>
<p>Küng 'Classica' tulipwood sopranino. Pitch at A= 440.</p>	<p>Chapter 4 Chapter 6</p>
<p>Herbert Paetzold birch wood basset. Pitch at A= 440, 442. Fitted with electroacoustic system (2017), at Kunath recorders, Fulda, Germany.</p>	<p>Chapter 6</p>

Integrated Research Components

This thesis consists of a portfolio of six performance projects presented in different formats (described below) and individually documented in written commentaries.

The accompanying material has been divided as follows:

Musical examples: a body of recordings (audio and audiovisual) documenting the processes of instrumental exploration, the improvisatory workshops and devising of new materials with collaborators, and rehearsals.

Outputs: the final practice research outputs created in projects 2 to 6. These include six new compositions presented in performance and represented here by audio recordings and/or video, plus two electroacoustic pieces and two audiovisual works.

Appendix: this comprises the scores (of extant works and those newly created through the research), a research poster and the collaborators' consent forms.

How to Navigate this Thesis

This thesis follows the chronological order of the six projects. The indication to listen or watch either a musical example or an output is placed within the text at the most appropriate moment. These indications appear in this way: example 1.1 or Output 2.1. My recommendation is that the reader should follow these indications so as to connect the musical outputs to the written reflections. However, in the case of the outputs independent listening is also possible: unlike the musical examples, which illustrate aspects of the practice research process or other small details of the creative work, the outputs are artistic products that, while generated through the research processes, can also exist autonomously, without the thesis.

Here begins your trip into my practice research.

Prelude²⁴

The recorder and its manufacturing: tracing its current picture

By looking at old paintings that include recorders, from the Renaissance and the Baroque, for example, a harmony between the elements that coexist can be distinguished; an organic structure conveyed by the combination of objects, carried through the materials and technologies of the period, the aesthetic designs and the embellishments. It seems to me possible to recognise and understand, from the images, a style, an identity, a united context of objects:

Renaissance

*A small pipe beside the lute. The partiture open on the lighted table.
A silver candlestick. The feather in the ink.*

Baroque

An ivory recorder, the partiture on the stand.

The harpsichord exhibiting, presumptuously, its manufacture. (Ornaments, more ornaments!)

Birds of royalty in the gardens. Fountains and mazes.

I can certainly deduce that composers knew the recorder of their time, its sound and image, related to the epoch's aesthetics embedded by the recorder maker; and that the performer's technical and musical training was connected to the composer's musical language. There was

²⁴ This short reflective text refers to the gradual loss of synchrony between the recorder and its associated contexts and styles – an issue creatively addressed in this submission. From an insider's perspective, promoted by an autoethnographic approach, I combine narrative and poetic forms to describe imagined pictures that 'integrate the strands of self and culture'. See: Sally Denshire, 'Autoethnography', *Sociopedia.Isa*, 2013, 3, <https://doi.org/10.1177/205684601351>. The author explains that '[i]n emphasizing the centrality of the personal, [the] account arguably backgrounds the social or cultural world in which the writing occurs, or, rather, reads the social and cultural through the personal'. Art Bochner regards this type of writing as *evocative*. In a lecture given at the Interdisciplinary Colloquium Series on Interpretive Research in the Social Sciences, Art Bochner explains that '[t]he texts produced under the rubric of what [he calls] narrative inquiry would be stories that create the effect of reality, showing characters [the instruments in my research] embedded in the complexities of lived moments of struggle'. See: Ellis and Bochner, 'Autoethnography, Personal Narrative, Reflexivity: Researcher as Subject', 743-44.

an interrelationship between the recorder performer, the maker, and the composer, defined by their coexistence in the same episode of time, the same aesthetic frame.

But moving from these previous eras – in which a certain synchrony was discernible between the elements of music making, the space and time of the musician, and the surrounding context – to our contemporary state of a multiplicity of styles, contexts and performance possibilities, we observe that the relationships between these elements allow for a maze of possibilities, for all kinds of new pictures.

Modern scene

A huge keyed square recorder (with a cable connected to an amplifier) next to the old partiture open in the bright room.

The little pipe deciphering the series of 12 notes. The ivory recorder playing in the jazz club.

In the gardens, buildings and bikes, a computer on the table.

Ornaments on the music played by the ivory recorder in a modern auditorium. Feathers back to the birds.

*The **style** is a maze.*

As McLuhan testified as early as in the 1960s: ‘ours is a brand-new world of allatonceness. “Time” has ceased, “space” has vanished. As a twenty-first-century recorder performer living in what he defines as a ‘global village ... a simultaneous happening’,²⁵ I wonder: what is the comparable picture that we are producing for future studies of the instrument?’²⁶

²⁵ Tom Butler-Bowdon, ‘The Medium Is the Massage (1967) Marshall McLuhan & Quentin Fiore’ (1967), *Philosophy Classics*, accessed 20 July 2018, <http://www.butler-bowdon.com/marshall-mcluhan---the-medium-is-the-massage.html#>.

²⁶ Similarly, Bates mentions that numerous handbooks for lutenists ‘included detailed descriptions of how the lute should be accompanied by other objects and in which acoustic environments lutes should reside. One handbook stipulated: “There should be a flywhisk, a sonorous stone, brushes and ink to keep the lute company and there should be lustrous flowers and cranes to be its friends. All these things belong to the domain of the lute”’. Bate’s quote is taken from Robert Van Gulik’s *The Lore of the Chinese Lute* (1940). Eliot Bates, ‘The Social Life of Musical Instruments’, *Ethnomusicology* 56, no. 3 (2012): 363-95, <https://doi.org/10.5406/ethnomusicology.56.3.0363>.

Chapter 1. Searching for Alto Recorders to Meet the Piano (2015 – 2016)

Carmen Troncoso (recorders)

Collaborators: John Frith (composer), Cristina Rodríguez (piano), Mark Hutchinson (piano), Zosia Lewandowska (harpsichord), Jennifer Cohen (flute) and Gaia Blandina (violoncello)

Output: Lecture-recital, 'Searching for Alto Recorders to Meet the Piano', Sir Jack Lyons Hall, Department of Music, University of York, Thursday 7 July 2016; selected audio and video examples from the lecture-recital and the rehearsal process.



Figure 2. Lecture recital in the Sir Jack Lyons Concert Hall at the Department of Music of the University of York, 2016. Mark Hutchinson, piano.

I have played many makes of recorders and the chief lesson to be learnt is ... that from twenty treble recorders made of the same wood by the same maker, no two will sound alike. If you multiply the problems of choosing an instrument by sampling recorders made from different types of wood and by different makers, you are likely to end up in a quandary, perhaps even unable to come to any clear decision. (Ball, 1975).²⁷

The project **Searching for Alto Recorders to Meet the Piano** focused on repertoire for alto recorder and piano, and for comparison's sake flute and piano. The aim was to identify and examine – in and through my practice – the variables that affect my criteria for selecting

²⁷ Christopher Ball, 'Renaissance and Baroque Recorders: Choosing an Instrument', *Early Music* 3, no. 1 (1975): 11.

recorders to use in this context and that therefore ultimately characterise the performance itself. Two works were addressed: the musical content of these works raised suitable questions regarding the choice of alto recorders. The primary case study was the Sonata for Alto Recorder or Flute and Piano (2015) by John Frith, written for recorder maker and performer Tim Cranmore. The second was the first movement of the Sonata for Flute and Piano (1957) by Francis Poulenc (FP 164), written for flautist Jean-Pierre Rampal. Each movement is addressed separately in this commentary, to discuss the specific processes of instrumental exploration.

This project was designed to explore and compare, through performance, seven alto recorder models from my collection, to use with the piano. As such, the set of performances that I am presenting – the musical examples referred to throughout this commentary – provides a record of the processes in the search for possible instruments. These examples, presented in either audio or video format, are taken from a lecture-recital given on Thursday 7 July 2016 in the Sir Jack Lyons Concert Hall, University of York, and from rehearsals during May and July of the same year.

The processes were not focused towards generating one unique output, nor on a search for an ideal instrument (if such a thing exists), but rather on identifying those that offered some particularities which, according to my perception, were in sympathy with the repertoire and musical style.

The commentary starts with an overview of the historical context in which the recorder-piano combination arose and a brief discussion of its current situation, before proceeding to discuss the practice research process. As noted in the introduction, **Searching for Alto Recorders to Meet the Piano** differs in nature and status to the subsequent projects, acting more as a pilot project to explore the core questions in relation to extant repertoire.

Introduction

The combination of the modern piano with a recorder presented a sonic challenge to recorder players and their instruments, and therefore to recorder makers and composers. This complex scenario emerged in the twentieth century, due to the unparalleled evolution of these instruments. While the modern piano was fully immersed in and engaged with the Western classical music world of modern instruments and repertoire, the recorder, after a period in which it had gradually fallen into disuse, was being rediscovered in England, America, and the countries of mainland Europe (including Austria, France, Germany, Belgium, the Netherlands, Switzerland, Italy), as an 'old-new' instrument, with a mysterious history and repertoire to be traced and studied.

Original (Renaissance and Baroque) recorders, long hidden away in households or private collections, were becoming available and subsequently being examined.²⁸ However, there were many uncertainties about their features, along with questions about where, how and by whom they were used. Bolton comments: ‘at first the instruments were there, but their playing technique was not generally known’.²⁹

The alto Baroque model became popular during this ‘revival’ of the instrument (known as the twentieth-century revival)³⁰ and makers began copying it. Pioneers in its reconstruction in the first quarter of the twentieth century included Gottfried Gerlach (1856 – 1909) from Munich, who as early as 1909 made a copy of an original recorder by Jacob Denner (1681 – 1735), and Arnold Dolmetsch in Haslemere, England, who in 1919 made a copy of an original by Peter Bressan (originally named Pierre Jaillard, 1663 – 1731).

As an instrument from the past – a ‘curiosity’, foreign to modern (twentieth-century) music with its own instruments and repertoire – the recorder appeared as an anachronism in modern concert halls, its visual appearance signalling its out-of-period design. This condition of being both a rediscovered instrument carrying earlier aesthetics and musical frameworks and, simultaneously, a new instrument to be inserted into the Western twentieth-century musical context, provided the paradoxical situation that generated the ensuing endless production of recorder models; these responded either to ideals of historically-informed reconstruction or to the wish to modernise, update and redefine the instrument.

The impact of the interrupted evolution of the recorder and the ongoing creation of new designs is complex to assess, and this matter lies at the heart of this project’s specific task of searching for alto recorders to meet the piano, but also more generally underpins all the projects developed in this thesis. For me, the absence of a current, more standardised and unique model defined as ‘the recorder’ (like ‘the flute’ or ‘the piano’), such as might respond to the same sonic and visual aesthetic from which the modern piano gradually arose, has

²⁸ Philippe Bolton, ‘The Revival of the Recorder’, *Handmade Recorders & Flageolets*, accessed 1 July 2019, <http://www.flute-a-bec.com/flute-a-bec-renouveaugb.html>. On his website, recorder maker Philippe Bolton comments that at the end of the nineteenth century, museums were starting to build collections of early instruments, such as the Museum of the Conservatoire Royal in Brussels and notes that the students of the conservatory had access to the instruments. For further information about the modern period known as the revival of the recorder, see Nicholas Lander, ‘History: Modern Period’, *Recorder Home Page*, S. 1996–2019, accessed 1 July 2019, <http://www.recorderhomepage.net/history/>.

²⁹ Bolton, *Handmade Recorders & Flageolets*.

³⁰ Information about the revival of the recorder can also be found in Douglas MacMillan, ‘An Organological Overview of the Recorder 1800 – 1905’, *Galpin Society Journal* 60 (2007): 191-202, accessed 1 July 2019, <http://www.jstor.org/stable/25163901>; and in Alexandra Mary Williams, ‘The Dodo Was Really a Phoenix : The Renaissance and Revival of the Recorder in England 1879 – 1941’ (PhD thesis, University of Melbourne, 2005).

triggered a variety of possible ‘pictures’ (or scenarios) of the instrumental combination recorder and piano. In addition to the question of how the instruments meet sonically, this wider consideration exposes a contradiction carried in the visual appearance of the instruments, of epochs and styles. These paradoxical recorder ‘pictures’ (as expressed on pages 36 and 37) or impressions of the twenty-first-century recorder-piano combination were something I wished to experience and examine in my practice.

Of course, there existed a chain of historically synchronised combinations of keyboard instruments and recorders (with associated, idiomatic repertoires) which was also interrupted: the Baroque harpsichord with the Baroque recorder, and the fortepiano with the Classical and Pre-Romantic alternatives to the recorder,³¹ such as the Austro-Hungarian csakan³² and the French and English flageolet³³ (though these latter instruments did not reinstate the recorder in its previous privileged position in professional music making).

In England, even during the recorder’s somewhat anachronistic revival described above, we might recognise a connection, a certain contemporaneity, between the instrumental design of the modernised harpsichord and the modernised Baroque recorder. These instruments were utilised in the performance of the majority of more than fifty works for recorder and keyboard played by recorder maker and performer Carl Dolmetsch (1911 – 1997) and harpsichord (and other keyboard) performer Joseph Saxby (1910 – 1997) during their annual recitals at the Wigmore Hall in London between 1939 and 1989.³⁴ Carl Dolmetsch himself, among other makers, made significant modifications to both the Baroque recorder³⁵ and the harpsichord,³⁶ in order to modernise them. Thus, both instruments jointly conveyed the same

³¹ For information about the situation of the recorder in the Classical and Romantic periods, see Nicholas S. Lander, ‘History: Classical & Romantic periods’, *Recorder Home Page*, accessed 13 April 2019, <http://www.recorderhomepage.net/history/>.

³² For information about the csakan, see Bernhard Mollenhauer, *Mollenhauer: Csakan ... wiederentdeckt*, accessed 1 July 2019, <https://www.csakan.de/en/csakan-rediscovered>.

³³ For information about the flageolet, see Philippe Bolton, ‘The Flageolet’, *Flageolets & Recorders*, accessed 1 July 2019, <http://www.flageolet.fr/index-gb.html>.

³⁴ Andrew Mayes provides a list of the works premiered by Dolmetsch at the Wigmore Hall and other works dedicated to either him or his duo partner, harpsichord player Joseph Saxby. All these works were written for either harpsichord or unspecified keyboard. Andrew Mayes, ‘Aspects of Performance Practice in Works for Recorder Composed for Carl Dolmetsch Between 1939 and 1989’ (Doctoral thesis, Birmingham City University, 2008), 18-20, http://www.open-access.bcu.ac.uk/3859/1/2008_Mayes_506067_vol1.pdf.

³⁵ However, Carl Dolmetsch was neither the first nor the only maker who explored changes to the recorder. For information about the innovations to the recorder, see Nicholas S. Lander, ‘History: Innovations’, *Recorder Home Page*, 1996-2019, accessed 1 July 2019, <http://www.recorderhomepage.net/history/>.

³⁶ A description of a Dolmetsch modernised harpsichord can be found in Mayes, ‘Aspects of Performance Practice’, 311-12.

hybrid effect in appearance and sound.³⁷ (It should be noted that some of those early commissioned works were explicitly intended for the piano, and in these cases the aim of matching the instruments was discussed by Dolmetsch and the respective composer, though mostly only to address issues of volume and balance).³⁸

Amongst the modifications to the Baroque recorder model undertaken by Carl Dolmetsch were: the shortening of the tube to reach the modern pitch, A= 440 Hz (towards an 'all-purpose' recorder model), instead of the generally lower Baroque recorder pitch, A= 415 Hz, used by his father, Arnold, until 1935; the production of a wider windway to achieve greater volume by increasing the amount of air coming into the instrument (compared with the narrower and curved Baroque angle, which generates more resistance to the production of the sound, enabling clear projection but at a softer level); changes in the size and position of the finger-holes, to facilitate playing in modern equal temperament; and double holes or keys for the bottom notes. This modified design would broadly come to form the template for what we generally now think of as the 'modern recorder'. Later, Dolmetsch added interesting mechanical devices to the recorder,³⁹ such as:

- the tone projector: 'a wheelbarrow-shaped object, which fits over the window (lip) of the recorder projecting the tone forward.'⁴⁰
- the bell key (see figure 3), to complete and extend the instrument's chromatic compass. This enabled the playing of F sharp 3, A 3 and B 3 flat without the often rather awkward technique of covering the bell hole with the knee.⁴¹
- the lip (echo) key (see figure 4): to enable greater dynamic contrast. A hole was situated below the fipple (block), which, being opened with the performer's chin raised the note so that

³⁷ In the chapter 'The Recorder – Present-Day Considerations for Performance of the "Dolmetsch" Repertoire', Mayes refers to the recorder performers' possible choices of recorders to play the Dolmetsch repertoire. In Mayes, 'Aspects of Performance Practice', 301-05.

³⁸ In his thesis, 'Carl Dolmetsch and the Recorder Repertoire of the 20th Century', Andrew Mayes refers to a letter that York Bowen (both a composer and a pianist) sent to Dolmetsch, on 28 September 1946, discussing the favoured alternative of using the piano. Bowen observed that 'if handled gently (as some of us can!)' the balance can indeed 'be made perfect'. Bowen's Sonatina for Recorder and Piano op. 121, was performed at the Wigmore Hall in 1947 by Carl Dolmetsch and York Bowen himself at the piano. Andrew Mayes, 'Harpsichord or Piano(?)', in *Carl Dolmetsch and the Recorder Repertoire of the 20th Century* (Aldershot: Ashgate, 2003), 296.

³⁹ Eve O'Kelly, *The Recorder Today* (Cambridge: Cambridge University Press, 1990), 34.

⁴⁰ Ibid.

⁴¹ In Baroque recorders, specific pitches, such as F sharp 3, A 3, B flat 3 and low E 1 can be reached by (totally or partially) covering the bell hole (below the recorder's foot or 'bell') on the performer's knee, thus making it difficult to play within fast passages.

the air pressure could be diminished without lowering the intonation.



Figure 3 (left). Innovations to the recorder undertaken by Carl Dolmetsch during the twentieth century: the bell key.

Figure 4 (right). Innovations to the recorder undertaken by Carl Dolmetsch during the twentieth century: the lip (echo) key.⁴²

These latter initiatives were the seeds of an endless sequence of new designs. This approach founded the modern situation of a hybrid instrument with an appearance related to its past but, contradictorily, with a sound world that surpasses previous models. The two scenarios of the current recorder making framework – one that carries forward the past and the one that tries to modernise or redefine the instrument – coexist today in a similar manner to that of the contradictory space-time framework of the duo of the historical, anachronic recorder and the modern piano.

There is still one question regarding the discontinuity of those twentieth-century modernised recorders. Despite their useful and innovative adjustments, they did not survive: why not? They certainly represented an improvement in terms of the sonic demands of playing with modern instruments like the piano, especially in recital halls. They also offered practical solutions for certain technical weaknesses of the Baroque design in the modern context, such as particular fingerings and the playability of some high notes. Notably, recently developed recorder models have revived some of those earlier ideas of modifications and additions, such as the lip (echo) key, designs for greater volume and power, and the extension of the range without the need to cover the bell hole with the knee.

⁴² The pictures of Dolmetsch's recorders in figures 3 and 4 were taken by me at the London International Exhibition of Early Music 2018, in Blackheath Halls.

One reason for their discontinuation lay, I posit, in the new affordances of the modernised design(s). In the case of Carl Dolmetsch, these affordances were understood by him as their deviser, builder and performer, but were rather unfamiliar to other recorder players. Moreover, knowledge of the Baroque template, to which the makers made these various changes,⁴³ was still developing. Musicians were focused on reviving techniques in relation to the rediscovery of idiomatic (historical) repertoire, a task that differed significantly from the aims of those making new designs for modernised instruments. Moreover, establishing any new or modernised instrument requires new works specifically created for its features, thus emphasising the novel idiomatic behaviour. However, by the time of Carl Dolmetsch's innovations, it was common for composers to regard the recorder as a kind of limited and less well-known flute, since the recorder's specific qualities and idiomatic behaviours were still in the early stages of (re)discovery.⁴⁴

As a result, these modern modifications to the recorder, including the multifarious keys and incorporated devices, had to wait a very long time to flourish: they are finally being incorporated into newly developed instruments, as part of the ongoing search for the twenty-first-century recorder, now that we have developed adequate recorder knowledge, training, instrumental technology and compositional frameworks.

It is exactly the anachronistic condition of the revived recorder, as described above, that I have identified as a core focus within my processes of choosing recorders to address repertoire for recorder and piano. It represents particular creative challenges and opportunities, and these issues of instrumental affordances and limitations are ones that also recur in the subsequent performance projects.

⁴³ Original Baroque recorders long kept in old households or in private collections were becoming available and subsequently being examined. The Baroque template became popular, representing the recorder's revived image, which would influence its re-construction and re-establishment. Robert Ehrlich illustrates this point in his thesis, mentioning that the use of the recorder during its revival 'partly followed seventeenth- and eighteenth-century historical precedent'. Robert Ehrlich, 'An Ethnomusicological Study of a Modern Performing Tradition in Western Art Music: the "Dutch School" of Recorder Playing' (MPhil dissertation, King's College, 1989), 11.

⁴⁴ Commenting on the works for recorder and piano (keyboard) composed between 1930–40, O'Kelly mentions that composers tended 'to regard the recorder as a sort of quieter, less flexible flute and failed to exploit its distinctive and unique quality of sound.' She explains that 'the perception of this [recorder's] quality did not come until much later, when the differences between recorder and flute technique began to be properly understood.' O'Kelly, 'Conventional Recorder Music and the Heritage of the Baroque', *Recorder Today*, 38.

The Contemporary Context of Recorder with Piano

In order to select appropriate repertoire for this project, I needed to consider the range of approaches to composition for piano and recorder. However, it is beyond the scope of this commentary to discuss the full range of pieces as part of this process; instead, I provide a brief overview of broad trends and the most significant approaches.

Contemporary compositions for recorder and piano are rather scarce, and they are even scarcer when considering only those works specifically written for the piano (since many offer the possibility of being played on other keyboard instruments, particularly in the combination of modern recorder with modern harpsichord). Many earlier, twentieth-century works for this combination were written in neo-Baroque, neo-Classical, or neo-Romantic styles. Amongst these are the pieces performed by Carl Dolmetsch and Joseph Saxby, listed by both Mayes and O’Kelly.⁴⁵ These works usually recall earlier styles, musical forms and practices (such as the romantic idea of developing cadenzas), sometimes then mixed with modern compositional methods and techniques such as serialism and dodecaphony. Some also include folk elements, and they generally avoid the use of extended techniques.

O’Kelly highlights the significance of Paul Hindemith (1895 – 1963), who, from his interest in the interpretation of ancient instruments, encouraged his students to write for the recorder, including by playing the historical recorders held in the collection of the Berliner Hochschule für Musik, where he was appointed professor in 1927. Amongst his students who wrote works for piano and recorder were Arnold Cooke, Hans Ulrich Staeps (who was also an active recorder player and teacher), Stanley Bate, Franz Reizenstein and Hans Poser.

A more experimental approach to the recorder-piano duo started in Europe in the 1960s, especially around recorder performers Frans Brüggen and Michael Vetter. As noted by O’Kelly, composers such as Jürg Baur, Louis Andriessen and Rob du Bois ‘made a serious attempt to develop the full potential of the recorder as a sound source and were among the first to write for the instrument in a completely modern idiom, making no concessions to its supposed limitations.’⁴⁶ Novel timbres, textures, extended techniques, improvisation and theatrical elements were explored, thus generating different ideas about how the recorder might ‘meet’ the piano. For example, in his preface to *Glissgliss* (1995), for soprano recorder and piano (with ad lib cello), composer Winfried Michel manifests a clear concern with the specific recorder features required: ‘a soprano recorder in f with double holes for the first

⁴⁵ A comprehensive list of works written for piano and one recorder player and the contexts in which they arose is provided by O’Kelly.

O’Kelly, *Recorder Today*, 152-54. For Mayes’s list see footnote 34.

⁴⁶ O’Kelly, *Recorder Today*, 51.

and second steps' [the first step corresponding to F and F sharp and the second to G and G sharp]. Interestingly, his description of the type of interaction required between the piano and the recorder does not address issues of balance but focused instead on creativity and collaborative exploration.⁴⁷

Other notable experimental works for alto recorder and piano include *Incontri* (1960) by Jürg Baur; *Spiel und Zwischenspiel* (1962) by Rob du Bois; Vetter's adaptation of Louis Andriessen's graphic composition for flute and piano, *Pantings* (1965), in a version for recorder and piano;⁴⁸ *Wonderen zijn schaars* (1965) by Will Eisma; *Thymehaze* (1979) by John Casken; and Michel's *Tu-la-ting* (printed in 2002).

Various works for recorder and piano have been composed by non-European composers, but these are relatively scarce. A number of works have been written in South America. In Chile, the CD *Música contemporánea chilena dúos y tríos para flautas dulces, viola da gamba y piano* (Chilean contemporary music duos and trios for recorders, viola da gamba and piano), was issued in 1992.⁴⁹ Also, in the article 'Música Brasileira para flauta doce e piano', Carrijo and Fernández provide a catalogue of Brazilian works for this instrumentation composed between 2006 and 2011.⁵⁰ Some of these were recorded by Brazilian recorder performer Luciane Cuervo on the CD *Sonetos de amor e morte* (Sonnets of love and death).⁵¹ Finally, my own previous experience of this combination included performing two works for alto recorder and piano written in somewhat conventional Western classical style, in a recital at the Biblioteca Nacional de Santiago de Chile (National Library of Santiago, Chile) in 2003, with Chilean pianist Dante Sasmay: *Introducción y allegro* by Argentinian composer Carlos Guastavino and *Red Garden's Roses* by German composer Matthias Maute. Preparing that recital had already exposed issues of balance between the instruments and opened up some questions of instrumental selection, comprehensively examined in this new recorder-piano

⁴⁷ The preface to the score of *Glissgliss* by Winfried Michel can be read at Winfried Michel, 'Glissgliss (1995)', *Mieroprint Musikverlag*, accessed 5 July 2019, <https://mieroprint.de/produkt/michel-winfried-glissgliss-1995/>.

⁴⁸ Interestingly, this latter adaptation of the piece was, as stated by O'Kelly, 'approved by the composer [Andriessen] because he felt that the recorder had far more potential for the production of new and exciting sounds than the flute.' O'Kelly, *Recorder Today*, 60.

⁴⁹ *Música contemporánea chilena dúos y tríos para flautas dulces, viola da gamba y piano*, SVR Digital, 1993, CD,

https://www.svrproducciones.cl/index.php?main_page=product_info&cPath=11_14&products_id=39.

⁵⁰ Daniela Carrijo Franco and Betiza Fernandez Landim, 'Musica Brasileira para flauta doce e piano', *Revista Diálogos: Linguages Em Movimento* 1 (2015): 9-21.

⁵¹ Luciane Cuervo, *Sonetos de amor e morte*, Fumproarte, 2002, CD, <http://pauloinda.com/sonetos-de-amor-e-morte/>. Cuervo has worked for more than ten years with pianist and composer Felipe Adami who composed the four-movement work *Sonetos de amor* (1999) for different recorders (one player) and piano. For more information about Adami's work, see: Luciane Cuervo, 'Sonetos de amor de Adami, para flauta doce e piano: análise e performance', *Per Musi, Belo Horizonte*, no. 26 (2012): 159-69, <https://document.onl/documents/sonetos-de-amor-de-adami-para-flauta-doce-e-piano-analise-e-.html>.

project. In both works, I played an alto recorder (Baroque design) by Japanese maker Hiroyuki Takeyama: a model that is rich in harmonics. At that stage I had not yet encountered the more modern 'modern recorders', such as the Modern Alto Recorder that I use in this project.

The Choice of Repertoire

Sonata for Treble Recorder/Flute and Piano (2015) by John Frith.

'Moderato' - 'Andante Misterioso' - 'Rondo: Moderato'.

Sonata for Flute and Piano (1957) by Francis Poulenc.

First Movement: 'Allegretto malinconico'.

John Frith's approach to the instrument in his Sonata for Treble Recorder/Flute and Piano offered, I considered, attractive possibilities that could usefully inform and influence my processes and criteria for searching for an alto recorder to perform it. Amongst these considerations were: the option of 'either flute or recorder' (and to examine the differences, I invited flautist Jennifer Cohen to collaborate); the composer's familiarity with and preference for the Baroque recorder's sound (as stated in the preface to the score); the composer's sonic allusions to other instruments and musical contexts (particularly evident in the second movement); and the issue of balancing the two instruments, 'without the help of any amplification' (as determined by Frith).

Also relevant to my particular concerns in this project was the close communication between Frith and the recorder maker (and performer) Tim Cranmore, who commissioned the work and introduced me to the score and the composer. Their initial exchange of ideas led to the search for and creation of an 'ideal recorder', particularly to address the composer's concerns about balance. That the development of the piece also involved such instrumental considerations was, of course, of particular interest for me. The idea of developing the instrument was Cranmore's response to Frith's expressed wish that his work would remain within an acoustic sound world: 'a challenge just to be solved between the performers, their instruments, and the concert hall acoustic'.⁵² Cranmore took as a reference point his own previously produced copy of an instrument by Thomas Stanesby Junior (1692 – 1754), to which he made significant modifications.

⁵² John Frith, email to the author, 1 August 2016.

My aim was to explore the issue of the relationship (including the balance) between the recorder and piano attending to Frith's requirements, and to identify the variables which would influence my responses to the piece and which would affect my choice of instruments. Moreover, the Sonata's conventional musical language, without extended techniques, would allow me to concentrate on and perceive the subtle differences between the 'voices' of my alto recorders. Certain technical factors (such as pitch, temperament, fingerings, range, balance across the registers and resonance) were also pertinent; these were identified and documented, to establish explicit comparisons between the instruments which would then inform my instrumental choices.

Making personal contact with the composer as well as Cranmore (who premiered the piece in 2015) gave me access to the primary sources for the history of the score and its performance. Their responses to my inquiries and their opinions enriched my understanding of the piece and its genesis. In particular, my close and ongoing communication with Frith provided the necessary basis to make relevant decisions in relation to my research topic and helped me to understand his sonic ideas and expectations.

Additionally, I selected the first movement of Poulenc's Sonata for Flute and Piano so as to experience, and subsequently highlight, the qualities and new affordances of my recently acquired Modern Alto Recorder by Mollenhauer (figure 5). The new features of this instrument



Figure 5. Picture of my Modern Alto Recorder.

include the extension to the E1-bottom note, an extended range up to the third register with a different fingering technique, a more uniform balance across the registers, louder bottom notes, and a singular timbre (more flute-like, especially at the bottom and in the high register). These qualities afford a reliable performance of Poulenc's material without any adaptation of the score.

Thus, in the case of the Poulenc the choice of the recorder was taken before selecting the repertoire: I searched for works for flute and piano that might be appropriate for this particular modernised instrument (and also because there is still a lack of repertoire composed explicitly for this model, with its E-extension).⁵³ Poulenc's first movement challenges the technical and sonic possibilities of this model as if it were written exactly as a study for it. Besides, addressing music written for the flute placed my choice of a recorder in a different context within which new variables could arise, which I could then explore. For instance, one inevitable factor that occurs when borrowing repertoire is the loss of the original timbre, which may affect the search for a certain 'instrumental voice', either to attempt to evoke that original timbre or deliberately to contrast with it. The instrumental voice that I refer to here and generally in this thesis, primarily comprises the instrument's singular tone quality (timbre); however, it also includes other particularities such as the dynamic range, tessitura, flexibility of the sound production (for instance the possibilities of attack and ending of notes or the response to a certain amount and speed of air stream) and the homogeneous or discrepant balance between the instrument's low, medium and high registers. In the specific case of the recorder, the voicing⁵⁴ is a relevant element to consider. Finally, the idea of including Poulenc's music was reinforced when I first played Frith's Sonata. The piece immediately reminded me of

⁵³ In 2015, I asked Nik Tarasov (recorder designer at Mollenhauer Company) about repertoire written for the new recorder designs which include an E-extension, to which he replied that there is a gap in the literature specially composed for them (encouraging me to develop new works). Interestingly, in his *Kleine Sonate für Blockflöte und Klavier*, op.96, written in 2018 within the rather Romantic idea of a 'recorder-piano recital', Japanese composer and pianist Kenichi Nishizawa (b. 1978) manifested an overt understanding of this modern instrument's new possibilities, especially in regard to the extension of the tessitura. The use of the Modern Alto Recorder with an E-foot extension as the chosen instrument, is illustrated in the following video: Kenishi Nishizawa, 'Kleine Sonate für Blockflöte und Klavier op.96', YouTube video, 06:58, posted by 'HidehiroRecorder', 21 November 2018, accessed 5 July 2019, https://www.youtube.com/watch?v=VHIZ_XCUQsl. My observation about the approach to the Modern Alto Recorder's affordances in Nishizawa's Sonata, is based on the examination of the scrolling score in the following video: Kenichi Nishizawa, 'Kleine Sonate für Blockflöte und Klavier op.96', YouTube video, 07:12, posted by 'Kenichi Nishizawa', 13 January 2017, accessed 24 May 2019, <https://www.youtube.com/watch?v=nabSJ-cp9Bk>.

⁵⁴ Voicing: as defined by Nik Tarasov, *voicing* refers to 'the structural design and fine tuning of the [recorder's] wind channel and block [or fipple], where the recorder maker makes basic decisions about the sound and function[ality] of the instrument.' Nik Tarasov, 'Harmonische Blockflöten: Die Geschichte Einer Neuen Blockflöten-Generation', *Windkanal, Das Forum Für Die Blockflöte*, no. 2 (2004): 17, <https://www.windkanal.de/images/files/stories/PDF/2004-2/Windkanal-2004-2.pdf>.

certain gestures and harmonies in Poulenc's work. Later, Frith told me that he had quoted Poulenc not in this Sonata but rather in his Sonata for Flute and Piano; I later included an excerpt from this in my cadenza for the third movement of the Recorder Sonata.

Searching for Recorders to Meet the Piano

The following table illustrates the alto recorders I had selected by the end of this process:

1 st Movement	2 nd Movement	3 rd Movement
Moeck 'Rottenburgh'	Plastic Aulos and 'Bressan' Montero	'Bressan' Montero or Modern Alto Recorder

I return to the basic question: which recorder should I use for playing Frith's Sonata for Treble Recorder and Piano, and why? This was the first issue that I faced – as would any other recorder performer aiming to 'meet' the enveloping sonority and timbre of a modern piano. The verb to *meet* is used here to invoke not only the action of playing with the piano but the performer's will to interact with it satisfactorily. With that question in mind, I explored different alto recorders including both historical and modernised designs. However, as should by now be clear, the approach did not have the aim of producing an exhaustive or empirical study: rather I was interested in the creative issues that rise to the surface when such questions are explored in depth.

Firstly, I re-assessed the six Baroque-designed alto recorders in my collection (see figure 6) to update my understanding and appreciation of each instrument.



Figure 6. Picture of my six Baroque-designed recorders

From left to right: Moeck ‘Rottenburgh’ ebony alto recorder (P 442); Friederich von Huene ‘Rippert’ European boxwood alto recorder (P 440); Hiroyuki Takeyama ‘Bressan’ Maple alto (P 415); Jorge Montero ‘Bressan’ olive-wood alto recorder (P 442); Stephan Blezinger ‘Bressan’ European Boxwood alto recorder (P 415); Aulos ‘Robin’ 209 BE plastic (ABS) alto recorder (P 442).

Email communication with the recorders’ respective makers helped me elucidate detailed information about the instrument’s features and history, which fed into my instrumental selection criteria and informed my choices when addressing this project’s repertoire. These makers were: Friederich von Huene (I contacted Eric Hass, in charge of von Heune’s workshop in Boston), Chilean maker Jorge Montero, German maker Stephan Blezinger, and Japanese maker Hiroyuki Takeyama. Since all my alto recorders are based, more or less reliably, on historical Baroque models, this preliminary consideration required me to deepen my knowledge of the relevant Baroque makers and their specific templates: Jacob Denner (1681 – 1735), Jean-Jacques Rippert (c. 1645 – 1724), Peter Bressan (1663 – 1731), and Jean-Hyacinth Rottenburgh (1672 – 1756). However, each modern maker interprets and responds to these instruments’ characteristics in a personal way, a fact that was also addressed within the email communication.

The six recorders were examined considering the following aspects, as applicable: the maker’s personal sound concept underlying the recorder’s design (information revealed more or less clearly in email correspondence or on websites); to whom the recorder was intended (whether professional recorder performers, amateurs or beginners, or the school environment); the primary artistic practice for which the recorder was conceived (whether, for

example, historically informed practice of Baroque music or contemporary music making); the specific sound quality; and relevant technical features such as the pitch, the fingerings, the range and the dynamic possibilities, amongst others. This study led me to recognise each recorder's singular characteristics, as well as its possible strengths and weaknesses when addressing the selected repertoire and in 'meeting' the piano.

Then, aware of the adjustments applied to the instrument early in the twentieth century in pursuit of a new recorder sound capable of competing with the piano's commanding presence and timbre, I explored some of the available modernised treble recorders, including the 'modern' modern recorders (i.e., the newest models). Among these are those belonging to the 'Harmonic Recorders' category⁵⁵: the 'Modern Alto', by Tarasov/Paetzold; the 'Ehlert', by Ralf Ehlert; the 'Helder', by Maarten Helder; and the 'Eagle' recorder, devised by Adriana Breukink. I was interested in acquiring one of these models, primarily to add a modern recorder voice to this recorder-piano project.

However, I first wanted to experience the sound and affordances triggered by the earlier modifications and additions undertaken by Carl Dolmetsch, mainly because Frith's Sonata resembles the type of repertoire for piano and recorder that Dolmetsch commissioned, and which correspondingly involves Dolmetsch's modernised-Baroque recorder model. I expected that Dolmetsch's 'modified' recorder would be what I needed for this piece: the imagined instrument for which Frith conceived his Sonata. Nevertheless, after trying out some original models at the 2015 Greenwich Exhibition of Instruments, the model's sound quality (especially its timbre) did not match my perceptions of that necessary for Frith's musical material. On the other hand, using Dolmetsch's modified, 'modern' alto recorder as a response to Frith's modern style would have suggested a sort of historical recreation of the twentieth-century's modernised recorder sound: Dolmetsch's 'made to match the modern sound' recorder. This would have been an interesting choice. My search for recorders here, however, did not aim to follow any historically informed criterion.

Moreover, Frith's Sonata was composed when newer recorder models, with better (updated) technologies than those associated with Dolmetsch, were available. At the Greenwich Exhibition, I tried a range of new instruments, analysing my first reactions to their features, especially the different distribution of weight due to the use of sets of keys added

⁵⁵ The term *harmonic recorders* refers to a novel recorder concept characterised by a long, cylindrical bore, particular key mechanism, and changes in the voicing compared with earlier recorders. These recorders overblow into pure, in-tune harmonics. For detailed information about the history and features of the different so-called harmonic recorders see Nik Tarasov, 'Harmonische Blockflöten: Die Geschichte Einer Neuen Blockflöten-Generation', *Windkanal, Das Forum für die Blockflöte*, no. 2 (2004): 14-21, <https://www.windkanal.de/images/files/stories/PDF/2004-2/Windkanal-2004-2.pdf>.

and different bore shapes. It requires time to get used to the new sensation of the balance of the instrument. The newly added devices for more flexible and subtle control of the timbre and volume, such as those available with Eagle and Helder models, offered powerful sound production and a wide palette of expression. However, in these first encounters, I did not experience the expected reaction of wanting to work with the most contemporary of instruments, but rather an uncomfortable sensation of playing instruments of the past that had been subjected to different levels and types of surgery, responding to different intricate improvement plans. I found myself wondering whether this was the same perception as felt by other players that had prevented the survival of modified instruments from early in the twentieth century. Even today, with these further developments, examining the complex relationship between instrumental innovation and performance opens particular problems (though these are beyond the scope of my study); we seem to require a paradigm shift in those studying the instrument at professional level in order to embrace new technologies in the recorder making scene. Linked to this is the associated need for new performance and compositional frameworks that can integrate the instruments into processes of learning, teaching and performing the recorder.⁵⁶

It is perhaps the Helder recorder, developed in the early 1990s, that offers the most significant differences to the Baroque models, and the clearest shifts in design, including a sound unit consisting of four parts: a lip-control mechanism, changeable windway platelets, an adjustable block and an adjustable windway roof.⁵⁷ Contrarily, the Modern Alto (1996) and the Ehlert models are rather similar to Baroque models in their appearance. Nevertheless, they incorporate significant changes in the shape of the bore and key systems, offering new qualities and solutions to some of the identified limitations of historical models. The Eagle, the latest model to appear, seems to evoke a Renaissance image of recorder design.⁵⁸ Its significantly wider bore (amongst other factors) allows the production of a surprisingly

⁵⁶ A key contemporary figure in pursuing this paradigm shift is the recorder performer Karel van Steenhoven, who actively reacts to and participates in the current development of the recorder. He has created new repertoire for new recorder models, such as his studies for the recorder with a bottom E: *Il Extremelo, Charakterstücke und Technische Studien von Instrumentalvirtuosen aus fünf Jahrhunderten für Altblockflöte mit Extension nach E*, gesammelt und arrangiert von Karel van Steenhoven (Aura-Edition, 2015). Also interesting is his work at the Hochschule für Musik in Karlsruhe. See, Karel van Steenhoven and Ulrike Mauerhofer, *Flutessence: Blockflötenunterricht Hochschule für Musik Karlsruhe*, accessed 15 July 2019, <http://www.flutessence.de/index.html>.

⁵⁷ Detailed information about the four parts of the Helder sound unit can be found at 'Helder: The Sound Unit', *Mollenhauer*, accessed 15 July 2019, https://www.mollenhauer.com/images/stories/PDF/Sound-Unit_En.pdf#content. Also available at Froehlich, "'Artistic Research Project": Introducing the Helder Tenor (Blog)'.

⁵⁸ However, on the Eagle recorder website it is explained that the Eagle recorder 'was created from extremely loud and wide-bore fantasy/meditation models that are not based on old 'originals.' Adriana Breukink, *Eagle*, accessed 8 July 2019, <http://www.eagle-recorder.com>.

increased volume. It includes a metal labium and a key system and offers two different voicings⁵⁹ according to the breathing type of each recorder performer.⁶⁰

Eventually, this exploration led not to my choosing the loudest and most revolutionary design for use in this project, but rather the one that retained a certain ambiguity in its simultaneous expression of Baroque and modern aesthetics, while also incorporating significant design changes generating new instrumental affordances: the Modern Alto Recorder by the Mollenhauer Company. Thus, my decision to acquire this instrument was primarily a response to the initial research phase of this project. As mentioned above, its features influenced my decision to work with the first movement of Poulenc's Sonata, in addition to generating a space of exploration in terms of its affordances in the context of Frith's Sonata.

In the next section, I examine the instrumental decisions for playing each of the sonatas' movements. The commentary on Frith's Sonata is considerably more extensive and exhaustive than that on Poulenc's, due to the amount of instrumental exploration undergone to subsequently define the instruments on which to play it.

The Search for (and Choice of) Recorders to Play John Frith's Sonata

A range of objective and subjective variables (often entwined) arose in the process of comparing the different recorder models, the recorders with the flute, and the different sonic combinations when playing with the piano, all as part of the process of searching for the instruments that would be most suitable for me to play this Sonata. The specific musical character and material of each of the three movements led me to consider using different recorders. In this approach, the conception of the Sonata as a whole was presented through a multi-instrument version, thus expressing the different contents through the choice of different alto recorder voices, each with its singular, expressive appearance.

The pitch was a primary, objective variable that immediately defined whether a particular recorder could be used with a modern piano. The only recorder that was discarded for this reason was the Rippert by von Heune, which, despite officially being pitched at historical Venetian A=440, was in practice considerably lower than the piano used.

⁵⁹ As Samuel A. Elder notes, 'ease of playing, loudness, and clarity of tone of a woodwind recorder are determined by the manufacturer's skill in the art of "voicing."' Samuel A. Elder, 'Physical Basis of Woodwind-Recorder Voicing', *Journal of the Acoustical Society of America* 35, no. 11 (1963): 1901, <https://doi.org/10.1121/1.2142752>. See also footnote 54.

⁶⁰ Adriana Breukink and Jo Kunath, 'Breathing Types', *Eagle*, accessed 15 July 2019, <http://www.eagle-recorder.com/page.php?pag=blaastype&lang=en>.

The first wider factor that I addressed was the issue of balance and (related to that) each recorder's dynamic range. I explored different blowing techniques, aiming to achieve a more open sound. The response to changes in air pressure varied significantly between recorder models, resulting in a sound that was either broad, warm and flexible, or untampered and easily out of tune. From my experience of concerts in which recorder performers play with a piano, I was of the opinion that the concern that the recorder will not be loud enough can easily lead to distorting the quality of the recorder sound. The emphasis should be placed, it seemed to me, on instrumental eloquence, sensitivity and a deep connection with the musical material, rather than on the attempt to achieve the highest power and sound uniformity. Additionally, the impression of volume is not always purely auditory: I often prefer to convey an expressive intention through a physical and a musical gesture, even if it does not result in an overtly audible effect, rather than to change the expression due to the issue of the balance. Some compromises are inevitable, though – as in any collaboration – to reach a satisfactory connection between the instruments, the performers' musicality and the particular acoustics. Adapting the recorder volume too substantially in aid of balance can, it seems to me, upset this relationship, compromising the emergence of the 'musical voice': 'the persona or musical identity that emerges as the musicians tune themselves to their instruments and the activity of the ensemble.'⁶¹

Before addressing the specific musical material of the Sonata, I also examined my internalised ideas about the quality of each of the instruments: the perception of how 'good' an instrument is considered to be. I discarded any preconceptions, determined only to explore the possible connections between the specific recorder and my understanding of the music addressed.

A factor that I identified as an essential variable that would influence my instrumental and performance decisions was my perception of each recorder as either an anachronic instrument with respect to the modern recorder-piano situation (if the design was based on old models), or a contemporaneous one, with a design less concerned with carrying a sense of the past. This subjective variable led me to explore beyond the musical content, delving into my perceptions of both the piano and the recorder, as entities from different epochs and aesthetics. This influenced my interaction with the recorder and with the piano/pianist, as well as my perception of the moment of the performance as expressive of 'the contemporaneity of

⁶¹ Eleanor Stublely, 'Being in the Body , Being in the Sound : A Tale of Modulating Identities and Lost Potential', *Journal of Aesthetic Education* 32, no. 4 (1998): 96, accessed 8 July 2019, <https://www.jstor.org/stable/3333388>.

the noncontemporaneous',⁶² and ultimately the performative decisions in response to all that. This factor is examined in more detail, below, with respect to the first movement of Frith's Sonata.

Related to this is the (subjective) consideration of the visual aspect of the instruments (recorders, piano and flute): how they either match one another, visually, or generate a contrast in appearance. Sometimes the sense of quality of this visual encounter might be influenced by a specific 'matching' part of an instrument, such as a modernised recorder's foot design within an otherwise older appearance, which would seem to reach towards contemporaneity with the piano, or even by the instruments being of matching colours. Conversely, it might arise from my perception that the particular combination together responded coherently to a specific section of the music or a suggestive indication of the composer.

Each possible recorder voice, regarded as distinctive and 'unique', was examined during the rehearsals with the piano, to select the one that would express my understanding of the musical content. The selection of a particular voice would also respond to certain allusions to other instruments or musical contexts, such as the Irish whistle in the second movement or to the 'empowered Baroque sound' generally required. Eventually, as examined below, my understanding of the musical content and my response to the composer's indications and requirements would affect, but not determine, my criteria for selecting the instrument(s) for each movement and public performance.

The instrumental choices and processes of explorations for each movement are discussed below.

First Movement: 'Moderato'

The recorder selected for the public performance of the first movement at the lecture-recital given on Thursday 7 July 2016, in the Sir Jack Lyons Concert Hall, was a Moeck 'Rottenburgh' treble recorder, made of ebony. It was designed by the American instrument maker Friederich von Huene (1929 – 2016) and has been produced by the German Moeck Company since the 1970s. This model has the bowed windway from the late 1970s: a combination of a historical Baroque windway shape and the modern more open windway of the early twentieth century. Perhaps due to its age – and its treatment by its previous owner, before I inherited it in 2014 –

⁶² Reinhart Koselleck, 'History, Histories, and Formal Time Structures', in *Futures Past: On the Semantics of Historical Time*, trans. Keith Tribe (New York: Columbia University Press, 2004): 95.

it has a low, rather weak volume, particularly in the bottom range. However, it has a clear-cut, focused timbre in the middle and high registers.

Notably, this recorder does not respond to Frith's wish for a significantly louder recorder, but rather to my perception of the musical material. I searched for the most suitable recorder to express the melancholic, mysterious and passionate tension generated by the continuous upwards gestures that characterise a lot of the music. The bright and sharp timbre of this instrument seemed to me to build that effect nicely.

The bigger cavity of the canal (compared with the original Baroque templates), produces less resistance when blowing, allowing less air-pressure flexibility, and this tends to sharpen the tuning. However, using modern vibrato techniques – different to the vibrato possibilities that I would use for Baroque style – helped me shape the phrases and suggest growing dynamics as necessary.

With the composer's agreement, I improvised some ornaments in Baroque-style; thus deepening my response to the composer's expectation that in listening to his piece one would always be responding to a pure Baroque sound. As ornamentation forms an essential characteristic of the Baroque style, I wanted it to be part of my interpretation of the composer's sonic imagination. This practice also responded to the fact that I was playing an instrument with an appearance derived from a recorder by the Baroque Belgian instrument maker Jean-Hyacinth Rottenburgh (1672 – 1756). Listen to the first movement in video [example 1.1](#). The score can be found in Appendix 1.1⁶³.

With regard to the composer's designation that the piece could be for 'either recorder or flute', the flautist Jennifer Cohen and I compared possible recorder fingerings and their resulting dynamics, with the same material played on the flute, realising that it was considerably better-balanced with the flute. Some compromises of dynamics must be made by the recorder performer due to the fingerings required for specific combinations of notes, such as in the tremolos in figure 7, illustrated in video [example 1.2](#):



Figure 7. Sequence of tremolos in the first movement of Frith's Sonata.

⁶³ The use of the score of the Sonata for Recorder or Flute and Piano by John Frith was kindly authorised by Hugh Field-Richards from Hopvine Music, in an email sent to the author on 29 September 2019. See written consent in the Appendix.

A key characteristic of performing this first movement on the recorder rather than on the flute is the contrast produced between the instrument's Baroque design and the modern piano. Zachary Sayre Schiffman's words, from *The Birth of the Past*, express this nicely: 'A "sense of anachronism" [is] triggered when we encounter things that appear out of context'.⁶⁴

To explore this issue of the asynchrony or timelessness conveyed by the interaction of these two instruments, I decided to develop a separate performance of the movement: I played it within an entirely Baroque instrumental setting, with a 'continuo' pairing of a harpsichord and cello instead of piano, and at the pitch, A=415. I wanted to experience through performance the resulting perceptions of both the historically matched instrumental setting and the interaction between this instrumental version and Frith's musical material.

In this process of exploring the questions of a Baroque or a more anachronous setting, I noted that the majority of the works written for Carl Dolmetsch and Joseph Saxby were performed with a harpsichord, responding to the possibilities of the open designation 'keyboard'. Using two modernised Baroque instruments generated a joint 'anachronism': a 'hybrid' instrumental combination. This was the case, for instance, with Lennox Berkeley's famous Sonata, nowadays known as being for piano and recorder, which was premiered in 1939 using a harpsichord.⁶⁵ In his book *Carl Dolmetsch and the Recorder Repertoire of the 20th Century*, Andrew Mayes comments:

what is of particular interest is the use in this performance of the harpsichord, of which no mention is made in the published score. In view of the smaller number of harpsichords to be found at that time, this is entirely practical [as the use of either flute or treble recorder] and a feature of a number of the earliest published works for recorder and keyboard. However, as the work is so often heard on the piano, and the keyboard writing reminiscent in places of that in Berkeley's Six Preludes for piano, it is perhaps difficult to imagine the

⁶⁴ Zachary Sayre Schiffman, 'Introduction. The Past Defined', in *The Birth of the Past* (Baltimore, MD: Johns Hopkins University Press, 2011), 3.

⁶⁵ The first public performance of Lennox Berkeley's Sonata for Recorder (or Flute) and keyboard took place at the Wigmore Hall, London, on 18 November 1939, played by Carl Dolmetsch (recorder) and Christopher Wood (harpsichord). Wood was replacing Joseph Saxby, who '[had] been prevented from [performing] by his Civil Defence Duties in London', as stated in the programme for this recital. Andrew Dolmetsch and Jeanne Mayes, *Carl Dolmetsch: A Centenary Celebration* (Mytholmroyd: Peacock Press, 2011), 31.

work played on the harpsichord. It would nevertheless, be of interest to hear it played this way.⁶⁶

Berkeley and Dolmetsch were in close communication, and in a letter dated 6 May 1957 Berkeley refers to the difficulty of playing the work on the recorder: 'I quite often hear it [his sonatina] played on the flute – it appears nobody but you can manage it on the recorder'.⁶⁷



Figure 8. Frith, 'Moderato' played in a Baroque instrumental setting. Lecture recital, 2016. Zosia Lewandowska (harpsichord) and Gaia Blandina (cello).

In the continuo context (figure 8), with the quasi-Baroque visual aesthetics (although the cello played was not a Baroque instrument), two alto recorders were used in order to compare their distinct voices in relation to the continuo part. These instruments were: a hand-made alto recorder of European boxwood, by the German instrument maker Stephan Blezinger, based upon a historical alto recorder made by the French instrument maker Pierre Jaillard (1663 – 1731),⁶⁸ long kept in the personal collection of the Dutch recorder performer Frans Brüggem (1934 – 2014); and a hand-made alto recorder of Japanese maple, by the Japanese recorder maker Hiroyuki Takeyama, based upon a Bressan recorder at pitch at A=410.⁶⁹

Secondly, I wanted to explore the extent to which my recently acquired Modern Alto Recorder would 'match' the modern aesthetics of the piano and the flute. I wondered whether

⁶⁶ Andrew Mayes, *Carl Dolmetsch and the Recorder Repertoire of the 20th Century* (Aldershot: Ashgate, 2003), 28.

⁶⁷ Mayes, *Carl Dolmetsch*, 29.

⁶⁸ Pierre Jaillard, later called Peter Bressan in England, where he settled in 1688.

⁶⁹ In Takeyama's words: 'We are making our products based on the Bressan's recorder at A410. Compared with the other recorders which were made in the same period, the instrument is resizable because it has a stable bore shape. This is the reason why we chose this model.' Hiroyuki Takeyama, email to the author, 24 June 2016.

its undoubtedly Baroque characteristics in terms of both sound and appearance – notwithstanding the evident modernisations, such as a flute-like foot joint – would prevent me from perceiving it as a contemporaneous, ‘matching’ instrument with the others. Video [example 1.3](#) provides a set of comparisons together with the brief introduction given at the lecture-recital.



Figure 9. Frith, ‘Moderato’ played in a modern instrumental setting. Rehearsal, 2016. Cristina Rodriguez (piano) and Jennifer Cohen (flute).

Finally, after these explorations, I concluded that even though the Baroque setting, with continuo, fulfilled the objective of conveying a coherent ‘picture’ (as seen in figure 8), it did not satisfactorily meet the style of the music. Contrarily, the modern combination of piano, flute and Modern Alto Recorder (figure 9) blended both the instruments and the music more naturally, without the performers needing to ‘overcome’ the conflicting sound worlds or resistances (whether manifested in the piano part not being idiomatic for the harpsichord, or in modern instruments having to work with a historical Baroque alto recorder). The modern setting option seemed to me better to match the instruments and Frith’s musical material, while still conveying a hint of anachronism carried by the recorder.

Second Movement: ‘Andante Misterioso’

In the preface to the score, Frith states that the second movement of this Sonata ‘draws something from the illusive “other-worldliness” of folk music’. He subsequently explained to me that he had the sound of the Irish whistle in mind. My search for recorders for this movement was mainly influenced by these suggestions. A review of possible whistles followed, to examine their different timbres, materials, registers and idiomatic music making. Eventually, the low whistle register seemed to me interesting and evocative for this context.

The availability of wooden, metal or plastic whistles fuelled my interest in exploring and comparing, during rehearsals, the use of recorders made of different materials, and also different types of wood. Additionally, a technical indication given in bar 51 seemed to me significant to the search for an instrument. Here an A-flat alternative note is suggested for the recorder, to avoid the high G flat (more easily playable on the flute), as can be seen in figure 10.



Figure 10. Frith, bar 51: illustrates the composer's awareness of the technical limitation of the high G flat with a Baroque recorder, consequently providing the alternative A-flat note for the recorder.

Just like the flute, any recently produced modern recorder (from the late twentieth century onwards) can easily play that high G flat using a newly provided fingering (without the technique of 'covering the bell-hole', explained earlier). The Modern Alto Recorder therefore seemed, on this level, a good choice. However, my search for a suitable recorder was not only concerned with solving objective technical problems, such as the volume or the playability of certain notes. My attention was rather focused on the choice of a particular timbre: a 'voice' that would combine the two sound contexts of the actual instrument present on stage – the Baroque recorder addressing modern repertoire – and the sound of the absent whistle, evoked by Frith's imitation of whistle idioms. The Modern Alto Recorder would, I decided, not provide that quality.

For the lecture-recital I selected two recorders for this movement: the plastic 'Robin' model (209 BE) produced by the Japanese manufacturer Aulos, and the olive-wood Bressan, hand made in April 2015 by the Chilean maker Jorge Montero. I aimed to take advantage of the different features offered by instruments made of different materials, like recorders and whistles. This process also led me to re-evaluate the qualitative value of my plastic model: in choosing this recorder, I disregarded conventional ideas, often taken for granted, about 'good' or 'bad' quality instruments, instead focusing on what was interesting for the context. In this respect, the following description of this Aulos alto recorder, provided on the webpage of the British music store the Early Music Shop, is interesting: 'The 209 is the least expensive plastic alto from Aulos and is intended primarily for school or beginner use. They have a plain, modern profile.' The implication of these words is that one would not be likely to want to use

this instrument in a more professional context, but in fact my deeper consideration of the affordances of Frith's music in relation to the instrumental context meant that its 'limitations' became positive attributes for my purpose.

Selecting two recorders for use in this movement responded to the movement's two kinds of musical contents. First, the opening theme and its recapitulation in section H (towards the end), present an evocative, subtle, *dolce* melody in soft dynamics for both piano and recorder. The plain, thin and rather naïve sound quality of the plastic recorder, due mainly to its lack of harmonics, seemed to me to evoke the raw tone of certain low whistles, which offers itself for shaping by the performer's phrasing. From bar 11 onwards, the dynamic becomes significantly louder, with the recorder moving towards the low register: this required, it seemed to me, stronger bottom notes and richer harmonics than the plastic model, to meet the piano in a satisfactory manner. Montero's 'Bressan' recorder, with its somewhat raw and raspy but round and harmonically rich sound, therefore fitted this section well.

In an email dated 13 May 2016, Montero explained to me the aspects of his design that facilitate the louder volume. Amongst these were: 'the thickness of the olive-wood, which enables greater tube vibration, producing additional harmonics; the fine texture of the wood, which allows for better polishing; the interior design of the bore and of the foot of the instrument; and the specific voicing'. This information was useful when considering objective features to select the instruments (although it is often in or through the practice that the instrument's function is actually perceived and subsequently assessed).

The use of two different recorders enhanced my perception of each instrumental voice and endorsed my aim of considering (and highlighting), in my performance projects, the expressive potential that lies in each unique model. This understanding also fed into further aspects of my interpretation: I included improvised ornaments that combined the reference points, recalling both the Baroque style and the idiomatic inflexions of the whistles. Frith's commented on my decisions, as follows:

I have to admit to being concerned that you would not be interested in presenting my work 'unadulterated' and I was, therefore, feeling quite apprehensive about what I might find.

As it turned out I was generally very pleasantly surprised by your insightful instrumental choices and occasional added ornamental notes/finger vibrato/glissandi-'swoops' etc.

The different choice of wood & instrument maker was intelligently handled, and I would wholeheartedly endorse the rationale employed in making these crucial decisions.

Even your most extreme election to use a plastic mass-produced instrument for the opening bars of the second movement (to capture the 'haunting' Celtic 'hollow' timbre of the folk whistle) was a flash of inspiration.

Example 1.4 (video) illustrates the search mentioned above for distinctive recorder voices and the comparisons of the plastic Aulos and the wooden 'Bressan' model. Overall, through this process of exploring the musical content in relation to the choices of recorder, I experienced what was for me an attractive and complex 'uncanniness' of being placed simultaneously in (between) aesthetics and contexts too distinctive for coherence. The performance evoked the folkloric tradition of the Irish whistle but without losing sight of the primary, already productively anachronistic context, with the quasi-Baroque recorder adapted to face the modern context with piano. Listen to the second movement in example 1.5 (video). (See score in Appendix 1.1.)

Third Movement: 'Rondo: Moderato'

The third movement's specific characteristics of contrasting dynamics and extensive chromaticism expose certain weaknesses in the recorder – even in modern designs – especially with regard to fingerings systems; specifically, the lack of a fully keyed system. Having more keys would replace numerous awkward combinations of fingerings, which disrupt not only the natural flow of the melody but also the uniformity of timbre and volume (because, as noted with respect to the first movement, different fingerings produce subtly different volume and/or sound qualities from one note to another). Additionally, in some of the complex passages the required dynamic also lies beyond the recorder's possible volume. This becomes an ongoing problem that demands compromises from both players in delivering the musical content, not necessarily in line with the performers' (and the composer's) musical aims.

As a result, for the first time in the process of searching for recorders to address this Sonata, I felt, with this movement, that I was borrowing a repertoire conceived for the flute. It seemed to me that I was playing an arrangement of flute material, which despite having been adjusted to the alto recorder's tessitura, retained the rather unidiomatic features that triggered a sense of 'awkwardness'. I even considered having this movement indeed played by

a flautist, convinced that the flute would be ‘the’ instrument to play it, and also responding (rather literally, perhaps) to the ‘either recorder or flute’ alternative. However, this would have interrupted my process of re-assessing and re-purposing my recorders.

Volume was the characteristic that I next prioritised. Two alto recorders were examined in interaction with the piano: the ‘Bressan’ by Montero, with its rich harmonics, utilised in the second movement, and the Modern Alto Recorder (also explored earlier), with its flute-like bottom range and more uniform balance across registers. Thus, the search for a particular recorder would not (at least primarily) focus on the timbre, as in the other movements.

This movement’s *rondo form* was also considered a noteworthy element that could influence my instrumental selection criteria as well as my performance decisions. Frith’s familiarity with the Baroque sound and repertoire gave me the idea of examining the Baroque form of the rondo, possibly to recall that style in my playing. A possible reference would be (for instance) the keyboard *rondeau* of the French Baroque, from which the Classical rondo developed. I took as a model *Les Baricades Mistérieuses* by François Couperin (*Pièces de clavecin*, book 2, 1716–17, with its elegant tempo and melodies that could be subtly imitated, even in the context of Frith’s music. I tried to play Frith’s Rondo in this tempo and character, and the recorder seemed to me to respond in a natural way (idiomatically) to the repertoire. However, the piano did not match that allusive context. Another quotable context could have been the Classical and Early Romantic *rondeau*, such as those composed by csakan virtuoso Ernest Krähmer (1795 – 1837). As mentioned above, the csakan, related to the recorder’s evolution, shared a synchronic musical style with the fortepiano; Krähmer’s *Romance et Rondeau*, op. 30, was written specifically for csakan and fortepiano. This instrumental setting and musical content, however, was too distant from Frith’s Rondo and particularly its use of a modern piano.

I decided to settle into the modern context of Frith’s Sonata and the composer’s desire to have ‘a big piano playing at forte’.⁷⁰ What, then, would be an idiomatic, iconic rondo as a reference point for the piano? I considered that the third movement, ‘Rondo. Allegro’, of the Sonata ‘Pathétique’, op. 13, by Beethoven was closer to the type of sound required: modern, loud, and full of contrast, but not at all easy to achieve with any of my recorders. The Eagle recorder would probably have been more satisfactory in terms of meeting the piano in this respect.

⁷⁰ John Frith, email to the author, 11 July 2016.

Accepting that I would be playing an unidiomatic movement for the recorder, I looked at a closer point of reference: Frith's Sonata for Flute and Piano (2008). I found similarities in the musical content and a successful blending of the piano and the flute. As a result, I decided to focus on the exploration of my recently acquired Modern Alto Recorder and to consider developing a cadenza for the movement. In the second movement of Frith's Sonata for Flute and Piano, 'Andante sostenuto', I identified an excerpt (Appendix 1.2) that seemed to me musically and technically interesting and challenging to use as a quotation within a cadenza, stretching the alto recorder's tessitura towards the flute's range.

I aimed to examine the affordances of this new recorder – which at this stage I had not really explored in much depth – with special attention to the extension of the register towards the bottom E, and upwards to the high C3 note (not the highest note in the recorder, though). The practice of developing cadenzas to showcase some of the novel possibilities of modernised recorders was also used by Carl Dolmetsch: amongst several other examples, Mayes mentions that Dolmetsch wrote a cadenza (preferring not to use that of the composer) for Arnold Cooke's Divertimento (1960) for piano and alto recorder, in which he explored certain affordances of his modernised recorder:

One notable feature of Dolmetsch's [cadenza] version is the inclusion of the note b-flat¹¹, a note made much easier with the introduction of the bell key. Since none of the works composed for him immediately after the bell key was introduced (1957) made use of this note, a cadenza was an ideal opportunity for him to try it out.⁷¹

With 'Harmonic' recorders such as the Modern Alto, the highest register requires the technique of 'leaking fingerings', which is difficult to master: the performer must open sometimes a half, sometimes slightly less or slightly more, of the particular hole or holes needed by the specific fingering to produce a certain note. This is not a new technique, but it responds to the cylindrical bore of these harmonic recorders, which can overblow into pure, tuned overtones, in contrast to the inverted conical bore of Baroque recorders that overblow to a higher pitch than the fundamental tone.⁷² I had not practised this technique, so far, on

⁷¹ Andrew Mayes, 'Aspects of Performance Practice in Works for Recorder Composed for Carl Dolmetsch between 1939 and 1989.' (PhD thesis, vol. 1, Birmingham Conservatoire, Birmingham City University, 2008), 217. Additionally, Mayes provides examples of the cadenza for Cooke's Divertimento including the b flat 3. Mayes, vol. 2, 485.

⁷² Phillippe Bolton provides detailed information about types of recorders' bore, at: Phillippe Bolton, 'The Bore of a Baroque Recorder', *Handmade Recorders & Flageolets*, accessed 15 July 2019, <http://www.flute-a-bec.com/percegb.html>. See also, Bolton, 'The Evolution of the Recorder's bore',

new recorder models: I was familiar with its use with the Renaissance 'Ganassi' model, though, with a similar bore profile. However, Ganassi instruments require the partial covering of different notes to those of the modern ones, using different combinations of closed and partially closed fingers.

Eventually, and with Frith's consent, I created three possible cadenzas: two, to explore the Modern Alto Recorder's novelties and its more modern voice, and a further one to highlight the dissimilar Baroque recorder's affordances, such as the 'covering the bell hole' technique required for the low E1, the F3 sharp and the A3, and the slur between the E3 and the F3 sharp to enable the necessary interval. These cadenzas were then workshopped and recorded. The crucial areas of comparison in this process were the low register, the high register, and the relationship between fingerings and dynamics.

In order to examine the differences in the low registers in this context, I, first, compared the natural response of each of my recorders playing the starting diatonic fifth (F – C), in this order: plastic 'Robin' by Aulos, Rotteburgh by Moeck, Rippert by von Heune, Bressan by Montero, and finally the Modern Alto by Mollenhauer. Then, I considered the extension to bottom E gained with the Modern Alto, compared with the possibility of producing this with the traditional Baroque alto recorders in F, by partially covering the bell hole with the knee. I illustrated these different techniques by performing the beginning of Frith's excerpt from his Sonata for Flute and Piano (figure 11) as part of the lecture-recital: see [example 1.6](#) (video).



Figure 11. Frith, Sonata for Flute and Piano, bar 51: playing the low E.

Afterwards, I referred to the way in which, in my cadenza 1 (Appendix 1.3) I extended the Rondo's refrain downwards into the bottom E (figure 12) and compared this with its playability and effectiveness on the Baroque recorder: see [example 1.7](#) (video).

accessed 15 July 2018, <http://www.flute-a-bec.com/evolutionpercegb.html>. For more information see Froehlich, 'Recorder Bores and What They Tell Us', *Artistic Research Project* (blog), accessed 18 July 2018, <https://susannefroehlichrecorder.wordpress.com/2016/03/18/recorder-bores-and-what-they-tell-us/>.



Figure 12. Troncoso, cadenza 1: extension of the recorder's register to the low E1.

As mentioned earlier, the same technique of covering the bell hole with the knee is required to play specific high notes (F-sharp 3, A3 and B-flat 3) on a traditional Baroque recorder. [Example 1.8](#) (video) shows the playability of the extension to the highest register (figure 13) using a Baroque model.

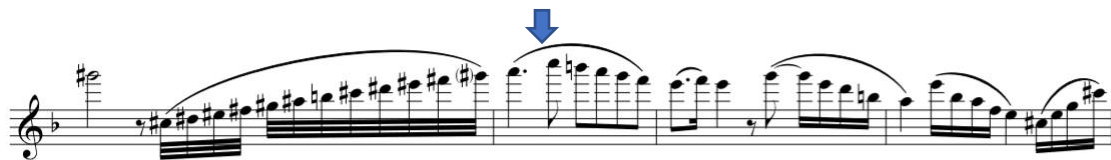


Figure 13. Troncoso, cadenza 2: extension to the high register.

The new bore shape of the Modern Alto Recorder, however, allows the production of those high notes by means of the 'leaking' or 'shading' fingers technique. Listen to [example 1.9](#) (audio): the high register with the Modern Alto Recorder, starting at the high A3 onwards. The same excerpt is played by the flute in [example 1.10](#) (video).

[Example 1.11](#) (audio) comprises the first cadenza developed for the Modern Alto Recorder (Appendix 1.3), placed at the end of the movement (therefore, [example 1.11](#) provides only the 'Animato' section of the movement). As illustrated in the lecture recital ([example 1.7](#)), I wanted, firstly, to highlight the appearance of the low E, unexpected with an alto recorder. Then, I took the rhythmic triplet motif from the Animato and climbed into the high register where, apart from examining, through performance, the technical challenge demanded by the passage, I incorporated direct references to Frith's compositional language, drawing on gestures from the second movement and also from one of Frith's compositional influences, Francis Poulenc. I also paraphrased the first motif of Debussy's *Syrinx*, for flute (figures 14 and 15):



Figure 14. Debussy, *Syrinx* (opening).



Figure 15. Troncoso, motif drawing on Debussy's *Syrinx*.

However, as noticed by Frith, the cadenza placed at the end of the movement disrupts the fluency and the natural momentum driving towards the end of the work.⁷³ Moreover, the exploration of the Modern Alto's high register remains incomplete: I still wanted to include the upper-most passage in Frith's quoted excerpt from the Flute Sonata, as explained earlier. I decided then to continue developing this cadenza.

The following two audio [example 1.12](#) and [example 1.13](#) examine the definitive cadenza with the Modern Alto and that with the Baroque Bressan model. In the former example (cadenza 2 in Appendix 1.4, [example 1.12](#)), the cadenza is placed before the 'Animato' (bar 96, 'Q' section, minute 03:31), in response to the composer's suggestion of putting it there instead of at the end of the movement, as I had in cadenza 1. I aimed to further 'stretch' this recorder's register, as much as possible, and to experience the affordances of its technique. It is interesting that the extreme low and high registers, which are more strongly contrasted in cadenza 2, sound significantly more flute-like than the middle register. This provides a somewhat ambiguous voice, which I find attractive.

Cadenza 3 aimed to showcase the technical and musical features of the Baroque recorder. It was written before Frith commented on its placing before the Animato (see footnote 73). However, I felt the structure worked more organically in this version than in cadenza 1, [example 1.11](#), with a close connection between the end of the cadenza and Frith's

⁷³ In Frith's words: 'Although the cadenza in the third movement was organic and derivative of my music, its placing so near to the end of the movement distorted the impact of the ending which I conceived as a Coda (marked Animato) building to the final note of the final phrase. With the advantage of hindsight, I would have preferred the cadenza to appear at the written pause before the bar 97 just before the Animato. However, you did brief me beforehand and I kept an open mind, hoping it would work as you had planned it.' John Frith, email to the author, 11 July 2016.

final gestures of the movement. I stretch the register down to incorporate the bottom E by partially covering the bell hole with the knee, as well as upwards to the high A, completely covering the bell hole (and also incorporating a tricky slur technique to play the high 'E3 – F3 sharp' interval). I left out the very high C3 to avoid its sharp and quite forced-sounding effect on this recorder.

In the first lines of cadenza 3, I wanted to highlight the lyrical timbre of the Baroque model, especially when played in the middle register. This helped me prepare the tension for the following upwards gestures. Frith's excerpt from his Sonata for Flute and Piano was well controlled in using this recorder, and the four challenging, unidiomatic slurred scales at the end landed nicely on the high A3, using the bell hole technique. Listen to [example 1.13](#): the second version of 'Rondo. Moderato' using the Baroque 'Bressan' Montero alto recorder. 'Moderato'; 'Animato' (3:31); Cadenza 3 (3:52). The score of cadenza 3 is in Appendix 1.5.

To sum up, the process of finding a suitable recorder to meet both the piano and the repertoire in this movement was the most complex. I consistently identified technical or aesthetic points of friction that, as Sally-Jane Norman puts it in her discussion of the creative potential of such tensions, 'generated different kinds of resistance and behavioural response'.⁷⁴

This movement ideally requires a uniform timbre and responsive volume across the entire compass of the instrument, and a robust, open sound. However, the Rondo's musical content exposes the weakness in the recorder design with respect to current fingerings systems (in both Baroque and modern recorders). The current recorder, in all its modernised versions, is still essentially a diatonically conceived instrument. It is mastered in its chromatic scope by proficient players, but the instrument's design does not help. Cross-fingerings, which play a crucial role in the subtle shaping of the melodies in early music, by naturally differentiating the tones in both volume and timbre (and in relation to the specific temperament) have no role in modern approaches to tonality, which features more equally conceived notes, or in relation to the piano. Some recorder (and whistle) players find a solution to these fingering limitations by acquiring alto recorders in different (and less

⁷⁴ Sally Jane Norman, 'Contexts of/as Resistance'. *Contemporary Music Review* 32 nos. 2 – 3 (2013): 275, accessed 15 July 2018, <http://dx.doi.org/10.1080/07494467.2013.775805>.

As already mentioned, the ongoing awkwardness triggered resistance, which, ultimately, motivated the creation of cadenzas, to deepen into instrumental affordances. The qualities of the newest of my recorder models, the Modern Alto, were perceived as in an overtly early stage in the development of a twenty-first-century updated, resourceful recorder, capable of experiencing and expressing Frith's third movement as 'idiomatic'.

common) tunings:⁷⁵ in G,⁷⁶ A flat (like the csakan), A, B and so on, as well as at different pitches.

As a result of this process, I decided that the Baroque model best suited this third movement, as well as providing an organic connection between the second and third movements. However, choosing a specific model was only part of the point. Rather, the study draws attention to the complexity of selection criteria and decisions, in terms of the interaction between the specific instruments being played, the particular performing style, the acoustic circumstances of the performance and the context of the piano.

The Modern Alto Recorder in the Context of Poulenc's Sonata for Flute and Piano

As noted above, the process of working with Poulenc's Sonata for Flute and Piano did not involve exploring a choice of instruments. As a result, I reflect on this aspect of the project much more briefly. The concern here was exclusively to examine the instrumental affordances of the Modern Alto Recorder in this context, and for that reason I selected only the Sonata's first movement, 'Allegretto malinconico': this was sufficient for the project.

Earlier I explained why I had already selected the Modern Alto Recorder as an instrument to be explored in this project. Instead, the search here was rather for suitable repertoire that could be 'borrowed' from the flute. The musical content of the 'Allegretto malinconico' exploits quite idiomatically some of the novel features of the modern recorder that draw the instrument close to the flute. Amongst these features are the extension of the register, a more flute-like timbre, and certain similarities in the instrumental design, such as the foot joint shown in figure 16:

⁷⁵ For instance, on Piers Adam's website, it is explained that 'central to his collection are a range of recorders in unusual keys and tone colours by the reclusive English maker, Michael Dawson'. *Piers Adams*, accessed 9 September 2018, <http://www.piersadams.com/recorders/>.

⁷⁶ In his *Compendio musicale* (1677), Bartolomeo Bismantova (before 1675 – after 1694), a writer on wind instruments, cornetto player and composer, drew a Baroque recorder in G in three pieces, calling it a 'Flauto italiano'.



Figure 16. Foot joints of the Modern Alto Recorder (above) and the Flute.

The flute-like timbre in the low and high register nicely matches the Sonata's original flute voice. A recognisably Baroque timbre, though, is projected when playing in the middle register, producing the certain ambiguity in the instrumental voice discussed above, which characterises this recorder's identity. This dichotomy allowed my instrument to convey both sound worlds invoked in its manufacturing, providing, simultaneously, a sense of contemporaneity in its melding with the flute's timbre, but a distinctive, historical (and aesthetic) contrast when moving away from it.

My exploration here concentrated primarily on developing a deeper awareness of the idiomatic playing techniques of the flute regarding sound, attack, articulation and projection. After listening carefully to a range of flautists and (especially) playing with Cohen, I attempted to translate these techniques into my playing. This led me to perceive this modern recorder as a much closer 'relative' of the flute than in any of the processes undertaken throughout Frith's Sonata. [Example 1.14](#) (video) illustrates that process.

At the lecture-recital, Cohen and I, separately, played the whole movement, making evident the similarities and differences. [Example 1.15](#) (video) provides an introductory explanation of the practice of borrowing repertoire from other melodic instruments, while [example 1.16](#) and [example 1.17](#) (videos) correspond to Poulenc's first movement played by the flute and the modern alto respectively. The score of Poulenc's Sonata for Flute and Piano can be found in Appendix 1.6.

A sense of contemporaneity between the instruments (piano, flute and recorder) was experienced when addressing Poulenc's Flute Sonata, especially after I had identified and examined the aspects that blend (or could blend) and/or differentiate the flute and recorder.

Conclusions

The practice research undertaken in this project focused on unpicking a number of habits, insights, thoughts, intuitions and emotions involved in a specific experience of recorder-piano performance. This led to more informed and therefore conscious instrumental choices. Furthermore, through this initial exploration of instrumental selection criteria, as the first stage of my doctoral research, I identified a body of variables, which formed the basis of the explorative frameworks of the following five performance projects in this portfolio. It provided me with in-depth knowledge of how I perceive, connect to and ultimately choose recorders for a particular context, whether to address existing repertoire (as in this project) or for developing new pieces (as in the following projects, in which I collaboratively devised new content). This allowed for a more profound understanding of both the factors from which instrumental selection criteria arise, and the impact (in creating meaningful choices) of this acquired awareness upon the live performance experience.

Among the variables in the processes of instrumental selection are: the history carried by the instrument, mainly related to the epoch and style that it represents; the instrument's agency, carried in both its design and visual appearance, and in its sonic affordances and resistances; the impact of the performer's creative input in devising performance (the performer's agency); and the influence of the performer's musical background and musical tastes. While the process here was necessarily individual, situated in my specific artistic practice, what emerges here is the complex interaction of these factors that underlies any recorder performance.

It is my perception, derived from the experiences of this project, that despite the current possibility of using modernised recorders to meet the louder piano, the nature of the recorder, markedly linked to its history, aesthetics, contexts and its idiomatic features, will always generate a certain resistance (even beyond the issue of balance). That resistance on the one hand forces compromises that may undermine the desirable, more spontaneous ways of expressing the music through the performing self. However, on the other hand, it was this resistance that led productively to creative ideas and solutions, and that 'trained' my perception of the subtleties and subjectivities entangled in the questions of performance that are central to my study.

Moreover, combining historical periods (Baroque, twentieth-century and contemporary), as in the instrumental staging of Frith's first movement in the lecture recital, altered my perception of the significance of chronological time: the distinction between past(s) and future(s). This occurred when an 'old' aesthetic, derived from a musical style or content, or a specific instrumental design, was foregrounded in performance. I experienced this in

different ways: as a hearing or ‘catching’ of the Baroque epoch through the sound of the old manufacturing style; or as being situated in a specific past (whether the twentieth century, or in Baroque times), ‘remembering’ the future in which I was actually playing. This was experienced as an illusion of time, or an elusive temporality, since it seemed to flow backwards and forwards at once.⁷⁷

I found myself wondering whether synchronous processes in performance may concretely alter our perception of time as an apparently objective reality. As a recorder performer, my response would be that they do: in the experience of performance, the vivid perception of the epochs carried by the musical materials and the instruments alters the logical perception of chronological time. In the next project, **Beyond the Acoustic Environment**, I explored this collaboratively, incorporating a more in-depth exploration of the affordances of the Modern Alto Recorder.

⁷⁷ Interestingly, on *Physics Stack Exchange*: a question and answer site for active researchers, academics and students of physics, the following question was posted: ‘What does it mean to say “remembering the future and not the past?”’. The answer from C.J. Dennis seems connected with my experience of simultaneous times. He responds: ‘If time was reversed, we would remember only things we hadn’t done yet and nothing that had happened. The laws of physics work equally well forwards or backwards, yet our everyday experiences of cause preceding effect, not the other way around makes this seem counter-intuitive’. Another (anonymous) user responds: ‘What’s being referred to here is roughly the question that Einstein called the “problem of the now”’. *Physics Stack Exchange*, accessed 15 July 2019, <https://physics.stackexchange.com/questions/191209/what-does-it-mean-to-say-that-remembering-the-future-and-not-the-past>.

Chapter 2. Beyond the Acoustic Environment (2016 – 2017): Drilling into the Process of Metamorphosis – The Electroacoustic Modern Alto Recorder (ER)

Carmen Troncoso (recorders)

Collaborators: Desmond Clarke (composer) and Lynette Quek (audiovisual artist)

The starting point of the project **Beyond the Acoustic Environment** is an instrument's process of becoming electroacoustic: a process that I scrutinised, as if it happened in slow motion, and which triggered thoughts that would feed into creative responses. The instrument's transformation occurred at the workshop, in France, of recorder maker Philippe Bolton. Figure 17 shows the hand of the 'surgeon' and figure 18 the already fitted recorder in use. [Example 2.1](#) (video) showcases the transformation.



Figure 17 (left). Recorder maker Philippe Bolton in his workshop, drilling the hole to fit the in-mic system into my Modern Alto Recorder, April 2016.

Figure 18 (right). Explorative workshop in The Rymer Auditorium, University of York, 2016.

Bolton drilled a hole in the left side of the head of the recorder to fit the microphone. The newly created 'being', an electroacoustic recorder, demanded interaction with other objects that share the same term 'recorder': various gadgets and devices. This triggered a semantic ambiguity – a play on words – that would also be creatively examined. I invited composer Desmond Clarke and audiovisual artist Lynette Quek to develop independent projects with me, addressing the new affordances and expressive potential of the

metamorphosed instrument. The projects are **RECORDARI** and **Recordeur: One Who Retells**, respectively. In both cases, real-time explorative and improvisatory studies were undertaken, combining the electroacoustic recorder's natural voice (without extended techniques), with non-traditional or 'hidden' sounds (extended techniques) and live technological processing and manipulation. The inevitable connection of epochs triggered by this Modern Alto Recorder's anachronic design, with its Baroque appearance, however modernised (as examined in chapter 1), influenced both the compositional ideas and the choice (and re-contextualisation) of other instruments and repertoires.

The outputs of the projects **RECORDARI** and **Recordeur: One Who Retells** are as follows:

Projects

a) RECORDARI

Desmond Clarke (composer) and
Carmen Troncoso (recorders).

b) Recordeur: One Who Retells

Lynette Quek (audiovisual artist) and
Carmen Troncoso (recorders).

Outputs

Recordari: A Cycle in Seven Movements for
four recorders (one player) and electronics.

Oiseaux Métamorphique. A two-section work
for ER and electronics.

Recordeur I-II. A two-movement
electroacoustic or audiovisual work
for the ER.

Recordeur-Whistle. Electroacoustic work for
whistle and ER.

Recordeur-Double recorder. Electroacoustic
work for a combination of double
recorders.

'The Birth of a Hybrid.' Research poster
with Audio, showcasing the ER.

Introduction

RECORDARI and *Recorder: One Who Retells* aimed to explore common questions within different frameworks and from different perspectives. Both collaborations were carried out at the University of York. The projects explored insights I had gained from: workshops undertaken with recorder makers; research into the origins of the recorder and its English name; previous performance projects which explored the bridging of epochs and styles; and literature and myths focused on processes of ‘transformation’. The main aspects examined were:

- the possibilities of my electroacoustic Modern Alto Recorder;
- the re-contextualisation of recorder models and repertoire;
- the ambiguity of the many meanings found in the origins and roots of the English word ‘recorder’, as a starting point to develop sonic and artistic responses;
- collaboration, including improvisation as primary element of exploration;
- processes of transformation (metamorphosis) – of the instrument, its sound world and found materials – as a means to develop musical narrative.

The project **RECORDARI**, undertaken with Desmond Clarke, focused on developing live performance with (live and fixed) electronics. Our contemporary music making framework comprised the creation of new musical material for my electroacoustic recorder (ER), including manipulation of the sound for real-time performance and electronic environments along with improvisation. It also involved the creative re-contextualisation of earlier works and instruments.

The project **Recorder: One Who Retells**, undertaken with Lynette Quek, focused on developing audiovisual and electroacoustic material for playback, derived from the ER, the whistle and a combination of double recorders. The project’s main aim was creatively to address the sonic and visual potential of the ER. Within the electroacoustic framework, we explored: the input of our initial improvising together as ‘recorderists’ – performers of ‘recorders’ – including recorders as *musical instruments* and *recorder devices*; the transformation or ‘retelling’ of sonic sources; and the collaborative development of diverse musical narratives.

In this commentary, I refer to the factors that motivated my instrumental choices and describe how the collaborative music making processes were influenced by the nature of the specific instruments selected. Even though collaboration was the method of exploration and

the context for my practice research, I refer to such processes only insofar as they clarify matters related to my essential questions. Nevertheless, I provide some introductory comments on the roles within this process.

To elucidate the significance of the personal relationship with the electroacoustic recorder that stars in these two independent projects, it is important to note that my particular ER is not an instrument that can be acquired ordinarily on the recorder market. It is an alto recorder developed by Mollenhauer Company, with a Baroque outfit but modernised inputs into which a specific electroacoustic system, patented by the maker Philippe Bolton, was fitted. For the aims of this project I paid attention to the creative potential of each of these specific features.

Collaborative Work as an Exploratory Method.

Collaboration has a way of increasing imaginative discourse,
where motivation is improved and creative risks are taken.
(Roe, 2009).⁷⁸

Having worked with extant compositions in my first PhD project, collaborating with other performers and with the composer John Frith in the process of exploring alto recorders in relation to the piano, I then wanted to shift the questions of instrumental selection into processes of creating new works.

Thus, from project 2, **Beyond the Acoustic Environment**, I undertook a different approach to my topic, based on collaboratively generating frameworks to question (and challenge) the criteria for selecting specific instruments and subsequently using them. The second project's processes would consist of: selecting and creatively addressing Medieval repertoire from a time when the use of duct flutes (generically labelled 'pipes') remains somewhat ambiguous; improvising, to allow collaborators to exchange musical experience and expertise, as well as to explore sonic environments; creating new repertoire (musical works, as well as audiovisual material) aiming to explore the features and affordances of this specific electroacoustic recorder; and repurposing instruments and existing musical materials.

Both collaborations – with Clarke and Quek – allowed for exploration of different forms of creative response according to the roles and expertise of each participant, Clarke being a composer and live electronics performer (as well as a trained oboe performer) and Quek being a recording engineer, live electronics performer and audiovisual artist. Their individual

⁷⁸ Paul Roe and Jane O'Leary, 'The Listening Composer/Searching Together', *Paul Roe*, 2009, accessed 15 July 2019, <https://paulroemusic.com/the-creative-performer/>.

experience in those roles, combined with their open, explorative attitudes, seemed to offer a perfect alliance for my purposes: their backgrounds, knowledge and personal interests enriched the processes of exploration.

The recorder makers Philippe Bolton and Jorge Montero and recorder designer Nik Tarasov were also involved in the research, broadening my understanding of the specific characteristics of their recorder models and hence my perception of (and approach to) them.

The interweaving of so many entities – instruments, devices, performers, old and new scores, current and past composers and instrument makers – all with their particular characteristics and forms of agency, was at some points overwhelming. Feelings of uncertainty can occur in the process of any integrative collaboration, where roles intertwine, and different exploratory processes overlap. However, as Patricia Montiel-Overall mentions, collaborations can lead to a synergy that benefits and expand certain type of exploration and ultimately increases the impact of the processes and the work produced.⁷⁹

Beyond the Acoustic Environment

Bolton's electroacoustic system

Even since I found, online, information about the electroacoustic recorder developed in the 1990s by the recorder maker Philippe Bolton, I felt a curiosity to explore its properties and possibilities. Playing in a Chilean fusion band⁸⁰ between 2002 and 2005, I had explored placing a lavalier microphone below the lip of a recorder, fitted with just an elastic band. The aim was to remain motion free while amplified, as well as to explore the sonic spectrum when connecting the recorder to a Zoom 505II guitar pedal. However, the microphone was always at risk of moving.

Moreover, it easily picked up environmental sounds, making it difficult to control. There might well have been other ways to deal with this, but I guessed – and have proved it now with my ER – that a system designed explicitly for the recorder would be the best option.

Playing in front of a pedestal microphone has always been an uncomfortable experience for me, due to the need to remain aware of the object' in front of my instrument: the distance to the microphone, the angle of playing and the response to the low and high registers. It appeared that for my performances the external microphone would always be disruptive.

⁷⁹ Patricia Montiel-Overall, 'Toward a Theory of Collaboration for Teachers and Librarians', *Research Journal of the American Association of School Librarians* 8 (2005): 14, 17.

⁸⁰ Amapiola fusion band, *Aquí*, Independiente, 2009, CD, <http://www.portaldisc.com/disco.php?id=1826>.

It was in November 2015, visiting Philippe Bolton's stand at an exhibition of instruments in Greenwich, that I first tried his ER and understood his in-mic system,⁸¹ which can be fitted to any recorder model and size. In 2016, I decided to fit Bolton's system into one of my recorders. The question then became the selection of a particular model for the transformation. I had recently acquired the Modern Alto Recorder by Mollenhauer and, having already explored its acoustic behaviour and (some of its) novel affordances in the first performance project, *Searching for Alto Recorders to Meet the Piano*, I decided to perform surgery on this modernised recorder and to develop a project to explore its sonic world in a contemporary music framework.

Supported by research funds from the Department of Music at the University of York, I travelled to Villes-sur-Auzon in France, in April 2016, for a workshop residency with Bolton. First, we addressed our concerns regarding the impact of the system on the recorders' timbre: we wanted to explore whether the electronic input would obscure the original timbre of the instrument. Bolton had already fitted the system into one of his own wooden recorders, which sounded fine, but I had not experienced the original sound prior to the operation. He therefore fitted the system into one of his plastic recorders to be able to compare before and after, as well as to compare the final sound with that of a wooden instrument. From this we were convinced that the in-mic does not change the recorder's timbre significantly, even when processed within an effect. The sonic response of the two examined recorders still differed significantly despite the strong electronic input.

Once we had discussed other issues, such as the type (and significance) of external equipment required to define the 'voice' of the fitted instrument, and the in-mic system's evolution since the first versions, Bolton, the 'surgeon' of this transformation, drilled a hole in the side of my instrument (as showcased in [example 2.1](#)). Witnessing this 'surgery' triggered within me thoughts and feelings about 'transformation' in terms of new life or new 'being', and about different forms of – somewhat violent – interventions in a body; thoughts that later generated a rhetorical and sonic response in the creative work, as discussed below.

On his website, Philippe Bolton explains that he developed and patented this revolutionary system in 1995, and that 'since then it has been continually optimised thanks to the technical evolution of its components'.⁸² He concludes that 'the electret microphone is the ideal solution for picking up the sound inside the recorder.' Among the advantages of this in-mic system, Bolton argues, are that it:

⁸¹ For more information, see Philippe Bolton, 'The Electro-Acoustic System for Recorders', *Handmade Recorders & Flageolets*, accessed 10 June 2018, <http://www.flute-a-bec.com/systeme-electroacoustiquegb.html>.

⁸² Bolton, 'Electroacoustic Recorders', <http://www.flute-a-bec.com/electrgeb.html>.

- gives the possibility of playing acoustically or electroacoustically;
- offers the possibility of amplifying an instrument with a very high-quality sound without having to remain motionless in front of a fixed microphone;
- has minimal risk of feedback because the system is concealed inside the recorder and for this reason is insensitive to sounds from outside;
- opens up new musical possibilities: the recorder can be connected to an effects processor or other electronic equipment, in particular for contemporary music. When the recorder is connected to an effects unit, the player can enrich and/or alter the sound of his/her instrument using all the possibilities given by the processor.

The last 'potential' described above – the connection to an effects unit – had inspired previous projects. Among the pre-existing works for recorders equipped in this way, Bolton's website mentions *Eclipse* and *Effets Papillon III* by Etienne Rolin, and *Evolution of Line* by Donald Bousted.⁸³ Bolton also refers to The Noise Consort, a French ensemble that combines early, experimental, rock, electronic and contemporary musics, and which includes the recorder player Philippe Renard. Three pieces for Bolton's tenor electroacoustic recorder were composed and played by this group during the 1990s: *Grain*, for electroacoustic tenor recorder and computer; *Muezzin*, for solo electroacoustic tenor recorder; and *Voxy*, for electroacoustic tenor recorder, harpsichord and computer.⁸⁴ The Noise Consort's electroacoustic work *Chroma*⁸⁵ (2016) places early repertoire within a contemporary explorative framework: in their words, 'Equation of the day: XVIIth century Baroque music + XXIst century electronic experimentation + black metal undertones = The Noise Consort'.⁸⁶ One significant difference

⁸³ Bolton, 'The Story of the Electro-Acoustic Recorder', <http://www.flute-a-bec.com/histoire-flute-electro-acgb.html>.

⁸⁴ Excerpts from *Grain*, *Muezzin* and *Voxy* by The Noise Consort can be listened to on Bolton, 'Electro-Acoustic Recorders', *Handmade Recorders & Flageolets*, accessed 13 September 2017, <http://www.flute-a-bec.com/electrgb.html>.

⁸⁵ The Noise Consort, *Chroma*, YouTube video, 4:13, posted by 'InFiné Music', 5 Feb 2016, accessed 13 September 2017, <https://www.youtube.com/watch?v=rda3-qGy3jE>.

⁸⁶ The Noise Consort, 2017, 'Equation of the day: XVIIth century Baroque music + XXIst century electronic experimentation + black metal undertones = The Noise Consort', Facebook, 9 June 2017, accessed 24 July 2019, https://www.facebook.com/permalink.php?story_fbid=10154861698807695&id=49660872694. For more info about The Noise Consort, see

between their work and my project lies in their interest in including elements from rock music, aiming to reduce the gap between classical and popular music. Nevertheless, the three collaborators in the project **Beyond the Acoustic Environment** share the Noise Consort's interest in 'contrasting and combining' soundworlds.

Despite wanting to understand the broader context of existing repertoire for the electroacoustic alto recorder, responding to a pre-existent score did not seem to provide adequate inspiration or an appropriate framework for this project: I felt that it would (probably) limit the scope for exploration of the singularities and affordances of my electroacoustic recorder.

The transformed instrument

The general characteristics of the Modern Alto Recorder were described in the first chapter. In this second project the exploration reaches into this instrument's possibility of becoming electroacoustic, journeying 'beyond the acoustic environment', examining how this broader scope inspires creative processes of instrumental exploration and collaborative devising. Furthermore, the visual uniqueness of this specific transformed recorder is significant throughout the project, and its hybrid (anachronic) nature was exploited by creatively incorporating (and responding to) its overt Baroque presence, carried by its design. Therefore, the visual aspect of the recorder is a variable that significantly influenced this project's development.

One electroacoustic recorder available on the market shares almost the same technical characteristics as my ER: the 'Elody' model by Mollenhauer.⁸⁷ It follows the same harmonic principle of my Modern Alto model,⁸⁸ but with a singular, ergonomic outer shape and a colourful, somewhat extravagant appearance. Notably, with respect to my research concerns, Mollenhauer's website states that 'the Elody has what it takes to do away with the dusty old image of the recorder: it looks spectacular and is ergonomically designed.' Here, there is an explicit wish to 'overcome' the recurrent anachronic image of 'the old recorder', offering the alternative of a rather commercial new appearance (quite different to other contemporary and updated, but rather more discreetly-designed recorders). This aesthetic differs drastically from mine, which aims to embrace and to work creatively with the ambiguities of instrumental

<https://www.facebook.com/thenoiseconsort/photos/pcb.1299965783372471/1299965756705807/?type=3&theater>.

⁸⁷ 'Elody', *Mollenhauer: Enjoy the Recorder*, accessed 8 July 2019,

<https://www.mollenhauer.com/en/recorders/recorders/series-overview/elody-2#content>.

⁸⁸ Harmonic recorders with a longer bore, developed in the 1990s, overblow into pure (in-tune) harmonics, allowing the production of stronger bottom notes and the extension of the third-octave register with a particular fingering technique.

design, drawing explicitly anachronistic ideas or references into creative, synchronous contexts in performance.

In an email sent to me on 10 May 2016, recorder player and designer Nik Tarasov differentiated the Elody and the Modern Alto:

the Modern Alto has a thinner wall, and thus a pickup or microphone will always not fit perfectly into or onto the instrument, so there will be less stability and may not look perfect. Apart from that, experience shows that the audience wants to see what it hears: so when hearing electric acoustical new recorder sounds, it is better to see also a new and modern external design of the instrument and not a traditional recorder.

With regard to the electroacoustic system of the Elody he explained:

Elody uses a Piezo pickup, which can be operated in two ways by using its genuine two sorts of cords: the passive cable (with the mono guitar-like plug) and the active cable (with the XLR plug and an integrated micro preamp).

Had I used any of these Elody contemporary designs, I would have triggered a markedly different visual impact, conveying a shared (matched) contemporaneity between the recorder's visual design and the electronics: the opposite 'picture' to that produced by using my own recorder (or the Baroque recorder to which Bolton's first fitted the system). These contrasting images are illustrated in figures 19, 20 and 21:



Figure 19 (top-left). ‘Elody’ designs (two examples of many) by Mollenhauer Company: heads with integrated pick-up.⁸⁹

Figure 20 (bottom-left). Bolton’s first electroacoustic (Baroque) alto recorder.

Figure 21 (right). My electroacoustic (hybrid) alto recorder.

The final point to note here is that there is a lack of contemporary classical music repertoire for the Elody and generally for recorders with the E extension. Tarasov explained to me that the Elody model is being used to play all types of repertoire but has gained a rather more significant place within jazz, pop and rock music.

The Creative Potential of the Term ‘Recorder’

Due to the nature of my PhD topic, I researched the possible origins of the recorder as a musical instrument and delved into the roots of the English term ‘recorder’ (as both an early noun and a verb), finding various definitions and ‘actions’ that subsequently influenced this

⁸⁹ Source: ‘Elody_Lovely7.jpg’ and ‘Elody_Dark7.jpg.’, digital images by photographer Markus Berdux, available from: *Index of /Mollenhauer-Recorders/images/Elody*, <http://www.lazarsearlymusic.com/Mollenhauer-Recorders/images/Elody/?> (accessed 10 July 2019). The use of the images was kindly authorised by Nik Tarasov, Mollenhauer Company, in an email to the author on 25 July 2019.

project significantly. My purpose, however, was not to find ‘the truth’ of the origins and etymology of the term recorder – if such a thing exists – but to address that information from a creative perspective. My interest consisted in exploring how the term ‘recorder’ is defined ‘out there’ in the world, in all available sources, from the most popular, including ‘Wikipedia’ (which gathers a variety of meanings and approaches derived from academic sources and the public domain⁹⁰), to more academic studies.

The modern definitions which helped to define the agency of the elements of this project, include:

Recorder (noun):

- a recording or registering apparatus or device;
- a device for recording sound, images, or data by electrical, magnetic, or optical means;
- an end-blown flute having a fipple mouthpiece, eight finger holes, and a soft, mellow tone.⁹¹

Recorder (noun):

- a person who records, such as an official or historian;
- something that records, especially an apparatus that provides a permanent record of experiments, etc.⁹²

However, this last meaning of ‘recorder’ as ‘registering apparatus’ is dated from only 1873.⁹³ Tracing its origins before this connects us to a variety of actions and/or roles. The etymology given on Wikipedia⁹⁴ offers an interesting variety of meanings taken from the *Oxford English Dictionary* and the *Dictionnaire du Moyen Français*. I quote below the information given for the origins of the term ‘recorder’ as a musical instrument, and the origins of the English verb ‘to record’:

⁹⁰ Memidex free online dictionary webpage provides a compilation of meanings of and references to the word ‘recorder’, including an etymology summary.

‘recorder’, *Memidex Free online dictionary/thesaurus and more...*, accessed 14 Sept 2017, <http://www.memidex.com/recorder>.

⁹¹ ‘recorder’, *Dictionary.com*, accessed 10 June 2017, <http://www.dictionary.com/browse/recorder>.

⁹² ‘recorder’, *Collins English Dictionary*, accessed 10 June 2017, <https://www.collinsdictionary.com/dictionary/english/recorder>.

⁹³ ‘recorder (n.)’, *Online Etymology Dictionary*, accessed 10 June 2017, <https://www.etymonline.com/word/recorder>.

⁹⁴ ‘Recorder (musical instrument)’, *Wikipedia*, accessed 7 August 2017, [https://en.wikipedia.org/wiki/Recorder_\(musical_instrument\)](https://en.wikipedia.org/wiki/Recorder_(musical_instrument)).

Etymology:

The **instrument name “recorder”** derives from the **Latin recordārī** (to call to mind, remember, recollect), by way of **Middle French recorder (M Fr)** (before 1349; to remember, to learn by heart, repeat, relate, recite, play music) and its derivative **M Fr recorder** (c.1395; one who retells, a minstrel). The association between the various, seemingly disparate, meanings of recorder can be attributed to the role of the Medieval jongleur in learning poems by heart and later reciting them, sometimes with musical accompaniment.

The **English verb “record”** (from Middle French recorder, early 13th century) meant, “to learn by heart, to commit to memory, to go over in one’s mind, to recite”. But it was not used in English to refer to playing music until the 16th century, when it gained the meaning “silently practising a tune” or “sing or render in song” (both almost exclusively referring to songbirds), long after the recorder had been named. Thus, the recorder cannot have been named after the sound of birds. The name of the instrument is also uniquely English: in Middle French, there is no equivalent noun sense of recorder referring to a musical instrument.⁹⁵

In his book, *Origins: A Short Etymological Dictionary of Modern English*, Eric Partridge incorporates a similar definition for the term as a verb, derived from Old French (‘OF’, thirteenth to fifteenth centuries) and Early modern French (‘EF’, 1700): to remember for oneself, to recall to another. Partridge adds that this ‘OF-EF recorder has [the] agent **recordeur**: a rememberer, a relater, a minstrel’.

There is considerable ambiguity across the scholarly interpretation of the term and within the sources. For instance, in Nicholas Lander’s article, ‘How the recorder got its name’, posted on the Recorder Home Page website, he writes:

The earliest unequivocal reference to the recorder as such is provided by the household accounts of the Earl of Derby, Henry Bolingbroke (later King Henry IV) for 1388, which mentions: “Et pro j

⁹⁵ ‘Recorder (musical instrument): Name, Etymology’, accessed 10 June 2017, [https://en.wikipedia.org/wiki/Recorder_\(musical_instrument\)#Name](https://en.wikipedia.org/wiki/Recorder_(musical_instrument)#Name).

fistula in nomine Recordour empta London pro domino iiii s iij d" (= "a pipe [as translation for fistula] called Recordour").⁹⁶

Nevertheless, the word **Recordour** is defined in Anglo-Norman as a 'record-keeper': a 'person officially appointed to make a record', thus representing a 'role'.

In 1957, Brian Trowell ventured another interpretation of this latter term. In his article, 'King Henry IV, Recorder Player', he suggests the following translation: '...i. fistula nomine **Ricordo** = a pipe called a "memento"', drawing our attention to the meanings of the Italian noun Ricordo, as 'remembrance, souvenir, keepsake, memento, sign of friendship, token, and note'.⁹⁷

Furthermore, if we look at the manuscript of the household's payment of the Earl of Derby document mentioned above, we can easily understand and empathise with the scholar's quixotic effort to decipher this (beautiful and cryptic) document.⁹⁸ The asterisks highlight the possible noun 'Recordour', 'Ricordo' or 'Recordo':

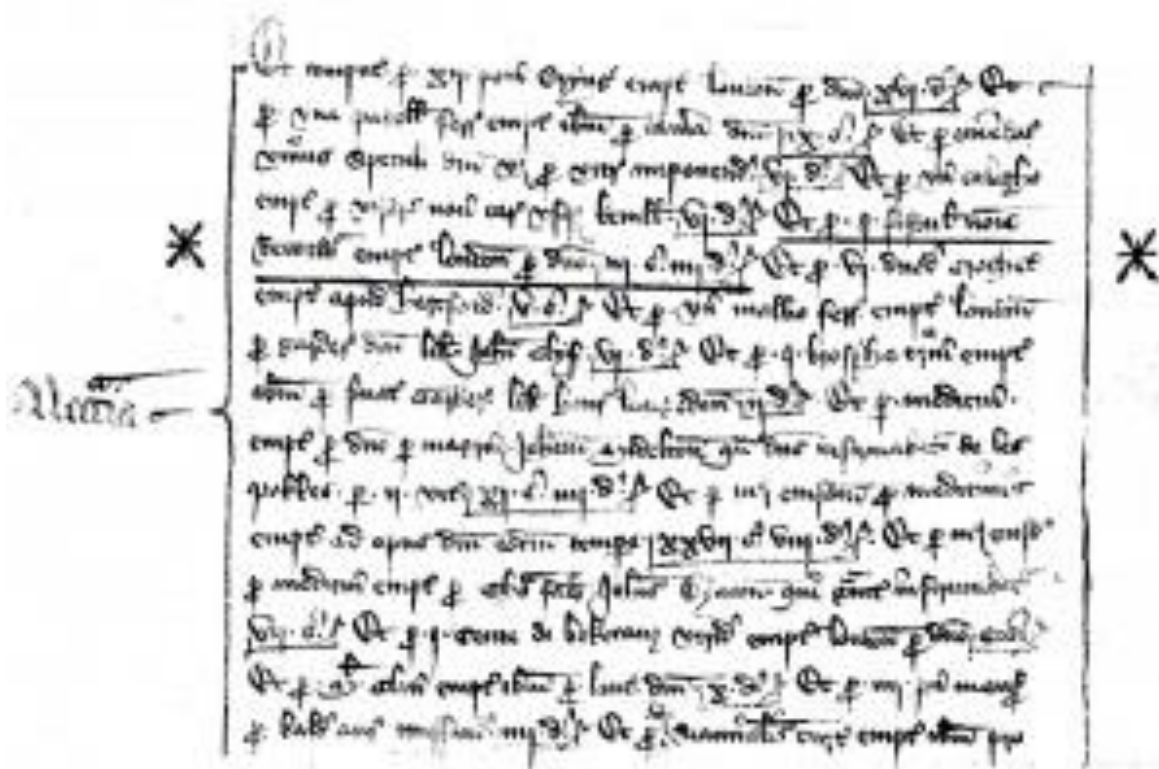


Figure 22. Excerpt from the household account of the Earl of Derby, 1388.⁹⁹

⁹⁶ Nicholas S. Lander, 'How the recorder got its name: The noun "recorder"', *Recorder Home Page*, 1996 et suiv., accessed 15 September 2017, <http://www.recorderhomepage.net/history/>.

⁹⁷ Brian Trowell, 'King Henry IV, Recorder Player', *The Galpin Society Journal*, n° 10 [1957]: 83-84.

⁹⁸ Lander, 'How the recorder got its name'.

⁹⁹ Ibid.

If we enlarge the text, we can distinguish this graphic (figure 23):

Figure 23. Enlarged proper noun from the household account of the Earl of Derby.¹⁰⁰

Lander explains: ‘The superscript horizontal line and slash following the “o” is an abbreviation for “ur” in English court hand’. He adds, ‘although the critical word looks like “**Recordo**”, it should really be rendered “**Recordour**” and the entire reference should be translated: “And for one flute [fistula] by name of Recorder [Recordour] bought in London for my lord, three shillings and four pence.”’¹⁰¹

Lander does not mention any association of the term with other possible meanings – such as a particular activity, function or role – and positions the term in close relation to the instrument itself. Moreover, he notes:

whereas the word ‘fistula’ (flute) is treated as a common noun, and hence written in lowercase, ‘**Recordour**’ is treated as if it were a proper noun like ‘London’, and that it is qualified by the word ‘nomine’. This would seem to indicate that both the word and the recorder itself were new to the language or unfamiliar.¹⁰²

I finished the process of tracing definitions and meanings at this point, when a more logical interpretation was revealed in which the generic wind instrument known as ‘fistula’ and the specific instrument called ‘Recordour’ were conceptually related. Nevertheless, confusion still surrounds the name of this instrument, and nowadays this is exacerbated by the ubiquity of the terms ‘recorder’ and ‘recording’ in the modern electronic world. For example, when I searched online for ‘flauta dulce’, the Spanish name for the instrument, I found 1.36 million results. However, when I searched for the English word ‘recorder’, I came across 136 million results. Delimiting the search to ‘recorder instrument’, produced 28.2 million entries.¹⁰³

¹⁰⁰ Ibid.

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ These figures may change continuously on the internet; the differences, nevertheless, remain proportionally similar, and this is what is significant here.

One aspect of all of this that particularly caught my attention was the relation between a musical instrument and an action or a verb. Notably, in the case of the recorder the different verbs associated with its English name share a similar meaning: to recite, to recall to another, to learn by heart, to commit to memory or to call to mind. Other definitions represent more distantly related meanings, such as ‘silently practising a tune’ or ‘to sing like a bird’.

Searching further, I found another type of flute, the Hebrew *Ugab*, whose similarly unclear etymology has generated a variety of interpretations of the meaning of the term ‘Ugab’ (even understood by the Talmud as ‘a hydraulic device’, as explained by Braun¹⁰⁴) and of the instrument’s identity, role and function.

In this project I took advantage of these fascinating ambiguities with the instrument’s name, establishing connections between the definitions and meanings, drawing them into the creative collaboration and the artistic content.

In particular, these extensive reflections upon the term ‘recorder’, its etymology and semantic richness, fed into my exploration of elements of instrumental agency: into perceiving the instrument as an entity that, individually and independent of the performer, carries these associations into actions, roles, or intangible ideas, such as that of ‘remembrance’ (Italian ‘Ricordo’). In this way, the instrument came to be considered a carrier of a ‘self’ to be (subjectively) experienced and expressed in and through performance.

Moreover, the titles of the two collaborative projects were derived from this study: RECORDARI comes from the Latin *recordārī*, and *Recordeur: One Who Retells* comes from the Middle French. Their respective meanings played an essential role in influencing (and illustrating) the type of narrative developed in each project. They also influenced my criteria for exploring, selecting and using the instruments, and the compositional and performance processes and decisions. All these creative implications are addressed in the following sections, where I examine each project separately.

To summarise, I call to mind one of the inspirations for my work on this project, Juan Eduardo Cirlot’s reflections on phonetic symbolism, proposing a correspondence between the thing named and the name in which it appears:

everything has meaning,
everything is manifest or secretly intentional,
everything leaves a mark or “signature”

¹⁰⁴ Joachim Braun, ‘Introduction’, in *Music in Ancient Israel/Palestine: Archaeological, Written, and Comparative Sources* (Michigan: William B. Eerdmans Publishing Company, 2002), 31-32. The ambiguities of the meanings of the term *Ugab* have also been examined by John Kitto, in: John Kitto (ed), *A Cyclopædia of Biblical Literature*, volume 2, (New York: Mark H. Newman, 1846), 377.

that can be object of understanding and interpretation.¹⁰⁵

Ambiguity and contradiction rose to the foreground in my etymological search for meaning. The following words by Cirlot also inspired my response to the profuse but uncertain semantic context of the word 'recorder':

The language may in certain cases reach the *right denomination of things*, but serious sources of impurity are mixed in it, being reserved to the poet [or musician?] the attempt to bring the language to the state of Verb, that is to say, of original and pure language.¹⁰⁶

For me, this 'state of original and pure language' is found and experienced in the instrumental musical narratives, whose content is always subjective, therefore undefined and open to multifarious perceptions and interpretations.

¹⁰⁵ Juan Eduardo Cirlot, *Diccionario de Símbolos*, 2006th ed. (Madrid: Ediciones Siruela, 1958). My translation. Original text: 'En simbolismo todo posee significado, todo es manifiesto o secretamente intencional, todo deja huella o "signatura" que puede ser objeto de comprensión e interpretación.'

¹⁰⁶ Juan Eduardo Cirlot, 'Simbolismo fonético I-II-III', *La Vanguardia*, Barcelona, 14-17 February, 18 March 1970. The quote was taken from 'Simbolismo fonético I', 14 February 1970. My translation. Original text: 'El lenguaje puede, en ciertos casos, alcanzar la *justa denominación* de las cosas, pero graves fuentes de impureza se mezclan en ello, quedando reservado al poeta el intento de llevar el lenguaje al estado de Verbo, es decir, de lenguaje originario y puro.'

Beyond the Acoustic Environment, Collaborative Project 1: RECORDARI

Carmen Troncoso (recorders) and Desmond Clarke (composer)

Outputs:

- *Recordari: A Cycle in Seven Movements*, for different recorders (one player) and electronics.
- *Oiseaux Métamorphique*: a two-part work derived from *Recordari*, for electroacoustic recorder and electronics.

Output formats: audio recordings and collaboratively devised scores.

(The scores can be found in Appendix 2.1 and 2.2 respectively.)



Figure 24. Troncoso: presenting the project RECORDARI at the Arts & Philosophy Conference: Creative Processes in the Arts, 2017.¹⁰⁷

¹⁰⁷ Carmen Troncoso in 'RECORDARI: a collaborative project exploring a non – linear juxtaposition of old and new repertoire', lecture recital at The Arts & Philosophy Conference 'Creative Processes in the Arts', Rymer Auditorium, University of York, 2017.

Aims

Through this project, I aimed to:

- explore the sonic possibilities of my electroacoustic recorder with its built-in mic;
- explore possible criteria for selecting recorders (or related duct-flutes) to play Medieval songs combined with electronics;
- re-contextualise recorders and repertoire;
- examine transformational processes of sound and instrumental design and incorporate these in the development of musical narratives;
- explore the ambiguity of the many meanings found in the origins and roots of the English word 'recorder', to develop musical responses;
- collaborate, between composer and performer, exploring synergies;
- explore the collaborators' subjective perceptions of and creative responses to the different recorders' related epochs and contexts;
- explore synchronous processes in live performance.

Recorders utilised in RECORDARI

(From left to right as they appear in figure 25):

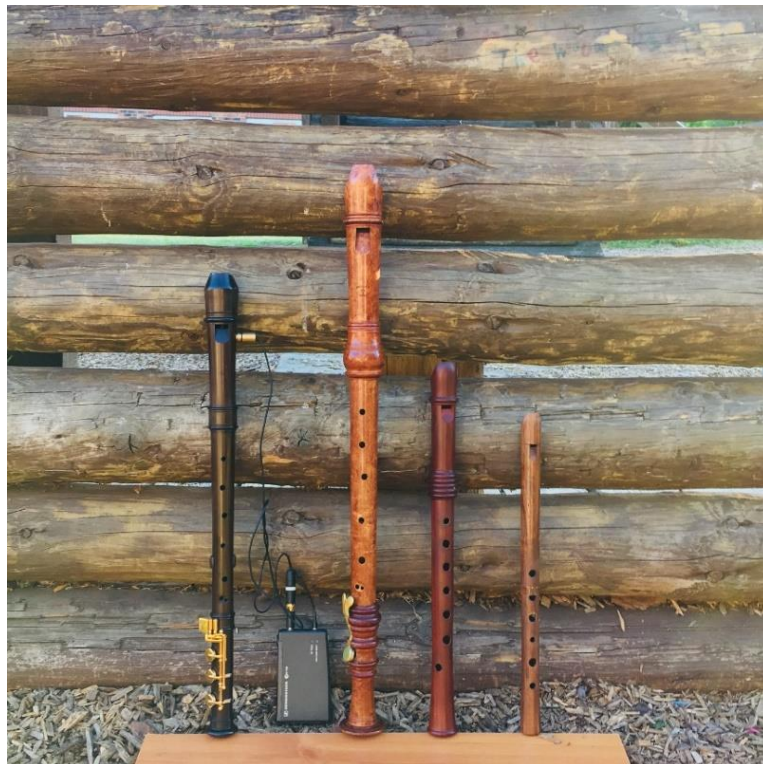


Figure 25. Recorders utilised in RECORDARI.

- Modern Alto Recorder in E by Mollenhauer Company fitted with an electroacoustic system by French recorder maker Philipp Bolton, pitch A= 442;
- tenor in C, 'Hotetterre' model by Moeck Company, pitch A= 442;
- Ganassi alto in G by Chilean recorder maker Jorge Montero, pitch A= 462;
- whistle in A by Montero, pitch A= 462.

Introduction

'Ye may record a little, or ye may whistle'[?]

The epigraph above is taken from the Jacobean era stage play *Monsieur Thomas*: a comedy written by John Fletcher, first published in 1639. The protagonist intends to serenade to a woman and wonders whether to play a recorder or to whistle. Repurposed in my context, the line expresses the type of questions that I have set myself, concerning instrumental possibilities (recorders or instruments from its evolution, such as whistles) for addressing Medieval repertoire within the project's creative framework.

RECORDARI explored the subjective perceptions held by myself and my collaborator, Desmond Clarke, with respect to different recorders and their related contexts. The initial stage of this project derived from my interest in exploring the creative bridging of contrasting aspects of the evolution of the recorder, including its possible origins, design, repertoire and use. I had already explored this in a previous project undertaken between 2004 and 2006 (to which I later refer): the **Incontri** project. Where does this idea of bridging aspects of the recorder's evolution come from?

Recorder performance is often focused on early music, with attention to questions of historical practice. At the same time, the active presence of the recorder in the contemporary music framework has encouraged parallel developments of the instrument and its use. Moreover, and in contrast to other wind instruments (as explained in chapter 1), the evolution of the recorder's design and repertoire throughout the early twentieth century and beyond has always somehow linked, combined and juxtaposed the past with the present: the styles interweave. Hybrid instruments appear, representing not one particular epoch but rather a synthesis of aesthetics; we see, for instance, a recorder with a Renaissance appearance but Baroque fingerings, tuned at modern pitch, or a recorder of Baroque appearance with a modern key system and with an in-mic system (such as my electroacoustic recorder).

The current possibilities for combining different recorder models linked to particular epochs or styles generates an anachronistic situation (examined in chapter 1), which invites

composers, performances and audiences into a simultaneous experience of different times and periods, arguably ‘timeless’ in quality: this is something I wished to explore creatively here. Certainly, Clarke and I wanted to explore the electronic transformation of sound and the use of extended techniques with my electroacoustic recorder in order to develop new pieces for this instrument. However, we were also concerned to examine, from individual perspectives derived from our roles within the project, our relationship with different recorders’ ‘pasts’: the ways in which we perceive, are inspired by, interact with and respond to the instruments’ histories, epochs, contexts, design and repertoire. Moreover, the ambiguity surrounding the origins of the instrument and its name also played a creative role. Our aim was to respond imaginatively to questions such as where the recorder and its name come from, and which times, places or meanings are evoked, by a specific instrument.

Key to this project was its somewhat subjective aim of exploring the simultaneous inhabitation of distant epochs and styles experienced in performance, through the integration and juxtaposition of: a) selected Medieval and Renaissance repertoires played by distinctive instruments of the recorder’s evolution; b) new works and electronics created by Clarke; and c) live improvisations. Thus, various materials – extant, composed and improvised – were combined to create five distinctive ‘episodes’ (which will be individually examined later in this commentary).

Two pieces were generated in this project: *Recordari: A Cycle in Seven Movements* for three recorders and one whistle, and *Oiseaux Metamorphique* for the electroacoustic Modern Alto Recorder. Our purpose was to contribute new repertoire (since there is so little) for the electroacoustic alto recorder in E, but also to expose creative ways in which to address the rich field of possibilities opened up when one starts to explore the complexities of the instrument’s history and associations.

Previous Work: Exploring Transformational Processes

In 2004, aiming to explore the entwining of repertoires, instruments and dance from different epochs, I developed a performance project called **Incontri**¹⁰⁸ (Encounters) in collaboration with Chilean artists: ballerina Ana María Vela, who is a specialist in Renaissance and Baroque dance; composer Sergio Cornejo;¹⁰⁹ and additional performers specialist in early music. A second,

¹⁰⁸ The project Incontri was premiered at the Teatro del Parque in Santiago, Chile, in 2004.

¹⁰⁹ Cornejo composed the electroacoustic piece *Pavana*, re contextualising the Renaissance Pavana *Belle qui tiens ma vie* by Thoinot Arbeau (1520 – 1595).

related project, **La Quinta Variación** (The Fifth Variation),¹¹⁰ addressed relationships between early and new music and dance in relation to the idea of ‘follia’, which means both a simple melody over an ostinato progression and ‘madness’. Both projects included interpretations of Greek myths of metamorphosis as an analogy for transformation processes in both dance and musical repertoires, and in the performative self.

In both *Incontri* and *La Quinta Variación*, contemporary and early works related to the recorder’s history and evolution were interwoven, developing musical narratives out of a contemporary recorder performer’s approach to the recorders’ past. Even though musical performance of early music involves research into all kinds of historical sources, there remains a body of lost or hidden information: stories passed from soul to soul, emotions and experiences that could not be recorded. What I wanted to draw on, then, was a perception of the past as oneiric and timeless, as much as something documented, and as open to creative exploration.

The aims of RECORDARI, however, were distinctive from those earlier projects in the extent of the attention to instrumental agency (rather than to repertoire and associated practices such as dance). This foregrounded the relationship between performer and instruments. In (some of) the following performance projects of this portfolio, this idea of hidden information, housed (i.e., embodied) in the instrument’s memory (or body), is examined and creatively addressed. The RECORDARI project therefore drew on those earlier projects, deepening their concerns and creative potential within a newly created context.

Organising the Old and New Works

Different types of musical materials were considered within the RECORDARI framework, which were grouped in specific episodes, contrasting old and new instruments and works. Three groups of repertoires were formed, labelled I-II-III. These characterise separate but overlapping processes of exploration.

I-Medieval Repertoire

Tracing the recorder’s earliest design, I came across information based on studies of Medieval sources which mention the earliest recorders, found in the fourteenth century (and named

¹¹⁰ The project ‘La Quinta Variación’ was premiered in the Escuela Moderna de Música in Santiago, Chile, in 2005. The participants were Ana María Vela, dance and choreographer; Gonzalo Cuadra, tenor; Camilo Brandi, harpsichord; and myself, recorders.

according to where they were found: Dordrecht, Tartu, Göttingen and Würzburg).¹¹¹ The lowest note of these early recorders was designed to produce a semitone that would act as a leading note. For instance, if the recorder was in D then it had a seventh C sharp hole. Also, their use of a thumbhole facilitated a more flexible technique to produce the high register notes and replaced the awkward fingering 23456 for the middle C (in a six-holed pipe or whistle in D) with the current fingering 02 (0 being the thumbhole). These templates are considered transitional, towards the manufacture of the established recorder. However, I was also interested in what came before those early 'recorders'.

Nowadays it is generally accepted that the recorder as we know it today¹¹² developed gradually from folk instruments of the whistle family. Scholars agree that Medieval images of so-called vertical flutes, pipes or duct flutes, found in carvings and pictures, depicted frontally, do not provide enough information for us to be sure whether they represent a recorder or rather a kind of whistle.¹¹³ The names given at the time for wind instruments do not help us to make clear distinctions, either.

Intending to place my search for instruments in this complex and uncertain context, I set about selecting Medieval repertoire from earlier than these first templates. In the article 'Some Medieval songs',¹¹⁴ Susan Rankin offers close readings of three songs from the tenth fascicle¹¹⁵ of the thirteenth-century Codex Florence (Parisian musical source).¹¹⁶ These songs are:¹¹⁷

'Sol Oritur in Sydere'.

'Eclipsim Passus Tociens'.

'Homo Considera'.

¹¹¹ These templates have been studied and copied by modern recorder makers, such as Tim Cranmore, Horace Fitzpatrick, Hans Reiners and Brian Carlick.

¹¹² It is generally accepted that, in order to fulfil the (basic) requirements of being a recorder in today's terms, the instrument must have a wind channel and a lip (also called labium), both in the head of the instrument, as well as seven holes in front together with one behind (the 'thumb-hole': for the production of the high notes). See also footnote 3.

¹¹³ On a whistle, the fingers 1, 2 and 3 correspond to the upper hand and the fingers 4, 5, and 6 correspond to the low hand. Later, the 0 corresponded to the thumbhole placed behind.

¹¹⁴ Susan Rankin, 'Some Medieval Songs', *Early Music* 31, no. 3 (2003): 327-44.

¹¹⁵ Fascicle: a separately published instalment of a book or other printed work.

¹¹⁶ F: Codex Florence, Biblioteca Medicea-Laurenziana, Pluteus 29.1.

¹¹⁷ The scores of the three medieval songs are included in the score of *Recordari*, in appendix 2.1.

The characteristics of the melodies and their texts seemed to me to open a variety of possibilities for instrumental exploration.¹¹⁸ Below I provide the texts of the three songs, taken from Rankin's article:

Sol Oritur in Sydere

(This song celebrates the virgin birth)

*Sol oritur in sydere,
Rori compar in vellere,
Et Lucifer in vespere
Serenat umbra[m] littere,
Intacto semper latere
Virginis et puerpere
Prodit proles deica.
Divino verbo numinis
Supplente vicem seminis
Tumescit alvus virginis
Absconsa virtus luminis,
Quot lucet mundi terminis,
Lapsum reformat hominis
Gratia vivifica.
Quod clamant vaticinia,
Quod murmurant misteria,
Iusta produnt indicia,
Lactante patrem filia,
Inclinantur celestia
Indulgans legis gratia
Terris unit celica.*

The sun is born in the heavenly body

*The sun is born in the heavenly body
like dew in the fleece
and at evening the morning star
lights up the shadow of the word;
from the chaste loins
of the Virgin and childbearer
the divine child comes forth.
As the divine Word of God
makes good an exchange of seeds
the Virgin's womb swells up;
the hidden power of the light,
which shines to the ends of the world,
reforms the fall of man
with quickening grace.
What prophecies declare,
what mysteries murmur,
just signs bring forth:
by a daughter suckling the Father
the heavens bend down;
grace sweetening the Law
joins the heavens to the earth.*

¹¹⁸ Rankin states that the codex Florence constitutes the single largest medieval collection of new monophonic compositions and certainly one of the most sophisticated expressions of the possibilities of monophonic song to remain extant. Rankin, 'Some Medieval Songs', 327.

Eclipsim Passus Tociens

(This song mourns the death of a cantor of Paris)

*Eclipsim Passus Tociens
Mundus Dolores iteret,
Preclare lucis patiens
Occasum luctu[m] reseret,
Radiabat Parisius
Fulgens Cantoris radius,
Quem mors videt et invidet,
Dum toti mundo providet,
Dum verbum vite seminat,
Dum lucet non sub modio,
Sublatus sol de medio
Felicem vitam terminat.*

Having suffered eclipse so many times

*Having suffered eclipse so many times
let the world renew its sorrows,
suffering the setting of a great
light, let it open up its grief;
Paris was radiant
when the ray of the Cantor shone forth,
whom death saw and envied,
while he cared for the whole world,
while he sowed the word of life,
while he shone forth not under a bushel;
this sun, taken from our midst,
ends a blessed life.*

Homo Considera

(Refers to the inevitability of death, the worldly temptations, and the sorrow)

*Homo considera
Qualis, quam misera
Sors vite sit mortalis;
Vita mortifera,
Pene puerpera,
Mors vera, mors vitalis;
Fomentus est doloris,
Stadium vite laboris,
Premit per onera,
Sordet pre scelera
Squaloris et feteris,
Fermentum est dulcoris,
Somnium, umbra vaporis;
Fallit per prospera,
Trahit ad aspera
Meroris et stridoris,
Figmentum est erroris,
Gaudium brevis honoris,
Mordet ut vipera,
Flebilis vespera
Algoris et ardoris.*

Man, consider

*Man, consider of what
kind, and how wretched
is the lot of mortal life;
death-bearing life,
almost from childbirth,
true death, vital death;
Death is an alleviation of sorrow,
the course of life's labour
oppresses through its burdens,
it befouls through sins
of filth and stench,
it is a leaven of sweetness,
a dream, a cloud of vapour;
it deceives in prosperity,
it drags down to hardships
of sorrow and lamenting,
it is the image of error,
the joy of brief honour,
it bites like an asp,
it is a tearful evening
of cold and heat.*

The first two songs are written in a melismatic style, the last one in a syllabic style. My purpose was to find a recorder voice for each song, and to work collaboratively with a

composer to repurpose them from a contemporary perspective. Clarke's flexibility in exploring my ideas and the specific instruments, his musical sensitivity in working within such an open context, and his performing experience all enriched the exploration, enabling the co-creative process.

The process of selecting the instruments to play these songs took into consideration the thirteenth-century (and earlier) instrumental uncertainties outlined above, as well as objective factors such as the tessitura, function and character of the melodies. Once I had selected three contrasting instruments (explained below), we recorded the melodies so as to reframe each of them in a new, foreign context, which would include electronics created by Clarke. Eventually, only the song 'Sol Oritur in Sydere' was played live with electronics, whereas 'Eclipsim Passus Tociens' and 'Homo Considera' were recorded and used as fixed materials with which to interact in other ways in live performance.

II-New Pieces for the Electroacoustic Recorder and Electronics

Four movements, called 'Ricordo,' were composed for the electroacoustic recorder, by Clarke.¹¹⁹

'Ricordo 1: What prophecies declare'.

'Ricordo 2: This sun, taken from our midst'.

'Ricordo 3: You, who quickly pass by'.

'Ricordo 4: What mysteries [and birds] murmur'.

We undertook two exploratory workshops in which my ER was connected to multi-effect devices. I improvised, searching for sounds and gestures that would provoke interesting electronic responses. Some excerpts from extant Renaissance and Baroque works arose spontaneously in my playing, triggering interesting responses which we then included as compositional elements. The recorder's past carried by its design and traditions of playing – despite its modernised features – was incorporated by us as an expressive carrier of instrumental agency. Sally Jane Norman reflects on the 'haunting' presence of the past in objects and actions: 'Ghosts of bygone gestures haunt the motor codes that evolve with new instruments, which thus, act as a kind of intersection, marked by the combinations and

¹¹⁹ See scores of Clarke's four Ricordi in appendix 2.3.

collisions of embedded and emerging behaviours':¹²⁰ this expresses one of our core interests in this project.

Clarke explored various digital effects and possible methods of processing my sounds live to develop musical gestures. We recorded these early studies and listened back to them, selecting material we wanted to develop further: motives, effects and electronic responses we liked. For example, a very subtle tremor or vibrato, which I had previously discovered and named 'lip tremolo', would feed into the last *Ricordo*. The effect is produced by interrupting the sound of a note by partially covering the upper part of the lip (or labium) with the right index finger (as can be heard in [example 2.2](#)).

Drawing on the improvised material, Clarke composed further explorative drafts that were then, again, workshopped and developed, until we had defined four movements, each called a '*Ricordo*', denoting a remembrance or 'memento'. Each of these *Ricordi* would carry a specific, narrative role within the whole piece; a role that would also be influenced by their individual subtitles, taken from verses from the three Medieval songs: 'what prophecies declare', 'this sun, taken from our midst', 'you, who quickly pass by' and 'what mysteries [and birds] murmur'.

III-Re-contextualisation of Early Works.

Having recorded the two Medieval songs, '*Homo Considera*' and '*Eclipsim Passus Tociens*', with the whistle in A and the Ganassi alto in G respectively, I found it interesting to select other extant musical works to play on top of the recorded song, in order to place these two instruments in styles and sonorities related to their idiomatic repertoire, and to respond creatively to the meaning of the text of each of the two songs. (Contrastingly, the tenor recorder would play '*Sol Oritur in Sydere*' live, generating a counterpointal texture within the electronics.) I researched and tried out a range of pieces, then taking a selection of possibilities to be workshopped together, for final selection. These 'pasts' (related to the two specific recorders), then formed part of the material for live performance. The following pieces were chosen, all excerpts of Medieval and Renaissance works:¹²¹

Trotto.¹²² Anon. (Fourteenth century).

Ductia. Anon. (Fourteenth century).

¹²⁰ Sally Jane Norman, 'Contexts of / as Resistance' 32, no. 2 – 3 (2013): 284, <https://doi.org/10.1080/07494467.2013.775805>.

¹²¹ See scores of Medieval and Renaissance works in appendix 2.4.

¹²² *Trotto*, from medieval Tuscan musical manuscript, in London, British Library. See: Add MS 29987, '*Trotto*', *Wikipedia*, accessed 20 August 2019, https://en.wikipedia.org/wiki/Add_MS_29987.

'Der May'.¹²³ Oswald von Wolkenstein (1377 – 1445).

'Ricerca Quinta' – 'Ricerca Terza'. Giovanni Bassano (1560/61 – 1617).

Overall, the co-existence of these three types of repertoire, linked to different instruments, was intended to explore the variety of pasts involved in recorder performance, thus evoking the actions embraced in the title of the project: to recollect, call to mind, and think over.

Recordari: A Cycle in Seven Movements

Eventually, all the material described above was developed into a journey intended to convey a timeless, non-linear and non-chronological narrative. The movements were organised as follows:

- | | |
|---|---|
| 1- 'Ricordo 1: What prophecies declare' | Desmond Clarke (2016) |
| 2- 'Sol Oritur in Sydere'. Medieval song | (XII – XIII Century) |
| 3- 'Ricordo 2: This sun, taken from our midst' | Desmond Clarke (2016) |
| 4- 'Homo Considera'. Medieval song;
excerpts from Medieval <i>Trotto</i> and <i>Ductia</i>
and from the Medieval song 'Der May' | (XII – XIII Century)
(XIV century)
Oswald von Wolkenstein (1377 – 1445) |
| 5- 'Ricordo 3: You, who quickly pass by' | Desmond Clarke (2016) |
| 6- 'Eclipsim Passus Tociens'. Medieval song;
excerpts from 'Ricerca Quinta' and
'Ricerca Terza' | (XII – XIII Century)
Giovanni Bassano (1560/61 – 1617) |
| 7- 'Ricordo 4: What mysteries [and birds]
murmur' | Desmond Clarke (2016) |

In his compositional notes, Clarke summarised the process of integrating the movements:

¹²³ Oswald von Wolkenstein, 'Late Medieval Music (1300-1400), German: Song Der May', in *Historical Anthology of Music: Oriental, Medieval and Renaissance Music, Vol. 1*, ed. Archibald T. Davison and Willi Apel, seventh ed (London: Oxford University Press, 1949), 64-65.

The different parts of the final seven-movement work have been developed in a way which highlights their interconnected attributes: each is built from a polyphony of recorder voices, some with additional electronic augmentation, and each of the three Medieval tunes is thematically and conceptually linked to one or more of the composed parts.

In the preface to the *Recordari* score (Appendix 2.1), I refer to the possible choices of instruments and repertoires for use in the work. The following table illustrates my preference of recorders in our version of *Recordari*:

Mov.1 'Ricordo 1: What prophecies declare'.	Mov.2 'Sol Oritur in Sydere'	Mov.3 'Ricordo 2: This sun, taken from our midst'	Mov.4 'Homo Considera' and other Medieval works	Mov.5 'Ricordo 3: You, who quickly pass by'	Mov.6 'Eclipsim Passus Tociens' and Ricerca	Mov.7 'Ricordo 4: What mysteries murmur'
Electroacoustic Modern Alto Recorder (ER) P=442	Baroque- designed tenor recorder P=442	(ER)	Whistle in A P=462	(ER)	Alto 'Ganassi' in G. P=462	(ER)

To close this section, I suggest reading the preface and indications of the score, which can be found in Appendix 2.1, and listening to the work *Recordari: A Cycle in Seven Movements*, [Output 2.1 \(Audio\)](#).

The Episodes of RECORDARI

The diagram above sets out the structure, material sources and instrumentation of *Recordari: A Cycle in Seven Movements*. However, all of this was conceptually divided by myself and Clarke into five distinct 'episodes', each a combination of specific musical materials and chosen instruments. Working this way helped us to separate the extensive materials into smaller groupings (beyond the broad material types I, II and III, described above), so as to examine possible interactions and contrasts. It also enabled us to highlight the different epochs

invoked, and to work creatively so as to reveal their idiomatic particularities. I explain this below.

Episode 1: ‘Ricordo 1: What prophecies declare’ (ER);

‘Sol Oritur in Sydere’ (Tenor recorder);

‘Ricordo 2: This sun, taken from our midst’ (ER).

This first episode contrasts two recorder voices – the electroacoustic Modern Alto (ER) and a tenor (Baroque-designed) recorder – and introduces the idea of bridging epochs and re-contextualising instruments. ‘Ricordo 1: What prophecies declare’ takes its subtitle from the first verse of the third strophe of the Medieval song ‘Sol Oritur in Sydere’, while that of ‘Ricordo 2: This sun, taken from our midst’ is from the eleventh verse of the song ‘Eclipsim Passus Tociens’. These two Ricordo, together, highlight particular features of the Modern Alto Recorder examined in the early improvisatory workshops, drawing on the exploration of this instrument that took place in the first (recorder and piano) project, but now sited within newly created music. Again, as in the first project, the hybrid manufacturing qualities of this recorder (combining Baroque and modern features) were also creatively significant, expressing a contradiction that suited the purpose of this episode. ‘Ricordo 1’ and ‘Ricordo 2’ recall Baroque musical forms and procedures such as the *Fantasia* and the Italian art of embellishment within a slow movement of a sonata, which had appeared spontaneously in my playing in the early improvisatory workshops. Moreover, in ‘Ricordo 2’, the electronics build a virtual continuo, played by a virtual harpsichord, as if the performer were ‘remembering’ having played with a real one.¹²⁴

The dizzying and loud musical content within a dense digital texture in ‘Ricordo 1’ helps to highlight, by contrast, the softer character of the Medieval song that follows (celebrating the virgin birth), ‘Sol Oritur in Sydere’. This is matched by the voice of the tenor recorder playing it: I imagined a deep and smooth narrator’s voice announcing ‘the good news’ expressed in the text of the song. Also, I drew upon another meaning found in the origins of the word ‘recorder’: ‘to hum softly’, and upon Hunt’s interpretation of this meaning: ‘Now, when one is

¹²⁴ Similarly, O’Kelly mentions that the work *Gesten* (1966) for recorder player and tape, by the German composer Klaus Hashagen (b. 1924), includes a tape that ‘assumes the role of partner to the recorder player, taking the place of the traditional keyboard accompaniment’, and that ‘the tape contains all sorts of superimposed recorder sounds, occasionally using echo, tape-speed changes, etc. but no electronic modification, and these sounds are contrasted with the live sounds generated by a whole battery of different recorders and sections of dismantled recorders’ Eve O’Kelly, *Recorder Today* (Cambridge: Cambridge University Press, 1990), 78.

humming softly, one is generally remembering a tune that one has heard before'.¹²⁵ In this sense, the emphasis was placed on the register of the tenor recorder and the extramusical idea of 'remembering', rather than on the recorder's particular timbre or expressive potential linked to its design or historical associations. The electronics played an important role in reframing both the tenor recorder and the Medieval song: Clarke's electronic responses to my playing created a counterpoint formed by my performing recorder and the absent recorders echoed by the electronics, further developing the idea of recalling and remembering.

Listening to this three-movement episode retrospectively, however, it seems to me that the timbre of my ER does not quite match the imaginary Baroque sonic aesthetic to which 'Ricordo 2' alludes (and this would have remained true even if I had used it only acoustically). Perhaps a historical Baroque model fitted with an in-mic system, like Bolton's original electroacoustic Baroque alto recorder (in figure 20), would have worked better. However, it would not have fitted the tessitura of the piece, written especially for this modern alto.

I also realised, afterwards, that even though the first note of this modernised alto recorder is the low E, I should still have considered it a traditional alto in F, but with a leading semitone below, like the old transitional recorders mentioned above (or the modern flute in C with the addition of a low B). Fingering the E major arpeggio and following phrase that open Clarke's 'Ricordo 2' (figure 26) is awkward: Baroque fingerings combined with the set of keys for the bottom notes prevented a smooth phrasing, and the G#1 appears as a weaker (and more contrived) note than the E and B.

3.
Ricordo 2. This sun, taken from our midst
Alto Recorder in E (442 Hz)
♩ = c. 75 very straight, organ-like

*0 turn on delay and pitch shifters
(unmute track 1: MOVEMENT 3)

Figure 26. Clarke, 'Ricordo 2' (beginning).

Eventually, I concluded that even though the score of 'Ricordo 2' is composed according to the Modern Alto's register, the timbre still does not respond appropriately to the musical content (as in the third movement of Frith's Sonata for either recorder or flute and

¹²⁵ Edgar Hunt, *The Recorder and Its Music* (London: Ernst Eulenburg Ltd, 1977), 3.

piano). A more suitable recorder for this movement would perhaps be a historical Baroque-designed alto in F, pitched at A= 415: this would retain the E1 (a focal note for the movement) as in modern temperament (with A= 440) but with much more fluent fingerings, corresponding to those used in F major.¹²⁶ This episode offers other interesting options for recorder selection, as set out in the preface of the score.

Episode 2: 'Homo Considera' (whistle);

Trotto (whistle);

Ductia (whistle);

'Der May' (whistle);

Ricordo 3: You, who quickly pass by' (ER).

This episode increases the contrast of instruments, repertoires and associated epochs. It combines the whistle and the electroacoustic modern recorder, the former a modern version of what was probably the first instrument in the evolution of the recorder, the latter representing one of the most recent hybrid designs.

The text of the Medieval song 'Homo Considera', with its use of 'catachresis' (the incorrect or contradictory use of words for rhetorical purposes) and 'coincidentia oppositorum', translated as 'unity of opposites' (also as 'coincidence of opposites', an idea attributed to the fifteenth-century German scholar Nicholas of Cusa¹²⁷), influenced both the instrumental selection and the creation of this specific episode's musical context and content. Catachresis is, for example, apparent in the verse 'Mors vera, mors vitalis' ('true death, vital death'): the sixth verse in 'Homo Considera'. 'Coincidentia oppositorum', alluding to the mystical meaning derived from experiencing an intense and strange sense of contradiction that cannot be logically explained, is illustrated in the fourth verse of 'Homo Considera': 'Vita mortifera,' ('death-bearing life').

Rankin organises the text's opposites as 'death/life; squalid/sweet; prosperity/hardship; cold/heat; lament/rejoice; cast down/lift up'. She notes that 'the poet uses this play of

¹²⁶ For this, some high notes would require the covering of the bell-hole technique, and some modifications to the score would have to be undertaken. However, the final effect would probably better convey the idea of recalling Baroque materials and contexts.

¹²⁷ Nicolaus von Kues (Nicholas of Cusa) reveals his notion of coincidentia oppositorum in his *De docta ignorantia*, finished in 1444. Jasper Hopkins translated Cusa's work and interpreted the idea of coincidentia oppositorum. See: Jasper Hopkins, 'Introduction', *Nicholas of Cusa on Learned Ignorance: A Translation and an Appraisal of De Docta Ignorantia*, Second Edition (1985), (Minneapolis: The Arthur G. Banning Press, 1981), 1-20, <http://jasper-hopkins.info/DI-Intro12-2000.pdf>. See also: Jasper Hopkin, 'Coincidentia Oppositorum in Cusa's Sermons', *Jasper Hopkins*, accessed 20 July 2019, <http://jasper-hopkins.info/CusaOnCoincidencePlusNotes.pdf>.

opposites to create paradoxes, suggesting one state to be a mere illusion for another', as illustrated in these verses:

Death-bearing life,
 Almost from childhood,
 True death, vital death;
 To lament is to rejoice,
 In joy is increase of sorrow;¹²⁸

These mirrored contradictions influenced my search for a particular instrument to fully contrast the ER (in terms of a design associated with an epoch, style and aesthetics). The precarious qualities of the whistle – with its fragile sound and the difficulty of producing a stable tone, due to its sensitivity to air pressure – seemed to me suitable to, as Rankin puts it, 'carry the bleak message' [of the song's text]: the inevitability of death, as described in the poem.

As Rankin says, the poet 'proceeds to deride worldly pleasures and values, denouncing them as empty, of but fleeting duration and dangerously unreliable'.¹²⁹ Drawing upon this latter scenario contrasting pleasure with fate, I came to the idea of juxtaposing this song with other repertoire played by the same whistle but recollecting other contexts, other times. I searched for music to depict that sense of superficiality or ephemerality, to play with the whistle (or six-holed pipe), selecting two Medieval dances, *Trotto* and *Ductia*: these may have been played at that time by any simple pipe like a whistle (probably with tabor), for entertainment.

Against the whistle's evocation of 'true death, vital death', sounding in the Medieval song 'Homo Considera' which we had recorded for playback in this movement, I play Wolkestein's song 'Der May'. This song, contradictorily, celebrates the beginning of life, of a cycle: it sings of the arrival of the spring and birds. It is written for two voices: the second voice is replaced in our version by an electronic accompaniment of subtle and refined percussion, developed by Clarke. In using 'Der May' I also wanted to illustrate one of the earlier meanings attributed to the word 'recorder': 'to sing like a bird' (which later recurs in developing the colourful, onomatopoeic 'Ricordo 4').

Finally, we also defined the ER as providing an element of contrast within the episode. I selected material from Clarke's early composition drafts, choosing materials for their syllabic

¹²⁸ Rankin, 'Some Medieval Songs', 339.

¹²⁹ Ibid.

treatment (dotted notes in figure 27) recalling the also syllabic style of the song 'Homo Considera' (figure 28), and gestures and sonorities that seemed to me to characterise the following strophe by Philip de Chancellor:

It is the moment of judgement;
 It is doubtful how much you can
 Remain in prosperity,
'You who quickly pass by', [added to the title of Ricordo 3:]
 Who are as grass in flower.¹³⁰

5.
Ricordo 3: You, who quickly pass by

NB. this score is more of a guide for controlled improvisation than a literal document
 Alto Recorder in E (442 Hz)

♩ c. 100 improvisatory, very free
 sempre stacatissimo!

Electronics percussion (ongoing) *(cresc...)* *pp*

Figure 27. Clarke, 'Ricordo 3: You, who quickly pass by' (beginning): resemblance to Homo Considera's syllabic style.

Homo Considera

Figure 28. Medieval song 'Homo Considera' (beginning): syllabic style.

Thus, 'Ricordo 3: You, who quickly pass by' acts as an 'interrupter', in terms of instrumental timbre, musical content and style. At the same time, though, it provides connections across the whole work in its recalling of the first motif of the whole piece: the arpeggio illustrated in figure 27.

Episode 3: 'Eclipsim Passus Tociens' (Ganassi recorder in G);
 Excerpts from Ricercata Quinta and Ricercata Terza;

¹³⁰ Rankin, 'Some Medieval Songs', 339.

by Giovanni Bassano ('Ganassi' recorder in G).

This episode highlights the voice and idiomatic features of the Renaissance Ganassi recorder in G. Venetian musician Ganasi dal Fontego (1492 – 1565, also known as Silvestro Ganassi), from whom this recorder took its name, wrote the recorder treatise *Opera intitulata Fontegara* (Venice, 1535). In this he considers Renaissance performance issues such as diminutions (improvising by means of divisions) and cadences, but also discusses articulations and provides a fingering chart that suggests that this specific model would have been able to expand the range into the third register, using the leaking-fingers technique, like the Modern Alto Recorder.

The song 'Eclipsim Passus Tociens' mourns the death of Peter, cantor of Notre Dame (Petrus Cantor, c. 1130 – 1197). The text depicts life and death through images of light and its eclipse. The melismatic music flows between low and high registers, expressing the content of the text (perhaps mirroring these opposites in this use of range). I selected the Ganassi recorder in G considering: its reputed closeness to the human voice, as claimed by Ganassi;¹³¹ its idiomatic melismatic style of playing (which corresponds to the Medieval song addressed), involving the Renaissance art of diminution, consisting in diminishing long notes into gradually smaller (shorter) ones; its pyramidal development of the volume (stronger in the bottom register) derived from its bore profile, 'with a nearly cylindrical bore that flares out at the bell';¹³² and the uncertainties surrounding the instrument's history, which has led to controversial interpretations of its use, role and alleged features (such as the extended tessitura¹³³). Some makers claim that the instrument should, nowadays, be regarded as a modern instrument, since it represents modern makers' interpretations of a specific historical recorder kept in the Vienna Kunsthistorisches Museum, whose actual provenance is more guessed at than known. Bolton comments:

¹³¹ Silvestro Ganassi, 'Chapter 1: Defines the Aims of the Recorder Player', *Opera Intitulata Fontegara: A Treatise on the Art of Playing the Recorder and of Free Ornamentation (Venice, 1535)*, trans. Dorothy Swainson, ed. Hildemarie Peter (Robert Lienau Musikverlag, 1956), 9. Ganassi's claim regarding the ability of the recorder to imitate the voice does not specifically refer to a recorder model; however, it was connected to the sound and possibilities of the recorders available in his time, the closest being the nowadays controversial Ganassi recorder.

¹³² Philippe Bolton, 'Ganassi Recorders', *Handmade Recorders & Flageolets*, accessed 12 July 2019, <http://www.flute-a-bec.com/ganassgb.html>. See also: <http://www.flute-a-bec.com/flute-sam-135gb.html>.

¹³³ Ganassi and Swainson, 'Appendix III: Composite Chart of all Ganassi's Fingerings', *Opera Intitulata Fontegara: A Treatise on the Art of Playing the Recorder and of Free Ornamentation (Venice, 1535)*, 105.

‘Ganassi’ soprano, alto in f and tenor recorders probably never existed in the past and should be considered as modern instruments. Moreover, there may never have been any ‘solo’ recorders during the Renaissance period. [Therefore,] This instrument could today be considered as a contemporary recorder. Several composers of our time have written pieces for it.¹³⁴

Thus, in different ways, the ambiguities of this specific recorder model seemed, like the ER, appropriate for the synchrony of aesthetics and timelessness I was pursuing in the RECORDARI project.

Once I had defined the Ganassi as this episode’s ‘voice’, and recorded the Medieval song (audio [example 2.3](#)) to be placed in a digital environment (audio [example 2.4](#)), I selected excerpts from ‘Ricerca Quinta’ and ‘Ricerca Terza’ (see figure 29) by Italian Renaissance composer and cornettist Giovanni Bassano (1560 – 1617), to place the Ganassi instrument within its idiomatic epoch and style. These excerpts were joined together, forming a combined piece, which seemed to me to blend in an interesting way with the recorded Medieval song and the sonic environment provided by the electronics. In this way, the two epochs (Medieval and Renaissance) sound simultaneously, the Medieval ‘melisma’ of the recorded song combining and connecting to the Renaissance art of ornamentation – the ‘diminutions’ – in the Ricercate, played live. A particular contrast is provided by the repertoires’ distinctive and idiomatic cadences, which throw the different musical styles into relief when they occasionally, unpredictably collide in performance.

¹³⁴ Bolton, ‘Ganassi Recorders’. Recorder maker Adrian Brown agrees: ‘The research I undertook into the phenomenon of the “Ganassi” recorder led me to the conclusion that there had never been in the renaissance, a separate “tribe” of “Ganassi” recorders and the instrument as we know it today, had been more or less invented in the 1970s by several makers working independently’. Adrian Brown: ‘The Ganassi Recorder: Separating Fact from Fiction’, *The American Recorder Magazine* 47, n 5 (2006). Recorder maker Tom de Vries also comments: ‘Indeed, there has never been a recorder like the modern Ganassi in the 16th century.’ Tom Vries, ‘Ganassi’, *Tom de Vries: Recorders*, accessed 12 July 2019, <http://www.devriesrecorders.nl/ganassi.html>. More information about Ganassi recorders can be found at: Adrian Brown, ‘“Ganassi” recorders’, *Adrian Brown: Recorder maker*, accessed 9 July 2019, <https://adrianbrown.org/ganassi-recorders/>; and Stephan Blezinger, ‘Renaissance recorders after S. Ganassi’, *Meisterwerkstätte Für Flötenbau*, accessed 12 July 2019, <http://www.blezinger.de/en/ganassi.html>.

Ricerca Quinta Ricerca Terza.

Giovanni Bassano

Figure 29. Giovanni Bassano, *Ricerca Quinta* and *Ricerca Terza* (excerpts).¹³⁵

As explained in the score, the performer can choose other repertoire to play over the Medieval song. For instance, we found that one contemporary solo work for Ganassi alto in G fitted particularly well within episode 3: *Charavgi* (1994) by Calliope Tsoupaki. However, in this first version of *Recordari*, I wanted to use repertoire that matched the recorder model's apparent historicity.

Episode 4: 'Ricordo 4: What mysteries [and birds] murmur' (ER).

Episode 4 addresses processes of transformation of the instrument and sound, and incorporates birdsong. The subtitle 'What mysteries [and birds] murmur' corresponds to the second verse of the third strophe of the Medieval song 'Sol Oritur in Sydere', with my addition in brackets.

Initially, our exploration of my ER aimed to combine its natural voice (without the use of extended techniques) with the live responses from selected digital effects, thereby extending its acoustic voice. However, there are places in the project where extended techniques became the protagonist, including as early as 'Ricordo 2': see figure 30.

¹³⁵ 'Giovanni Bassano: Ricercate Passaggi et Cadentie', *Partifi*: IMSLP Library, Venice: Giacomo Vincenzi & Ricciardo Andimo, 1585, accessed 10 June 2019, <http://partifi.org/foOQl/segment/>.

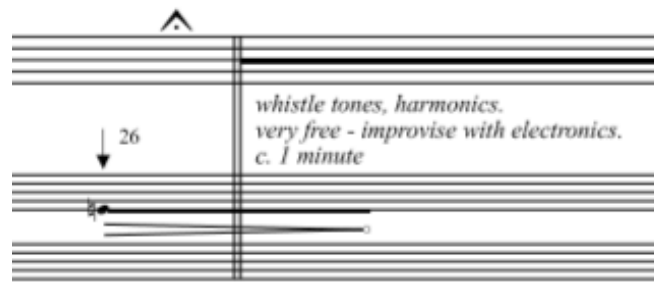


Figure 30. Clarke, 'Ricordo 2: This sun, taken from our midst': improvisation part.

This contrasting sonic environment in 'Ricordo 2' (from 7' 32" to 8' 32" in *Recordari*) aimed to respond musically to concepts and metaphors in the text of the Medieval song: death as life's eclipse, life as light. The harmonics were produced by blowing smoothly, directly into the hole that remains uncovered between the fingers in a fork-fingering,¹³⁶ using a flute embouchure technique. This produces subtle, airy and glassy upper tones.¹³⁷ I also added real whistling into the holes of the recorder. These sounds are followed by the resumption of the traditional playing techniques to recall the recurrent 'falling gestures' of the Medieval song 'Eclipsim passum tociens' (from 8' 34" to 9' 02" in *Recordari*): this incorporates thirds and fourths with their inversions (see figures 31 and 32).



Figure 31. Clarke, 'Ricordo 2: This sun, taken from our midst' (end): falling gestures.



Figure 32. Medieval song 'Eclipsim passum tociens': falling gestures.

¹³⁶ 'Fork or cross fingerings consist in opening a hole and closing one or two holes below it.' Philippe Bolton, 'Fork or Cross Fingerings on the Recorder', *Handmade Recorders & Flageolets*, accessed 20 July 2019, <http://www.flute-a-bec.com/doigte-fourche-gb.html>.

¹³⁷ A beautiful example of the use of this flute embouchure technique in a contemporary work is *Lux Aeterna* (1992-1994) by the composer and recorder performer Markus Zahnhausen, dedicated for recorder performer Dan Laurin (the title *Lux Aeterna* was taken from the Communion Antiphon, part of the Requiem Mass). Zahnhausen refers to an 'instrumental poetry' idiomatic to the recorder. The extended techniques he utilised are similar to those suggested in Clarke's *Ricordo 2*. More information about *Lux Aeterna* can be found at Kathryn Bennetts and Peter Bowman, 'Lux Aeterna', 2015, 1-30, www.bennettsbowman.org.uk/get_lib_doc.php?doc_id=228.

Extended techniques are also used in *Ricordo 3*. The ‘Messiaen-esque’ chords (as Clarke described them), are produced by electronic echo effects, timbrally altered by the use of different recorder techniques such as tongue vibrato, air sound and frullato, as illustrated in figure 33 (11’ 52’’ to 12’ 12’’):

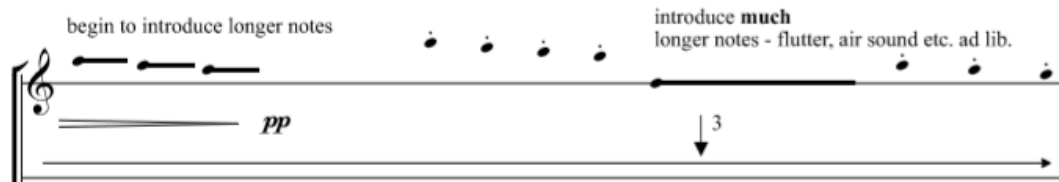


Figure 33. Clarke, ‘*Ricordo 3: You, who quickly pass by*’: chords produced by the echo effect responding to the electroacoustic recorder.

Finally, the musical content of ‘*Ricordo 4*’ (the last piece of *Recordari*) again illustrates one of the historical meanings of the word recorder, ‘to sing like a bird’, and integrates a variety of extended techniques to generate, by means of the electronics, an imaginary onomatopoeic context. This action starts with a sudden eruption of the recorded song of robins (16’ 10’’), supplemented by delicate lip tremolo (described earlier) on the electroacoustic recorder, echoed in the electronics in different pitches.

Episode 5: ‘*Ricordo 1: What prophecies declare*’ (ER);

‘*Ricordo 4: What mysteries [and birds] murmur*’ (ER).

As noted above, our ‘episodes’ were conceived not so much structurally, though *Recordari: A Cycle in Seven Movements* does work through the first four in order, but more as a way of understanding the connections and contrast between our various musical materials. Recognising particular relationships between ‘*Ricordo 1*’ and ‘*Ricordo 4*’ (each already part of earlier episodes) led to the conceptualising of a fifth episode, beyond the framework of *Recordari*. This episode developed a separate narrative, related to ideas of transformation processes that occur in myths, sound and instrumental design. Rainer Maria Rilke expressed this disposition towards transformation processes in a striking manner and one that seemed to somehow mirror ours:

Die Sonette an Orpheus
'Sonett 12'

Will the transformation.
Be excited about that flame
wherein a thing escapes from you, which flaunts transfigurations;
 ...*
What stays closed inside itself, already is solidified.
 ...
 ...
Alas -: the absent hammer is upraised!

* Verses 4, 6 and 7 were not included.¹³⁸

The contrasting material of the first and the last movements of *Recordari* – 'Ricordo 1' and 'Ricordo 4' – seemed to me to generate a narrative which was analogous to the process of metamorphosis that my modern alto recorder underwent when the microphone was fitted into its head. Played as two consecutive movements, they depict an intense, abrupt transformation (evident in the changes in the sonorities) parallel to that witnessed at Bolton's workshop when the hole was drilled into the recorder. In response to my perception of this narrative, I decided to recontextualise this material within a new framework, creating a separate piece but developed from these Ricordi, so as to highlight the experience of metamorphosis. The result was ***Oiseaux Métamorphique (2017), for electroacoustic Modern Alto Recorder and live electronics.***

The conventionally written musical content of the first piece, 'Ricordo 1', clashes significantly with the use of extended techniques and their non-traditional notation in 'Ricordo 4'. I associated these contrasting materials with a retelling of the ancient Latin myth of Philomena¹³⁹ (daughter of Pandion, King of Athens), who had the gift of singing, bestowed by the divinities. According to Latin mythology, she was transformed into a nightingale (Philomel) by the gods to save her from persecution by Tereo, who had cut out her tongue to prevent her from accusing him of rape. The musical content represents the myth as follows: the first part of 'Ricordo 1' illustrates both Tereo's persecution and Philomena's (human) singing by means of violent tremolos and the lyrical lines of the recorder respectively, as illustrated in figure 34. Thus, 'Ricordo 1: What prophecies declare' expresses musically this first verse of the third strophe of the song 'Sol Oritur in Sydere'.

¹³⁸ Rainer Maria Rilke, 'Sonett 12 Buch 2', *Die Sonette an Orpheus* (1922). My translation.

¹³⁹ Ovid's *Metamorphoses* (Book VI, 519-62).

oiseaux métamorphique

♩ = c.75
molto ritmico (1)

↓ 1* ↓ 2**

8x

♩ = c.60
liberamente, arioso (2)

* Trigger 1 immediately before the recorder starts playing
** Trigger 2 on the 6th or 7th repeat

Figure 34. Clarke, *Oiseaux Metamorphique* (beginning).

The moment of metamorphosis occurs as a sudden eruption of recordings of nightingales (whereas *Recordari* introduced recordings of robins between movements 6 and 7, the latter comprising this same Ricordo 4). The second part of this episode, 'Ricordo 4: What mysteries [and birds] murmur', then illustrates Philomena's 'singing as a bird': her life as a nightingale (as illustrated in figure 35).

Slow, hesitant, delicate ♩ = c. 40 (3)

↓ 4 ↓ 5 ↓ 6 ↓ 7

pp < > pp < > pp < > pppp pp < > pp

> p

Figure 35. Clarke, second part of *Oiseaux Metamorphique*. (Corresponding to 'Ricordo 4: What mysteries [and birds] murmur' in *Recordari*).

The transformation is also highlighted by means of the journey from the melodic lines of the first part, 'sung' by the recorder's natural voice and derived from the traditional technique, to the onomatopoeic new content of the second part, using extended techniques. In Clarke's words:

The title – *Oiseaux Métamorphique* – seems to me to refer to the metamorphosis of the solo into the massed lines, the transformation of the rhetorical first part into the birdsong of the second, and the metamorphosis of the archaic recorder into the modern instrument the piece is written to showcase.

However, he confirms that ‘this personal association does not represent the genesis of the collaborative work, which was primarily about sound’: these perceptions led to a creative re-framing of what had already been composed. Clarke also notes that while in ‘Ricordo 3’ he thought of the chords as rather Messiaen-like, the texture of ‘Ricordo 1’ reminded him of ‘Plusieurs Oiseaux des arbres de Vie’ (‘Some birds in the trees of Life’) from Messiaen’s *Éclairs sur l’au-delà...* (1987 – 1991), and that the use of bird samples extended this reference: ‘in *Oiseaux Metamorphique*, the sudden transformation of the texture when the bird samples enter is a very Messiaenic device: different material just sitting next to each other with no transition.’¹⁴⁰ Thus, the title *Oiseaux Metamorphique* consolidates all this in echoing Messiaen’s *Oiseaux Exotiques* (1955). *Oiseaux Metamorphique* can be listened to in [Output 2.2](#) (Audio). The score can be found at Appendix 2.2.

Conclusion: ‘One Long Narrative of Occurrences’¹⁴¹

Instead of focusing on a historically informed practice that looks outside the performer, seeking authenticity, exploring these episodes within the RECORDARI project drove us deeper into our personal perceptions of multiple pasts. In chapter one, in the specific context of the recorder and piano project, I explored how this layering of temporalities might be experienced; how they might feel. Schiffman discusses the experience of ‘the contemporaneity of the noncontemporaneous’,¹⁴² and his words encapsulate what occurs within the episodes of *Recordari*:

the principle of the contemporaneity of the noncontemporaneous operates not only within these temporal frames but between them, as the narrative flow of an ancient historical account switches from one linear or episodic frame to another. These “multiple pasts” ... are

¹⁴⁰ Other references considered by Clarke were: Majoros, W., ‘Syntactic Structure in Birdsong: Memetic Evolution of Songs or Grammars?’, *Journal of Memetics - Evolutionary Models of Information Transmission* 6, (2012) and Martin Rohrmeier et al, ‘Principles of structure building in music, language and animal song’, *Journal Philosophical Transactions of the Royal Society B* 370, n 1664 (2015):107:121.

¹⁴¹ In his book *The Birth of the Past*, Zachary Sayre Schiffman draws on the work of Donal Wilcox so as to explain how the Greek philosopher Polybius (c. 208 – c. 125 BC) conceived of the blending of a variety of ‘times’ (each measured in its own way and each possessing its own order and significance), into one long narrative of occurrences. Zachary Sayre Schiffman, *The Birth of the Past* (Baltimore, Maryland: Johns Hopkins University Press, 2011), 66.

¹⁴² Koselleck describes one mode of ‘premodern temporal experience’ as ‘the contemporaneity of the noncontemporaneous’. Reinhart Koselleck, ‘History, Histories, and Formal Time Structures’, in Reinhart Koselleck, and Keith Tribe *Futures Past: On the Semantics of Historical Time* (Columbia University Press, 2004): 93-104, <http://www.jstor.org/stable/10.7312/kose12770.10>.

all contemporaneous because each one denotes a different kind of synchronic process or pattern.¹⁴³

Recordari, as a 'multi-layered record', becomes a kind of musical palimpsest. The idea of experiencing, simultaneously, layers of history (including myth) and contemporaneity broadens and enriches our awareness of the present, thus influencing the moment (and the experience) of performing and listening. It also draws out the complex, intertwined agencies involved in a performance: primarily those of composer, performer, instrument and notation, but also the instrument maker – who incorporates their unique sound concept and aesthetic into the voice of the instrument through particular manufacturing processes – and the electronics, which echo and transform (recontextualise) the recorder voice.¹⁴⁴

Improvisation played a crucial role in all stages of the project: examining the electroacoustic voice of my ER; exploring instrumental gestures and developing sonic environments; and combining the facets of my performance personae. This personae integrates aspects of my identity: my tacit knowledge as recorder performer, constituted through my long term experience of playing early and contemporary music; my sonic imagination; my ways of expressing myself musically; my 'historic self', related to life circumstances as well as my ways of perceiving, interacting, responding to and creating, musically; and the embodied combination of and intimate relationship between me (performer) and my instrument.

The consideration of factors such as the origins of the instrument and the meanings of its name, the potential of the instrument as a symbol in a given context, the collaborator's perception of the specific instruments, and our personal perceptions of the recorders' pasts, generated different criteria for selecting the instruments, thus re-framing my accustomed routines of instrument selection.

Finally, in this project, I exposed and explored each instrument as an active agent¹⁴⁵ – a container of the 'soul' of an era; an ancient voice and a reviver of the past – but

¹⁴³ Schiffman, *The Birth of the Past*, 73.

¹⁴⁴ In the chapter 'This is Not A...', from the book *Collaborative and Distributed Processes in Contemporary Music making*, Laws refers to (and reveals) the multifarious forms of agency interwoven in the performance of a specific piano work, her objective being 'to offer intimations of [the performing subject]'s composite multiplicity. Catherine Laws, 'This is Not A...', *Collaborative and Distributed Processes in Contemporary Music making.*, ed. Lauren Redhead and Richard Glover (Newcastle upon Tyne: Cambridge Scholars Publishing, 2018), 182.

¹⁴⁵ María Álvarez refers to a 'pre-theoretical notion of agency according to which an agent is something or someone that makes things happen, someone with the power to cause things. This pre-theoretical notion of agency extends to ... inanimate things.' See: Maria Alvarez, 'Agency and Two-Way Powers',

simultaneously as a 'timeless' voice, to be perceived as an explicit anachronism, provoking a dynamic experience of time, expressed musically.

Beyond the Acoustic Environment, Collaborative Project 2: Recordeur: One Who Retells

Carmen Troncoso (recorders) and Lynette Quek (audiovisual artist)

Outputs:

- *Recordeur I-II*. A two-movement audiovisual work portraying the electroacoustic Modern Alto Recorder (ER).
- *Recordeur Whistle* and *Recordeur Double Recorders*. Two separate one-movement electroacoustic works portraying the whistle and a selected combination of double recorders.
- *The Birth of a Hybrid*. Research poster with audio showcasing the ER.



Figure 36. Quek and Troncoso, the ‘recordeurs’: retellers, performers, instruments, devices. Left: Audiovisual artist Lynette Quek.

Aims

Through this project, I aimed to:

- explore the sonic possibilities and the visual impact of the hybrid design of my electroacoustic recorder with its built-in mic;
- examine the different possible roles of the collaborators, their instruments and associated technologies, as suggested by the early and modern meanings of the English term ‘recorder’, developing creative audiovisual responses;
- collaborate, exploring live duo improvisation within electroacoustic processes and developing an audiovisual context;

- examine processes of instrumental and sonic transformation;
- re-contextualise recorders and repertoire.

Instruments

The following instruments were used in the project *Recorder: One Who Retells*:

- Modern Alto Recorder in E by Mollenhauer Company fitted with an electroacoustic system by the French recorder maker Philipp Bolton, pitch A= 442;
- whistle in A by Chilean recorder maker Jorge Montero, pitch A= 462;
- descant recorder in C and alto in F. Baroque designs by Chilean recorder maker Jorge Montero, pitch A= 442.

The following table illustrates how these recorders were used in the works developed in this project:

<i>[Early] Recorder I-II-III</i>	<i>[Final] Recorder I-II</i> (Two versions: electroacoustic and audiovisual)	<i>Recorder Double Recorders</i>	<i>Recorder Whistle</i>
Electroacoustic Modern Alto Recorder (ER)	ER	Baroque-designed descant in C and alto in F	Whistle in A

Equipment utilised: The Bricasti M7 and the Lexicon PCM 81 (reverb hardware processors available in the Trevor Jones Recording studio at the Music Research Centre of the Department of Music, University of York.)

Introduction

The primary objective of the project **Recorder: One Who Retells** was to examine the sonic spectra of my electroacoustic Modern alto Recorder. However, from the very beginning of the project our exploration reached beyond the sonic experience, because our roles and participation in the development of the artistic ideas needed to be understood, defined and the implications acknowledged.

We had agreed that we wanted to explore the expressive visual potential of my ER – not just its sound – and its impact in eliciting creative audiovisual responses. As a result, my

collaborator, audiovisual artist Lynette Quek, reflected in these early stages upon the nature of her role and expertise. From the start of our collaboration, we agreed to co-create. This meant expanding our usual roles: mine into the digital environment and Lynette's into performance (as a computer performer). Our performative voices should always interact, with individual artistic ideas weaving together in the material and through the understandings created in our improvisations.¹⁴⁶

Together, we explored the ambiguity of the meanings and roles found in the origins of the word 'recorder'. One of Lynette's roles, defined by her background as a sound engineer, was to record (capture) the recorder (musical instrument), utilising recorders (devices), which defined the genesis of our primary electroacoustic framework. We summarised this as follows:

In the beginning, the *recordeur* (Lynette) with the recorder (device)
to record (action) the recorder (musical instrument).

'Retelling', in this context, meant developing diverse musical narratives collaboratively to portray different instruments of the recorder's evolution within the electroacoustic environment. This also included the recontextualisation and repurposing of aims and material from the RECORDARI project.

The Creative Process

Exploration of the electroacoustic Modern Alto Recorder: *[Early] Recordeur I-II-III*.

During the initial recording stage of the project we undertook improvisatory recording sessions with the ER exploring the new, expanded identity of my recorder, after its surgery, as a combination of instrument and devices. The first question that we posed ourselves was the extent to which an electroacoustic process could be developed as a collaborative live performance. Both collaborators were exploring our roles as 'recorderists'. The built-in microphone of the ER receives a clean signal without environmental noise. This meant we could be in the same room during the recording sessions, 'performing' together. In a lecture recital jointly presented on this project, Quek explained:

We were recording and listening to the playback through the studio
speakers, which is usually not feasible when recording a pure

¹⁴⁶ This focus on the collaborators' voices would lead to the later creation of *Epigraph*, a sound poem for our voices and languages (Chinese, English and Spanish), without our 'recorders' as instruments or devices. *Epigraph* is not one of the doctoral outputs as such but can be heard in [example 2.5](#).

acoustic instrument. This allowed better direct communication between the both of us, thus increasing efficiency to create and find more interesting sounds during the study sessions.¹⁴⁷

I (the *recorder* player) was exploring methods of portraying and performing sounds on my ER. I improvised, combining the natural voice of the recorder with extended techniques such as humming (voice together with the recorder sound), random-fingers movement, different articulations, lip effects, frullato, airy sounds, tremolo, glissandi, microtones and different vibrato techniques. Lynette (the audio *recorder*) also improvised, using real-time processing of the performance. She was capturing and creating new adaptations of the ER through the use of various technological equipment. It was, therefore, as Quek put it, ‘a two-way explorative endeavour’:¹⁴⁸ through the interaction of our personae we were able to explore the instrument more deeply, generating, together, a kind of composite instrumental ‘self’.

The resulting collection of materials produced in this recording stage formed the basis for the subsequent process of selecting, editing and layering. Separately, we each listened back to that material and combined some of it to create a personal narrative, to examine the individuality of our musical ideas within the collaboration. We then edited and generated our individual versions, which can be heard in [example 2.6 \[Early\] *Recordeur I*](#) (Troncoso’s narrative of her selected material), and [example 2.7 \[Early\] *Recordeur II*](#) (Quek’s narrative for her selected material).

Then, after collaboratively exploring different points of intersection, we layered these two versions one on top of the other. The resulting third piece represented the combination of *Recordeur I* and *Recordeur II*, identifying a possible jointly-conceived manifestation of the musical ideas. This version, [\[Early\] *Recorder III*](#) ([example 2.8 \[Early\] *Recorder III*](#), overlapped structures), ended the first stage of the collaborative process of live performance and post-performance editing.

Generating [Final] *Recordeur I-II*

The material of the first stage of our exploration fed into the development of the final work: [\[Final\] *Recordeur I-II*](#). Slight modifications to [\[Early\] *Recordeur III*](#) were undertaken so as to

¹⁴⁷ Lynette Quek, ‘Collaboration-based New Repertoire for the Electroacoustic Modern Alto Recorder: *Recordeur I-II*,’ Lecture recital, Postgraduate Forum 2017, Rymer Auditorium, University of York, 2 March 2017.

¹⁴⁸ Ibid.

refine the coherence of the musical result. The resulting narrative was defined as *[Final] Recordeur I*. The next process, for creating *Recordeur II*, comprised both new improvised material, which included the song ‘Homo Considera’ performed in the Episode 2 of *Recordari*, however here played (or ‘retold’) by the ER, and further processing of the earlier unused, collaboratively-selected improvised material from the first stage. From this we developed the second piece, *[Final] Recordeur II*.

This *Recordeur II* had a more experimental approach, disintegrating the recorder voice through Lynette’s application of different sound processing techniques. Eventually, the Modern Alto Recorder broke free of its acoustic form, immersing its new being fully into the digital realm, completing the path to sonic metamorphosis. *[Final] Recordeur I-II* can be listened to in [example 2.9](#) and [example 2.10](#), respectively; however, I recommend approaching them in their audiovisual version, in [Output 2.5](#) (Video), later on this commentary.

Evocation of Medieval Sonorities within Electroacoustic Works

In the process of creating *[Final] Recordeur II*, a bridge formed to the project RECORDARI; a connection that we then wanted to explore separately. In our roles as retellers, we linked back to RECORDARI’s search for recorders to play Medieval music. This led us to repurpose material that had been recorded for Episode 2 of *Recordari*, with the whistle, and to evoke (and record) an imaginary Medieval double pipe, as an alternative instrument not considered in RECORDARI, thus, generating a new context.¹⁴⁹ Significance was given to the poetics of the process and the collaborative creation of meaning, rather than to historically informed criteria.

First, we undertook a studio recording session in which I explored playing two recorders simultaneously to suggest a Medieval atmosphere, recalling the Medieval context examined in *Recordari*. Since the purpose was to develop an aural experience, the visual aspect of the recorders was not taken into account as a criterion for choice of recorders, in this instance. We then selected an excerpt from those improvisations, choosing those played on Baroque design models made by Chilean maker Jorge Montero, in contralto and soprano register. The musical material was further processed by Quek, generating the electroacoustic work *Recordeur Double Recorders*. This can be listened to in [Output 2.3](#) (Audio).

Simultaneously, we worked on recontextualising the unused whistle material that had been recorded in the *Recordari* rehearsals of the Medieval pieces *Trotto*, *Ductia* and *Wolkenstein*’ song ‘Der May’, to generate an electroacoustic piece portraying the whistle.

¹⁴⁹ This specific context of exploring possible combinations to form double recorders is extensively addressed in chapter 5.

Lynette undertook the role of an electronic musician (including in live performance), creating a new environment for the instrument. *Recorder Whistle* can be listened to in [Output 2.4](#) (Audio).

An Audiovisual Approach

Extending my Modern Alto Recorder beyond the acoustic environment provoked the desire to express visually, as well as sonically, the transformed recorder's electroacoustic identity. We created a research poster (shown in figure 37, also in Appendix 2.5) that depicted this imagined aspect of the instrument, by means of an image in which the changed body of the recorder metamorphosed into sound waveforms. The poster was displayed, with headphones for listening to the relevant audio tracks, showcasing the idea of 'the birth of a hybrid'.¹⁵⁰



Figure 37. Quek and Troncoso: Research poster *The Birth of a Hybrid*.

¹⁵⁰ The poster was presented on 18 April 2017 at the PhD Poster competition of the Humanities Research Centre, in the Berrick Saul Building at the University of York, and awarded a 'Honourable mention' for 'challenging the scope of presenting a practice research project'.

One of my research aims was to examine the ways in which a specific recorder's voice and design might influence a composer's or sound artist's creative approach in a collaborative context. After the initial exploration of the visual aspect of the ER for the research poster, Quek developed a further visual response to both the appearance of my ER and the sonic worlds of *Recordeur I* and *II*. In this audiovisual version, the images were conceived as 'retelling', producing an abstract parallel performance of the audio. As this process was entirely dependent on Quek's expertise, I provide her account:

The visuals created for the first movement portray the exterior look of the recorder – upright and vertical standing. Horizontal movement across the screen portrays a sense of time, indicating constant processing and creative implementation throughout the whole production. An audio cue to a new section signals the entrance of horizontal graphics, reacting to the audio frequencies of the piece, represented in a format similar to a spectrum analyser. This portrays the harmonic richness of the sound textures. These two graphics then interweave with each other in the next and last section of the first movement, forming coherence and a tighter relationship between instrument and sound, as well as suggesting the relationship between Carmen and myself.

The visuals in the second movement, likewise as the audio, take on a more experimental and contemporary setting – introducing new shapes and spreading across a wider area of the screen. Starting out with a top-down cross-section of the recorder instrument, the visuals portrays the internal body of the instrument, reacting through FFT [Fast Fourier transform algorithm] analysing methods. When a burst of noise enters for the first time, a direct representation is visualised where the screen is filled up with an array of lines, conveying the energy present in white noise, randomly spread across a wide audio frequency range. White noise can be analogously compared to white light, which similarly contains all colours of the visible spectrum. This notion is portrayed at the moment where the burst of noise occurs and most light is present within the piece. Despite having a less direct relationship to the audio, the visuals in this section portrays the textural elements heard in the audio, engaging the audience with a

different, but coherent, style emerging within the piece. This concludes *Recordeur I-II* as an audiovisual piece.¹⁵¹

See [Output 2.5 \(Video\) Audiovisual Recordeur I-II](#).

A Composite Voice

Overall, by defining, exploring and subsequently interweaving of roles in this project, Quek and I were able to perceive our individual instruments more broadly and, in turn, provide them with more possibilities. Likewise, our individual creative identities met and combined in such a way as to generate a composite, distinctive personae, manifested in the outputs. Our specific material contributions derived from our expertise in the different forms and contexts of music making to which we have been individually exposed. Integrating these perspectives and our complementary musical resources expanded our creative approach. As Quek concludes, ‘through this collaboration we have converged different specialisations, skills and ideas into a unified entity that showcases traditional performative associations combined with those of modern technologies.’¹⁵²

¹⁵¹ Quek’s compositional notes (2017) shared with the author.

¹⁵² Ibid.

Chapter 3. MACROFISTULUS (2016 – 2017): The Küng ‘Classica’ Contrabass Recorder



Figure 38. Troncoso: the ‘bigger-than-me’ contrabass recorder.

Carmen Troncoso (contrabass recorder) and Adam Bonser (composer and double bass player)
Lynette Quek (audiovisual artist and sound engineer).

Outputs:

- *Macrofistulus*, a three-movement work for contrabass recorder (CR), double bass (DB), surface transducer and electronics. Audio recording and score.
- Video, *Large-Sized Instruments: An Audiovisual Narrative*.



Figure 39. Bonser, Quek and Troncoso: rehearsal in the Rymer Auditorium at the University of York. 4 May 2017.

What I'm really striving for is (as you say), this vast range of sound characters: from the most delicate to really quite intense. Striving, ascending ... for more; to become more than we are limited [to] by these superb instruments ...!

It's very expressionist. (Bonser, 2017).¹⁵³

The **Macrofistulus** project, undertaken with composer and performer Adam Bonser, focused on developing live performance with contrabass recorder, double bass, and electronics. **Macrofistulus**, as a project, generated the work *Macrofistulus*, of which the first movement is entitled 'Macrofistulus': throughout this text I use the plain text word to refer to the project, italics for the work as a whole and inverted commas for the first movement.

All the musical material was developed within our collaborative framework, aiming to explore:

- the interaction of the two large-size instruments – thus deepening our relationship with the instruments and our knowledge of their particular features;
- the interaction of instruments and electronics;
- instrumental agency and resistance;

¹⁵³ Adam Bonser, email to the author, 5 July 2017.

- collaboration, including improvisation as a methodology for getting to know each other's musical ideas, sonic imagination and personae (as the embodied combination of player and instrument).

The final live performance included processes of both score interpretation and improvisation, with fixed and live electronics.

Along the way, we exchanged emails frequently. At the beginning of our collaboration, we met and played at the University of York where we both were students. Later on, however, Bonser moved to another city. Hence, email correspondence became our means of discussing our work. This circumstance turned to our favour, enriching our reflections and deepening both our level of communication and our understanding of each other's ideas and perceptions. I will quote from and refer to this correspondence in the process of documenting each movement. Since most of the material was collaboratively devised – co-created – I give particular attention to documenting our post-workshop discussions about the work, as well as our individual inputs and forms of exploration.

In this commentary I outline the stages of developing *Macrofistulus* as a piece. First, I refer to the historical sources that influenced both the title *Macrofistulus* and the project's framework. Instrumental research and exploration are described, with audio and video examples.

The Instrumental Context

My research into the recorder inspired the title of this project. In the article 'German Musicians and Their Instruments: A 14th-Century Account by Konrad of Megenberg',¹⁵⁴ Christopher Page examines the Latin treatise *Yconomica* (1348 – 52) by Konrad, a German Catholic scholar and writer who studied and taught at the University of Paris. Chapter 48 of *Yconomica* refers to the servants of a household, including musicians employed to provide entertainment. Wind players were divided into two types: '**macrofistulus**' and '**microfistulus**'. The former 'is the one who makes music with a greater pipe',¹⁵⁵ which could be the *burduna* (apparently a long drone pipe or a kind of oliphant), *musa* (a large reed pipe), *tuba* (trumpet), and *tibia* (shawm). The latter (*microfistulus*) 'is the one who made music on a smaller pipe'¹⁵⁶ (that is, a single pipe, a double pipe, a bagpipe or an organ).

¹⁵⁴ Christopher Page, 'German Musicians and Their Instruments: A 14th-Century Account by Konrad of Megenberg', *Early Music* 10, no. 2 (April 1982): 192-200.

¹⁵⁵ *Ibid.*, 193.

¹⁵⁶ *Ibid.*, 193.

The word ‘macrofistulus’ therefore contains within it a definition of the role of a particular type of performer: a wind player who plays the big instruments. I wanted to experience and explore this role. I had recently found out that the Department of Music at the University of York owned a recorder consort, ranging from the garklein (smallest) to the contrabass. This consort, from the K ng Model II Classica Recorders range, was designed by maker Franz K ng.¹⁵⁷ The Classica contrabass (also called a sub bass) was developed in 1975 – 76. It is made of African wood, either iroko or bubinga, is pitched at 440 and is tuned in F, with a single F key (no F sharp). It has seven additional keys, an adjustable bocal and a range of two octaves, and uses Baroque fingerings. Nowadays, it represents a vintage, discontinued design: an ‘old modern’ instrument. It is important to clarify that recorders made of wood tend to deteriorate over time due to constant exposure to moisture and their vulnerability to temperature changes. Before using the contrabass to develop this project, I needed to send it for re-voicing and other basic adjustments.

I began to explore the combination of contrabass recorder and double bass by playing in rehearsals of the University of York ensemble The Assembled. Here, I encountered Bonser’s sonic ideas while developing dialogues with him in rehearsals for Jennifer Walshes *Zusammen i*; I found a depth and energy in his double bass sounds that triggered my interest in exploring the interaction between both: large instruments and their low registers (figure 40).



Figure 40. Left: register of the CR. Right: register of the DB.

I invited Bonser to develop a ‘macro-instrument players’ project and the collaboration began.

Within this question of the role of the ‘macro-recorder’ performer, my interest reached beyond sonic exploration into the technical and subjective aspects of playing an instrument that, in my case, is bigger than I am. As part of this, I wanted to explore a range of factors: the affordances of this recorder, including the physical hurdles of the instrument for the player; the experience of producing a much lower voice than my own; and the resonance

¹⁵⁷ Swiss instrument maker Franz K ng first attempted to make recorders in 1938; later, from the 1980s onwards, his sons Andreas and Thomas continued his work. Information about the K ng Company and the development of its recorders can be found at ‘History of K ng’, *K ng: Die Fl tenmanufaktur*, accessed 24 August 2017, <http://www.kueng-blockfloeten.ch/>.

of the large bodies of both instruments within the venue. As macro-instrument players, we wanted to explore and highlight the expressive potential of the instruments and their presence on stage, and to develop a sonic narrative that included electronics. Sharing these common aims and roles, we searched for previous works for contrabass recorder and double bass; however, we discovered there was no material for this specific instrumental combination. On the other hand, many solo works for the contrabass recorder are available, both notated compositions and improvisations (sometimes available in audiovisual form).

Among the contemporary chamber music works that include the contrabass recorder, *Les Usines*, for singers, contrabass recorder, narrator and electronics, by Benjamien Lycke, explores not only the sonic features but also the visual impact of the instrument. In the video of a concert presentation in Ghent in 2014, two different models of contrabass recorder stand on stage – a Küng ‘Superio’¹⁵⁸ and a Paetzold¹⁵⁹ – the instruments are both visually and rhetorically¹⁶⁰ necessary to convey the composer’s ideas (see figures 41 and 42). In Lycke’s words: ‘the piece is about the war machine during the First World War. The recorder evokes the factory ... work’.¹⁶¹ The instruments not only appear as sound generators but also play a role that highlights their independent agency. Although this piece’s context is very different, it shares with the Macrofistulus project an interest in exploring in full the characteristics and associations of the instrument, both sonic and visual.

¹⁵⁸ ‘Superio’ is the current Küng contrabass recorder, an ‘improved design’ that replaced the old ‘Classica’ that I used in this project.

¹⁵⁹ In the late 1950s, the German recorder maker Joachim Paetzold conceived the idea of building a square recorder, inspired by organs that combine square and cylindrical pipes. The recorder player Antonio Politano has commissioned several works for the Paetzold, especially for the contrabass register. In an interview at the Biennale Musica 2010, Politano referred to exploring the instrument during his collaboration with Romitelli. Antonio Politano, ‘Biennale Musica 2010’, YouTube video, 03:44, posted by ‘BiennaleChannel’, 18 Oct 2010, accessed 25 August 2019, <https://www.youtube.com/watch?v=qeY1g8wPfyI&t=2s>. For more information about the Paetzold recorder, see Politano Antonio, HEMU, Conservatoire de Lausanne, *PRIME: Paetzold Recorder Investigation for Music with Electronics*, accessed 25 August 2019, <http://primeresearch.ch/>. (A sound and music catalogue are available).

¹⁶⁰ By ‘rhetorically necessary’ I mean that the composer’s explicit purpose is to manipulate (or guide) the way an audience perceives a given subject; in this case (as I explain), Lycke draws attention to the ways in which contrabass recorders recall both sonically and somehow visually the factories making war machines during the First World War. Benjamien Lycke, *Les Usines*, YouTube video, 07:11, posted by ‘enoa community’, 21 May 2015, accessed 5 July 2019, <https://www.youtube.com/watch?v=bloulC6KrpY>. Extract from the final concert of the composition workshop organised by LOD music theatre in December 2014.

¹⁶¹ Benjamien Lycke.



Figure 41 (left). K \ddot{u} ng ‘Superio’ contrabass recorder.¹⁶² Length: 2 m.



Figure 42 (right). Paetzold contrabass recorder.¹⁶³ Length: 1.52 m.

Here it is also interesting to mention the work of recorder player Anna Petrini and flautist Fabrice J \ddot{u} nger, who have developed repertoire for the contrabass recorder and the contrabass flute with electronics, thus also working as ‘macrofistulus’ in an electroacoustic framework.

The work that influenced us most was *Seascape* by Fausto Romitelli.¹⁶⁴ However, like most solo contrabass recorder works, this piece was written for the Paetzold instrument, addressing its specific sonic features. Playing the vintage Classica K \ddot{u} ng recorder in this project

¹⁶² Source: ‘Contrabass Superio’, Digital image, available from *K \ddot{u} ng Recorders*, <https://www.asw ltd.com/kueng.htm> (accessed 14 July 2019). The use of the picture was kindly authorised by Stefan K \ddot{u} ng in an email sent to the author on 19 September 2019.

¹⁶³ Source: ‘Contrabass Recorder’, Digital image, available from *Paetzold by Kunath Recorders*, https://www.kunath.com/product_info.php?language=en&info=p190_contrabass-recorder--solid-cherrywood--paetzold-by-kunath.html (accessed 14 July 2019). The picture was kindly authorised by Joachim Kunath in an email sent to the author on 31 July 2019.

¹⁶⁴ The first recording of Fausto Romitelli’s *Seascape* (1994) for Paetzold Contrabass recorder, played by Antonio Politano, can be heard at Antonio Politano, ‘Fausto Romitelli - Seascape (1994) Paetzold recorder’, YouTube video, 07:35, posted by ‘giul_ m’, 28 Oct 2015, accessed 15 August 2017, <https://www.youtube.com/watch?v=uBr3Vmy5EdI&t=349s> (recorded in Sicily, June 2003).

placed my search for sounds in a different frame. For example, the first musical gesture in the conventionally notated score of 'Macrofistulus' draws on the 'suono del vento' technique used by Romitelli, explained by Politano as

sounds created [within the Paetzold design] with the softest dynamics, which are mainly breathing noises with a very subtle tonal coloration, [which] can be produced in the first octave on all key combinations. Due to modifications in the length of the sounding tube of the instruments they have additional nuances and colour differences. Thus, it is possible to produce texture made by this kind of emission associated with regular or irregular fingering patterns.¹⁶⁵

I took this specific information as an inspiration to search for a kind of 'wind gust' sound using the Classica contrabass recorder.¹⁶⁶ One significant difference between these two instrument designs is the location of the labium (or lip), which is a complex sonic generator. On the Paetzold model (figure 43), the lip is easier to reach (with the performer's right hand) than on the K ng model. On the latter, the lip is positioned very high and is almost unreachable (at least for me, as illustrated in figure 44). Furthermore, the sonic response differs significantly between the two models, especially in terms of overtone content.

¹⁶⁵ Politano Antonio, HEMU, Conservatoire de Lausanne, *PRIME: Paetzold Recorder Investigation for Music with Electronics*, accessed 5 August 2017, <http://primeresearch.ch/>.

¹⁶⁶ Detailed information on playing Romitelli's suono del vento technique can be found on Politano, 'Patterns on Subtones, Wind Sound', *PRIME*, http://primeresearch.ch/index.php?option=com_content&view=article&id=80&Itemid=262&lang=en.



Figure 43. Muñoz: lip position in the Paetzold contrabass.¹⁶⁷

Figure 44. Troncoso: lip position in the Küng 'Classica' contrabass recorder.

Sonic Exploration of the Contrabass Recorder

Early in the collaboration, Bonser and I wanted, as performers, to explore our instruments: to examine our personal relationships with them and to attend to the sonic challenges that we wanted to overcome in order to address the aims of the project (as set out, above). We recorded individual study sessions in which we explored and organised our sounds and gestures. Again, this was not just about sonic exploration, but also about experiencing and working with the sense of the instrument's 'weight'. Below, I detail the aspects explored with the contrabass recorder:

First, I aimed to extend the register of the contrabass recorder as high as possible, defining the high pitches that I later used in bar 20 of the first movement and in the second movement. However, I decided not to fix them in the score, to allow each performer to explore and find their own response to the specific contrabass model they use (see figure 45).

¹⁶⁷ The use of the picture was kindly authorised by Paola Muñoz. (See written consent in the Appendix).

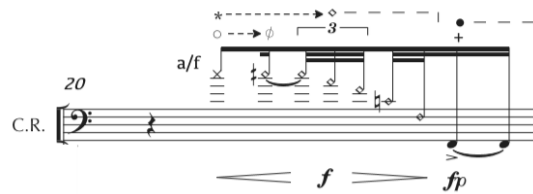


Figure 45. Bonser, 'Macrofistulus', bar 20: exploring high notes on the contrabass recorder.

Next, I searched for a technique to produce upper partials beyond the tessitura. These upper tones appeared when blowing only the side edge of the embouchure. The closer to the edge of the embouchure I blew, the airier the sound became (this is common to all sizes of recorder). The overlapping sounds between the low register – from which I departed, searching for the harmonics – and the harmonics I reached, highlighted the attempt to produce a feeling of lightness, a sort of 'taking off' gesture, as illustrated in figure 46. Two studies on the harmonics can be listened to in [example 3.1](#) (Harmonics study 1) and [example 3.2](#) (Harmonics study 2).

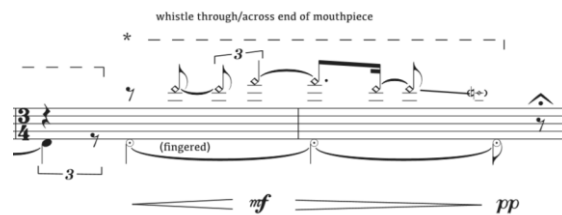


Figure 46. Bonser, 'Macrofistulus', bars 9-10: 'taking off gesture' with harmonics.

I explored covering the lip (as illustrated in figure 44) with the right hand to produce harmonics and compound sounds. However, due to the high position of the lip in this recorder model, I decided to avoid this option. Changing the position of the embouchure connects me with the whole instrument, whereas the technique of covering the lip disrupts this relationship: which was not something I wanted here. I also searched for subtle microtones that can be produced by altering conventional fingerings, and for flageolet tones, produced by playing a few notes of the first register extremely quietly, such as the E, D and C without thumbhole. [Example 3.3](#) (Combination of effects study 1) includes harmonics produced by covering the lip, flageolet-tone, microtones with unconventional fingerings and harmonics by playing at the side of the embouchure. [Example 3.4](#) (Combination of effects study 2) explores the overlapping of microtones and harmonics.

I explored combining my voice with the low register of the contrabass recorder, and also with other contrasting effects such as whistling into the recorder, thereby generating

superimposed dialogues and dissonances. These dialogues included shrill shouts as well as gestures with gloomy, dreary, mournful, dreamy, wistful or raving characters, triggered by the humming effect; these seemed to me quite sonically dramatic and allowed me to perceive separately the two entities that the instrument and I represent: two different but interdependent sound sources (listen to [example 3.5](#): Combination of effects study 3).

[Example 3.6](#) presents a tense, very high and unstable phrase with humming, in a gesture that strives to overcome heaviness. A similar effort to take off, to achieve lightness, can be found in movement I, 'Macrofistulus', but here played by the double bass ([Audio Output 3.1](#) from 5' 22'' to 5' 42''). This gives an example of how the exploration of the contrabass recorder was taken up by Bonser in the use of the double bass (see figure 47).

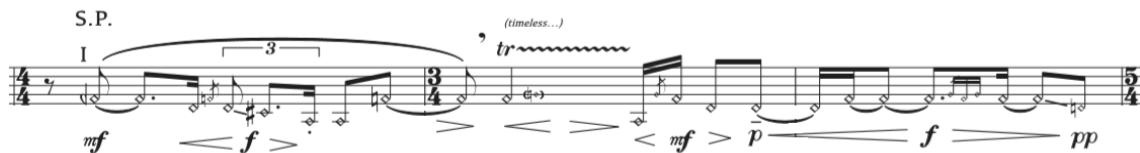


Figure 47. Bonser, 'Macrofistulus', bars 58-60: striving to achieve lightness with/in the double bass.

[Example 3.7](#) turned into the main humming gesture within movement III.

I examined the function of breathing with the instrument: the in – out exercise of inhaling and exhaling between other musical gestures, which may include different sounds made in the mouth.¹⁶⁸ The inhalation gesture, combined with specific pitches, became significant within the first movement: this is illustrated in figures 48 and 49.

Articulations

- Exhale (where specified – otherwise phrasing is left to the discretion of the performer)
- ∨ Inhale (as above)

Figure 48. Bonser, *Macrofistulus*: symbols for exhaling and inhaling.

¹⁶⁸ The type of instrumental exploration undertaken in these studies perhaps relates to some of the work of Mauricio Kagel. In *Solo* (1967), Kagel first utilises the performer's voice and whistling, exploring sounds but, above all, illustrating a scene. The sounds narrate, sonorise and visualise a dream – an imaginative and psychological dimension – as well as the bizarre or peculiar everyday life of a musician. *Der Schall* (1968), for five players with 54 instruments (although the number of sound objects may vary from one performance to another), explores the sound of breath, screams and a variety of combined sonorities. However, these associations are retrospective: they did not influence my processes.



Figure 49. Bonser, 'Macrofistulus', bars 4-5: inhale and exhale gestures (in-out breathing).

Different kinds of articulations and attacks, such as various forms of 'double tonguing' ('tuku', 'dugu', 'lulu' and 'guru'), 'frullato' (flutter tonguing), 'sputato' ('th', 'sh', 'p', 'tongue slap') and percussive sounds (for example key noise) on the instrument also played a significant role within the work (listen to [example 3.8](#): Percussive elements study: key sound and sputato).

In our workshop sessions we also explored elements we were developing for each movement, such as the 'train-like' and 'wet' sounds which we eventually used in the third movement, and other elements such as 'upbeats' and melodies with overlapped gestures (listen to [example 3.9](#): Study upbeats, harmonics and other elements, and [example 3.10](#): Study melody with rhythm and other elements.) Likewise, in our improvisatory studies we developed chords and intervals that later became part of the piece, as illustrated in [example 3.11](#): Intervals and [example 3.12](#): Meeting within chords.

Throughout the project, I examined the layers of sound that this contrabass recorder can produce, highlighting different kinds of compound sounds, noises and raspy gestures. I tried generally to avoid any muffled sounds that might convey a lack of energy. I intended the sounds to be perceived as powerful, charged with intensity. Subtle, delicate and unstable sounds, nevertheless, were also part of the exploration, especially within the first movement.

One effect that highlights the appearance of layers is the 'ribatutto', which consists of the production of overtones by gradually overblowing the same note. This gesture plays a significant role in Romitelli's *Seascape* and within our first movement 'Macrofistulus'. However, the resulting effect differs between recorder models: I was aware of the difference in our usage.

We faced a regrettable technical limitation of this early Classica model: the absence of the low F sharp. Even though we talked about this, Bonser included it in some of his ideas for the first movement, as F sharp or G flat. It is, though, possible to reach this pitch – or to approach the tone – by lifting the low F key up slowly but not completely, hence producing the pitch by shadowing the G (leaving the F key very close to its hole). On more recent models, this

would not be necessary: Küng's website states that in 2008, the maker Geri Bollinger¹⁶⁹ 'devoted himself to renew the great bass [in C] and the sub bass [or contrabass, in F]'. The manufacturing of these low instruments improved considerably both sound and design.¹⁷⁰ The new, improved model is the Küng 'Superio' (already shown in figure 41). The differences in design are partially illustrated in figures 50 and 51, below:

¹⁶⁹ Information about the maker Geri Bollinger (Switzerland) can be found at Geri Bollinger, *Ausdrucksstarke Blockflöten*, last accessed 5 July 2019, <http://www.geri-bollinger.ch>. He has contributed to the development of new 'expressive' designs and the improvement of old models like the 'Classica'.

¹⁷⁰ Among the improvements to the Küng contrabass (subbass) recorder model are: a range of more than two octaves (including the low F sharp); a wide bore and large finger holes that allow the production of a strong sound that is still rich in overtones; a more stable and less noisy key system for the right hand, and a small removable cup that makes it easier to empty the bocal of condensation. Detailed information about the 'Superio' subbass can be found at Küng: *Die Flötenmanufaktur*, last accessed 05 July 2019, <http://www.kueng-blockfloeten.ch/cms/en/recorder/superio/superio-subbass-in-f/>. As described above, there has been innovative exploration in the manufacturing of large recorders, seeking both ergonomic designs and richness of tone within a chromatic register of two octaves, with some additional higher notes. Other contrabass recorder models worth of mentioning are the Moeck subbass recorder in F (which also has a single bottom key without F sharp, like the Küng 'Classica'), the aforementioned Paetzold contrabass recorder manufactured by both Paetzold and Kunath, and the Coolsma Millennium Subbass [Contrabass] in Birch. (The name 'Millennium' was also that of Dolmetsch's large square bass recorders, which are currently unavailable. Information about this Millennium model can be found at Dolmetsch Organisation 2000 – 2013, 'Millennium Large Square Bass Recorders', *Dolmetsch Online: Millenium Recorders*, accessed 23 August 2017, <http://www.dolmetsch.com/millennium.htm>).



Figure 50 (left). 'Classica' KÜng CR.¹⁷¹ Adjustable bocal, single F key, made of iroko or bubinga.

Figure 51 (right). 'Superio' KÜng CR.¹⁷² Bocal blow, double F-F#key, curved windway, made of dark-stained maple.

'Resisting' the Instrument

Finding a comfortable position with this 'taller-than-me' instrument involved a basic, significant task: exploring the relationship between my body and its design. Conversely to what is felt playing smaller recorders – in being 'microfistulus' – this project was partly concerned with exploring the difficulties of carrying large instruments. The actions of opening the recorder's case, assembling and disassembling its parts, cleaning it after practising, moving it to its storage place; all this seemed enlarged, as if I was becoming an ant, able to carry

¹⁷¹ Source: 'Contrabass Classica', Digital image, available from KÜng Recorders, <https://www.asw ltd.com/kueng.htm> (accessed 14 July 2019). The use of the picture was kindly authorised by Stefan KÜng in an email sent to the author on 19 July 2019.

¹⁷² Source: 'Contrabass Superio', *ibid.* The use of the picture was kindly authorised by Stefan KÜng in an email sent to the author on 19 July 2019.

something bigger than myself. Especially during my first period with the instrument, my rehearsals were accompanied by a rather heavy mood, a sense of a weighty challenge. This relationship was experienced as a form of creative resistance, which made its way into the forming of the piece itself, somewhat as discussed by Sally-Jane Norman in her article 'Contexts of/as Resistance':

Something or someone resists something or someone, making this withstanding (*re-sistere*) essentially relational or agential. Live performance gives this play of agency a dramatic frame and focus, involving resources ranging from 'raw' re-appropriated materials to sophisticated information technology type artefacts.¹⁷³

This feeling of 'bearing' the size of the instrument and its impracticalities is something perhaps more common to double bass players, as examined in the one-man play *The Double Bass* by Patrick Süskind,¹⁷⁴ which addresses both dramatically and humorously the relationship between double bass player and instrument.

Of course, the instrument, as an entity, exists, but it does not interact. Therefore, what we actually define as the relationship with our instrument refers to the expression of self within the attempt to incorporate the instrument's character or 'frozen agency' into our self, as well as incorporating our self into the instrument's voice and body. The instrument's frozen agency is constituted by its history: the embodiment of related contexts, styles, other personae such as players who might have played the instrument, and the instrument maker. Its wood also carries the story of a habitat in which a specific tree grew until it was used for making this particular instrument.¹⁷⁵ The making process of the instrument, noisy and somehow violent, but beautiful in its purpose (as somehow witnessed in chapter 2), is also recorded in the matter of the instrument. Furthermore, the relationship with the instrument also comprises a process of discovering the instrument's unique characteristics, as if to allow it to express its self. Aware of the instrument's independent agency, performer and instrument

¹⁷³ Sally Jane Norman, 'Contexts of/as Resistance', *Contemporary Music Review* 32 nos. 2 – 3 (2013): 275, accessed 20 August 2018,

<https://www.tandfonline.com/doi/pdf/10.1080/07494467.2013.775805?needAccess=true>.

¹⁷⁴ *Der Kontrabaß (1980, translated The Double Bass)* is a one-act monologue by Patrick Süskind. The play was premiered in 1981 in Cuvillies Theatre in Munich, performed and directed by Nikolaus Paryla.

¹⁷⁵ Harriet Oliver, 'Footjoint', *The Recorder Magazine* 34, no. 3 (2014): 108. Oliver refers to a cedar tree from Henley Park chosen to make a recorder. The tree may have been from the seventeenth century, to which the author comments that 'there is a pleasing continuity about using a wood from a 17th-century tree to make a recorder in the 21st century'.

act, as Norman says, ‘as agents woven into a symbolic narrative, enhancing the works’ contextual complexity by inducing a state of perceptual and interpretative oscillation’.¹⁷⁶

Collaboration: Interacting, Integrating

Looking forward to seeing what happens!
(Bonser, before a workshop).¹⁷⁷

The collaboration process for the *Macrofistulus* project was a form of ‘creating together’, rather than a commission-based relationship. Moreover, within the project, Bonser and I had to take on different types of collaborative, exchangeable roles as researcher-collaborators, improvisers, performer-composers and personae.

As mentioned above, before this project we already knew each other as improvisers. Improvisation was the core of the project; the framework within which the exploration of ideas, the interaction of our characters, aesthetics, embodied gestures and styles, and eventually the musical content, arose. Even though we both generated material and performed, this description leaves rather unclear the nature of the individual input into creating the project’s material. As a trained composer, Bonser organised the selected musical material, developed overarching structures, created the electronic parts, and produced the final score (which includes both fixed and open elements). However, as improvisation was a core aspect of the work, and I created the core recorder material, the roles are not easy to distinguish.

The complexities of collaboration, especially between composers and performers, are increasingly being acknowledged and studied. In his doctoral thesis, ‘A Phenomenology of Collaboration in Contemporary Composition and Performance’, Paul Roe examined different models of collaboration.¹⁷⁸ His summary of what might be called ‘integrative collaboration’ (stemming from the work of Montiel-Overall, who describes a model called ‘Integrated Instruction’¹⁷⁹), is directly applicable to the type of collaboration undertaken in the *Macrofistulus* project:

¹⁷⁶ Norman, ‘Contexts of / as Resistance’, 278.

¹⁷⁷ Adam Bonser, email to the author, 18 May 2016.

¹⁷⁸ Paul Roe, ‘A Phenomenology of Collaboration in Contemporary Composition and Performance’, (PhD thesis, University of York, 2007).

¹⁷⁹ Patricia Montiel-Overall, ‘Toward a Theory of Collaboration for Teachers and Librarians’, *School Library Media Research* 8, (April 2005), 14.

This model of collaboration [‘Integration’] is the most involved and intense. Participants are involved in shared thinking, shared planning and shared creation. Collaborators share responsibility, and conceptualisation is a joint initiative. Partners work closely together and develop a synergy that allows them to create together. The distinguishing characteristic of this model is that partners expand their potential and create jointly what would be beyond their capacity individually.¹⁸⁰

Vera John-Steiner refers to this type of integrative collaboration as ‘the most intensely productive’. She adds that integrative collaborators may develop ‘new practices and concepts’, and that ‘these relationships require prolonged periods of committed activity and thrive on risk-taking, dialogue and shared vision.’¹⁸¹ In our case, this type of collaborative work involved and exposed a range of key processes as significant in the creative process: improvisation as a method of sonic exploration and music making; subjectivity as a primary (if sometimes risky) basis for organising the musical material and defining a narrative; collaborative exploration of instrumental resonance and recognition of instrumental agency; and the steady, intense exchange of opinions.

Consolidating Macrofistulus

The sheer act of selecting [an instrument] may be tantamount
to its conceptual and perceptual transformation.
(S.J. Norman, 2013).¹⁸²

Throughout our collaboration, Bonser and I, as performers, developed a personal approach to our instruments, considering not only their sonic possibilities and acoustic characteristics but also ideas that turned the instruments into ‘sound actors’ or ‘sound narrators’.¹⁸³ These ideas

¹⁸⁰ In his thesis, Roe summarises Montiel-Overall’s models of collaboration.

Roe, ‘A phenomenology of Collaboration’, Table 1, p. 25.

¹⁸¹ Ibid. In Table 3, p. 27, Roe summarises John-Steiner’s patterns of collaboration (from Vera John-Steiner, *Creative Collaboration* [Oxford: University Press, 2000]).

¹⁸² Norman reflects ‘on the ways we handle materials.’ Sally Jane Norman, ‘Contexts of / as Resistance’ 32, no. 2–3 (2013): 276, <https://doi.org/10.1080/07494467.2013.775805>.

¹⁸³ This idea of ‘sound actors’ or ‘sound narrators’ is again perhaps reminiscent of Kagel’s exploration of the agency of instruments, performers and sounds. For instance, in his film *Duo* (1967–68), Kagel incorporates a narrative that visualises and characterises musical instruments and sound objects. Also, a key composer for this type of sonic and agential exploration is Karlheinz Stockhausen. In his opera *Aus Licht*, for example, Stockhausen develops scenes that highlight the relationship between performer and instruments/objects.

generated three movements that, in quite different ways, explore the relationship with and between the instruments.

The first movement's rhetorical goal was to explore the gestural interactions that came out of our playing together, and the intense dialogue between these instruments and their performers: the *macrofistulus*. The aim of the second movement became, as Bonser put it, 'to achieve a totally immersive sound field'. Bonser defined the process here as 'Listen. Modulate the space where you and sound coexist'. 'Resonance' is a key word for this movement. The third movement explored a more poetic approach to the instruments and electronics. The allusive environments developed by the instruments in this movement were also inspired by the types of sounds created within the early improvisations.

Bonser's role included developing the electronics. We talked about their role and significance in each movement. The defining of the instrumental material for the electronics also derived mainly from our recorded improvisations. Thus, it encourages the listeners and us, as performer-listeners, to perceive somewhat transformed, 'reshaped' *macrofistulus* players: 'us', but in another dimension or environment. I expressed this in an email to Bonser, and he responded:

So I would generally see the electronics part as supporting material – I would also say that (not always) most of the time, the electronics are generated from some of the samples we recorded together. Obviously, past a certain degree of processing a sound's origin gets kind of irrelevant, but it's nice to know, anyway!¹⁸⁴

Despite the improvisatory nature of the process, one of our objectives was finally to create a score that would allow other players to pick up these musical ideas and use them themselves (as in the RECORDARI project), exploring other instrumental approaches and interactions. The material of the three-movement score was based on the exploratory, improvisatory process of early workshops in April and November 2016, and preparation for a concert in May 2017. Bonser, as a composer, transcribed our selected gestures and phrases and included some new elements. He developed a conventionally notated score for the first movement, '*Macrofistulus*', and text scores for the second and third movements. We then performed *Macrofistulus* live for two different audiences. Both concerts took place in the

¹⁸⁴ Adam Bonser, email to the author, 2 July 2017.

Rymer Auditorium at the University of York.¹⁸⁵ On examining these performances, we worked on defining the versions of each movement towards a final recording that took place in May 2017. The final three-movement work is as follows:

Macrofistulus (2017)

I – ‘Macrofistulus’

II – ‘Realizing God Within Ourselves’

III – ‘Wet/Rain – Speed/Rhythm/Train – Humming/Remembrance’

The full score of *Macrofistulus* can be found in Appendix 3.1. Below I comment on each movement’s processes.

Movement I: ‘MACROFISTULUS’

Do you mean the new entry, being a bit ‘too punchy’? I think it's actually quite cool...this moment is where the peak of the drama happens; it's all quite intense – I think it's fierce, exciting, yes a little bit synthetic but also the sound world allows for that sort of thing. I’m not sure if I do want to change it. I can go back and try to smooth out the attack a little, maybe ... make it last slightly longer. Let me know your thoughts if you like.

(Bonser, 2017).¹⁸⁶

The initial ideas for sonic behaviours and interactions as well as an incipient structure arose in the workshops in April 2016. The interactive, improvisatory playing, led me to develop sounds, gestures and phrases that increased my understanding of the specific ‘Classica’ contrabass recorder utilised and revealed to me the possibilities for developing sonic environments and contrasting dialogues with the double bass.

During these early workshops, we created a loose graphic score (figure 52) that roughly and vaguely contained the gestures explored in our playing together, in an attempt to register what we were selecting as interesting material to explore further.

¹⁸⁵ 4 May 2017: informal concert in the Rymer Auditorium. 05 May 2017: Chimera concert (part of the University of York’s public concert series) in the Rymer Auditorium.

¹⁸⁶ Adam Bonser, email to the author, 12 July 2017. From a discussion about the first movement’s material.

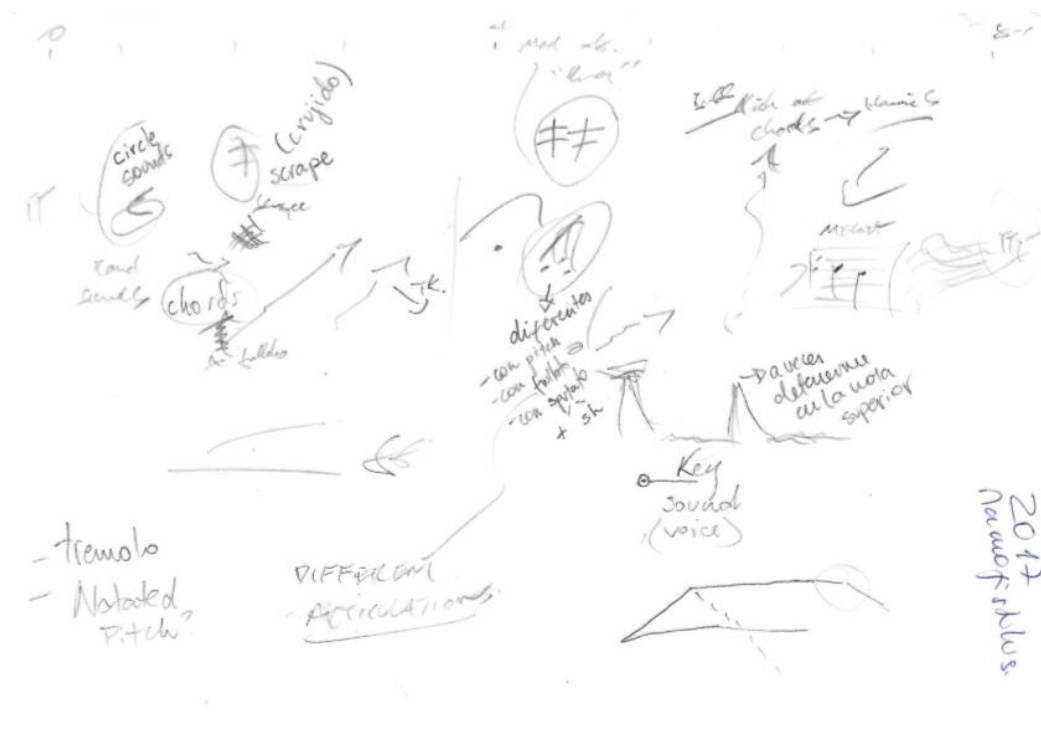


Figure 52. Bonser and Troncoso: rough graphic score produced by the collaborators in the first improvisatory workshops, 2016.

A period of email exchanging followed. This correspondence helped us express and clarify the ideas for and elements of this movement. For example, having listened to the workshops of April 2016, I wrote to Bonser about the up-beats, high notes and melodies we had insistently played in our first interactions:

I like the idea of writing specific notes for the three notes of the up beats and reflecting better where to play them frullato. I think I abused it [frullato] in the first take. The high notes – yours and the ones I did covering the window [lip] of the recorder – are a different, interesting material that helps to vary the texture. The melody that we improvised and then repeated is also a thing to reflect on. Where should we play it together? Where should it appear? How many times, how significant should it be in the whole music?¹⁸⁷

In November 2016, we worked improvisatorially on the rough graphic score. First, we reviewed the ‘circular’ sounds we had explored in April and talked about a possible structure for the first movement. The draft score served as a guide to help us remember and review the musical

¹⁸⁷ Carmen Troncoso, email message to Bonser, 28 July 2016.

ideas that we then explored in the improvisation, in which we created a significant part of the material utilised in the final work.

Later on, Bonser developed a detailed score – conventionally notated – organising the material within a defined structure for this movement, which we revised and changed until the purpose of each section was confirmed. Reflecting on this process, Bonser wrote:

I took the material we came up with together, boiled it into its essentials and then structured it proportionally, invented suitable electronic accompaniments, re-worked the original material, iterating this dialectic again and again.¹⁸⁸

As part of the process of review and development for the first movement, we exchanged emails that considered the following:

- The role and content of the electronics for this movement.

For example, some ‘crackles’ within the electronics were perceived by me as ‘sparks in a fire’, or ‘crunchy sounds’, whereas Bonser had deliberately incorporated them as a ‘noise’ that ‘somehow keeps the space more alive’, especially within a dry acoustic like that of the Rymer Auditorium, in which we performed the piece.

- The balance between the instruments and the electronics.
- The quality of the pauses and the dynamism within our phrase structures.

From the beginning of the project, honest and overt communication was crucial to understanding each other’s intentions. However, this close communication triggered tension, for there was an individual effort, along the way, to keep a strong personal sense of expressive commitment to and identification with the content of the piece. It was through the ongoing discussion of the work’s content, goals and expression that we came to deliver a joint piece, based on integrative processes.

¹⁸⁸ Adam Bonser, email to the author, 27 July 2017.

The first movement can be listened to in [Output 3.1 \(Audio\)](#). The score is in Appendix 3.1.

Movement II: 'Realizing God Within Ourselves'

In memoriam Zbigniew Karkowski (1958 – 2013).

The title of this movement, 'Realizing God Within Ourselves', is taken from a text written in Amsterdam in 1992 by the Polish experimental musician and composer Zbigniew Karkowski: this text influenced Bonser's work.¹⁸⁹ The first, previous title, however, was 'We had forgotten that we were Gods', suggested by Bonser, again drawing upon Karkowski's text. I did not react positively to this initial title, particularly because we had not talked yet about its origins or meaning, so it appeared to me to be breaking with the common goals and the communicative basis of our collaboration. We exchanged emails until we both shared the same understanding of the title's meaning and function. Bonser sensitively expressed his point of view, as follows:

What I want from the second movement especially is this moving into an immersive, all-encompassing sonic experience, which cannot be notated, but only brought about through performance – indeed, through the collaboration and mutual work of people making music together. This act is somewhat sacred, no? The marriage of concentration, performative intent to the creation of a very pure, powerful yet fragile force. This is the magic of community, of people singing together, for millennia, bringing spaces alive. We change the spaces we are in; but also ourselves, we are vibrating, while the music lasts – aspiring towards a 'godlike' state.

Gods, I mean, of course we are mortal, fallible, humans. But there is a certain magic, a kind of ritual that is unique to us as people that I want to emphasise – that we CAN change through sound, and that we are all empowered to bring about this change, both in music and in our daily lives.¹⁹⁰

¹⁸⁹ For Karkowski's text, see Zbigniew Karkowski, 'Where Language Ends, Music Begins', *PoetryFilm: Research Art Project*, 1992, <https://poetryfilm.org/2015/02/12/where-language-ends-music-begins-zbigniew-karkowski-experimental-musician-1958-2013/>.

¹⁹⁰ Adam Bonser, email to the author, 7 April 2017.

First stage: upper partials.

The first stage of our exploration for the second movement (until March 2017) combined recorder material taken from November's recordings – harmonics, in-breaths and out-breaths, guttural gestures – with low, long notes, subtle gestures and intense, high lines played by the double bass, and an electronic part based on manipulation of sound waves within the pitches of the instrumental materials. This primary work dealt with the alternating of voices through the juxtaposition of different spectra. The upper partials of both the contrabass recorder and the electronics played a significant role, filling the sonic space. The exaggerated, exhaust-like effect of moving air, which occurs when altering the mouth position at the recorder's embouchure to produce harmonics, also became an essential element (listen to [example 3.13](#): First draft of the second movement. Upper partials).

Second stage: surface transducer

Nevertheless, a new idea produced a new framework: that of exploring the resonance of the instruments in relation to space, highlighting the physical and sonic properties of their design, exhibited through both live performance elements and the electronics. With this objective in mind, Bonser explored using a surface transducer: an electronic device able to turn an object's surface into a medium for sound transmission by amplifying the vibrations of an audio source through the object. This exploration constitutes the core of the second movement and the second stage of its process.

First, Bonser imagined the surface transducer acting through the recorder. In an email to the author dated 14 March 2017, he wrote:

Hi Carmen,

Next time you practice with the contrabass recorder – would you be so kind as to measure the diameter of the hole at the top? Does it also have one at the bottom? I can explain more when I see you – but essentially, you can stick a vibrating magnet onto the wood, and it produces an awesome sound, which we can then modulate with our playing.

In May 2017 we first explored using this device, finding that the hollow bore of the recorder and its round shape did not allow the surface transducer to work: it is not wide enough. The resonator box of the double bass, however, revealed an extraordinary sensitivity. As a result, the relationship between the instruments became more intimate, the sounds of

the recorder physically affecting the resonance of the double bass through the use of the surface transducer (placed close to the bridge), fed by my live recorder playing and the electronics. I realised that the resonance was influenced significantly by certain recorder sounds: multiphonics, distorted or otherwise rough sounds, and high pitches seemed to produce immediate sympathetic resonances.

Despite having to find specific pitches and effects to trigger this physical reaction, I only applied this information improvisationally, not fixing anything in a score. I reacted to the vibrations enveloping the space, perceiving, live, the relationship between sound and matter. Karkowski's text and Bonser's reflections on it influenced my performance: I tried to embody Karkowski's homage to 'the energy of sound', expressed through improvisation. The recorder seemed empowered, as if 'realizing God within itself'. The double bass, laid on a table, conveyed an image of a kind of body ritual, a dramatic awakening of its resonance. As a result, the type of music that I played became more like a form of 'ritual music'. The instruments, the space and the sound 'itself' acted as empowered entities, whose presence and expressiveness produced a kind of sound-theatre.

Final stage

In emails exchanged after the performances, we reflected on musical aspects of this second movement such as the balance between the contrabass recorder and the surface transducer, the function and quality of the recorder sounds, and the relevance of the visual presentation in conveying a sort of sonic sacrifice. The relationship between the instruments, when using the surface transducer and the electronics, generated an acoustical reaction that enables the instruments to seem to touch each other, sonically, filling the space with vibrations. However, the experience of playing, and therefore being particularly aware of this phenomenon, is different to that of watching it, or to listening only, as expressed in an email from Bonser dated 5 July 2017:

The problem is that the relationship with the transducer doesn't come across so well without a visual aid – if I keep what transducer 'hum' there is on the recording, it just sounds like a mistake. It sounds nasty, buzzy but not in an interesting way. So I've gone for more space, and trying to work out slowly evolving pitch relationships.

Overall, I was not sure about accepting the roughness of the general phrasing of this second movement, especially in audio-recorded form. Some of the recorder sounds were intended to awaken the resonance of the double bass but were not pleasant in themselves; their function was less apparent in audio-only form. In an email dated 28 July 2017, I suggested to Bonser a version combining both the first and the second stages, the former introducing more smoothly the entrance of the loud effect of the transducer:

Collaboratively, the second movement appears to me more interesting in terms of exploration if we also consider the early stage of ‘modulating’ spaces through, as you wrote: ‘juxtaposition of different spectra’ (F in my recorder, E in your double bass). We both enjoyed the upper partials at that stage of the process, and the electronics seem to metamorphose into the surface transducer. I find it so much nicer now [combined], sonically.

Our email discussion was indispensable in apprehending the precise meaning and role of ‘sound’ in this movement. Bonser responded to my suggestion, highlighting the importance of conceiving this movement as a ‘live’ experience, even within the audio recording:

I suspect a problem with having just the sound waves at the opening of the second movement might mean people think we ‘fake’ the relationship with the transducer, later on. I do find there’s a need for me to reconcile how we would do it ‘live’ versus how we would do it as a studio recording – for me, movement II is all about being ‘live’, modulating a space where the audience feels the vibrations, so that we all become alive, *realise god within ourselves*, etc. Obviously, this is hard to convey on a stereo recording. But it does need mentioning, somewhere, somehow. Another technical problem with doing the prelude introduction bit ‘live’, with me processing your playing, is that it doesn’t work without me being there – the tools I’m using to make your harmonics really sing in the opening 3mins 30 are actually licensed to me and quite expensive, I can’t just include them in a Max MSP patch or other file. Hence, to do this would be quite tricky for a live electronics player, even if they were using my laptop.¹⁹¹

¹⁹¹ Adam Bonser, email to the author, 29 July 2017.

As one of our aims was to make our work available for other performers, and the expressive core of this movement required the live experience of powerful sound, we dismissed the idea of presenting both stages linked together.

Finally, then, the audio recording of this movement is that of the live performance given in May 2017. However, for documentation purposes, I include the audio recording of the first stage (already listened to in example 3.13), as it formed a significant part of the exploration.

The score of this movement is in the form of text only. The recorder part, we felt, should be developed anew by each performer, seeking to awaken the resonant body of the double bass. The set-up and further suggestions for performance are included in the score (Appendix 3.1). The second movement can be listened to in [Output 3.2 \(Audio\)](#).

Movement III: 'Wet/Rain – Speed/Rhythm/Train – Humming/Remembrance'

I liked your description for the third movement so much I think I might call it that! What do you think? (Bonser, 2017).¹⁹²

This last movement represents a profound journey, whether actual or imaginary, oneiric or poetic. It is concerned with the state of awaking or coming back: the double bass comes back to life after its 'sonic sacrifice', conveyed within movement II. A different type of relationship between the instruments and the electronics arose out of this process: a symbolic, more lyrical one.

'Depth' is a significant element that we aimed to address in this movement. The first title for Movement III was 'Epilogue', but later on the force and distinction of the specific sonic material and the clear definition of sections demanded a different title. I reflected on the suggestive sonic material of the movement's structure, and eventually we decided to name the movement according to the sound environments that this material (including the electronics) developed: 'Wet/Rain – Speed/Rhythm/Train – Humming/Remembrance'.

The recorder sounds utilised in this movement also came from the recorded material of the early improvisations: 'wet' sounds, humming, articulations (types of tongue-strike), multiphonics, rhythmic gestures that became patterns, and train-like sounds. At this point in the *Macrofistulus* project we deepened our thinking about the thematic relations (or distinctions) between the movements, in particular between movements II and III. The idea of remembrance is suggested through a recorded recorder's humming gesture (listened to in

¹⁹² Adam Bonser, email to the author, 18 July 2017.

example 3.7) sounding in the electronics. It brings back to mind the dialogues of the first movement between macro-instruments and conveys a sort of wistful melodic train whistle, alluding to a deep, remote journey. In contrast, the double bass is concerned with coming back to its 'self' after the second movement. It plays undefined gestures, awakening its strings and pitches.

The approach to and character of this movement changed considerably along the way. The first drafted version, developed in our early improvisations (2016), focused around purely sonic exploration. Especially at the beginning of this version, the recorder appeared as the protagonist. [Example 3.14](#) (first draft of Movement III: 'Wet/Rain – Speed/Rhythm/Train – Humming/Remembrance') documents that first approach, in which we had not yet defined a rhetorical relation between the second and this third movement so as to connect them and construct a coherent meaning. However, the two later, live performances (May 2017), guided by the text score defined by Bonser, added a narrative element, reacting to the sonic ritual of the second movement. Now, the entrance of the double bass at the beginning of this movement III appeared rhetorically significant.

After that, a deeper understanding of the *Macrofistulus* work as a whole influenced the final conception of this movement and, therefore, the criteria for defining the instruments' roles as active agents in delivering the work's content, and for defining the role of the specific sounds. Our emails reveal us to be concerned, explicitly, with these matters. For example, in an email to Bonser dated 8 July 2017, I commented:

I have doubts about the recorder sounding so quiet, almost hidden. I quite like it, though, and I don't think the double bass part needs to build a dialogue with the recorder. Both instruments can act independently here. I just wonder, what does it mean, in this piece, the recorder sounding in that level, in that 'being far' way? Is it part of an unconscious state? Remembrances? The past?

Bonser answered as follows, considering the overall journey along the three movements:

The recorder part I would say becomes part of the electronic texture, as opposed to hidden. This is because of the overall shape of the piece over the three movements: first movement, we are equals, argumentative, in dialogue with each other and with 'commentary' from the electronic parts. The second movement, the recorder is

always foregrounded, modulating the double bass, which just acts as a resonating body. The recorder if you like ‘peaks’ here – you’ve ascended and ascended and ascended into the atmosphere, joining with the tape part. Hence, in the third, when the double bass starts being ‘played’ again, it made sense for me to think of you keeping that connection with the electronic part – not as necessarily ‘hidden’, but definitely more in the background than in the second movement, on a par with the electronics.¹⁹³

In the end, this movement may be perceived as an ‘epilogue’ (its first title): a moment of nostalgia, a reminiscence of gestures. Listen to [Output 3.3](#) (Audio): ‘Wet/Rain – Speed/Rhythm/Train – Humming/Remembrance’. The score is in Appendix 3.1.

Conclusion

As Crotty writes, ‘all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world’¹⁹⁴ – this is the basis of *Macrofistulus* as both a piece and a project-process.

Despite the explicit independent exploration manifested in each of the movements, in analysing the sequence of the three movements retrospectively a cohesive, though subjective, musical narrative can be distinguished. For example, the improvisatory framework defined for the text scores of the second and third movements opens up a broad range of possibilities for the development of new versions. The sonic and rhetorical approach of future live performances of these movements may differ considerably from our versions to date.

The collaboration with Bonser – with his different roles and personal qualities, his musical ideas and attitudes, and his instrumental sound world – allowed me and my instrument, granted independent agency, to express a unique voice, both human and instrumental. The four of us – collaborators and instruments – constructed new meaning by experiencing sound and interaction in an integrative, aware and focused attitude. In his study of the phenomenology of composer-performer collaborations, Paul Roe draws on Sokolowsky’s distinction between ‘natural attitude’ and ‘phenomenological attitude’, the former being the ‘default perspective’ of our original position, whereas the latter invokes reflection on the experience of that ‘natural’ starting point: the phenomenological attitude is

¹⁹³ Adam Bonser, email to the author, 12 July 2017.

¹⁹⁴ Michael Crotty, *The Foundations of Social Research: Meaning and Perspective in the Research Process* (London: Sage, 1998), quoted in Roe, ‘A Phenomenology of Collaboration’, 84.

‘the focus we have when we reflect upon the natural attitude and all the intentionalities that occur within it’.¹⁹⁵ This seems useful for clarifying our process in *Macrofistulus*. Our first, spontaneous experiences of improvising and of discovery through playing together constituted our ‘natural attitude’, rooted in our engrained senses of ourselves as performers, composers and personae, and in the agencies of instruments and electronics; but this then developed into a phenomenological attitude through the processes of practice and reflection, with this attitude cemented in the musical narrative, the finalising of the score, and this commentary.

Ultimately, it would be interesting to address this project using other contrabass recorder designs and to examine the type of sounds and relationships that would emerge, considering whether the sonic spectra that I utilised with the Küng ‘Classica’ are transferable. At the end of this intense exploration, I disassembled the contrabass recorder’s pieces and cleaned them, putting them to rest in the original old, hard, worn-out case. My ‘macrofistulus role’ finishes for now.

A Retrospective Review of the Macrofistulus Project

Considering, retrospectively, the project’s output – the audio recordings of *Macrofistulus*’s three movements – I realised that certain aspects of our explorations did not materialise as clearly and overtly as I had expected. Listening back over and watching the extensive performance material from videoed rehearsals, concerts and studio recordings, I identified those elements and listed them as follows, with a view to addressing them, subsequently, from a different perspective:

- the instruments and their agency: their presence on stage with their large size, design, resonance and their particular histories as independent entities;
- the hidden, everyday relationships between instruments and players: the actions of cleaning, assembling, disassembling, carrying and transporting the instruments, and then tuning and practising them;
- the relationship between players: rehearsing, developing musical dialogues, organising the work, discussing, preparing concerts;
- the role of the electronics;
- the idea of ‘sonic ritual’.

¹⁹⁵ Robert Sokolowski, *Introduction to Phenomenology* (Cambridge: Cambridge University Press, 2000), 42, quoted in Roe, ‘A Phenomenology of Collaboration’, 85.

All these things had been part of our process, but they had become submerged beneath other matters: they were not truly evident in the final piece. In response to these observations, I invited Lynette Quek – who had already assisted us technically during rehearsals, in performance (with the electronics) and with the studio recordings – to work with me to explore and expose these elements artistically, developing them from an audiovisual perspective. I selected specific takes from the project’s video footage and imagined a structure that could reframe these materials. I also wrote an explanatory text to be included in the new work to illustrate the research context in which it was developed – the questions it was exploring. As in the project ‘*Recordeur: One Who Retells*’, Quek provided her expertise in helping to construct a narrative that drew the sound and visual elements into a new framework, creating the work *Large-Sized Instruments: An Audiovisual Narrative* (2017), which can be watched in [Output 3.4](#) (Video).

[Output 3.4](#) (Video). ***Large-Sized Instruments: An Audiovisual Narrative* (2017)**

Lynette Quek: Audiovisuals

Carmen Troncoso: Contrabass recorder

Adam Bonser: Double bass

Chapter 4. Coppel (2017 – 2018): Exploring the Creative Potential of Instrumental Affordances and Resistance

Artistic research carried out collaboratively by Carmen Troncoso (recorders), Roger Marsh (composer) and Lynette Quek (sound engineer and audiovisual artist).

Outputs:

- *Coppel* by Roger Marsh, in response to a brief by Carmen Troncoso. For one performer playing a basset, a tenor, a treble, one or two sopranos and soprano, plus reciting the poem 'Arte poética' by Vicente Huidobro.
- *Coppel: A Narrative* (2017 – 2018). A film.
- *Coppel: A Monologue* (2018). A film.



Figure 53. Filming *Coppel: A Monologue* in the Rymer Auditorium at the University of York, 12 February 2018.

The **Coppel** project, undertaken with composer Roger Marsh and audiovisual artist Lynette Quek, focused on creating new musical material for a set of specific recorders played by one

recorder performer, including theatrical and audiovisual elements. Within the collaborative framework I aimed to explore: the expressive possibilities of expanding the recorder's register by changing instruments during a musical work specifically created for that purpose; the criteria for selecting a set of recorders (of different registers and therefore sizes) suitable for this purpose; the affordances of those instruments; instrumental agency; the performer and instrument relationship; processes of multidisciplinary creation; and the integration of the study of relevant historical sources with research derived from and undertaken through my performance practice.

Coppel, as a project, generated the work *Coppel* and, in addition, two films that further explore the research concerns outlined above, drawing out different aspects of the ideas and processes. The score generated for *Coppel* is also a significant artistic research output; I explain why later.

The title and content of this project and the subsequent artistic ideas to develop it were influenced by my research into the origins of the recorder and its associated contexts, and by my customary practice as a recorder performer of moving between different recorders in performance: within a movement, between movements, between works in a concert, and so on. This practice is generated by the historical recorder performer's use of a variety of recorder models and registers, which, as already explained previously in this thesis, has increased throughout the twentieth century and beyond.

In this commentary I refer to the stages involved and the creative processes undertaken in the project.

Introduction

The Word 'Coppel'

As part of my research into the origins of the recorder and its use, I came across the word *coppel*, whose meaning and associated contexts influenced this project significantly. A *coppel* was described in 1511 by Sebastian Virdung in his *Musica getutscht: A Treatise on Musical Instruments* as follows:

You need to know that one generally makes four recorders in one chest, or six together, which is called a "coppel": two discants, two tenors, two basses.¹⁹⁶

¹⁹⁶ Sebastian Virdung, *Musica Getutscht: A Treatise on Musical Instruments (1511)*, translated by Beth Bullard, (Cambridge University Press, 1993), 180.

Figure 54 shows Virdung's woodcut of a *coppel* (a consort) of recorders; a Renaissance design mainly made for playing four-part music.

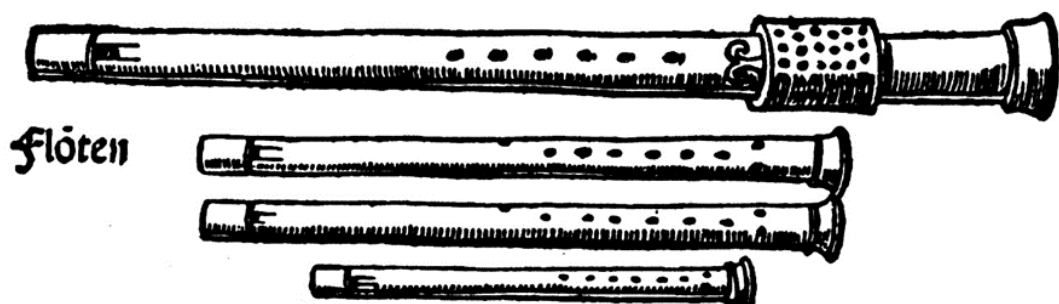


Figure 54. Virdung: woodcut of a *coppel* (a consort) of recorders.¹⁹⁷

Six centuries later, David Lasocki, a central figure in the field of recorder research, interpreted Virdung's explanation as follows:

We know from Virdung that by his time four to six recorders were generally put together in a case called a *coppel*: two discants, two tenors, and two basses.¹⁹⁸

Thus, two meanings are given to the same term: (Virdung's description of) a recorder 'consort' (in this project regarded as a 'set of recorders'), and a recorder 'case' ('case' being Lasocki's translation for 'chest', which he referred to as the *coppel*). Taking into consideration both explanations and accepting the resultant ambiguity, I decided to include both meanings to contextualise a new project: Coppel. I imagined a case for recorders abandoned somewhere, found empty but with the recorders' slots in it, and thought that there was something engaging and poetic in the image. I carried on searching for information about cases for recorders.

Lasocki compiled a listing of inventories and purchases of flutes, recorders, flageolets and tabor-pipes between 1388 – 1630.¹⁹⁹ One of the personages that caught my attention in

¹⁹⁷ Source: 'Illustration of four recorders from Sebastian Virdung's *Musica Getutscht* (1511) page 14', digital image, created 12 February 2016, available from: <https://en.wikipedia.org/wiki/File:VirdungP14crop.jpg> (accessed 10 May 2019).

¹⁹⁸ David Lasocki, 'Researching the Recorder in the Middle Ages', *American Recorder* 52, no. 1 (2011): 18.

this compilation was Petrus Alamire – known as a manuscript merchant, scribe, mining engineer, instrumentalist, composer, diplomat, spy, and perhaps even a wind player – who in 1553–54 provided the town of Mechelen with a *coker jluyten* (case of recorders). This information about Alamire and the case he provided elicited creative responses later in the project. I found myself wondering where that case could be (or could have been), how that place would be (or would have been), and the type of recorders that may have been kept inside.

In the article ‘Renaissance Recorders and Their Makers’, Lasocki and recorder maker Adrian Brown stated:

The least disputable source of information about the composition and pitch of sets of recorders is their cases – of which eight examples have survived from the 16th century, six still containing some or all of their original instruments.²⁰⁰

The idea of these mysterious cases with their embodied stories acts, in this project, as an inspirational object. I decided to frame the creative work around this object and to handmake a suitable box. This case, the *coppel* (figure 55), became a protagonist in the project.

¹⁹⁹ David Lasocki, ‘A Listing of Inventories and Purchases of Flutes, Recorders, Flageolets, and Tabor Pipes, 1388 – 1630’, in *Musicque de joye: Proceedings of the International Symposium on the Renaissance Flute and Recorder Consort*, Utrecht 2003, ed. David Lasocki (Utrecht: STIMU Foundation for Historical Performance Practice, 2005), 419-511. Available at <http://music.instantharmony.net/miscellaneous.php>.

²⁰⁰ Adrian Brown and David Lasocki, ‘Renaissance Recorders and Their Makers’, *American Recorder* 47, no. 1 (January 2006): 24. Available at http://music.instantharmony.net/american_recorder.php.



Figure 55. The handmade coppel case for developing the Coppel project. Filming of *Coppel: A Narrative* at Bootham Bar, York, 2017.

The Creative Potential of the Instruments

In addition to the idea of generating a narrative around a coppel in its two incorporated meanings – as a set of instruments and the case in which to store the instruments – I wanted to explore the expressive possibilities of expanding the recorder’s rather constrained register, by switching recorders during a musical work devised for that purpose. As I mentioned above, changing recorders during a concert is a common situation for a recorder performer. When this happens between different works or movements of a work, the performer has some time to leave one recorder and pick another. During a one-movement piece, there are moments that allow for the change of instruments, either in a pause or by using only left-hand fingerings while playing. In either situation, the performer must stop playing or compromise the musical material in order to change the instrument. In a solo work, without electronic treatment, this transition can be experienced and watched as an interruption of the musical flow: a ‘limitation’. It does not mean, nevertheless, that this particularity of the recorder’s music making – the need to change instruments – has to be a constraint. In fact, it can also be (and in this project it is) used and experienced as an attractive feature that enriches the performance both visually and musically. For the purpose of this project, though, the moment of changing

instruments during a work is perceived and treated as a problem to be, somehow creatively, solved.

The same resistance is here pursued and examined when dealing with the small register of the recorders utilised in this project. Recorders usually have two octaves, as illustrated in chapter one. Depending on the recorder model – the epoch it represents and/or the design-concept of the maker – the instrument may have fewer or more pitches. Nevertheless, this limited register suits consort music making, which was primarily conceived in a vocal style, either imitating the singing voice or doubling the voices of a consort of singers. Yet, removing the recorder from this idiomatic ‘consort-playing’ use – for instance, when performing a solo work, a chamber music work, or the solo in a concerto – can turn the register’s issue into a possible limitation, depending on the composer’s or performer’s expectations for the musical material they compose or address. Thus, for the sake of this project’s aim, the recorder’s register is treated as a restriction to overcome.

In the first performance project, ‘Searching for Recorders to Meet the Piano’, I examined the benefits of playing with a modern alto recorder, which has an additional E bottom note and high notes produced without the need to cover the bell hole with the knee, proving that expressive potential and new possibilities for expanding the instrument’s repertoire are gained by addressing extant repertoire written for other wind instruments with a larger register – like the flute or the oboe.

Modern recorder models are usually intended to allow three octaves to be played. Doing so requires not only expertise by the instrument makers but also considerable technical skills from the performers because, to date, the necessary fingerings are rather awkward. Experiencing this effort, when addressing music that requires an extended register, adds tension, awareness, and a certain eagerness. The effort provides an expressive element to the composition and the performance. It turns (may turn) a limitation into an inspirational factor.

However, the updated, improved, modern instrument was not the protagonist I had in mind for this project. I wanted to incorporate different sized instruments that could form a hybrid, related but non-historical consort, and to experience the expansion of the recorder’s register by means of a newly created work that would provide this specific explorative context. I aimed to creatively showcase, sonically and visually, an imaginary ‘never-ending-register’ recorder.

With this concept in mind, I invited composer Roger Marsh to collaboratively develop a solo work for recorders of different sizes. Eventually, the resulting work, *Coppel*, was conceived as a showcase of this imaginary instrument, using five recorders ranging from bass

to soprano, whose gestures develop a music that moves continuously upwards, with all the instrumental transitions through-written to give the impression of continuity.

To achieve the idea of an uninterrupted recorder moving upwards in the register through the change of instruments, some elements of fiction were agreed with the composer, aiming to hide the action of 'leaving and picking up' recorders. Although these fictional elements became core aspects in the outputs of this project, they primarily served the purpose of exploring the ways in which the range of the recorder might influence the contemporary performer's artistic ideas and processes, and ultimately the performance itself. I will refer to this below, with reference to the score.

Stages in the Creation of the Work *Coppel*

The Choice of Instruments

The new work, *Coppel*, encompasses the registers of five recorders: from the low F3 of a basset to the high D7 of a soprano, as illustrated in figure 56 (there are two different descant recorders in the picture).



Figure 56 (above). A consort of recorders to suggest a recorder with a never-ending register.

Figure 57 (below). Distorted Baroque recorder to represent a part of an imaginary recorder with a never-ending register.

The *coppel*, either as a recorder consort or a case for recorders, is a word utilised by a Renaissance recorder maker (Sebastian Virdung); therefore, it invokes a Renaissance

aesthetics and manufacture for both the instruments and the case as an object. However, as the project did not seek to recreate the Renaissance context in which the term *coppel* was mentioned, the criteria for selecting the performance instruments was intended only to serve the purpose of the project: the exploration of possibilities to extend the register of the recorder by using different recorder sizes. Marsh was familiar with recorders of Baroque design, so his recorder-sound imagination, prior to composing, came from these models. I respected that and searched for Baroque recorders from my collection that would offer the qualities that I wanted to highlight in the project, described below.

The six recorders that I chose have a Baroque appearance. (As seen in figure 56, I used two descant recorder models, wanting two different descant ‘voices’ for different sections of the work). These instruments do not represent a historical Baroque consort, though, due to their different manufacturing features: some are copies of a historical Baroque model and others are modernised designs based upon historical Baroque recorders, as already examined in the previous projects. The combination of these instruments builds a hybrid Baroque recorder consort, whose sounds and embedded memories (imagined by me) would awaken, reveal, and fill up a recorder case. From this image arose the content for developing a musical narrative. Figure 58 shows the recorder models utilised, all in pitch at A= 440 HZ.

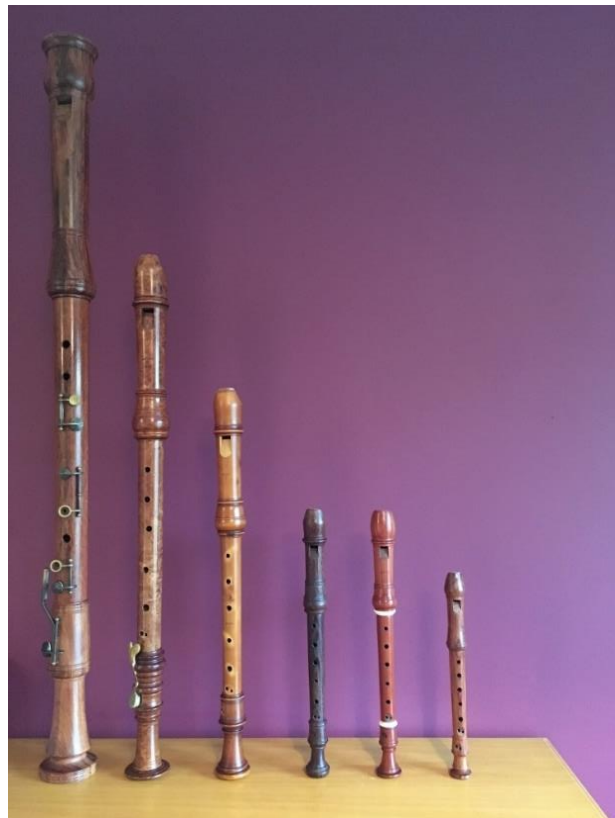


Figure 58. Recorders utilised in the project *Coppel*.

From left to right: basset 'Classica' by Küng Recorders; tenor 'Hotteterre' by Moeck Recorders (utilised in chapter 2); treble by Friedrich von Heune (described in chapter 1); descant by Moeck Recorders; descant by Jorge Montero; soprano 'Classica' by Küng Recorders. Even though all these recorders are able to play a few notes above the second octave, Marsh did not venture beyond their chromatic two-octave range.

The 'Classica' basset and soprano (at the extremes in the picture) belong to the same consort as the contrabass recorder explored in the 'Macrofistulus' project and share similar 'modernised Baroque' characteristics. Neither the contrabass recorder nor the basset utilised here has a key for the bottom F sharp. Marsh was aware of that limitation, so he avoided the use of that note.

The Moeck soprano model (the second recorder at the right side) is the same 'Rottenburgh' model as the Moeck alto recorder played in the first movement of Frith's sonata (example 1.1). The Montero soprano (third recorder from the right) has a Baroque-shaped wind channel (although slightly modernised), which generates more resistance when blown and thus has a more focused and richer tone than the modernised Moeck. Figure 59 shows the different wind channels:

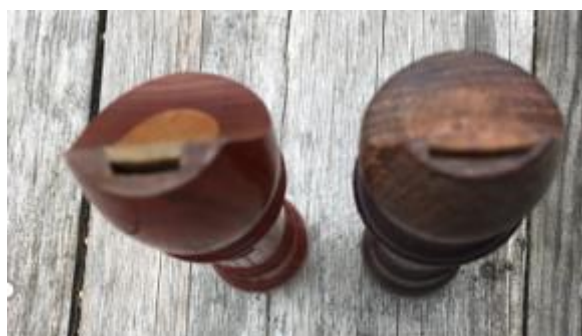


Figure 59. Left: the modernised wind channel of the Moeck Rottenburgh design. Right: Baroque, curved wind channel of the Montero soprano (slightly modernised in that it is more open than in the original Baroque templates).

As explained above, the set of recorders that I selected represent different design aesthetics, and also, despite their Baroque appearance, different epochs. Their individual properties vary significantly, as do their timbres. These differences were consciously chosen, as they fed into the narrative I wanted to create to convey 'variety' and 'uniqueness'. A significantly different approach would be to select a historical Renaissance consort, like that of Renaissance makers Claude Rafi or the Bassano brothers, or contemporary 'neo-Renaissance' recorders, like Adriana Breukink's Dream Recorder Consort (ranging from the basset to the soprano), for instance. That choice would have resulted in a sonically and visually interesting

alternative for the performance of *Coppel*, conveying synchrony and contemporaneity in their design and sound (since the instruments would belong to the same epoch): ‘uniformity’ instead of ‘distinctiveness’. Figures 60 and 61 show Renaissance consorts made by contemporary recorder makers Francesco Li Virghi and Adriana Breukink.



Figure 60 (left). Recorder consort based upon instruments by Claude Rafi (before 1515 – 1553) made by the contemporary recorder maker Francesco Li Virghi.²⁰¹

Figure 61 (right). Recorder consort based upon instruments by the Bassano brothers made by contemporary recorder maker Adriana Breukink.²⁰²

Figure 62 shows recorders taken from plate IX of *Syntagma Musicum II: De Organographia* (1618–19) by Michael Praetorius (1571 – 1621). The consort ranges from the contrabass recorder to the garklein (German for ‘quite small’), thus building *Coppel*’s imaginary endless-register Renaissance recorder, granting a fairly homogeneous image and timbre.

²⁰¹ Francesco Li Virghi, ‘Rafi Recorders’, *Dolciflauti*, accessed 9 July 2019, <http://www.livirghi.com/Renaissance/rafi-recorders/>. The use of the picture was kindly authorised by Francesco Li Virghi in an email sent to the author on 19 September 2019.

²⁰² ‘Bassano consort recorders’, *Adriana Breukink: Recorder maker / Performer / Designer*, accessed 9 July 2019, <http://www.adrianabreukink.com/>. The use of the picture was kindly authorised by Adriana Breukink in an email to the author on 20 September 2019. Additionally, recorder maker Adrian Brown provides exhaustive information about Renaissance consorts in ‘Consort Recorders’, *Adrian Brown: Recorder maker*, accessed 9 July 2019, <https://adrianbrown.org/consort-recorders/>.

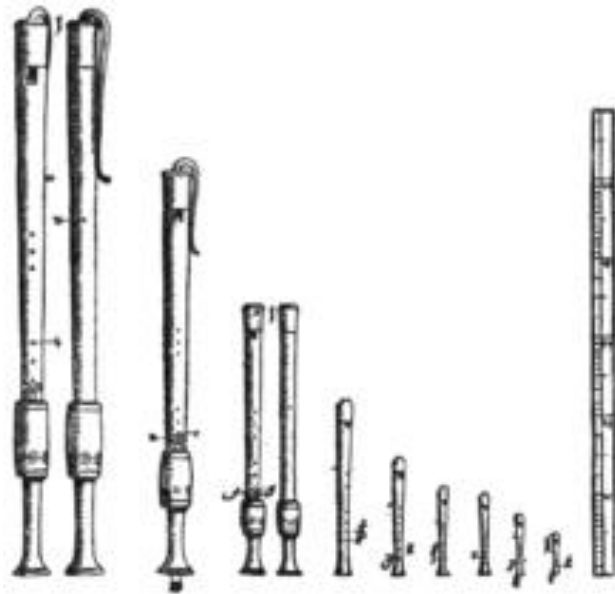


Figure 62. Praetorius: consort of recorders.²⁰³

In the preface to *Coppel's* score, I suggested that a Renaissance consort or any other consort could be used as an alternative for performance of the piece, as long as the choice respects the following chromatic tessitura:

Basset: low F to high B

Tenor: low C to high A

Treble: low F to high D

Soprano: low C to high C

Sopranino: low F to high E flat

In my own choices, though, I wanted to express each recorder's own unique origin and imaginable stories, as part of my interest in exploring the expressive potential and agency of the instruments. My criteria for choosing the instruments responded to the imaginary story of the case that long ago was made to keep them in. This subjective narrative attempted to build a bridge between an old object – the Coppel case – and recorders from its future, and to release, through the recorders' musical lines (gestures), the memories embodied in the case's history, which survived epochs and styles, transforming its manufacture and the sounds that it

²⁰³ Plate IX of Michael Praetorius's *Syntagma Musicum II: De Organographia*. In figure 62, the first and second recorders (left), as well as the fourth and fifth (left), show the front and back view of an F double-bass and an F bass (basset), respectively. Recorder maker Francesco Li Virghi makes a Praetorius consort, see Li Virghi, 'Praetorius Recorders', *Dolciflauti*, accessed 9 July 2019, <http://www.livirghi.com/Renaissance/praetorius-recorders/>.

housed. This somewhat surreal narrative also drew on a literary resource: the poem 'Arte poética' (1916) by Chilean poet Vicente Huidobro (1893 – 1948).

The Role of 'Arte Poética'

I imagined that the tone of this poem in its original Spanish version, together with the sounds of the recorders, would act as a spell, with the power to awaken the Coppel case and its embodied memories within the narrative that I was developing.

Around 1912, Huidobro founded a literary movement called Creationism, based on the idea of poetry as needing to be truly new and autonomous; the poem 'Arte poética' is emblematic of that passionate 'creative spirit'. The selected poem, in its original Spanish, is presented below alongside the English translation, which attempts to convey the spell-like tone of the Spanish original.²⁰⁴ (Note: *Coppel* did not include the whole poem, only selected verses.)

Poem in its original Spanish

*Que el verso sea como una llave
Que abra mil puertas.
Una hoja cae; algo pasa volando;
Cuanto miren los ojos creado sea,
Y el alma del oyente quede temblando.*

*Estamos en el ciclo de los nervios,
El músculo cuelga,
Como recuerdo, en los museos;
Mas no por eso tenemos menos fuerza:
El vigor verdadero
Reside en la cabeza.*

*Por qué cantáis la rosa, ¡oh, Poetas!
Hacedla florecer en el poema;
Sólo para nosotros
Viven todas las cosas bajo el Sol.*

English Translation by Carmen Troncoso

*Let the verse be like a key
That opens a thousand doors.
A leaf falls; something flies by;
Let all that the eyes may see be created
And the listener's soul to remain trembling*

*We are in the cycle of nerves.
The muscle hangs,
Like a memory, in museums.
Nonetheless, we do not have less strength:
True vigour
Resides in the head.*

*Why singest thou the rose? Oh Poets!
Make it bloom in the poem;
Only for us
Do all the things under the Sun live*

²⁰⁴ Vicente Huidobro, Poem 'Arte Poética' (2016), in *El Espejo de agua* (2015 – 2016). In Vicente Huidobro. *Obra poética*. Ed. Cedomil Goic. Santiago: Ediciones de la Universidad Católica de Chile/ALLCA XX, 2003: 391. The use of the poem in this project was kindly authorised by Vicente García-Huidobro (Chilean Fundación Vicente Huidobro) in an email sent to the author on 18 June 2018.

I wanted to use my own English version to create a stronger connection to the poem. I also felt that some of the many translations available lose something of the poem's function as a *spell*, a characteristic that I did not want to overlook here. For instance, rather than the straightforward sentence, 'The verse is like a key', I use the more spell-like verse, 'Let the verse be like a key', as shown below together with other examples:

My translation

Let the verse be like a key
That opens a thousand doors.
A leaf falls; something flies by;
Let all that the eyes may see be created,
And the listener's soul to remain
trembling

Verses in different translations

The verse is like a key

Let your eyes create what they see,
While the listener's soul is trembling.

In the last strophe, the original Spanish reads, '*Por qué cantáis la rosa? Oh Poetas!*' and my translation reads, '*Why singest thou the rose? Oh Poets!*'; this matches the Spanish original, where the tone of the voice changes to sound as if the lines come from an earlier time; as if quoting earlier poets. My understanding of Huidobro's poem influenced the way I connected it with the other elements of this project: the musical material, the recorders, and the case. It also provides the performer with a non-instrumental voice, which is further examined in a second, separate *Coppel* film, developed later.

The Score of *Coppel*

The score, produced collaboratively by Marsh and myself, is a significant output of this project, as it offers contemporary recorder performers an innovative performance context. As with *Recordari*, I wrote a preface to the score highlighting the importance of the process of choosing the instruments. The score of *Coppel* can be found in Appendix 4.1.²⁰⁵ Below, I refer to compositional aspects of the work and collaborative aims, and indicate how to address *Coppel's* score.

²⁰⁵ The use of the published score was kindly authorised by Edward Jessen (Deciphererarts) in an email sent to the author on 22 September 2019. See written consent in the Appendix.

The Compositional Process

The score's creation began with a draft by Marsh (see figure 63), written in 2016, which we then workshopped improvisationally, trying out different recorders and commenting on musical ideas. This score presented the gestures that the composer had in mind as the work's starting point.

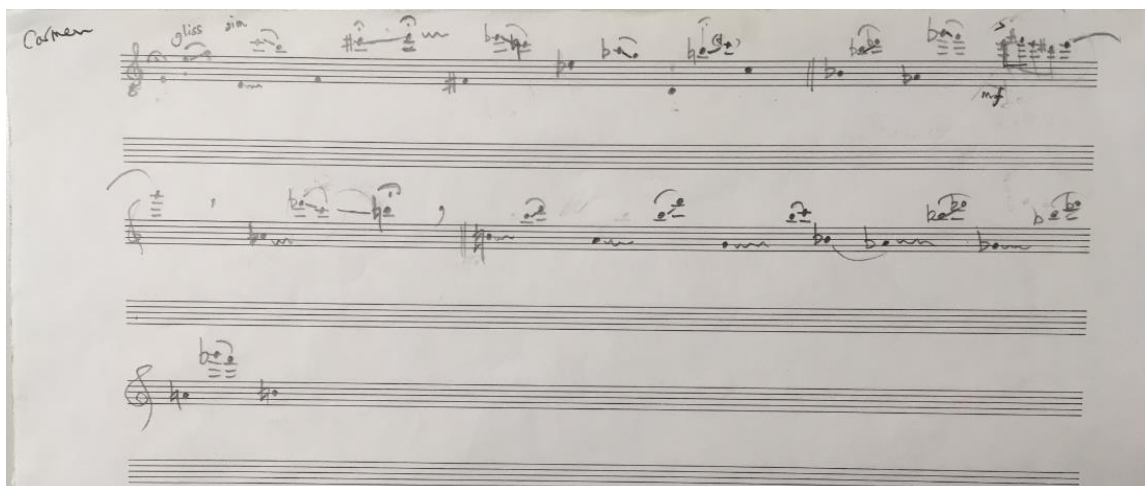


Figure 63. Marsh: compositional sketch, 2016.

This draft also helped us clarify some behavioural and idiomatic aspects of the recorders, such as which pitches produce pleasing glissandi and, on the contrary, which combinations should be avoided. It allowed us to find suitable ways to contrast the registers of each recorder, as Marsh wanted to create a low and a high layer. It also became clear to me that Marsh was much more familiar with the instrumental possibilities of the flute, especially with regard to the register. Consequently, he seemed to combine different recorder registers (and hence recorder sizes) when moving from one gesture to the next. For example, the second motif in figure 63 – a low D followed by a high C in a glissando down to B – uses almost the most distant notes of a tenor recorder's register, and he stretches the register even further in the following motives, towards the extreme high register of the tenor, up to C3 sharp,²⁰⁶ D3, and E3 flat. When playing with a tenor of Baroque design, the performer needs to increase the air pressure significantly to reach these notes. Another tenor, such as the Helder model, would have provided the suitable instrumental affordances to fulfil the composer's expressed wish to contrast registers with flexibility of dynamic nuances, ranging from the low B natural to d4 and entailing a piano key to play with greater dynamic flexibility.

²⁰⁶ On my tenor Hotteterre model, it is possible to play C3 sharp in tune, using the fingering 1-3-4-5-7 (plus slightly opened thumbhole – finger 0).

The second section of the draft, after the double bar line, suggests the use of an alto register; yet, as before, a tenor like the Helder would have ‘stretched’ the register in a satisfactorily smooth way. The Baroque-designed recorder does not produce a uniform, balanced relation between the rather weak bottom notes and the required, louder high notes. In his sonic imagination, the composer conceived the uniformity provided by the flute’s cylindrical bore and key system, which is translated into the more recent modern-style recorders (‘modern modern recorders’) with their novel affordances (as described in previous chapters). After workshopping the draft, we discussed the extent of the scope for contrasting my Baroque-designed recorders’ high and low registers, adapting the approach consequently.

Marsh also drafted upwards and downwards scalar gestures (see figure 64) that, after being workshopped, came to form core elements of the piece. Again, these scales needed to be adapted to the specific tessitura of each recorder, so as to develop the impression of the stretching upwards of the imaginary recorder’s register. Drawing on these early explorative

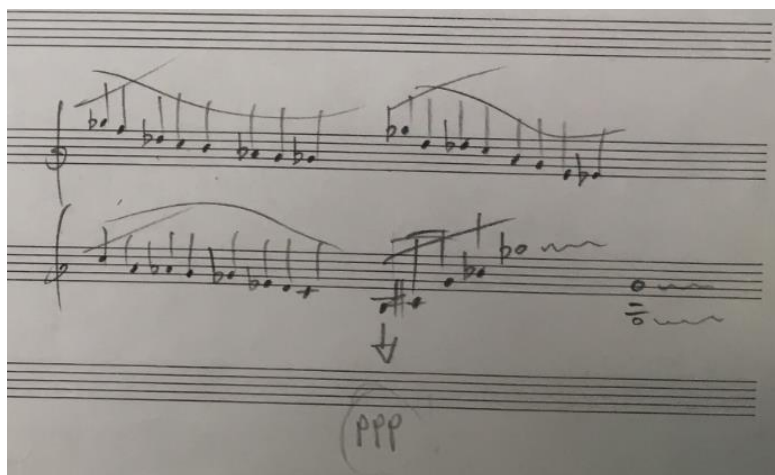


Figure 64. Marsh: compositional sketch (2016), scale-gestures.

rehearsals, Marsh continued developing the ideas of the draft and soon gave me a revised score, which we continued to work on and update.

The final music is composed of a permanent rising gesture, working around the moments when each recorder finds its high notes and requires a smaller instrument to continue moving upwards. This is illustrated in figure 65:

All the instrumental transitions are written to give the impression of continuity:

↓ Last pitch of a recorder's line

↓ Oncoming pitch of the new recorder size

Figure 65. *Coppel*: instrumental transitions.

The first excerpt in this example, bar 28, shows the ending of the basset recorder line on a B natural, which is followed by the tenor recorder's A flat, dropping an augmented second interval (since the basset sounds one octave higher than written). The second excerpt, bar 53, shows the end of the tenor line on an E flat moving upwards onto the F of the alto recorder. Thus, if the performer is not seen to change instruments, nor heard doing so, we can create in our minds the idea that, so far, we have been listening to a three-octave recorder, which might continue to rise upwards, almost completing the fourth octave when the piece reaches the sopranino recorder. This effect would be clearer if using recorders from the same consort or with noticeable similarities in timbre. The choice of a consort of the same design would also portray visually the sonic uniformity contained graphically in the score. However, our choice was to mark the individuality of the recorders within the overall trajectory.

All these transitions are accompanied by the performer physically spinning, indicated by Marsh in the score, as in bars 30 and 55 in the example above. Moreover, the verses of the poem are placed so as to interact with these moments, as in bars 30, 32 and 56. Finally, the tempi of the different sections of *Coppel* changed during the preparation of the performances and recording. In the updated score, the speed gradually increases, responding to the continuous upward movement, as an ongoing spiral.

Analogous works exploring the gradual change of recorder registers

On the CD *Nordic Sounds*,²⁰⁷ Danish recorder player Michala Petri plays Sunleif Rasmussen's *Winter Echoes*,²⁰⁸ for 13 solo strings and recorder (2014), which uses basset, tenor, alto, soprano and sopranino recorders, as in *Coppel*. The various sizes are used similarly to the idea conceived for *Coppel*: broadening the register of the recorder through the change of instruments, starting with the basset and ending with the sopranino. This compositional element turns the choice of instruments into an objective and concrete task. However, as in *Coppel*, choosing which instruments to use to create this kind of upward-rising sonic chain offers numerous possibilities for instrumental combinations. In the case of Rasmussen's concerto, I consider that searching for similar recorder timbres or sound qualities would work well, as the idea seems to be the continuous, uninterrupted ascent of the solo voice. My version of *Coppel* is different, as along with the gradual and upward change of registers, we aimed to emphasise the uniqueness of each instrument, its identity, agency, design, and possible embedded memories. This allusive scenario influenced my choice and my use of specific instruments.

Having found this similarity regarding the use of the various recorder registers in both Rasmussen's concerto and *Coppel*, I asked Petri about her instrumental selection criterion:²⁰⁹

Troncoso: In the CD *Nordic Sounds*, you played Sunleif Rasmussen's *Winter Echoes* using a basset, tenor, alto, soprano and sopranino respectively. The work goes continuously upwards from the bass recorder to the sopranino. Did you try to find recorders with similar timbre to create a kind of 'one never-ending-register recorder? I played a work that wanted to create that idea. Did you influence Rasmussen's compositional ideas, suggesting the use of those recorders?

Petri: You are absolutely right – I tried to pick recorders which were similar to each other in tone, so that the changes would not be noticed so much – especially from alto to soprano, and from soprano to sopranino. The idea of going from bass to soprano was Sunleif's idea – and I did not influence him on the idea. When he composes, he always has a scheme, an idea, a certain scale or the like, and is very true to his ideas. ...I do not remember changing anything in the piece.

²⁰⁷ Sunleif Rasmussen, 'Winter Echoes: Hommage a Axel Borup-Jørgensen for Recorder and 13 Solo Strings (2014)', *Nordic Sound: Tribute to Axel Borup-Jørgensen*, OUR Recordings, 62220613, 2015, CD.

²⁰⁸ 'Michala Petri plays Sunleif Rasmussen (b.1961) Winter Echoes', YouTube video, 16:28, posted by 'OUR Recordings', 23 January 2015, accessed 9 July 2019, <https://www.youtube.com/watch?v=WycR5JItJKo>.

²⁰⁹ Michala Petri, email to the author, 23 January 2019.

Furthermore, a similar use of recorder registers takes place in Bollon's concerto *Your Voice of the Lamb*.²¹⁰ With regard to the search for recorders to play this work, Petri comments:

I personally, when playing pieces where I have to change recorders, almost always consider the recorders as one big instrument, where I just change according to register. A bit like a pipe organ.

Petri's idea of a pipe organ is analogous to my idea of an imaginary never-ending-register recorder, whose register, regrettably, does need to end at some point in the piece. However, *Coppel's* end gives the sensation of remaining open, as if for the entrance of further higher notes; as if for the entrance of other recorders, such as the piccolino recorder by Frans von Twaalfhoven, with its first note an octave above the sopranino, described by Lander as 'probably the smallest fully functional recorder ever made'.²¹¹ Hypothetically, after using this miniature instrument, the impossibility of reaching higher notes with other recorders might be replaced by digital recorder sounds, moving towards the highest sound it is possible to hear and thus taking the recorder 'beyond the acoustic environment', as discussed in chapter 2. Given the more open aspects of the score, discussed below, these are things that could be taken forward performatively by other performers.

Instructions for addressing Coppel's score

One of the collaborative-aims of the project was to generate a score with an innovative musical framework, related to my research topic, that we could offer to other recorder performers. To this end, I wrote an explanatory preface including all the information that a performer needs to address the work with a sense of freedom while still observing the project's core aims. In the preface, I clarify that the score suggests material either for creating a video (about an abandoned case for recorders found without any recorders inside) or for live performance (for which I provide further indications) or, moreover, that 'the performer is free to contextualise *Coppel's* score in any manner that suits their artistic goals'. I state that the choice of instruments should be considered a significant part of the process of imagining a version, though, and refer to the role of the 'spins' written in the score, explaining that their purpose is to accompany the moments where the instrument will 'magically' change in the performer's hands. Marsh, meanwhile,

²¹⁰ 'Michala Petri and Odense Symphony Orchestra: "Your Voice Out of the Lamb"', YouTube video, 21:54, posted by 'OUR Recordings', 17 Jan 2018, accessed 9 July 2019, <https://www.youtube.com/watch?v=SUbCu344luU>.

²¹¹ Frans von Twaalfhoven's piccolino recorder in f, illustrated in Nicholas S. Lander, 'History: Innovations', *Recorder Home Page* (1996–2019), accessed 10 June 2019, <http://www.recorderhomepage.net/history/>.

instructs that ‘the texts [of Huidobro’s poem] should be spoken “sotto voce” but clearly and audibly. Speak quite quickly, but do not rush to return to playing.’

In the score, Marsh and I give additional notes for a live performance of *Coppel*. I point out that the performer can opt to concentrate on the interaction between the music and the poem (without aiming to convey a narrative) and that the recorder case may or may not be part of the staging of the piece. In addition, for the sake of continuity within the live performance, we suggest omitting the four single-note bars of the basset in bars 91, 95, 113 and 117. This is illustrated below in figure 66, which shows the ending of the alto recorder line, followed by a spin after which the basset recorder, on bar 91, appears magically in my hands. Then, after playing the long low D, another spin would take me to the soprano recorder. These instrumental changes work nicely on video but not when performed live.

The figure shows two staves of musical notation. The top staff, labeled 'A. Rec.', begins at bar 90 with a treble clef and a sharp key signature. It features a glissando (gliss.) and a forte (f) dynamic. A 'spin' instruction is placed above the staff. The staff then changes to a bass clef for 'Bass Recorder (m.v.)' with a mezzo-piano (mp) dynamic and another glissando. The bottom staff, labeled 'B. Rec.', begins at bar 92 with a bass clef. It starts with a 'spin' instruction and a mezzo-forte (mf) dynamic. A tempo marking of quarter note = 90 is shown above the staff. The staff then changes to a treble clef for 'Soprano Recorder'. The notation includes various notes, rests, and a '5' above a group of notes. The phrase 'como recuerdo' is written below the staff.

Figure 66. *Coppel*, bars 90-93.

Marsh also suggests that, if the performance space allows, the performer may begin the performance behind the audience and walk towards the stage during the first section. That is what I did in the live premiere of the piece. Below I examine this alternative and the two live performances of *Coppel* given so far.

Live Performances of *Coppel*

I performed *Coppel* twice in York: first, its premiere, at The Crescent Community Venue (figure 67) and second at St Saviourgate Unitarian Chapel (figure 68).

Live performances of *Coppel*

The Crescent, November 2017



Figure 67 (left). Live performance of *Coppel* at the Crescent Community Venue, York.

Late Music Concerts, June 2018

1533-34 - In Antwerp, Petrus Alamire - best known as a music calligrapher, but also a singer, composer and spy, perhaps even a wind player - provided the town of Mechelen with a coker jlyuten (case of recorders). No recorders were found inside...

...Four or six recorders were generally put together in a case called a Coppel.

Audio



Figure 68 (right). Setting of the coppel for the live performance at St Saviourgate Unitarian Chapel, York.

At the Crescent, I began to play the piece moving away from the audience, towards the coppel case, following Marsh's suggestion, as illustrated in [example 4.1](#). However, I was not satisfied with how the first live performance turned out, because the role of the poem and its recitation was still unclear to me. There had to be a better, more interesting connection between all the elements included in the piece: the case with its embodied (perceived) memories; the instruments with their embedded information (imagined stories) and voices; the poem with its spell-like character; and me, as a container of all these scattered entities in performance, expressed through my persona. The staging of the performance (visible in figure 67) expressed the ideas intended, though, by highlighting the individuality of each of the recorders utilised and the 'empowered' status of the coppel case. Ultimately, the experience served to clarify the aspects that needed further reflection; thus, I then examined the elements involved in the performance (described above) and sought different ways to convey them.

At the Late Music recital in the chapel, I began the work differently. I used a pre-recorded text to give the audience some perhaps intriguing information, thereby producing a certain mystery or curiosity and directing attention towards the case ([example 4.2](#)):

1533-34 – In Antwerp, Petrus Alamire – best known as a music calligrapher, but also a singer, composer and spy, perhaps even a wind

player – provided the town of Mechelen with a coker jlyuten (case of recorders).²¹² No recorders were found inside ...

This is followed by a short line that explains what a *coppel* refers to here:

... Four or six recorders were generally put together in a case called a Coppel.

The acoustic of the chapel favoured the fluidity of the musical lines of the various recorders. The staging was similar to that at the Crescent but lighter and more colourful, producing a different atmosphere. Both performances, though, suggested a story behind the instruments and the case on the stage, thus highlighting elements of the agency of both instruments and objects; their expression of a ‘self’ independent of that of the performer, and the intertwining of agents coexisting and interacting in performance. Moreover, aspects of the experience of staging the suggestive frameworks and staging both early performances influenced the final outputs of the project: the two *Coppel* films.

The two *Coppel* Films

Films

The film ‘Coppel. A narrative’

Locations: Bootham Bar - Shandy Hall.
YORK and COXWOLD



The film ‘Coppel. A monologue’

Location: The Rymer Auditorium. University of York



Figure 69 (left). Filming *Coppel: A Narrative* in Shandy Hall.

Figure 70 (right). Filming *Coppel: A Monologue* in the Rymer Auditorium at the University of York.

²¹² Adrian Brown and David Lasocki, ‘Renaissance Recorders and Their Makers’, *American Recorder*, 2006, 20.

It was (and remains) impossible to convey the core aim of the Coppel project through live performance: specifically, the idea of hiding – faking – the change of instruments to produce a continuity throughout the work. Fulfilling this aim required the introduction of film and collaboration with another artist. I invited Lynette Quek to work with me. We had already collaborated on creating audiovisual works as well as audio recordings of previous works for this portfolio. Quek, again, played different roles in this project: sound engineer for the audio recording of the work *Coppel*, and camera assistant as well as audiovisual artist in the production of both films.

Devising *Coppel: A Narrative*

With all the elements in place – the instruments, a case and a special score – for what we hoped would be an enchanting output, we set out to film ‘the story of the coppel’. We needed to place the coppel case in the perfect room to be discovered and awoken, so as to imply its releasing of all the memories embodied in it, transferring them to the recorders, whose voices would express them. I selected two unusual, extraordinary places: Bootham Bar and Shandy Hall.

Bootham Bar is the oldest of the four defensive bastions of York, some of the stones of which date to the eleventh century. Upstairs, there is a room housing the portcullis. In this room, I put the coppel; it looked abandoned, as well as puzzling, enigmatic. The film *Coppel: A Narrative* begins here, with a long, low A, intended as a spell to wake up the frozen time, stored in the case. Then, once time awakens, the scene moves to Shandy Hall, where the memories are released and where the coppel case finally stores the recorders in its slots.

Shandy Hall is a house in the village of Coxwold, on the edge of the North York Moors. It was built probably around 1430 and; centuries later, the Anglo-Irish writer Laurence Sterne lived there until his death in 1768. The house was christened Shandy Hall – the word *shandy* being a dialect word for ‘crack-brained’ or ‘odd’ – by Sterne’s friends, celebrating his success as a writer after the publication of the first two volumes of his *The Life and Opinions of Tristram Shandy, Gentleman*. The house, something of a warren of small rooms, filled with old books and other historical, everyday objects, itself acts as a museum of different epochs, and it provided the project with the ideal atmosphere for conveying memories scattered at different times in history.

This film highlights an imaginary relation between a set of recorders and a case for recorders, and the embodied ‘life’ of both the case and the instruments. The case appears as an animated entity whose pasts pull the instruments back to their beds within it. I devised the scenario, narrative and action of this film. *Coppel: A Narrative* was premiered at Shandy Hall, June 2018 (see figure 71). See [Output 4.1](#) (Video): *Coppel: A Narrative*.



Audio-visual afternoon at Shandy Hall

Saturday, 30th June 2018
14:30

A one-hour journey around Sterne's house showcasing film and audio works linked to poetry .

Carmen Troncoso & Lynette Quek



Figure 71. Invitation to the audiovisual afternoon at Shandy Hall. Premiere of *Coppel: A Narrative*.

Devising *Coppel: A Monologue*

Coppel: A Monologue was the second film. The visual concept of this video was created by Quek and illustrates how performing musical content is connected intimately – and not necessarily logically – to the performer's inner world. The elements utilised (the instruments, a case and a special score) are the same as in the live performance and first film, but re-contextualised and repurposed. As in the film *Coppel: A Narrative*, finding the appropriate atmosphere was crucial. The Rymer Auditorium at the Department of Music, University of York, provided the enclosed and neutral space that we imagined would be properly engaging.

This film presents a tighter relationship than in the first film between the content and meaning of the poem 'Arte poética', with its idea, linked to Spanish Creationism, of trespassing the 'possible', and its literal correspondence with the project's primary idea of developing a performance in which the change of instruments is somehow faked.

Coppel: A Monologue was premiered in the Rymer Auditorium, University of York, 2018 (see figure 72). See Output 4.2 (Video): *Coppel: A Monologue*.



Figure 72. Lecture recital at the Postgraduate forum 2018: *Coppel project: exploring the creative potential of instrumental agency and affordances.*

Conclusion

The sheer act of selecting stuff may be tantamount to its conceptual and perceptual transformation: material that is exploited even when left largely untouched can constitute an artefact insofar as its repurposing gives rise to re-interpretations, opening up novel cognitive horizons. (S. J. Norman, 2013).²¹³

The recorder continuously changes its meaning in relation to the always transforming contexts in which it exists and its ongoing need to adapt. We give the recorder new signification. As an artefact, we pay attention on its physical qualities, aiming to examine its expressive potential; when it takes an artistic role (becoming more than something crafted, valued as more than a 'well-made' object), we focus on its expressive identity: the embodied information it relays. David Shirey expresses this difference well:

Perhaps the simplest, yet most appropriate, distinction would be that an artefact is primarily the product of craftsmanship and skill, while a work of art is invested with an emotional, philosophical, spiritual or aesthetic quality that reaches beyond. It has an ambiguous something that is not

²¹³ I come back to this quotation, now expanded, as it summarises nicely my research into the coppel-object and the recorder-objects associated with it. See Sally Jane Norman, 'Contexts of / as Resistance' 32, no. 2–3 (2013): 276, <https://doi.org/10.1080/07494467.2013.775805>.

always easy to define, perhaps a special element that elevates it from the realm of workmanship to a more-significant level.²¹⁴

In the Coppel project, I explored the creative potential that I perceive rests in an instrument's history. Theoretical knowledge of the history of the recorder and its related contexts was creatively appropriated and the *coppel* was regarded as an artefact²¹⁵ that offered an insight into earlier aesthetics of the design of objects (such as recorders) and associated contexts, situations, people, places and stories.

Likewise, I believe that behind the intimate and exclusive proximity between instrument and performer lies an expressive zone, unknown to non-performers, which can only be perceived within and through the individual processes that a performer undergoes when seeking a significant connection with these external objects (here, the case as well as the instruments). Wessie du Toit refers to the 'power' of artefacts (shown in museums) as follows:

We are struck by their profound detachment from the present, and are left with a lingering sense of mystery. Glimpsing experiences so distant and different to our own, our attempts at comprehension stall.²¹⁶

Through the collaborative creation of sonic and visual narratives, we have aimed to creatively respond to and convey this 'lingering sense of mystery', perceived in the instruments' uniqueness.

²¹⁴ David L. Shirey, 'Archives /Art vs. Artifacts in Montclair', *New York Times*, 15 February 1981, accessed 15 June 2019, <https://www.nytimes.com/1981/02/15/nyregion/art-vs-artifacts-in-montclair.html>.

²¹⁵ *Artefact*: anything created by humans that gives information about the culture of its creator and users. See https://en.wikipedia.org/wiki/Cultural_artifact.

²¹⁶ Wessie du Toit, 'Art and Artefact', *Prospect*, 5 September 2013, accessed 15 June 2019, <https://www.prospectmagazine.co.uk/blogs/prospector-blog/art-and-artefact-damien-hirst>.

Chapter 5. Double Pipes, Antique et Moderne (2016 – 2018): Searching for Possible Combinations of Double Recorders/Pipes

Carmen Troncoso (recorders) and Guillermo Eisner (composer).

Output: *Being in the Sounds*, for ten 'double pipes', comprising ten recorders and two whistles, and pre-recorded audio tracks. One performer.

Output formats: Video of live performance; studio recording; collaboratively devised score.

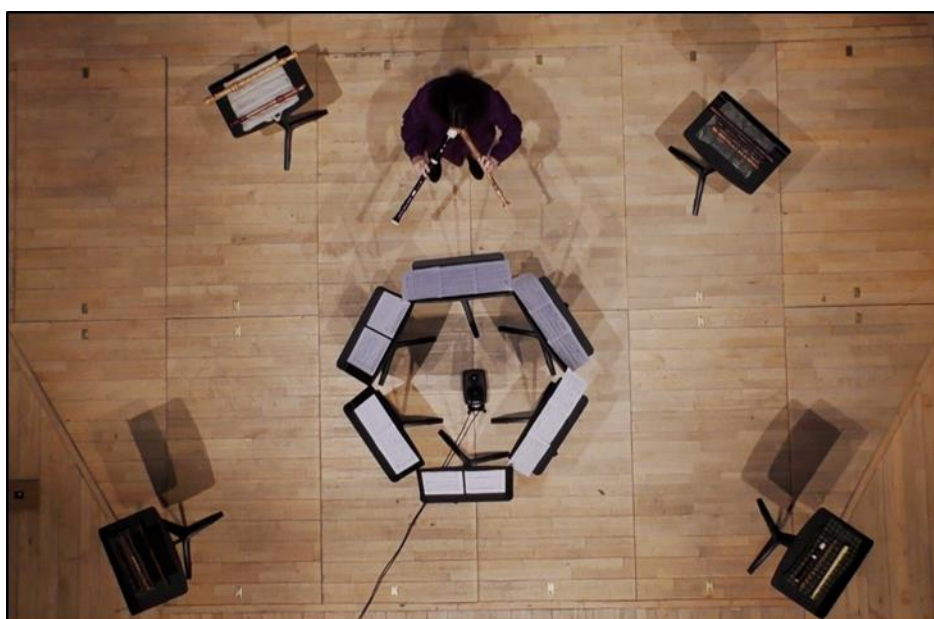


Figure 73. Troncoso: live performance (premiere) of *Being in the Sounds*, Sir Jack Lyons Concert Hall, Department of Music, University of York, 8 January 2019.

The project **Double Pipes, Antique et Moderne**, undertaken with Uruguayan composer Guillermo Eisner, focused on exploring and selecting different combinations of recorders and six-holed pipes from my collection to play simultaneously (two instruments blown at the same time), examining the variables that arose in the process and that affected my choices and use of the instruments. We aimed to establish unique 'twofold voices' in the form of double pipes, and to develop a new composition for them. As part of my research into the origins and evolution of the recorder, I traced various models of double flutes, their designs and related contexts. My interest focused particularly on ancient forms or those related to traditional instruments, aiming to understand

something of their origins, use and cultural identity²¹⁷ and to draw some of these elements into contemporary double recorder practices.

Throughout this, Eisner was also undertaking PhD studies (in composition, at the Universidad Nacional Autónoma de México-UNAM). His work is concerned with creative strategies in intermedia practices, combining sonic and visual aesthetics. Since his research relates to one of the variables that, as in other projects of this portfolio, I had identified and wished to explore – the expressive and performative potential that lies in the visual aspect of instruments – we decided to collaborate. Additionally, videoed and transcribed material (performed and spoken) from a two-day workshop (Paris, April 2016) with recorder performer Pierre Hamon became crucial in defining an ‘intermedia practice’. Selected audio recordings from this material are included in the final work, *Being in the Sounds*. The title itself is taken from Hamon’s emphasis upon what he describes as ‘the pleasure of the sounds ... being in the sounds.’ *Being in the Sounds* is a new piece situated in a contemporary framework – its practices and soundworld are clearly of today – but that, nonetheless, incorporates a musical language and performative attitude that evokes Medieval music and traditional cultures and instruments. It draws heavily on Hamon’s approach to music, instruments and performance, exploring how to make sense of his approach coherently in a new context and with new content.

Instrumental Context

That double pipes might be related to the recorder is supported by the fact that some of them incorporate certain defining characteristics of the recorder, such as a direct blowing technique through a wind channel, a lip or window, or a thumb-hole. However, the practice and evolution of double pipes – either as a joint instrument or as two single pipes played simultaneously – developed independently of the recorder and reached far beyond the European musical tradition. These instruments embody the ‘otherness’ that I have identified as a variable that influences my instrumental selection criteria: I perceive them as ancient entities belonging to extinct cultures that can nonetheless be revived. They evoke times before the existence of the recorder, as well as musical contexts in which double flutes were given a name and role, and therefore had an identity, transmitted orally and through improvisational practice rather than a written, compositional tradition.

In western contemporary recorder practices, the inclusion of ‘double-playing’ is usually treated as one possible ‘effect’ amongst those of the recorder’s extended techniques and does

²¹⁷ An identity not derived from the sheer combination of any two pipes but conceived as a unity from the start.

not draw on anything specific to the distinct, individual instrument in itself. Despite the ongoing development of specific models of double recorders since the late Middle Ages, with changes in their design consistent with those of single recorders, their lack of explicit documentation leaves us with questions: what did they sound like, who played them, what did they play and in what contexts? These specific instruments have not played a role in contemporary music practice: twenty- and twenty-first-century recorder repertoire has included the use of two single recorders, generally Baroque-designed (mainly descant and treble, as in *Recordeur Double Recorders* in [Output 2.3](#), and also tenor), combined sometimes with Renaissance models (soprano or alto), but not actual double recorders.

Double pipes were already in evidence in antiquity, though most were reed instruments: examples include the Greek aulos, the Roman tibia and the Egyptian arghul. Its presence in traditional music of various ancient cultures has continued to the present day, with instruments such as the Moldawien shepherd's pipe, the Indian pungi snake charmer double pipe, the Sardinian launeddas (made up of three canes), the Serbian and South Hungarian dvojnica (twin whistle), the Bulgarian dvoyanka, the Rajasthani satara, pawa Jodi or algoza, the Vietnamese traditional bamboo double flute and the Chinese bawu double pipe.

In Pre-Columbian America, some cultures – the Diaguitas, Incas and Aztecs – crafted and played distinctive models of 'silbatos dobles' (double whistles), or double and triple duct-flutes known as 'flautas tubulares' (flutes of two, three or more 'chambers'). These 'flautas' are still made and played today. The human and animal shapes of some of these ceramic Pre-Columbian instruments (see figure 74) convey the culture's aesthetics as well as its cosmogony. The doubleness of their design and sound was often meant to portray opposites – life and death, light and dusk, sun and moon, female and male – expressing the cultural understanding of the world, based mainly on observation of nature.²¹⁸

²¹⁸ Much has been written about the presence of dualism and symbolism in the music and musical instruments of diverse ancestral cultures in the world, including the Pre-Columbians. Some relevant sources include: Dale A Olsen, and Daniel Edward Sheehy, eds., *The Garland Encyclopedia of World Music Volume 2: South America, Mexico, Central America, and the Caribbean* (New York and London: Garland Publishing, Inc., 1998), 33-37; Max Peter Baumann, 'Andean Music, Symbolic Dualism and Cosmology', in *Cosmología y Música en los Andes*, edited by Max Peter Baumann (Madrid: Iberoamericana, 1996), 15-16; Ellen Hickmann, 'The Iconography Of Dualism: Pre-Columbian Instruments and Sounds as Offerings?' (1970), in *Cosmología y música en los Andes*, edited by Max Peter Baumann (Madrid: Vervuert, 1996, ISBN 3-89354-555-7): 123-136.



Figure 74. Pre-Columbian double and triple flutes (Pierre Hamon’s instruments). The triple recorder (flute of three chambers) is now in my collection.

It is suggested that South- and North-American early recorder-type flutes from around the sixteenth century would have been inspired by both Pre-Hispanic ceramic double pipes and Renaissance recorders brought by Europeans to the new continent.²¹⁹ The complex identities of those American compound, ‘mestizo’ recorder-type instruments influenced my instrumental selection criteria and generally my approach to this project: the search for instruments would consider the evocation of historical and cultural diversity, as well as instrumental soundworlds. This relates to my concern with the significance of the information carried in an instrument, and how it comes to life through the performer’s awareness of its pasts, contexts, and roles.

The preliminary study of ancient double pipes made me aware that the double instruments created in this project would lack cultural meaning: they would be ‘empty’ in this respect, somewhat forced into their new dual state. Perceiving my combined instrument as a ‘concept’ – a hybrid, rather than a ‘real’ instrument – affected my performance experience and the relationship with my instruments. I found myself wondering whether my sense that these instruments lack identity would change if I named them: the act of naming something (or somebody) confers the status of a unique entity or being. Once we name a thing, we immediately alter the relationship; we make a shift in our attitude towards it. In fact, I did not name the ten recorder and whistle combinations eventually used, but I did regard all of them as ‘unique’, strongly influenced by the singularity and distinctiveness perceived in the ancient double pipes.

It is beyond the scope of my research to undertake an organological study of the multifarious double pipes around the world. However, an awareness of their extensive use across so many different cultures and across such spans of time, their variety of sonic behaviours and

²¹⁹ For more information see Gérard Arnaud, *Diablos Tentadores y Pinkillos Embriagadores...En La Fiesta de Anata/Phujllay: Estudios de Antropología Musical Del Carnaval En Los Andes de Bolivia*, Tomo I, (La Paz: Universidad Autónoma Tomás Frías: Plural Editores, 2010), 121-124.

tunings, and their different designs, embodying cultural meaning, have all fed into this project, inspiring and influencing it. Below, I discuss double recorders, flutes and pipes by contemporary makers.

Contemporary Double Recorders, Flutes and Pipes

Makers of recorders, flutes and pipes have developed double instruments, drawing mainly on iconographic sources and/or surviving historical templates. All these instruments are, therefore, interpretations and reconstructions, eventually forming new creations: newly proposed instruments. Here, I begin by introducing three makers, selected because they work by combining features of recorders and folk instruments, and this duality was something we explored in our collaborative framework, both in the search for combinations of instruments and in creating the artistic content.

Winne Clement is a Belgian instrument maker and musician whose ‘personal compulsion to play a unique, quality instrument with a touching character’²²⁰ led him to create his own instruments. His flutes include a fipple (also called a ‘block’), as in a recorder. Interestingly, he refers to the instrument as a ‘sound sculpture’: one with a ‘special vibe, its own unique voice’. He describes his double kaval or kavalghoza as ‘a new, exclusive experimental double flute I have developed, in which two different cultures meet. It is a double fipple drone flute bringing the Moldavian kaval and the Pakistani alghoza drone flute together.’²²¹ He also makes the double alghosazi, a drone-flute whose pipes can also be played separately,²²² and various double ‘shepherd flutes’ (whistles).

David Cartwright, who makes flutes based on instruments traditionally made ‘by the indigenous people of the plains, woodlands and remote areas of North America’.²²³ He is part of a group of recorder makers who aim to preserve the tradition of making native flutes. His series ‘Toucan flutes’ includes double-barrelled drone, double-drone and double-key flutes’, differentiated by their categorisation into three distinctive purposes: ‘performance’, ‘healing’ and ‘personal’.

²²⁰ Winne Clement, *Fujaraflutes*, accessed 10 July 2019, <http://www.fujaraflutes.com/>. Instrument maker.

²²¹ Detailed information about Clement’s double kaval or kavalghoza can be found at <http://www.fujaraflutes.com/moldavian-kaval-flutes>.

²²² Detailed information about Clement’s double alghosazi can be found at <http://www.fujaraflutes.com/alghosazi>.

²²³ David Cartwright, ‘Toucan flutes - drone’, *Second Voice Flutes*, accessed 10 July 2019, <http://www.secondvoiceflutes.co.uk/?index>.

Yuri Terenyi is a bone and wood carver whose instrument-making is influenced by Medieval iconography and ethnic European folk music styles. His wooden drone pipe combines a pipe tuned in C and a drone pipe tuned in D, a pitch relationship usually found in bagpipes. The wooden double recorder is based on a prototype found in Oxford. This instrument offers the possibility of exchanging the melody from one pipe to the other filling the gaps produced in each pipe's limited register.²²⁴

The brief outlining of the work of these three makers provides an indication of some of the approaches and concerns of those producing double pipes. However, the instruments and ideas of two particular contemporary recorder makers, Francesco Li Virghi and Philippe Bolton, were most influential in this project. Their specific double recorder models are discussed below.

The Double Recorder by Francesco Li Virghi

One contemporary double recorder that I particularly wanted to get to know was the 'Ars Nova', devised by Italian recorder maker Francesco Li Virghi (figure 75). This recorder's name, Ars Nova, refers to the fact that it was developed from Li Virghi's previous model, Ars Antiqua, whose design was influenced by a fifteenth- or sixteenth-century double flute found near All Souls College, Oxford: the same prototype used by Terenyi. Especially worthy of note for my research topic was that the recorder performer Pierre Hamon had chosen to use this instrument, embracing its unique qualities and developing a performative style around its idiomatic characteristics.



Figure 75. Pierre Hamon's double recorder made by Francesco Li Virghi.²²⁵

²²⁴ Detailed information about Terenyi's double flutes can be found at Turi Terenyi, 'Musical Instruments', *Wood-n-Bone*, 20 July 2019, <http://www.wood-n-bone.co.nz/>.

²²⁵ Detailed information about Li Virghi's double recorders can be found at Francesco Li Virghi, 'Double Recorder', *Dolciflauti*, 20 March 2019, <http://www.livirghi.com/instruments-of-the-middle-age/flutes-of->

Amongst the qualities that Hamon found attractive and advantageous are its ‘interesting’ sound, as Hamon describes it, referring to the resulting voice of its two joint pipes, and its accurate tuning, with a Pythagorean temperament and pitch at A= 460 (there was no attempt to conform to ideas of historically informed practice in this regard). Considering the differences between the Ars Nova and the Ars Antiqua, Hamon explained to me that the two pipes of the Ars Antiqua recorder are tuned in C and F respectively, whereas in the Ars Nova the pipes are tuned in B flat and E flat, in order to extend the range without a breaking point within the registers. This shift in the construction of Li Virghi’s prototype resulted in a remarkable improvement, by extending its range: increasing the number of consecutive playable pitches without a sudden registral gap. Not just the earlier bore profile of Li Virghi’s Ars Nova model, but all possible combinations of recorders and six-holed pipes have this limitation, which occurs due to the impossibility, when using only one hand for each pipe, of covering the lower holes required for producing certain pitches.

I was therefore interested in both the singularity of this double recorder and in the maker’s efforts to improve the issue of register, even if it meant accepting the resultant awkward fingerings, challenging even for a professional recorder performer. By broadening the instrumental scope of the old Ars Antiqua model (hence expanding its affordances), he also triggered instrumental resistance, designing a renewed and resourceful instrument which, nevertheless, presents different complications.

Also noteworthy here is the profound relationship between the performer and instrument, with Hamon’s musical exploration and exploitation of the recorder’s idiosyncrasies: this influenced my own approach. Furthermore, Hamon’s profound handling of the qualities of this instrument attracted the interest of a composer, Bruno Ginel who, in response, and wanting to explore the possibilities of this instrument, composed some studies. Likewise, in becoming aware of both the complex technique required but also the potential musical rewards, recorder performer Lucia Mense developed a set of exercises and short pieces, ‘Introduction to the Double Recorder “Ars Nova”’, designed to help players to begin playing this double recorder.²²⁶

the-middle-ages/. The use of the picture was kindly authorised by Francesco Li Virghi in an email to the author on 20 July 2019.

²²⁶ The method ‘Introduction to the Double Recorder “Ars Nova”: Exercises and short pieces how to begin with playing the double recorder’ by Lucia Mense is available at Li Virghi, *Dolciflauti*, <http://www.livirghi.com/insights-2/il-flauto-doppio-ars-nova-metodo/>.

Philippe Bolton's Double Recorder Prototype

The second double recorder that I examined in depth was Phillippe Bolton's design. During a research trip to France in 2016 (referred to in the discussion of the second project, 'Beyond the Acoustic Environment') I visited Bolton's workshop in Villes sur Auzon for a two-day residency. As part of this, I interviewed him about his Medieval recorders, which draw on a painting of three single recorders played by angels, 'The Coronation of the Virgin of Cologne' (c. 1460), by the master of the Lyversberg Passion.²²⁷



Figure 76. Detail from 'The Coronation of the Virgin of Cologne'. Alte Pinakothek, Munich, Germany.

Bolton explained to me that he had to imagine the design of the lower part of the recorder as it was not clear in the painting (see figure 76). He also called attention to the fact that such paintings 'can be deceptive'²²⁸ insofar as the instruments depicted were sometimes included only as symbolic or ornamental objects. Nevertheless, Bolton added that 'it is common knowledge that at that time many recorders were bored cylindrical', a feature that produces 'a strong, clear sound'. He is also convinced that two recorders were more commonly used than one joint instrument; the fixing together of his pipes in C and F, based on the recorders in the painting, was therefore his own idea.

Bolton's response was the opposite of Li Virghi. Li Virghi decided that range was more important than technical accessibility, while Bolton's approach to design and construction was more practical. Bolton's initial idea of making a double recorder came from a customer who attended one of his workshops. Nevertheless, he offers alternatives of both pitch (with A at 440, 460, 466 or 523 Hz) and temperament (tuning systems). Regarding the temperament, Bolton, as

²²⁷ Philippe Bolton, 'The Coronation of the Virgin of Cologne by the master of the Lyversberg Passion', *Handmade Recorders and Flageolets*, 10 July 2019, <http://www.flute-a-bec.com/medievgb.html>.

²²⁸ Philippe Bolton, interviewed by the author, 17-20 April 2016. All the subsequent quotations for Bolton are from this source and were kindly authorised by Bolton.

Li Virghi, likes to tune his cylindrical recorders in the Pythagorean system, to connect back to the music of the time. However, he remains open to the customer's preference: as he put it during the interview, 'we have to take into account, everyday needs for everyday musicians.'

No composers had taken an interest in Bolton's double recorder: Bolton speculated that this was due to its limited range. I encouraged him to try to overcome this register problem, a challenge that led him to attempt alterations to the design, but this failed. Bolton commented, afterwards, that all the solutions to this issue required too awkward a technique: in his words, 'it is not something that is going to be practical for every musician'.

Overall, these two examples indicate that uniqueness, in terms of instrumental models, is a risky and unconventional option for makers. Of course, composers and performers might also regard working with unique instruments as professionally risky, limiting the take-up of a piece or linking a performer too narrowly to the use of a specific instrument. Conversely, it opens up new sonic worlds and the potential for interaction between makers, composers and performers, with opportunities to delve deeply into the novel features and often unexpected instrumental affordances, hence enriching our creative possibilities.



Figure 77. Interview with recorder maker Philippe Bolton. Villes du Auzon, France, 2016. Bolton's double recorder.

Pierre Hamon, Double Recorders and 'Being in the Sounds'

During two residencies with Pierre Hamon in April 2016 and September 2018, we examined a range of other double recorders and Pre-Columbian double and triple pipes. In the first residency, we examined different criteria for selecting recorders (or instruments related to its evolution) and to play Medieval songs from the twelfth-century codex Florence, already addressed in chapter 2. This repertoire had opened interesting questions regarding my topic, as it placed my process of

choosing the instruments (and probably that of other contemporary recorder performers) within an uncertain and ambiguous context, since instrument we know as the recorder had not yet developed. In the second residency we workshoped the early version of *Being in the Sounds*, and discussed Pre-Columbian instruments from his collection. These two residencies were central to the development of the project. Below I discuss the key issues that arose and how these affected our ideas, processes and output.

Hamon is an extraordinary musician whose knowledge and experience influenced us directly. Key to this are a number of qualities: his profound connection to sounds of the past and performance of early materials; his awareness and enjoyment of harmonics, resultant tones and different tuning systems (influenced by his training as a physicist); his intimate performance style, focusing on specific sound qualities; his following of both instinct and knowledge when addressing music and instruments of the distant past; his embodied understanding and perception of musical phenomena and his interest in close collaborations with composers who are willing to embrace the ‘uniqueness’ of the instruments.

Besides his expertise with regard to double recorders and their practice, Hamon’s curiosity has led him to, as he put it, ‘have a connection with many different instruments of the world; different sounds, from different flutes’.²²⁹ This has extended his sonic imagination beyond that of the idiomatic Renaissance or Baroque recorder sound. He has become a multi-instrumentalist of traditional worldwide wind instruments (Eastern and Western), including Pre-Columbian wind instruments and recorders from all periods and designs.

Especially worthy of mention are: his CD *Lucente Stella*²³⁰ (1995), with music from the Middle Ages and the twentieth century in which he plays several wind instruments: the three-holed flute, bamboo flute, Ganassi recorder, double recorder, cylindrical flute, voice flute and Navajo flute; and *Hypnos* (2006),²³¹ which again includes music from the Middle Ages and the twentieth century but also adding new repertoire, using a ‘Bressan’ voice-flute, a ‘Schnitzer’ tenor recorder by Ernst Meyer, a ‘Ganassi’ soprano by Fred Morgan, a three-holed pipe by Jeff Barbe, a double recorder by Francesco Li Virghi, a bansuri flute by Harsch Wardhan, and Colombian male and female kuisi (bagpipe-like flutes).

In interview, Hamon discussed his interest in, as he puts it, the ‘Music as a Mystery, as something strong’, explaining how his pleasure in playing simple melodies (whether Medieval, ‘ancient’, traditional or contemporary) transports him into a certain state, in which he ‘loses

²²⁹ Pierre Hamon, interviewed by the author, 15-17 April 2016. All the subsequent quotations for Hamon are from this source and were kindly authorised by Hamon.

²³⁰ Pierre Hamon, *Lucente Stella* (France: Opus 111 – OPS 30-122, 1995), CD.

²³¹ Pierre Hamon, *Hypnos* (France: Zig-Zag Territoires 90101, 2009), CD.

himself'. These matters are of course somewhat subjective, but they significantly influenced the devising of the final work of our project, and especially my attitude towards the performance: my search for a sense of 'meeting' with the instruments and the different melodies, and for a profound musical experience.

As in some of my projects, Hamon likes to combine performing pasts and current works. However, he does not aim to contrast epochs, but rather to relate them: to unify them, as expressions of the continuity of humanity. He seeks something 'essential' and a musical experience that is 'deeply connected-to-that-essence'; an aim that prioritises the mystical, ritual, insider's attitude. In his words, 'the importance lies in the music, not in performing it'.

Hamon's attention to the 'pleasure in the sounds' guided my performances in this double-pipes project. He states that this pleasure comes from the resonance between the performer and the sound itself, and from the deep meaning that arises from that connection. The audience may, then, perceive that connection and, eventually, experience the embodied resonance. It is therefore essential to choose suitable instruments, to fulfil that goal. For Hamon, it has been vital to perceive qualities related to the uniqueness of the instrument, 'more than [to] a historical argument or justification' for its use. He chooses instruments 'that offer something special'. This observation was key for to my own search for this project's different combinations of instruments. Despite being vague, it concentrates the performer's (my) attention solely on the sound and the feeling of playing the combined instrument, leaving aside all other secondary considerations, such as the design or quality of each pipe or recorder, the differences in materials, or the epochs they represent.

Hamon also stressed the importance of resultant tones in performing these instruments, and hence the need to use the appropriate tuning system. To play Medieval music Hamon chooses to play recorders (including his double recorders) tuned in the Pythagorean system. As Hamon noted, there is no certainty about the pitch or pitches of Medieval music, but we do know that music was taught within the Pythagorean Quadrivium (along with arithmetic, geometry and astronomy), which despite originating around 500 BC was still in use in the twelfth and thirteenth centuries. The subject 'music', within these liberal arts, studied the (Latin) 'tonus', which means 'tension'. Thus, the study of music was primarily concerned with the relationship between (and the application of) the pure science of number and time. Hamon stresses the importance of bringing this concern into performance. He comments:

If you play a [Medieval] Ballada using the [Renaissance] meantone system or equal system, you lose all the tension.... When you enter this

repertoire, you begin to understand what is important [to experience and express]. And you choose then Pythagorean temperament.

In other tuning systems, the performer must continuously alter the air pressure to adapt the tuning in order to produce the resultant tones, and this interrupts the flow of the phrasing. This is exacerbated by the fact that the use of alternative fingerings – which would help to tune and to control the volume and timbre – is rarely possible when playing two instruments simultaneously: most require the use of both hands. Hence, Hamon pointed out that I would need to prepare my recorders (altering their holes by using wax, for example) to make my various double instruments sound both in tune and well balanced. These variables – tuning adjustment and the attempt to achieve a more effortless and flowing sense of phrasing – were attended to along the way, as I tried out different combinations of instruments (and later when practising the final work). Due to the complexities of combining pairs of instruments with distinctive features, this process was experienced as an ongoing instrumental resistance. In the attempt to follow Hamon's pointers, I had to make compromises, mainly due to the different tuning systems of my recorders, which prevented me from creating instruments tuned in the 'ideal' Pythagorean system.

Despite the apparent limitations of the range, Hamon reminded me that the possibility of combining and changing recorders provides a wide variety of possibilities. In his words:

It can be very interesting even if the instrument has few possibilities. Besides, you take one instrument just for something specific, and then you can change. Recorders [and traditional wind instruments] offer that possibility of changing instruments as much as you need.

This sentence came to complement my decision to utilise a variety of combined instruments for the creation of the new work.

Finally, Hamon referred to his collaboration with Bruno Ginel, who composed some studies for Hamon's *Ars Nova* double recorder, and later the piece *Doppio*, for recorders of different sizes (mainly Baroque design) played simultaneously. Like Eisner, in my project, in the primary process of composing, Ginel simply accepted the different idiomatic features of the recorders, and as a result he scored *Doppio* for instruments of different fundamental pitch. Later, to facilitate dissemination, Ginel changed the original score, arranging it at A= 440. Hamon appreciated Ginel's collaborative attitude ('many composers do not have it'), noting that many composers want to avoid working so idiomatically with very specific instruments: the less fixed

and specific the instruments are, the more possibilities arise for further performance by other players. For this reason, it has been difficult for Hamon to find composers of new pieces for his Pre-Columbian instruments, which are unique. *Being in the Sounds* responds to that situation, fulfilling a performer's desire to perform idiomatic content for specific instruments. At the same time, it also satisfies the composer's need to offer a score that can be addressed by other performers by providing options for the choice of instruments and a certain leeway for the performer in other respects, such that the specificities can be transferred.

In the second residency with Hamon (September 2018), we workshopped *Being in the Sounds* and explored Hamon's Pre-Columbian double and triple pipes and other flutes. He introduced me to the work of Argentinian instrument maker and performer, Esteban Valdivia (who has built a number of these instruments for Hamon), and we then explored the sonorities and distinctiveness of various models. Familiarising myself with these instruments – their singular voices, designs, and specific characteristics – broadened my understanding of double pipes.



Figure 78. Interview with Pierre Hamon during the first residency in 2016.

Troncoso-Eisner: Collaborative Framework

Previous Work

Eisner and I had previously worked together in creating a work, *Plaza* (2014),²³² for tenor and bass recorder (two performers). In this piece, my part explored the possibilities of simultaneously singing and playing tenor recorder, aiming to produce a complex interdependency. This is illustrated in figure 79. In this way, Eisner set up an exciting context in which to explore the possibilities of broadening the performative personae, combining both the instrument's and the

²³² *Plaza*, by Guillermo Eisner is included in the CD *Música de Barrio*. Chilean recorder performer Felipe Cussen plays the bass recorder. Guillermo Eisner, *Musica de Barrio* (Mexico: Cero Records, 2019), CD.

Figure 79. Guillermo Eisner: *Plaza*, bars 78-80. In the part for tenor recorder player, the recorder line is given above, the voice below, showing how a ‘humming’²³³ effect is produced from the combination.

performer’s voices. Performer and instrument have individual own roles and musical parts, but these are produced by the same breath; a principle that works similarly when playing two recorders simultaneously. Some aspects of this previous project were transferable to our new double pipes project, particularly the questions of instrumental resistance, duality, the relationship between performer and instrument, and the emerging personae.

Residencies

We organised and carried out this project by means of email correspondence and three residencies: two in York to develop the work and the last one in Mexico to present it finished. In the first residency (17 to 21 April 2017) we worked on my systematisation of different double recorder combinations from my recorder collection, to clarify the issues in working with instruments with different pitch (at 440, 415, or 462), temperament (meantone, Vallotti, and equal temperament – none of these instruments are tuned in the Medieval Pythagorean system), tuning (instruments in C, D, F, G, A and B flat), and finally different available notes using one hand (determined by the size of the instrument and the different types of fingerings: Renaissance, Baroque or German/modern).

We also undertook improvisatory workshops which helped Eisner to understand, in practice, the distinctive behaviours of the various two-fold instruments. In those sessions, we searched for idiomatic gestures, explored the resultant tones that emerge from the various combinations, and identified the generation of microtones and/or alterations in the tuning derived from the use of limited fingerings. For the latter variable, we analysed the need, in some cases, to alter the holes of a recorder (by covering them with tape or wax, as explained above) to adjust the tuning. However, once aware of the significantly distinctive instrumental features that

²³³ The use of humming with recorders is mentioned by Marin Mersenne in his 1636 *Harmonie Universelle, Contenant la Théorie et la Pratique de la Musique*, published in Paris.

affect the resulting tuning in each combined instrument, we agreed to examine this on a case by case basis, discussing each time whether a less than ideal tuning should be accepted as a result of our appreciation of other special sound qualities that emerged.

During this period, Eisner and I also looked at other contemporary works using double recorders. Amongst these are: Peter Dickinson's *Recorder Music* (1973);²³⁴ Carlo Prosperi's *Tityrus* (1974), in which the second movement is played by a descant and an alto recorder at the same pitch; Ishii Maki's *Black Intention* (1975) for one recorder player playing descant recorders pitched at 440 and 415, a tenor recorder and tam tam or gong; Eggert Moritz's *Ausser Atem* (1995) (which I performed in 2001 in Wuppertal, Germany); and Thomas Simaku's *Soliloquy V 'Flauto Acerbo'* (2011) for a recorder player playing treble and tenor recorders. After this period of collaborative work, I transcribed my interviews with Hamon and sent this and the video documentation of the trip to Eisner. This was significant, in that it inspired Eisner's subsequent compositional ideas and, ultimately, the general conception of the work.

In our second residency, also in York (4 to 9 June 2018), Eisner and I workshopped eleven exercises written by Eisner in response to the project work so far, around the end of 2017 and the beginning of 2018, and the first version of the piece. We continued revising *Being in the Sounds* between April and August 2018 and gave the first (informal) performance in September, in York.²³⁵

Finally, the third residency took place in Mexico at the end of February 2018. We presented the finalised project and performed *Being in the Sounds*.

The Choice of Instruments

What is important is the result of the connection between the two instruments [that form a double recorder]. Sometimes, each instrument is a little bit impure but works very well combined. (Hamon, 2016).

The initial selection of instruments was undertaken on my own, in extended study sessions, trying out different possible recorder combinations and writing down my impressions of the resulting sound: whether it had an interesting quality (as Hamon put it, 'something special'). I also examined the tunings in each case and identified unisons or other specific intervals that might serve as reference points in the processes of composing or improvising. From this primary

²³⁴ According to O'Kelly, Dickinson's piece was written with the idea of evoking the Medieval double pipe. Eve O'Kelly, *Recorder Today* (Cambridge: Cambridge University Press, 1990), 115.

²³⁵ Thursday 6 September 2018: informal performance of *Being in the Sounds* at the Department of Music of the University of York.

assessment, those two-fold pipes (subjectively) defined as ‘interesting’ passed into the second stage, in which I explored the idiomatic potential of each ‘new instrument’.

After the exploratory workshops of the first residency, Eisner and I reached a deeper understanding of the instrumental soundworlds and hence felt ready to make our choices of instruments. Our selection criteria considered the use of models from different stages and epochs of the recorder’s evolution; different registers, and different manufacturing quality. We were keen not to restrict the choice according to any considerations (or prejudices) of the instrument’s apparent quality or ‘value’. We accepted the challenge of dealing with the significantly different characteristics of the recorder and pipe models of my collection.

I chose not to use my double and triple flutes, which are modern copies of Pre-Columbian ceramic instruments, despite their apparent pertinence to this project: the aim was to search for possible combinations of individual instruments to create new instrumental identities. Two six-holed pipes (whistle-type) were included, though, each of different origins and with different features. The first is a simple Indian cane whistle, the second is a hybrid design combining characteristics of both a Baroque recorder and a traditional six-holed pipe. Both are shown below in figure 80:



Figure 80. Six-holed pipes utilised in *Being in the Sounds*: Indian whistle (above) and hybrid whistle (below).

Twelve instruments were selected, of assorted designs and production quality: seven are craft-made copies of historical models (Baroque and Renaissance); two are series, plastic recorders with a modernised Baroque outer design (in black and white, in imitation of ebony wood and ivory joints); two are six-holed pipes (whistles, shown in figure 80); and one is an elementary plastic recorder intended for beginners. Figure 81, below, shows the twelve instruments utilised in *Being in the Sounds*.



Figure 81. Recorders utilised in *Being in the Sounds*.

From left to right, according to figure 81:

1. Tenor recorder in C. 'Aulos 211A' Model. Pitch A= 440.
2. Tenor recorder in D (voice flute). 'Bressan' model. Made by Joachim Rohmer. Pitch A= 415.
3. Treble recorder in F. 'Bressan' model. Made by Jorge Montero. Pitch A= 440.
4. Descant recorder in C. Baroque model. Made by Jorge Montero. Pitch A= 415.
5. Descant recorder in C. Baroque model. Made by Jorge Montero. Pitch A= 440.
6. Sopranino recorder in F. Baroque model. Made by Jorge Montero. Pitch A= 415.
7. Sopranino recorder in F. 'Aulos 700092.0 Symphony Recorder' model. Pitch A= 440.
8. Alto in G. 'Ganassi' model. Made by Jorge Montero. Pitch A= 440.
9. Descant recorder in C. 'Ganassi' model. Made by Jorge Montero. Pitch A= 440.
10. Whistle in A. Made by Jorge Montero. Pitch A= 462.
11. 'Indian' whistle in C. Pitch A= 440.
12. Descant recorder in C. 'Hohner B9509 Melody' model. Pitch A= 440.

These twelve instruments were combined so as to generate the following ten double recorders or pipes, listed in the order of appearance in the final piece with the bracketed 'P' indicating pitch:

- 1- (Plastic) tenor recorder in C (P 440) and treble recorder in F (P 440).
- 2- Tenor recorder in D (P 415) and treble recorder in F (P 440).

- 3- Alto in G. 'Ganassi' (P 440) and treble recorder in F (P 440).
- 4- Alto in G. 'Ganassi' (P 440) and descant recorder in C. 'Ganassi' (P 440).
- 5- Descant recorder in C. Baroque (P 415) and descant recorder in C. 'Ganassi' (P 440).
- 6- Descant recorder in C. Baroque (P 415) and (plastic) sopranino recorder in F (P 440).
- 7- (Hohner-German fingerings) descant recorder in C (P 440) and (plastic) sopranino recorder in F (P 440).
- 8- (Hohner-German fingerings) descant recorder in C (P 440) and Indian whistle in C (P 440).
- 9- Whistle in A (P 462) and Indian whistle in C (P 440).
- 10- Sopranino recorder in F. Baroque (P 415) and descant recorder in C. Baroque (P 440).
- [11- Returns to the first combination, above: tenor recorder in C (P 440) and treble recorder in F (P 440)].

After using the tenth double instrument (with the sopranino in 415 and the descant in 440), the work returns to the first combination (listed above as number 11), ending the work with the same two recorders heard at the beginning. The use of the instruments corresponds to the circular conception of the musical content: it departs from the lowest (the biggest) and continues with an ongoing transition towards the higher register (smaller instruments), before returning to the first combination. The scenic presentation of the performance – with the player standing in the middle of a circle of instruments, working gradually around them, as seen in figure 73 – responds to and illustrates this circularity, producing the atmosphere of an intimate, solitary performance, in tune with Hamon's expressed idea of 'being in a state of resonance with the instrument and with the music'.

It is possible, alternatively, to select another pair of tenor and alto recorders for the last combination (number 11), as long as they have the same register and pitch, thereby introducing subtly different timbres compared to the instruments heard at the start, but with the same basic pitching and instrumental combination. In two out of the three live performances given during this project, I used a different alto recorder from my collection (already used in projects 1 and 4): the 'Rippert' alto made by Friedrich von Huene, pitched at A:440 and tuned in the Vallotti system. This change still retained the idea of returning to the low register heard at the beginning of the piece, thus ending the journey and the 'musical circle'. Additionally, the fact of coming back to a new combination of low recorders expressed the idea of a never-ending process of selection and instrumental transformation, mirroring the fundamental, ongoing 'task' of my practice that generated the whole framework of my PhD and its research questions. The expedition through

the different instruments experienced in *Being in the Sounds* reflects the journey that I (and maybe other performers) have experienced in my development as a recorder performer.²³⁶

Creating the Score

A crucial problem in composing for this variety of double recorders and pipes is notation, and for the composer to work collaboratively with the recorder performer, developing a thorough knowledge of how the instruments work, is very important. Eisner's scores (initially for the eleven *Etudes*, and subsequently for *Being in the Sounds*) were written so as to represent the sounding pitch, drawing upon my systematisation of the selected, combined instruments. However, because of the many variables that I had to consider when playing such different models simultaneously, I asked him to transpose the parts for certain instruments, as follows:

- Voice flute in D (Pitch at A 415) transposed to C (Pitch at A 440)
- Ganassi in G (P 440) transposed to F (P 440)
- Descant in C (P 415) transposed to C (P 440)
- Indian pipe in C (P 440) transposed to C# (P 440)
- Whistle in Bb (P 440) transposed to D (P 440)
- Sopranino in F (P 415) transposed to C (P 440)

In the end, all the instruments in the score are read as if in either C or F, with pitch A= 440 as the reference. This change facilitates the simultaneous performance of both lines in the staff notation. Finally, then, there are two versions of the score: one at concert pitch, one with transpositions. Our aim was to produce a score that would simultaneously reflect our response to these specific instruments but would also invite other performers to play the piece by following a similar process, identifying their own selection criteria for the instruments and responding to the ideas in their own ways. We therefore included a preface in the score, providing information about the project and instructions for performance, but also stressing the importance of the instrumental selection process:

²³⁶ The circular disposition of the instruments and the scores on stage in *Being in the Sounds* is perhaps reminiscent of Luciano Berio's *Circles* (1960) for female voice, harp and two percussionists. In this work, Berio gives precise instructions for the location of the performers and the percussion instruments, and for the singer's 'journey'. Moreover, similarly to *Being in the Sound*, Berio often explored and referenced the 'pasts' of instruments, while challenging the instrumental affordances. This is apparent, for example, in *Laborintus II* for voices, instruments and tape.

We list [on the score] the instruments utilised in our version. However, any new performer may search for their preferred instruments as long as these do not significantly alter what is written in the score. The process of selecting the instruments is revealed as itself an essential, critical stage of the unfolding of this work. New identities are created from these new ‘combined instruments’; new instrumental voices appear, and, as Hamon expresses so beautifully, these embody the ‘pleasure of the sounds’ experienced in playing.

Both versions of the score are given in Appendix 5.1. For the following section, see concert pitch score and the audio recording in [Output 5.2](#).

The Music

The primary instrumental resources explored in the project and eventually utilised in devising *Being in the Sounds* are: double whistles, double recorders or the combination of a whistle and a recorder; humming (a combination of instrumental tones and the performer’s singing); the sound of a single recorder, and the performer’s singing, alone. We also sometimes combined the performer’s voice (singing) with a double pipe or a double recorder, creating three independent voices, recalling a triple pipe. Moreover, we thoroughly examined the phenomenon of the resultant tones that emerge from the interaction of the two main pitches played on the combined instruments: a kind of ‘absent-present’ additional ‘voice’. As Hamon says: ‘because you play two recorders, you will always have three sounds.’ Each of the sections of *Being in the Sounds* entails specific explorations and approaches. Below, I discuss selected examples which are particularly notable for the instrumental combinations and resultant sonorities.

As mentioned earlier, Eisner and I had worked on the humming effect in *Plaza*. We aimed to explore it further in this new context. In our discussions, Hamon commented that:

You find humming in a lot of traditional music from Hungary, from shepherds’ music. In Medieval times, you could find a person playing two or three voices, so we can suppose it was used. Its sound effect is similar to the sound of the ‘tabla’, in India. Also, similar to that of some reed instruments, and fiddles, rebecs, harps; because of the ‘buzz’ that the humming gives.

At bar 157 (see figure 84, below) the recording of Pierre's playing his double pipes (indicated in the score as Audio 4) blends with my live humming (this can be heard at 9' 02"). The combination of instruments in this section is peculiar: Hamon's traditional double instrument (see figure 82) is set against my playing of a cheap, plastic, soprano recorder, as used in school music making (figure 83, the recorder on the left), and my voice. In the previous three-part section (bars 155-56), we hear the combination of my voice, the soprano and sopranino (figure 83, the two recorders on the left). This sonority effectively prepares the tension for the entrance of the recording of Pierre's double pipes (Audio 4).



Figure 82. Pierre Hamon's double pipe.



Figure 83. Hohner descant, Aulos sopranino and Indian whistle.

The musical score for bars 157-61 is presented in three staves. The top staff, labeled '155', shows the performer's voice with a melodic line. The middle staff, labeled '155', shows the soprano recorder part, which includes a 'Change to Indian whistle' instruction. The bottom staff, labeled '155', shows the Hohner descant part, marked with a dynamic of *p*. An 'AUDIO 4' label is positioned above the first staff, indicating the recording of Pierre's double pipes.

Figure 84. *Being in the Sounds*, bars 157-61: top line, performer's voice; second line, soprano recorder (P 440) changing to the Indian whistle (P 440); bottom line, Hohner descant.

The following section (bars 165 to 181, from 9' 23'' to 11' 52''; figure 85 shows bars 167 to 170), with the Hohner soprano and the Indian whistle (figure 83, whistle on the right), produces a deliberate clash of instruments. The two very different instruments, foreign to one another and both

Figure 85. *Being in the Sounds*, bars 167-70: top line, Indian whistle; bottom line: Hohner descant.

somewhat delicate and precarious in their intonation, nevertheless work very attractively when combined. Moreover, they seemed to me to evoke the sonority of Pierre's Medieval double pipes. Eisner initially composed a two-page section for this combination. However, I wanted to open up a space in which I could improvise with these sounds (bars 174 and 175 shown in figure 86, below; audio recording from 10' 05'' to 11' 19''), drawing upon Hamon's suggestions and being aware of the imperfections in the general tuning of these two dissimilar instruments.

Figure 86. *Being in the Sounds*. Bar 174: improvising with the Hohner descant over a sustained E with the Indian pipe. Bar 175; improvising with the Indian pipe over a sustained A with the Hohner descant.

The section with the two six-holed pipes (bars 196 to 208, from 12' 48'' to 13' 30'') was influenced by Louis Andriessen's *Ende* (written in 1981 for use by Frans Brüggen as an encore), for two alto recorders (one performer) simultaneously playing intervals of seconds (see figure 87).

ENDE
to Frans

Louis Andriessen (1981)

almo rec. 1*)
recorder player
almo rec. 2

al mosso 66

f preciso, agressivo

*) un pochissimo più forte dal 2°

Figure 87. Louis Andriessen: *Ende* (opening).

However, the sound of my two whistles differs from that of any combination of recorders (such as in Andriessen's work), mainly due to the whistle's idiomatic production of high notes through overblowing (due to the lack of a thumbhole). Eisner's gestures for this section are built accordingly, as illustrated in figure 88:

Figure 88. *Being in the Sounds*, bar 202: top line, Indian whistle (P 440); bottom line, whistle in A (P 462).

A final example to draw attention to is the use of high-register instruments (bars 214 to 223, from 13' 55" to 14' 38"): a Baroque descant (pitch A= 440) and a sopranino (pitch A= 415). Here, we worked in particular detail on the production of resultant tones, which are stronger (and hence more audible) in the high register. This section drew on material from drafts of Eisner's *Etude 9* (one of which is given in Appendix 5.2). The tuning was fundamental. Tiny adjustments had to be made to air pressure, thus affecting the phrasing. Also, to achieve a sound close to the low A of the sopranino, which ordinarily requires the use of two hands, I needed to cover the holes required for its fingering with tape or wax. However, covering the necessary two holes would have impeded the playing of other notes, and so I could only tape over one hole (this is explained in the score: see figure 89): compromises had to be made. Despite this, an ability to tune satisfactorily developed through my understanding of the two-fold instrument's behaviour, and (especially) by knowing which resultant tones I should expect to hear.

* To tune the A note put tape or wax on hole 6. [Instruction on the score]

Figure 89. *Being in the Sounds*, bars 214-17: sopranino recorder (A=415) and soprano recorder (A=440); indication to tune the sopranino recorder.

The Pre-Recorded Audio Tracks

Being in the Sounds incorporated six pre-recorded audio tracks, all excerpts of Pierre Hamon either playing double recorders or talking about his knowledge and experience with instruments. His words are transcribed below:

Track 1 (marked 'Audio 1' in the score)

I think the pleasure to play the double recorder is really the SOUND, with all these harmonics and the resultants of the sound of two pipes. What is important is really to take time...on this. On the tuning on listening all the sound around you.

I would say, it's not the music, first, it's just THE PLEASURE OF THE SOUND.

Track 2 (Audio 2.1)

The great period of the recorder, in fact, is the time of counterpoint; because of its [the recorder's] qualities of articulation, its quality about eloquence, about speaking with the instrument, ...

Track 3 (Audio 2.2)

... and, also, because the sound is very precise, so, it's [the recorder] perfect for the Renaissance music, and it's really the great time of the recorder. With the traverso the sound... is not so precise.

Track 4 (Audio 3)

I think what is important is really 'meeting' the instrument. If the instrument is something that can inspire me... I think that sometimes it can be a very thin sound, or a wide one, but it has to be... (sigh)...This I cannot say with words...

A quality...

Something...

And, also, this is in connection with the repertoire; so, what is important? What kind of sound do you think... for this repertoire? What kind of sound this repertoire needs [sic]?

Track 5 (Audio 4)

Hamon playing double pipes.

Track 6 (Audio 5)

The recorder is my voice. Maybe it is because I'm a frustrated singer. For me, what is important, is TO SING with the recorder. But I think, there is something more essential...it's really the music and the sound. There's something deeper in the music than in the communication with the language of the words. It's connected with the science of the numbers, with all the mysteries of the symbolic world. So, for me, the first level, the essential one, is not the words, is not to speak with the instrument, but is THE MUSICAL VIBRATION.

As is clear from these excerpts, Hamon strongly believes that meaning often lies beyond words.²³⁷ For us, though, his own words were important due to both what they conveyed and the sounding quality of their expression. The strong French intonation of Hamon's English was significant because, for the three of us – composer, performer and interviewee – English is our foreign but common language. There was (and is) a resistance in our efforts to communicate with each other and precisely convey our meanings. This is apparent in both Hamon's intonation and his efforts to express his ideas in this 'other' language.

Hamon's recorded musical examples evoke the 'antique' pipes. They provide a non-contemporaneous element set against the live performance of double instruments and the contemporary musical soundworld. The effect might be perceived as an element of performance brought from a distant past and another place, awakening lost instruments and forgotten sonorities. In the context of Eisner's research into the 'poetics of the "sonorous" in an intermedial practice', Hamon's 'absent presence' became an interesting element to explore, creatively. The pre-recorded material that we decided to include served to 'document' the residencies but also inspired our compositional and performance work. Ultimately, these recorded audio tracks act as a homage to Hamon's powerful connection with these instruments and their music.

²³⁷ During the 2016 residency Hamon expressed these matters as follows: 'There is something more essential and deeper than the words', an 'information that you should receive from the music'. [You should perceive the] 'music as a Mystery, as something strong'. 'I like the voice but without words, or not requiring them, just the VOCAL, the sound of the voice as an instrument'; 'to work with the "feeling" of the words'; 'words have a musical resonance'.

The virtual presence of Hamon’s instruments affected my perception of those that I play in the piece. Each of my individual instruments embodies and evokes a distinctive epoch, context and aesthetic, particularly through their visual appearance. Nevertheless, combining them in pairs deconstructs these identities, generating new, hybrid forms. They constitute much more than a musical ‘effect’, as they accrue meaningful features of their own, gathering together aspects of different cultures and opening up new sonic worlds through exploration of their novel affordances. Each is a new ‘body’, demanding new technical skills and suggesting distinctive contexts for new music making.

The premiere of the final version of the piece took place on 8 January 2019, at the University of York. A video of this live performance is provided here ([Output 5.1](#)), but also the studio recording mentioned above ([Output 5.2](#)). The reader can choose which version to listen to. However, the production of resultant tones – a phenomenon that was a significant part of our creative enquiry – is not so apparent in the video, due to the concert hall acoustic and the capture of the live sound; they are much more evident in the studio recording.



| *Being in the Sounds*

Guillermo Eisner, composer

Carmen Troncoso, performer

Lynette Quek, sound assistant

Tuesday 8th January 2019, 14:00 hrs.

The Lyons Concert Hall
Department of Music, University of York.

Figure 90. Invitation to the premiere of *Being in the Sounds*.

Chapter 6. Searching for Recorders to Meet a Chamber Orchestra (2017 – 2018): Combining Acoustic and Electroacoustic Recorders

Carmen Troncoso (recorders) and Carlos Zamora (composer and conductor).

Output: performance of Concerto for Recorders (sopranino, electroacoustic Paetzold basset and electroacoustic Modern Alto with an E-extension) and Chamber Orchestra by Carlos Zamora.

Output formats: Video and audio recording of the live performance, 14 February 2018.



Figure 91. Soloist and composer-conductor with the University of York Chamber Orchestra, premiere performance, Concerto for Recorders and Chamber Orchestra, Sir Jack Lyons Concert Hall, Department of Music, University of York, 14 February 2018.

I hope that you will feel the danger that is all the time in this piece.
(Jaime Martin, 2017) ²³⁸

The project **Searching for Recorders to Meet a Chamber Orchestra**, undertaken with Chilean composer and conductor Carlos Zamora, focused on generating a concerto for recorders and

²³⁸ Jaime Martin (Principal Conductor of the Gävle Symphony Orchestra), in trailer for the Concerto for Recorder 'Eagle' by Vito Palumbo. Vito Palumbo, 'Dan Laurin & Eagle Recorder', YouTube video, 06:33, posted by 'Bokeh Imaging', 15 Feb 2017, accessed 19 March 2019, <https://www.youtube.com/watch?v=2g0uTpzX2w8&t=52s%2C>.

chamber orchestra, collaboratively exploring the use of contrasting recorder models (to expand sonically the modern orchestral context) and South American Pre-Columbian instrumental sonorities. Since both Zamora and I were undertaking PhDs (his in composition), the core element of the project's collaborative framework was the potential that, we considered, lay in the idea of merging our individual research interests. In this commentary, I refer to the ways in which the combination of the collaborators' topics influenced the criteria for instrumental selection and the nature of the composed musical material. Each of the three movements is described separately in order to examine the distinct compositional elements involved and the treatment of the specific solo instrument utilised in each case, which are detailed in the following table:

1 st Movement	2 nd Movement	3 rd Movement
Küng 'Classica' sopranino recorder	Paetzold basset with an in-mic system fitted at Kunath Recorders	Mollenhauer Modern Alto Recorder with an E-extension, with Philippe Bolton's in-mic system

In particular, the second movement is discussed in more depth because it involved more extensive instrumental exploration than the other movements, in two respects: firstly, significant alterations were made to the instrument's design, with implications for my work that need to be examined; secondly, this piece is the first use of this recorder model as a solo instrument in an orchestral context – a complex scenario to deal with in a limited number of rehearsals.

Collaborative Framework

The composer Carlos Zamora is a fellow PhD student in the Department of Music of the University of York. However, the collaborative framework of this project is distinctive since Carlos is also my husband. At the beginning of our studies in York, in 2015, we talked about creating a piece that would bring together our individual research topics, Zamora's being 'the use of Pre-Columbian musical elements from the Aymara, Licanantay, Mapuche and Selknam cultures [in the current territory of Chile, Argentina, Peru and Bolivia] in my compositional work'. In 2016, Zamora received a commission – the Lyons Celebrations Award – for the creation of this concerto, with the participation of the University of York's chamber orchestra and a public musical performance in the Sir Jack Lyons Concert Hall with Zamora conducting the orchestra.

The Composer

Zamora belongs to the Likan-antai (or Licanantay) culture. His compositional work is strongly influenced by his inheritance of this culture's musical tradition, which is markedly present in his life.

However, he is also a composer trained in the Western-European classical music tradition and its notational system. Moreover, and explicitly related to this project, he learned to play recorders at school in his northern hometown, Calama, with a teacher who formed a recorder ensemble to perform Baroque repertoire using consorts of wooden recorders: an unusual experience for that area in the early 1980s. These combined contexts influence not only the distinctive music that he composes but also the way he treats the recorders, specifically, and other musical instruments more generally. Among Zamora's works to include wind instruments, and which illustrate the composer's style, are his Flute Quartet No.1 and No.2, Concerto for Horn and String Orchestra, Concerto for Clarinet and String Orchestra, Concerto-Piece for Flute and Strings, Concerto for Oboe, Concerto for Saxophone and Strings, and *Antara*, for wind ensemble and percussion. Finally, it is important to notice that the orchestra is Zamora's 'favourite instrument' for which to compose.

Previous Collaborative Work

Carlos and I began working together in 2003 when the Chilean conductor Luis José Recart suggested that I might commission him to compose a concerto to play with the orchestra of Escuela Moderna de Música de Santiago-Chile. This three-movement composition, Concerto for Recorder, Flute and String Orchestra (2003), became the second Chilean work to include the recorder in an orchestral setting.

In 2006 Zamora composed Concerto for Alto Recorder and String Orchestra and in 2011 the Sonata Movement for Alto Recorder and String Orchestra. I premiered these three works and recorded them for the CD *Concertos for Recorder and String Orchestra by Chilean Composers*, with Zamora conducting the Orquesta de Marga Marga, Chile.²³⁹

During those years Zamora also became involved in my project 'In-ventando', which aimed to perform, record and edit commissioned and collected works for recorders by Chilean composers to create the book *New Music for Recorders by Chilean Composers* (figure 92). Among Zamora's works for recorders in an ensemble setting are *Two Moments* for Paetzold basset recorder and marimba, *Turi* for alto recorder and guitar²⁴⁰ and *Stampede of Birds*²⁴¹ for recorder quartet.

²³⁹ Carmen Troncoso, *Concertos for Recorder and String Orchestra by Chilean Composers*, Independent, 2012, CD.

²⁴⁰ Duo Divertimento, 'Turi', .Cl: *Compositores Chilenos*, Independent Production, 2008, CD.

²⁴¹ La Compañía de Céfiro, 'Stampede of Birds', *The Language of the Birds: Confabulations of Music and Poetry*, SVR Producciones, 2009, CD.



Figure 92. Cover of the book *New Music for Recorders by Chilean Composers* by Carmen Troncoso.

All the works for recorders composed by Zamora have been created during our life as a couple. Our relationship has given him direct access to extensive information about my instruments, their features and associated anecdotes; this type of knowledge comes from becoming familiarised with the collaborator's personal sound world: their sonic and instrumental preferences and their backgrounds.²⁴²

The Contemporary 'Recorder Concerto' Context

Before addressing the factors surrounding the choice of the recorders to play Zamora's concerto, I present an overview of contemporary recorder concertos with noteworthy features that, through comparison, help illuminate the characteristics of our project. In doing so, I provide a context within which to better understand the complex relationships between performer and recorders (instruments), performer and recorder makers, composer and recorders, and performers and composers, in the process of devising, commissioning and/or performing new works. Emphasis is given to the substantial work in and contribution to this field by the Danish recorder performer Michala Petri.

²⁴² In the Introduction to *Significant Others: Creativity and Intimate Partnership* by Chadwick and Coutivron, the authors express their aim 'to understand the richness of the private interactions that operate within relationships'. They referred to certain biographers' questions about 'the reciprocal influence of couples'. Whitney Chadwick and Isabelle de Courtivron, eds., *Significant Others: Creativity and Intimate Partnership* (London: Thames and Hudson, 1993), 8-9.

Examining Michala Petri's Instrumental Selection Criteria²⁴³

When searching for contemporary concertos for recorders and chamber orchestra, Michala Petri's name appears as by far the most prominent. Over about 40 years, she has commissioned, premiered and recorded numerous concertos for different recorders with chamber or symphonic orchestra. Among her recordings are: *Moon Child's Dream* (1995) with the English Chamber Orchestra, conducted by Okko Kamu; *Scandinavian Moods* (1999)²⁴⁴ with the London Philharmonic Orchestra, conducted by James Judd; *Chinese Recorder Concertos: East Meets West* (2010) with the Copenhagen Philharmonic Orchestra, under Lan Shui; *Danish and Faroese Recorder Concertos* (2015) with the Aalborg Symphony Orchestra, under Henrik Vagn Christensen; *Nordic Sound: Tribute to Axel Borup-Jorgensen* (2015) with the Lapland Chamber Orchestra, under Clemens Schuldt; *German and French Recorder Concertos* (2016) with the Odense Symphonic Orchestra, under Christoph Poppen; and *American Recorder Concertos* (2019) with different orchestras and instrumental settings. I list them here to acknowledge Petri's extensive contribution to the recorder concerto scene.

In her recent projects, between 2015 and 2016, the recorders are included in a contemporary soundscape fed by innovative instrumental combinations, complex harmonies and textures, including the use of electronics and extended techniques. Of interest is her exploration of electronic effects, especially in *Your Voice Out of the Lamb*, Concerto for Recorder and Small Orchestra (2015) by Fabrice Bollon,²⁴⁵ in which she uses amplification and pedals to trigger composed digital effects. The Concerto incorporates both the use of an external microphone for the several recorders involved – the full spectrum from sub-bass to soprano – and a multi-effects unit that can be controlled by the performer herself.²⁴⁶ It is also in these recent productions that Petri gradually includes contemporary recorder designs, such as the Modern Alto by Tarasov-Paetzold or the Eagle recorder designed by Adriana Breukink.

Given my research topic, I wanted to find out which specific recorder models Petri uses. However, the information in her CD liner notes often acknowledges only the makers' names or the recorders' manufacturing company; instead of further details of the instruments used, emphasis is

²⁴³ The material on Michala Petri's work provided in this section has been revised and approved by Petri through email exchange during June 2019. See written consent in the Appendix.

²⁴⁴ *Scandinavian Moods* includes various popular Scandinavian pieces, transcribed for recorder and orchestra, rather than concertos.

²⁴⁵ This concerto was premiered in November 2017 by the Odense Symphony Orchestra, with Petri as the soloist and the composer conducting.

²⁴⁶ In the liner notes to the CD *German and French Recorder Concertos*, the orchestra for *Your Voice Out of the Lamb* is described 'as an imaginary band, ... an orchestra without woodwinds or horns, without violins or violas, but with three trumpets, three trombones, marimba, vibraphone, drum set, harp, cellos and double basses, joined by a very dominant [amplified] keyboard.' Christoph Schlüren, "'Your Voice Out of the Lamb' for recorders and small orchestra', translated by Dr James Bradford Robinson, liner notes for *German and French Recorder Concertos*, Michala Petri and the Odense Symphony Orchestra conducted by Christoph Poppen, OUR Recordings, CD, 12.

given to describing the context and literature for recorders, the composers' and performers' processes, the specific instrumental setting and compositional elements. Online videos of Petri's performances of various concertos allowed me to examine the chosen instruments with some proximity; but of course, the processes and criteria for selecting the recorders are not revealed there. I wanted to know: were the recorders chosen collaboratively? If not, who decided upon the instruments and which variables were considered? Aiming to answer these questions, I contacted Michala Petri, and we entered a substantial correspondence on these matters. I asked her whether she had previously been asked much about this, to which she answered, 'not too much, I think – I think this goes under preparing and practise, which I am not so often asked about.' This is revealing, reinforcing the importance of performers' practice research; it aims to unfold the meaningful processes and decisions that arise in our (usually private) practise and performance preparation and, to identify some of the complexities involved in the subjective performative framework.

Interestingly, Petri stated that she purposely avoids giving information about the variety of recorder models utilised:

I like to try and make the recorder be [appear as] 'normal' like any other instrument – and it is rare that a violinist (for example) talks about which violin he chooses – or a pianist does the same.... unless he or she makes an issue out of it, which I personally find not quite 'right'.²⁴⁷ I am a little of the opinion that if I talk about [or detail] the various types of recorders, other than [just] stating that there are today modern and louder ones with better dynamic possibilities, then I will give people the impression that this is mostly for recorder enthusiasts. I like to say [provide] what can enhance the listeners' own experience – and if I talk about various recorder types, make comparisons, etc., then I possibly get the listener to do the same, instead of focusing on the work and taking it in. And comparing and experiencing never go well together.²⁴⁸

There is much to consider here. Curiously, Petri compares performers' frameworks that are quite different in terms of their instrumental situation. The 'instrumental variety' in the field of professional recorder music making is something that distinguishes recorder performance from most

²⁴⁷ In a recent email, she explained that she finds it *not quite right* 'as it shifts the focus from the music itself to something else.' Michala Petri, email to the author, 25 June 2019.

²⁴⁸ She came back to the issue of the information provided about the instruments utilised in the recordings and wrote that she 'should probably get the information down somewhere on the internet, for those who are interested'. Michala Petri, email to the author, 25 June 2019.

other performer's frameworks. For instance, the training of a violinist and/or a pianist does not necessarily demand acquaintance with earlier forms of the instrument, whereas the traditional training of the recorder performer requires expertise on earlier models, earlier styles and idiomatic repertoire, and generally the necessary knowledge – both theoretical and practical – to address music from earlier epochs.

However, even if the situation of playing a variety of instruments is particularly inherent to (and a distinctive feature of) recorder practice, it can also occur with other instruments – if (or when) the performer aims to research, learn about, and invest in other forms of her/his instruments, whether they are either other registers (i.e., sizes) of the instrument's family or other models (copies, versions) related to the instrument's historical evolution. My research considered more broadly the idea of a soloist using a number of different forms of an instrument within one concerto: an unusual proposition. A compelling case is the Flute Concerto by Dai Fujikura, which combines the flute, piccolo, subcontrabass and bass flute in an uninterrupted flow of sonorities. Interestingly, as in Zamora's Concerto for Recorders and Chamber Orchestra, each flute forms an independent character, as a distinct entity. Thus, the emphasis is upon the instruments' voices, rather than primarily upon broadening the instrument's register.

Petri's opinion that it is 'not quite right' to make an issue out of the performer's instrumental choices reflects her core aim to communicate with the audience only through the musical experience – an artistic focal point, which of course is valid and has proved to be consistent throughout her work. Petri has forged a unique, extremely personal career path, and her strong performative voice places her instruments (recorders) in a clear subordinate role in relation to her expression of her musicality and her understanding of any music she addresses, whatever style or epoch or culture it represents.

Asked about her relationship with and approach to the variety of recorder models available, Petri clarified:

Generally, I have not been following so much what has happened within the field [of recorder making] in recent years. My main recorders are Moeck Rottenburgh – which were the ones I started on when studying in Hannover 50 years ago! I always found they suited my way of playing. And I felt more 'free' on those than on for example authentic handmade instruments.²⁴⁹

²⁴⁹ Michala Petri, email to the author, 14 January 2019.

In a later email, she added: ‘What makes me able to express myself freely is something instinctive, but it has, in any case, to do with a possibility to let the air flow naturally, like when singing – in other words not too much resistance.’²⁵⁰ Thus, the issue of the type of ‘blowing’ offered by the recorders appears to be a relevant variable for her to consider when choosing her instruments. In her latter quotation, she reveals a taste for a modern, wider wind channel rather than for the Baroque version, which is much thinner and curved to provoke a ‘resistance’ when blowing into it, significantly changing the control and quality of the tone’s dynamic response. This preference suggests that even when playing Baroque repertoire, Petri always uses a modernised Baroque recorder, such as her Moeck Rottenburgh, rather than a copy of a historical design. This is of course in contrast to the many other recorder players who regard the use of historical designs as the correct choice.²⁵¹ (It is important to note that no judgement is suggested here: I am not interested in the ‘rights’ or ‘wrongs’ of choices but rather in understanding the criteria for selecting the recorders, and the implications.) Petri noted that as soon as the (new) modern recorders (or contemporary recorder designs) started to appear (at the end of the twentieth and beginning of the twenty-first century) she ‘bought [them] immediately’. By ‘modern’ she means the Modern Alto Recorder, which she regularly uses, the Ehlert alto recorder, and later Breukink’s Eagle recorders (which appeared only in 2007). Petri does not seem to regard her first Moeck recorders as ‘modern’, even though relevant design properties representative of an earlier instrument concept have been modified, such as the wind channel, the temperament, the pitch and the fingerings. This makes me think that she is actually influenced by the outer design of the instrument, as a feature able to define by itself the epoch to which a recorder belongs.

I asked Petri, then, whether the design of the instruments – their outer appearance – influences her instrumental choices: would she, for example, play a Baroque sonata with an Eagle design, or is the choice of instrument determined only by the sound. She answered that it was hard

²⁵⁰ Michala Petri, email to the author, 9 January 2019. Interestingly, she has started using copies of historical instruments pitched at 415 only recently, and, as she wrote to me in this email, just for learning about it, not in concerts.’ Michala Petri, email to the author, 25 June 2019.

²⁵¹ Moreover, recorder performer Peter Holtslag reveals his ‘sensaaaaational feeling!’, the ‘visceral satisfaction’ when playing the original, historical recorders of the Bate Collection in Oxford, a feeling that, he stresses, ‘you [the performer] don’t get from mere copies.’ Holtslag, in Catherine Groom, ‘Peter Holtslag and “The Three Bressans”’, *The Recorder Magazine* 31, no. 4 (2011): 133-34. Interestingly, Holtslag also connects this (lucky) experience with the perception of intertwined agents and times within recorder performance, as I explored in previous chapters. He refers to ‘the peculiar, spinetingling feeling of empathy with other players, other hands, other centuries.’ Groom draws attention to the ‘first lives’ of these instruments listing several historical contexts and venues, wondering who may have played them after the Baroque times. A remarkable anecdote about the Bressan alto recorder is that it survived a bombing during World War II, being found ‘in the debris, in the snow, in a cardboard box’. Groom also mentions the significance of carefully fitting the repertoire to these original instruments. Groom, ‘Peter Holtslag and “The Three Bressans”’, 133-34. These historical anecdotes and questions may affect the contemporary recorder performer’s perception of and relationship with the specific instrument.

for her to tell, but that she ‘still tend(s) to think that [she goes] for the sound alone’; for example, she ‘would not choose a modern instrument [to play] with a period group or orchestra, that is certain.’ Taking into consideration these opinions it could be inferred that Petri uses the term ‘Baroque recorder’ to refer a modernised instrument with the appearance of a Baroque instrument, rather than a recorder thoroughly copied from a historical template. However, in a recent email (June 2019) she clarified that she ‘would definitely, if playing with a period orchestra [i.e., with historical instruments], choose an authentic Baroque recorder – not one which just looked like one...’.

As I mentioned before, the videos available on the internet had enabled me to identify the specific recorder models played by Petri in some of the concertos and to realise that, to meet the orchestra, Petri had combined mainly modernised-Baroque (like her Moeck recorders) and contemporary models (like the Eagle design), preferences that she then ratified to me. For instance, in the first movement of the concerto *A Pacifying Weapon* (2016)²⁵² for recorder, brass, winds, percussion and harp by Sean Hickey (b.1970) she plays the Eagle alto recorder. In the following two movements she then combines the use of the Modern Alto Recorder, the Baroque-designed ‘Rottenburgh’ soprano and sopranino by Moeck, the ‘Eagle’ soprano (because, as she wrote to me, there were ‘some very expressive passages’), the Ehlerter tenor (a loud tenor model), and the knick basset made by Mollenhauer. Each of these recorders is described as being suitable for playing all types of repertoire, while the newer models’ stronger and more balanced volume along the registers that make them suitable for playing with modern instruments and orchestras is highlighted.

Thus, all these models have been selected aiming to respond satisfactorily to the different challenges faced by soloists in concert halls and to match the modern sound of orchestras and other balance-demanding instrumental settings. To summarise, Michala Petri has selected her instruments mainly influenced by their blowing qualities defined by the design of the recorder’s head, allowing her to express the music more free and to better control the issue of the balance.

Being asked whether she had commissioned a concerto specifically for a recorder model, like Breukink’s Eagle, and/or whether she had influenced the composers’ decisions to use a particular instrument, Petri answered:

²⁵² First movement: Michala Petri, ‘A Pacifying Weapon’ by Sean Hickey (Part I), YouTube video, 08:17, posted by ‘OUR Recordings’, 1 April 2017, accessed 27 Dec 2018, <https://www.youtube.com/watch?v=GcNTpevhjRY>.

Second movement: Michala Petri, ‘A Pacifying Weapon’ by Sean Hickey (Part II), YouTube video, 08:50, posted by ‘OUR Recordings’, 1 April 2017, accessed 27 Dec 2018, <https://www.youtube.com/watch?v=OZK0BIQmW1M>.

Third movement: Michala Petri, ‘A Pacifying Weapon’ by Sean Hickey (Part III), YouTube video, 12:46, posted by ‘OUR Recordings’, 1 April 2017, accessed 27 Dec 2018, <https://www.youtube.com/watch?v=Wm12irSqOfM>.

Mostly they [the composers] have only considered the instruments' range – but I always give them as much information as I can about the recorders.

I have not commissioned any concerto for one particular recorder. I think it is important not to exclude anybody from playing the works – and if they should like to play such a work on their own perhaps-Baroque recorder, they will then have the possibility for amplification, for example.²⁵³

Again, this opinion reveals that for Petri the specific potential – the uniqueness of an instrument – should not be the central point, which should instead be the music itself that is delivered for the audience's experience.²⁵⁴

One of the variables that affects her instrumental choices and use of instruments is the importance (for her) of the repeatability of the work addressed, a concern shared with many composers. This, however, limits the exploration of a new instrumental concept by ignoring or leaving aside some significant changes to the older designs and makes it more difficult and lengthier to insert and recognise the new instrument as an independent model not necessarily replaceable by an older one – even if it shares many similar features. In my exploration, for example, I have tried to highlight the instrument's novelty, even by agreeing with the composer to open a space, like a cadenza, to deepen into the qualities that I find interesting, to identify and examine the idiomatic aspects, or simply to draw attention to its particular voice. Some of the novel features require the development of a new technique, generating a resistance in the attempt, since we (performers) have to create shifts in the way we approach the instrument, sometimes needing to disregard settled habits in our finger, posture and blowing technique, for example. This is the case, for instance, with the leaking fingers technique required to play the notes in the third octave of any of what today are known as harmonic recorders, like the Modern Alto Recorder or the Renaissance Ganassi recorder, and the Eagle with its two alternative models: Eagle Classic or Eagle Ganassi. All these models' cylindrical bores allow the expansion of the register, however much this complicates the production of the high register.

Many subtleties can be discovered through an idiomatic approach. This does not necessarily mean that the performance will be better or more expressive, but it enriches the player-instrument

²⁵³ Michala Petri, email to the author, 9 January 2019.

²⁵⁴ Later, she added that the central point should also be to expand the repertoire, 'not for myself but for other players.' Making the works available for others has been for Petri 'a feature I always have in mind when asking composers to write new works.' Michala Petri, email to the author, 25 June 2019.

relationship and provides the performers with more resources to consider, which can influence their artistic ideas and performative imagination, and eventually can enhance the performance itself.

The Eagle recorder seems to embody all the desirable features when it comes to choosing an instrument to play with a massive modern orchestral sound. However, its use requires a ‘learning attitude’ from the performer, who must become acquainted with its wider and heavier body with new positioned keys and greater air requirement.²⁵⁵ The design entails a considerably wider bore (allowing a louder and better-balanced sound); an original key system (including an additional octave key and a lateral key for the E bottom note), and a labium (lip) made of metal. But maybe its most specific characteristic comes from the examination of the recorder player’s breathing characteristics, which led to the generation of two types of recorder heads (two ‘blower’ types): one with a thin beak and a large windway opening, and another with a thicker beak and a rather small windway opening.²⁵⁶

Recorder performer Dan Laurin has highlighted the idiomatic qualities of the Eagle recorder. In the video ‘Dan Laurin & Eagle Recorder’,²⁵⁷ Laurin speaks about the complexity of playing with a large orchestra and the importance of having a powerful recorder sound to meet it satisfactorily. The concerto addressed in the video was composed in 2013 by Vito Palumbo, who specified the recorder model in the title: Concerto for Recorder ‘Eagle’ and Orchestra. In this case, the specific recorder model appears as a protagonist. The choice was pre-determined, probably by Laurin, who may have introduced the instrument to the composer highlighting its novelty and suitable characteristics. Thus, this choice considered the uniqueness of one specific instrument rather than only the sonic idea of an alto recorder’s register (this latter, a criterion that may lead to a subsequent, later search for a suitable alto recorder model) or the concern about the accessibility of the work by other players. (However, even in the pre-determined choice for Concerto for Recorder ‘Eagle’ and Orchestra, the performer alone must have primarily chosen the type of ‘blower’ she or he is, and between the Eagle ‘Classic’ or Eagle ‘Ganassi’ models available.) A strong relationship between Laurin and the Eagle model is clear, as is the enthusiastic aim to demonstrate the instrument’s updated design, portraying ‘contemporaneity’.

²⁵⁵ The current updating of the Eagle design considers the implementation of a new, much lighter set of keys. This improvement may increase the number of recorder performers willing to take advantage of its qualities. So far, it has been little explored in all its possibilities.

²⁵⁶ More information about the Eagle recorder can be found at Adriana Breukink, *Eagle*, accessed 8 July 2019, <http://www.eagle-recorder.com>. Also, at Adriana Breukink, ‘Frequently Asked Questions’, *Eagle*, accessed 8 July 2019, <http://adrianabreukink.com/faq.php>.

²⁵⁷ Vito Palumbo, ‘Dan Laurin & Eagle Recorder’, YouTube video, 06:33, posted by ‘Bokeh Imaging’, 15 Feb 2017, accessed 19 March 2019, <https://www.youtube.com/watch?v=2g0uTpzX2w8&t=52s%2C>.

In terms of facing the issue of the balance and volume, Petri, Laurin, and I face a similar task, that of ‘meeting a modern, large orchestra’. However, the approach to that issue differs significantly. In Zamora’s concerto, the balance was only one of the aspects (relevant though) to be considered among other variables that we wanted to explore and therefore include. The fact that Zamora’s concerto, in addition to the contrast between three recorder sizes (i.e., three recorder registers), examines acoustic and electroacoustic recorder models and simultaneously alludes to the musical context of the quena, sikus (zampoña) and pifilca instruments, turns his recorder concerto into a work of unique instrumental connotations.

One of the variables that influences my instrumental choices and my use of instruments refers to the above-mentioned ‘allusion to other instruments’ that are not played in the addressed work but that somehow are part of the conception of the music, as in Zamora’s concertos. In Petri’s project *Chinese Recorder Concertos: East Meets West*, the Chinese bamboo flute appears as an external reference in terms of both sound and playing, as some of the concertos were originally written for that instrument. Again, I wanted to understand whether she searched for recorders with a similar timbre to the Chinese flutes, whether she cared more about the playing style, the ornaments, the quality of the sound, or the phrasing, or whether she actually cared about all these elements. Asked how she chose the recorders to play these Chinese concertos, Petri replied: ‘As always, by using the one best suited for the character of the music: my loudest soprano, f.eks. [for example]. In the more soft and beautiful parts I would take [took] a tenor with much expression.’

Thus, she reveals here three aims that influence her criteria for choosing her recorders, these being the search for a recorder sound that is ‘suitable for the character of the music’ (a subjective variable), a powerful, loud sound (a concrete variable), and an expressive recorder (a subjective variable). The latter two variables are of course linked to her primary will to match the musical content.

Petri stated that she did not search for a recorder sound that could imitate the Chinese flute, but that the Chinese bamboo flute acted as an external reference for her; in her words: ‘my aim was to have the same strong level of dynamic (expression) as the Chinese flute – but without imitating it.’ Again, these answers reveal the relevance (for Petri) of the musical content, always placed ahead of the particular expressive potential of any single instrument.

In a later email she discussed the attitude of two Chinese composers when they considered the idea of having their concertos written for Chinese flute on a recorder model. One stated that his concerto ‘could not be adapted for recorder, as he found that the recorders’ sound was too soft for what he had intended’ (Petri’s words). Contrastingly, the other composer was ‘very happy to hear more details being brought out in his concerto, originally written for Chinese flute/dizi’. Petri

continues: 'He was happy about the more [greater] nuances and details he heard in the recorder.' These are examples of how an instrument's voice can influence both explicitly and definitively the composer's sonic and musical aims. The first composer demanded the uniqueness of a particular instrument as an inherent, crucial component of the composition, whereas the second enjoyed rediscovering his music through a different instrumental voice (related to a specific performer though, so that he might have enjoyed the resulting personae unfolding his composition).

In regard to the semitone extension in the bottom register, available in some contemporary recorders such as the 'Modern' models by Mollenhauer (like the Modern Alto Recorder I have utilised) or the Eagle models by Adriana Breukink (amongst others), I asked Petri whether any of the concertos she plays use the E-extension note of the Modern Alto or the Eagle (B-extension note for the soprano). She replied that they do not,

as when I asked composers to write a new work, I consider the playability of it by other performers, and in principle find that the ranges are from C and F on 'a recorder'. However, I always tell them about the availability of the extension notes in some specific modern recorders, next to the fact that other recorder players may not necessarily have them – and in all the cases so far, the composers have decided not to use them. I personally use those notes often when transcribing or transposing works; also, if there is a case where it makes sense in a modern work. For example, if I decide to use an alto instead of a tenor in a given phrase. Often such things are only clear after the piece has been written.²⁵⁸

This response marks a significant difference in the approach she and I have towards the instrument's modifications. Her definition of a recorder stays in the long-established, conventional Baroque design, whereas I am concerned to highlight the instrument's specificities.

Any recorder performer that I could have interviewed would have surely revealed different variables that influence their instrumental choices. Examining Petri's opinions has allowed me to understand an aspect of her performance style so far hidden: her relationship with the recorders and her main criteria for selecting them, especially in the concerto context.

²⁵⁸ Michala Petri, email to the author, 25 June 2019.

Concerto for Recorders and Chamber Orchestra by Carlos Zamora (2018)

Many of Zamora's previous works for recorders (and for other wind instruments) entail an ethnographic approach to both the music and the treatment of the instrument. By this I mean that, in these compositions, Zamora not only drew on the sonorities of Pre-Columbian wind instruments and their musical contexts, as mentioned earlier, but also observed and considered historical and environmental issues: stories about real people; local events, legends and language; the impact of the area's landscape; and the role and character of the specific musical forms (re)framed in his works. This comprehensive attitude triggers an awareness of a society's culture, which informs his compositional processes and ideas. The new concerto project shared that approach but broadened it in a number of ways: by including musical and cultural elements from different Pre-Columbian peoples, the Aymara, Licanantay and the Mapuche; by using three different solo instruments, all played by one performer; by combining amplified and acoustic recorders; by writing for a chamber orchestra instead of a string orchestra (as he had previously), exploring this enriched texture and timbral context; and by exploiting the specific 'voices', registers and design characteristics of the selected recorders, and their foreignness to the orchestra.

The Choice of Recorders on Which to Play Zamora's Concerto

Zamora's familiarity with recorder repertoire, models, registers, and possibilities of sound and with my playing influenced both this project's instrumental selection and the musical content. The selection of the three recorders for this concerto was set before the composition, and it responded to certain considerations that were also addressed in the first project of this portfolio, 'Searching for Alto Recorders to Meet the Piano'. Among these shared concerns, three are particularly significant:

- 1- The inclusion of instruments portraying various stages of the recorder's evolution – both projects used recorders with designs related to the Baroque period but with twentieth-century modifications and transformations, as well as new recorder models of different shapes and with additional electronic extensions in the case of Zamora's concerto.
- 2- The allusion to instruments external to the work (the flute and the whistle in the case of John Frith's sonata, and the sonorities of Pre-Columbian wind instruments in Zamora's concerto).
- 3- The search for recorders that are suitable to play in a modern instrumental setting: to meet the piano and to meet the chamber orchestra, respectively.

In the following section, I examine each of these variables that affected the project's instrumental choices.

1- *Recorder models*

The three recorders selected for the concerto were:

- the soprano 'Classica' recorder by K ng
- the basset by Paetzold with an in-mic fitted at Kunath Workshop
- the Modern Alto Recorder by Mollenhauer with an in-mic fitted by Phillippe Bolton



Figure 93. Picture of the recorders selected.

We agreed that it was relevant to feature the design of these instruments, including their outer appearance, in the new work. We wanted to draw attention to some of the processes of design development embodied in the three models: the early twentieth-century modernisation of the otherwise Baroque design of the specific soprano model utilised in the first movement; the new design concept of the Modern Alto Recorder, with its cylindrical bore and flute-like foot; the presence of the in-mic systems that metamorphosed my alto and basset instruments into electroacoustic recorders; and the square shape of the Paetzold model and its particular ornamentation. It was, in fact, the idea of playing in this orchestral context that encouraged me to take the decision to transform my Paetzold basset into an electroacoustic instrument, mainly with

the purpose of reaching a volume balance that would allow my basset's low register and soft acoustic voice to meet the sonority of a modern chamber orchestra. The in-mic was fitted – by me – at Kunath Instrumentenbau (Kunath Workshop) in Fulda, Germany, during a research trip funded by the Research Committee of the Department of Music of the University of York in 2017.

Regarding the electroacoustic Modern Alto Recorder, in the second project of this portfolio – Beyond the Acoustic Environment – I had already collaboratively examined, in works for solo recorder and electronics, the blend between the Modern Alto Recorder's natural voice and its external resonance and multi-effect response (or 'external voice') endowed by its recently fitted in-mic. The visual significance of this instrument had also been addressed in both an academic poster highlighting its 'hybrid' design and sonic world (see Appendix 2.5) and by audiovisual works showcasing these features ([Output 2.5 Audiovisual Recordeur I-II](#)).

However, Zamora and I did not aim to delve into electronic effects and responses, as explored in the project Beyond the Acoustic Environment, but, rather, firstly, to experience these two recorders (the basset and the alto) amplified in an orchestral context without the need for an external microphone on stage, and, secondly, to display the contrasting designs entwined in twentieth-century recorder making, combining old and current design concepts and technologies, as already illustrated in previous chapters.

Contrastingly, the choice of the sopranino recorder responded to a more conventional criterion, influenced mainly by the virtuous and light character of the sopranino register in early and contemporary works. Also, we wished to contrast recorders between the movements: the acoustic sopranino and the amplified Paetzold basset between the first and second movements, respectively, and the acoustic sopranino and the amplified Modern Alto Recorder between the first and third movements. Concerning the instrumental appearance (i.e., the external look of the instruments), which, as I mentioned, was consciously considered as a creative element to explore, the selected sopranino and alto recorders have an outer Baroque design that was modernised in various aspects, according to the sound and aesthetic concept of their makers – with my alto recorder even having 'undergone surgery' by Philippe Bolton who fitted a microphone in 2016 to expand its voice. The Paetzold, with its unusual, square shape differs in both instrumental size and craftwork. In the same way, each of my electro-acoustic recorders showcases a specific in-mic system from among the several current alternatives, which I tried and compared during my research trips to Villes-sur-Auzon, France (2016), and Fulda, Germany (2017).

Thus, both acoustic and electroacoustic recorders share the stage with a significantly different presence, not intending to convey uniformity between their voices but to represent and express diversity and creativity; this latter attribute being manifested in the ongoing production of

novel recorder models (and technologies associated with them) and the performers' (and collaborators') ideas of utilising and portraying them in various frameworks. Each of the selected recorders plays a complex role expressing much more than the performer's or composer's musicality: each expresses the information that it carries (embodied) within itself, provided a context in which this can be visualised and 'voiced'.

2- *The allusion to external instruments*

Zamora's concerto alludes to the sonorities of three different South American Pre-Columbian instruments: the sikus, tarka, and pifilca. The allusion to these instruments is reinforced by referencing related musical styles: folkloric dances, rhythms and gestures. Importantly, while Zamora's compositional interest lies in these other instruments and their music, my research is instead concerned with the ways in which instruments carry historical and cultural associations (and what that means for a performer). As noted earlier in this commentary, our collaboration has been different in certain respects to the others in this doctoral research because of the context of our relationship. Particular understandings have been acquired from the close familiarity with the other's history, 'cultural' background, creativity and musicality. Thus, for example, my embodied sense of how to produce various sounds on the chosen instruments has influenced Zamora (especially regarding the use of the Paetzold recorder here), as much as his knowledge of the alluded to Pre-Columbian instruments and their music fed concretely into my playing.

These invoked other, absent, instruments expand both the process of instrumental selection and the ways in which the instruments are performed. The allusion places the present-in-the-performance instrument in a suggestive context, one that might reach beyond the instrument's idiomatic behaviour or repurpose its voice. Compositionally, Zamora, like Frith addressed in chapter 1, combined this instrumental 'otherness' with an awareness of the features and behaviour of the recorders he composed for. In both projects, the resultant compositions are therefore enriched by the instrumental considerations described above, which altered my perception of the utilised instrument and influenced my search for an appropriate sound, phrasing, and general approach and attitude towards the musical content; this would potentially be the case for any performer.

For instance, this instrumental 'otherness' influenced my choice of recorders to play Frith's Sonata for Alto Recorder/or Flute and Piano, addressed in the first chapter. The given alternative to play the work on either alto recorder or flute, together with the second movement's allusion to a whistle, led me to take unusual choices with regard to recorder models, which influenced significantly the performance itself and (subtly) the musical result. Sometimes, it (the alluded to instrument) concretely affected (and continues to affect) the playing, by conditioning the production

of a particular sound quality, an articulation, a certain volume, the shaping of a gesture or a phrase, the addition of ornaments, and more substantially the idea of creating a cadenza. Moreover, it evoked (and continues to evoke, whenever played) a particular disposition or state (ritualistic, mystical, joyful or nostalgic), which also affected the performance.

A similar situation occurred in the second movement of Zamora's Concerto for Alto Recorder, Flute and String Orchestra composed in 2003. This concerto draws on the ternary rhythm and plaintive character of a *baguala*: a folkloric, non-danceable musical form originally from north-Western Argentina, that was spread mainly among the indigenous population, including in the zone of San Pedro de Atacama, to which the composer belongs. Zamora's *baguala* is suggested by the particular non-traditional sonorities required from both the orchestra and the soloists. The recorder and the flute are meant to evoke the airy sound of the quena and the zampoña (see score in figure 94), traditional wind instruments of the Andes (the zampoña being the Chilean designation of the Andean *siku*). They also play high dissonant intervals, characteristic of this musical form and its sonority. Thus, both solo instruments are placed in a foreign and suggestive musical context.

2º movimiento

The musical score is titled "2º movimiento" and is in 3/4 time. It features three staves: Flute, Alto Recorder, and Flute. The tempo is marked as quarter note = 40-45. The Flute part is marked "a modo de zampoña" and "mf". The Alto Recorder part is marked "a modo de quena" and "mf". The second Flute part is marked "normal" and "f". The score includes measures 12, 19, and 25.

Figure 94. Concerto for Alto Recorder, Flute and String Orchestra by Carlos Zamora, second movement (beginning): solo parts of the flute and the recorder imitating the zampoña and the quena, respectively.²⁵⁹

Another example of how the performer is influenced by the allusion to external instruments comes from Zamora's Wind Quintet No 1. In its second movement, 'Trote' (a dance from the north

²⁵⁹ Carlos Zamora, Concerto for Alto Recorder, Flute and Strings, edited by Carlos Zamora (Santiago: Editorial Nacional, 2017).

of Chile), the cor anglais invokes the sonority of the *erke*: a lip-horn made by two or more joined canes, which belongs to the Gran Chaco of Bolivia and Argentina, northern Chile and the Peruvian Andes. (See figures 95 and 96). Zamora has explained that the cor anglais performer who played this



Figure 95. Erke.²⁶⁰

Erke gesture with the Cor Anglais

senza sord.
gliss.
f

Figure 96. Wind Quintet No. 1 by Carlos Zamora, second movement: erke gesture with the cor anglais.²⁶¹

quintet knew both the sonority of and the context in which the erke was performed, a fact that provoked his sonic imagination and eventually informed his performance.

Overall, then, there is compelling creative and expressive potential in such external references: they alter the ways in which the instrument(s) are perceived due to the expansion of their idiomatic voices and suggestive role in conveying other sonic contexts. These allusions affect not only the musical content but also the processes that lie beneath them, such as the search for suitable instrument(s) to meet the sonic ideas.

²⁶⁰ N. J. O. Zavalía, *Erke*, Source: Erke del Noroeste Argentino, 2014, Digital image, available from: Flickr, <https://www.flickr.com/photos/122267223@N07/13614627804/>, accessed 13 March 2019. 'Erke', *Wikipedia*, accessed 13 March 2019, <https://en.wikipedia.org/wiki/Erke>.

²⁶¹ Carlos Zamora, *Wind Quintet 1*, edited by Carlos Zamora (Santiago: Editorial Nacional, 2017).

3- *Meeting a modern instrumental setting*

As in chapter 1, addressing music for piano and recorder, the issue of the volume of the recorders pitted against the modern sonorities was addressed as an aspect to be explored in different ways, rather than merely as a problem to be overcome. In this new concerto, Zamora's orchestral treatment of harmony requires the integration of the recorders into the orchestral mass, rather than the production of an overtly louder, separate soloistic layer. We agreed that it would be the distinctive timbre and foreignness of the three solo recorders that would inevitably separate them from the orchestral sound. However, in the process of selecting the recorders, we regarded the amplification of the lower register recorders as an advantage; this influenced both the compositional ideas and the ways of approaching the musical material.

The concerto framework was challenging, especially regarding the balance. However, in the end, in all three movements the instruments seem to have met the orchestra in a satisfactory manner. In a review of the concerto Robert Gammon commented: 'as chamber orchestras go, Zamora specifies a big one, but balance was never a problem.'²⁶² Also interesting is Gammon's general perception of the concerto, highlighting the overarching sonic treatment and the contrasting instruments across the movements:

It all felt like an extended improvisation, favouring combinations and colours over conventional concertante dialogue. The energetic first movement requires a sopranino recorder; the occasionally menacing second calls for a Paetzold alto [*sic*: basset]—an intriguing instrument. The third movement, for alto recorder, leads to a cadenza, then a sudden, clangorous conclusion.²⁶³

Finding an appropriate recorder volume to match the orchestra was important in the process of selecting the instruments. However, the final decision considered other variables: for example, that the use of recorders from different epochs portrays not only differences in the instruments' designs and properties but also their related technological stages of development. Thus, we regarded amplification as a contrasting, differentiating element within the performance, and decided to combine amplified and unamplified movements, according to the instrument utilised. Besides (as

²⁶² Robert Gammon, 'Review: University Chamber Orchestra, Sir Jack Lyons Concert Hall, University of York , February 14', review of Concerto for Recorders and Chamber Orchestra by Carlos Zamora, *York Press*, 16 February 2018, <https://www.yorkpress.co.uk/news/15999388.review-university-chamber-orchestra-sir-jack-lyons-concert-hall-university-of-york-february-14/>.

²⁶³ *Ibid.*

noted above), the singularity of each recorder's voice was considered as we knew this would be highlighted by their uniqueness within the orchestral context.

Retrospectively, the idea of combining the acoustic soprano voice with the two lower, amplified recorders seems to me to have enriched the diversity sought. In the explorative framework of this project, differentiation of acoustic and electroacoustic recorders, as well as of in-mic systems, was a deliberate choice, which triggered conflicts regarding coherence in balance and homogeneity. These conflicts were accepted, though, since they testify to the divergent, clashing instrumental evolution that the composer and I wanted to portray, stimulated by the current situation of wide-ranging recorder design. However, in future performances I would also like to explore a more practical and traditional approach to the amplification, with a single microphone in place for playing all three recorders.

In the following section, I refer to the individual treatment of the selected recorders in the musical context. The second movement is addressed in more depth because of its particular significance in the context of my research: this movement was the first time that a Paetzold basset had been included in a concerto.

First Movement: the Soprano Recorder

After we had chosen the three contrasting recorders, Zamora and I decided to start the concerto with the acoustic soprano recorder. I had to choose between the two soprano models that I own: the Aulos 507B 'Symphony' model made of ABS synthetic resin, with a visual appearance reminiscent of Baroque models but produced in non-historical material; or the K ng 'Classica' soprano (already utilised in the Coppel project), which belongs to the same series (currently regarded as 'vintage') as the contrabass recorder utilised in chapter 3. Since this latter (the K ng 'Classica') modernised Baroque design, made of wood, recalls the old ('historical') recorder manufacturing tradition, I thought that its presence on stage at the beginning of the concerto would create the (false) impression that a 'familiar', even idiomatically historical form of music for recorder would develop, thereby enhancing the impact of Zamora's contemporary musical material. The concerto starts with the acoustic soprano recorder playing alone, accompanied then only by a sustained note by the piccolo flute, a scenario that prepares a strong contrast generated by the powerful entrance of the orchestra in bar 5, which establishes the character of the further musical material within this first movement. (See figure 97).

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Figure 97. Concerto for Recorders and Chamber Orchestra, first movement (beginning).

The thin, high, acoustic voice of the sopranino established a sonic environment in which the balance and the dialogue with the orchestra differed significantly from those of the following movements, played by amplified and lower recorders. Besides taking into account Vivaldi's well-known concertos RV 443, RV 444 and RV 445²⁶⁴ for sopranino recorder, Zamora's compositional ideas for using the sopranino to create this first movement were influenced by the fluency and agility of the sopranino in my performance of the contemporary solo work *Schlaflied für einen Kolibri* (Lullaby for a hummingbird) by Markus Zahnhausen.²⁶⁵ Zamora then applied these qualities in the concerto. However, the musical material of the first movement draws on a folkloric dance from the culture of

²⁶⁴ Sardelli argues that these concertos were meant for an eight-hole recorder smaller than an alto instrument, and not for a small transverse flute (or piccolo) in d", or for the flageolet. He concludes that 'it becomes as clear as daylight that all these works are intended for the only small end-blown flute pitched in F – the sopranino recorder'. Sardelli, in Jane Bowers, 'Vivaldi's Music for Flute and Recorder by Federico Sardelli', *Performance Practice Review* 13, no. 1 (2008), <https://doi.org/10.5642/perfpr.200813.01.09>, 5.

²⁶⁵ Markus Zahnhausen, 'Tocatta (Schlaflied Fuer Einen Kolibri)', in *Flauto Dolce Solo (1988/1990): 7 Stücke Für Blockflöten*, ed. DOBL 4457 (Doblinger, 2002), 12-14.

Despite being written for treble recorder, 'Schlaflied Fuer Einen Kolibri' is often played in a sopranino recorder. My recording of the piece can be found at La Compañía de Céforo, *The language of the Birds. Confabulations of Music and Poetry*, SVR Producciones, 2009, CD.

the high Andes culture (from southern Peru and Bolivia and northern Chile and Argentina) called a *Takirari*. The sopranino, nonetheless, is not meant to allude to any other instrument or sonority but to showcase its own agility and high voice. Its full two-octave chromatic register is utilised, as are traditional, idiomatic ornamental effects such as the trill, grupetto, tremolo and glissando.

Since the movement does not allude to other instruments – unlike later in the piece – my approach to playing the sopranino recorder was mainly influenced by the characteristics of the musical material itself, but with an awareness of the role of this model within the whole work. This (approach) involved portraying the more traditional ‘recorder voice’ and ‘recorder concerto’ context, aiming to produce a contrast with the more contemporary-sounding and -looking recorders utilised in the following movements.

Listen to the first movement of the Concerto for Recorders and Chamber Orchestra (2017) by Carlos Zamora in [example 6.1](#). See the score in Appendix 6.1.

Second Movement: The Paetzold Basset

The Paetzold design

Inspired by organs that combine square and cylindrical pipes, German furniture- and recorder maker Joachim Paetzold in the late 1950s had the idea to create a square recorder. His nephew, electro-technician and joiner Herbert Paetzold, would later pick up this idea and develop it further, patenting his first Paetzold recorder in 1976. In 2011, recorder makers Herbert Paetzold and Joachim Kunath both worked together on creating a new concept: the Paetzold by Kunath. The old design was restored, the mechanisms were improved, and useful accessories added, and new higher and lower-register instruments (i.e. other instrument-sizes) were introduced: currently, the Paetzold by Kunath offers a consort of six recorders, ranging from the tenor to the subcontrabass.²⁶⁸

The Paetzold recorder model was a revolutionary innovation that fundamentally questioned the recorder’s traditional design: its long-accepted round-shape bore was replaced by a square instrument, made of plywood, with a fully keyed system. This idea of using laminated wood instead of ‘noble’ materials such as the historical boxwood, fruit tree or ebony (amongst others) was also revolutionary. The new recorder concept took a step forward towards the independence of the instrument from its close links to the historical interpretation of Renaissance and Baroque repertoire, for which copies of historical instrument templates have been demanded. However, as

²⁶⁸ The K ng recorder registers available are tenor, basset, greatbass, contrabass, subgreatbass and subcontrabass. These are offered in distinctive models within the category of ‘solo’ and ‘master’, with a number of alternatives regarding pitch, fingerings, material, surface treatment and ergonomics. For more information see: Joachim Kunath, ‘Blockfloetenbau: Paetzold by Kunath’, *Kunath Blockfloeten*, 2018, accessed 14 July 2019, https://www.kunath.com/index.php?cat=c1050533780_Paetzold-by-Kunath-paetzold-by-kunath.html.

with the Modern Alto Recorder or the K ung ‘Classica’ recorders, different aesthetics are combined, simultaneously conveying old and contemporary technologies and styles through the instrument’s image.

In the section on Lander’s recorder homepage dealing with history of recorder design and its innovations,²⁷⁰ Lander refers to other makers who have also built square-profile bass recorders (pointing out, for instance, that New Zealand maker Alec Loretto had already made a prototype in 1967). It is interesting to note Lander’s reference to a contrabass recorder designed by Denis Thomas in 2014, described as ‘a further development of the square bass recorder’ whose design is a ‘reminiscent of the so-called columnar recorders of the sixteenth century.’²⁷¹ Thus, this contemporary model appears, again, as connected to a (related) instrument of the past.

Similarly, my specific Paetzold basset model (see figure 99) combines the modern square shape, a contemporary (twenty-first century) in-mic system fitted in its head, and Baroque furniture ornaments (see figure 98) created with pyrography by the Chilean artist Mar a Walsen (who has also decorated harpsichords as part of her craftwork). Figure 100 shows a plain basset, without ornaments.

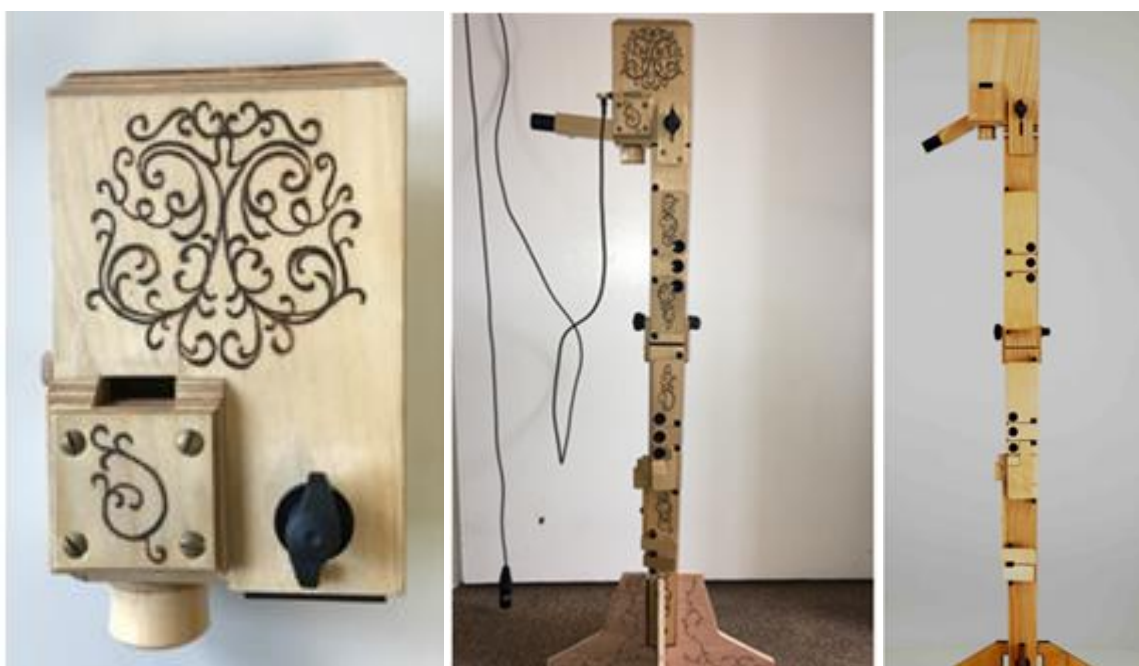


Figure 98 (left). Pyrography by Chilean artist Mar a Walsen.

Figure 99 (in the middle). My Paetzold basset.

Figure 100 (right). Paetzold basset without ornaments.²⁷²

²⁷⁰ Nicholas S. Lander, ‘History: Innovations’, *Recorder Home Page*, accessed 14 July 2019, <http://www.recorderhomepage.net/history/>.

²⁷¹ *Ibid.*

²⁷² Source: ‘Paetzold by Kunath Master Basset F Bass Recorder’, digital image, available from: https://www.thomann.de/gb/paetzold_by_kunath_master_basset_f_bass_recorder.htm (accessed 12 July 2019). The use of the picture was kindly authorised by Joachim Kunath in an email to the author on 23 September 2019.

These Baroque ornaments were chosen by me and ‘tattooed’ by Walsen onto the instrument in 2010, aiming to connect the instrument’s modern shape with that of related earlier instruments such as the portative organ or wooden organ pipes (see figure 101). Thus, even though the new design differed significantly from that of the traditional recorder, it is actually also connected with other instruments from the past.



Figure 101. A portative organ designed to be carried in procession and played with one hand while the other operates the bellows at the ‘back’.²⁷⁴

Moreover, in Lander’s above-mentioned section on recorder designs, there is a reference to ‘an anonymous 15th-century manuscript (F Lm 391, f. 28) [that] depicts a man in what looks like a bowler hat playing a duct-flute which is decidedly square in cross-section’.²⁷⁵ Interestingly, in the High Andes there is also a square duct flute very similar to the Medieval duct flute depicted in that manuscript: the Pre-Columbian *tarka* (Quechua) or *tharqa* (Aymara). See figure 102.

²⁷⁴ Portative organ by maker Peter Jones. Digital image by Frances Coakley, from: Frances Coakley, *Note Book: An Electronic Compendium of Matters Past and Present Connected with the Isle of Man*, 2002, www.manxnotebook.com/. The use of the image was kindly allowed by Frances Coakley in an email sent to the author on 19 July 2019. Despite being a modern organ, its design recalls earlier aesthetics. It also illustrates the similarities between both this organ’s tubes and the Paetzold’s square shape. The material utilised was MDF (medium-density fibreboard), similar (though denser) to the plywood utilised in the Paetzold basset.

²⁷⁵ Pierre Boragno, in Nicholas S. Lander, ‘History: Innovations’, *Recorder Home Page*, accessed 14 March 2019, <http://www.recorderhomepage.net/history/innovations-in-recorder-design/>.



Figure 102. Tarka from San Pedro de Atacama, Chile (front and back).

The tarka is commonly described as:

a blockflute, like a recorder [meaning a duct-flute, since the tarka does not have a thumb hole – as shown in the picture – which is required in the current definition of a recorder], but is comparatively shorter and quite angular in shape, requires greater breath, and has a darker, more penetrating sound. ... It sounds very primitive, soft and mellow with a rasp in the low range.²⁷⁶

It is played in the north of Chile, in groups called *tarkeadas*. Its natural sound is full and saturated, due to the practice of overblowing to produce a specific quality of sound described as *sonido rajado* (riven sound). Zamora and I remembered this instrument when we each separately came across the Paetzold design: it has since become a shared, familiar instrumental reference point.

Eventually, all these varied features and allusions would be taken into account when generating the new musical material and would then stand out both in the final composition and in its performance.

²⁷⁶ 'Tarka (Flute)', *Wikipedia*, last edited 14 February 2015, accessed 14 July 2019, [https://en.wikipedia.org/wiki/Tarka_\(flute\)](https://en.wikipedia.org/wiki/Tarka_(flute)).

The fitting of the in-mic system

The first requirement for using the Paetzold basset in an orchestral setting was to expand its dynamic range. Fitting a microphone was the alternative I selected for this, due mainly to the advantages listed in chapter 2. The process of transforming my recorder into an electroacoustic instrument was significant for my research; it occurred in 2017 at the ‘Kunath Recorders workshop’ in Fulda, Germany, on a research trip with audiovisual artist and sound engineer Lynette Quek. Joachim Kunath introduced us to the experiments undertaken in the workshop in the process of developing a reliable in-mic system with optimal sound quality. I tried several alternatives for positioning the microphone, using the head of a plastic recorder that had been used in the workshop to compare the sonic differences of the various possible locations (figure 103).

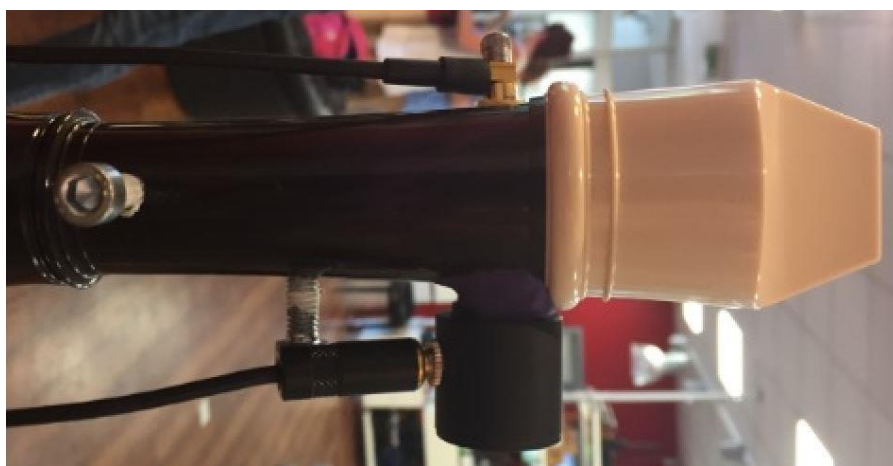


Figure 103. Exploring locations for fitting the microphone in a plastic alto recorder at Kunath Recorders workshop in Fulda, Germany, 2017.

The microphone eventually selected was a Rumberger WP-1X, an extremely light built-in pick up for wind instruments that had just arrived at the Kunath Workshop (2017). This high-tech miniature piezo seemed to be the best option, offering most of the same advantages as Bolton’s system but in an updated form: a balanced, uniform sound across the registers; no feedback; no external sound interference; the registering of even the subtlest inflections of tone; and full freedom of movement for the performer. Furthermore, I wanted the design of my Paetzold basset with its ornaments, to be the most prominent aspect of the instrument, and this system is visually quite discrete.

My basset was the first recorder ever to have this system fitted; I did not have access to customer reviews or other recorder performers’ comments testifying to its behaving. Nor could I compare this with the other available systems. Selecting it was, therefore, a risk, cushioned by the good references as to the quality of the product given by Joachim Kunath at the workshop. As noted

in the project *Beyond the Acoustic Environment*, to decide that a beloved instrument should undergo surgery is a venture and therefore nerve-wracking: it was tense, but this tension, again, triggered creative responses. This time I not only witnessed the process, but also myself drilled the hole in the head of the basset, assisted by Joachim Kunath. Figures 104, 105, and 106, illustrate the process of transforming the Paetzold basset into an electroacoustic instrument, which can be also watched in [example 6.3](#). The concerto's rehearsals and premiere were the first occasions when I used this electroacoustic system live, and it proved its efficiency.



Figure 104 (left). Paetzold basset: process of drilling the hole at Kunath Recorders workshop Fulda, Germany. 2017.

Figure 105 (right, above). Paetzold basset: drilled hole for fitting the in-mic.

Figure 106 (right, below). Paetzold basset: in-mic fitted.

Contemporary works for Paetzold recorder.

Antonio Politano, recorder professor at the Conservatoire de Lausanne, has researched the features and possibilities of Paetzold recorders (including with electronics) and commissioned a significant number of works for the instrument, in different instrumental settings. He funded an ongoing project to study these instruments: the Paetzold Recorder Investigation for Music with Electronics (PRIME) project.²⁷⁷ As stated on PRIME's website, Politano regrets 'that so few contemporary

²⁷⁷ Antonio Politano, HEMU, Conservatoire de Lausanne, *PRIME: Paetzold Recorder Investigation for Music with Electronics*, accessed 28 January 2019, <http://primeresearch.ch/>. The PRIME webpage includes the history of the Paetzold instruments, a sound and music catalogue and information about research and performance projects.

composers know the Paetzold square recorder, that its rich sound palette is so seldom well-displayed and that the possibilities of live electronics (interaction between instrumentalist and computer) are so little exploited.'

The use of Paetzold recorders in concertos with orchestra is even rarer. An exception is the concerto work *Conduites d'Approche IV* for tenor and contrabass Paetzold recorder (one player), bassoon, chamber orchestra and tape,²⁷⁸ composed for Politano in 2006 by Gabriele Manca. However, no concerto had been written for chamber orchestra and the Paetzold basset specifically.

Generally, the Paetzold contrabass recorder has been more explored and utilised than the smaller forms of the instrument, such as the great bass or the basset, or the recently introduced tenor register. Recorder performer Anna Petrini has stood out by further extending the possibilities of this large-sized instrument (the contrabass register), recording the CD *Crepuscolo: Works for the Paetzold Contrabass Recorder*.²⁷⁹

A work that contributed significantly to the exploration of the Paetzold basset (specifically) is *Studio n. 2a* (2000), for solo Paetzold basset and electronics, by Emanuele Casale.²⁸⁰ Also, Chilean composer Cristian Morales Ossio composed *Départ* (2008), for guitar, Paetzold basset and electronics. This work was commissioned by Duo Divertimento, formed by the guitarist Luis Castro and myself, and recorded for the CD *.CL Compositores Chilenos*.²⁸¹ It is the only work by Morales written for the Paetzold basset, but he has written a significant number of works for or including the Paetzold contrabass, due to an ongoing collaboration with his wife, Chilean recorder performer Paola Muñoz.²⁸²

The use of the Paetzold basset within our collaborative work

In 2015 Zamora composed two short solo pieces for me, for the alto recorder in F: *Momento I* and *Momento II*. Despite being for the alto recorder, *Momento I* seemed to me particularly appropriate to explore the type of sonorities that the Paetzold basset (also in F) can produce, such as the *ribattuto* (which I decided to apply to specific repetitive notes suitable for the effect). In the Macrofistulus project I referred to a contemporary work that contributed significantly to the exploration and understanding of the sonic world of the Paetzold model: *Seascape*, by Fausto Romitelli, for amplified contrabass Paetzold recorder, created in collaboration with Politano. A

²⁷⁸ Politano, 'Music Catalogue', *Prime*, accessed 17 July 2019, http://primeresearch.ch/index.php?option=com_content&view=article&id=51&Itemid=162&lang=en.

²⁷⁹ Anna Petrini, *Crepuscolo: Works for the Paetzold Contrabass Recorder*, dbProductions, 2012, CD.

²⁸⁰ Politano, 'Music Catalogue', *Prime*.

²⁸¹ Duo Divertimento, *.CL: Compositores Chilenos*, Santiago: Independiente, 2008, CD.

²⁸² Paola Muñoz developed a catalogue of Chilean contemporary music for recorders. Works specifically written for the Paetzold model can be found at Paola Muñoz, *Música Contemporánea Chilena Para Flauta Dulce*, 2015, accessed 14 July 2019, <http://flautadulcecontemporanea.com/porflauta.php>.

specific effect utilised in *Seascape* (and in *Macrofistulus*) is the *ribattuto* (English ‘retorted’), which was eventually also included by Zamora in the concerto (figure 107). It consists of a group of repetitive pitches, mostly in the low register, which are gradually overblown to produce different harmonics. The definition of a ‘retort’ gives an idea of this effect’s character or behaviour: ‘a sharp, angry, or wittily incisive reply to a remark’. This effect, placed in the context of Zamora’s concerto, resembles the overblown technique of the tarka.

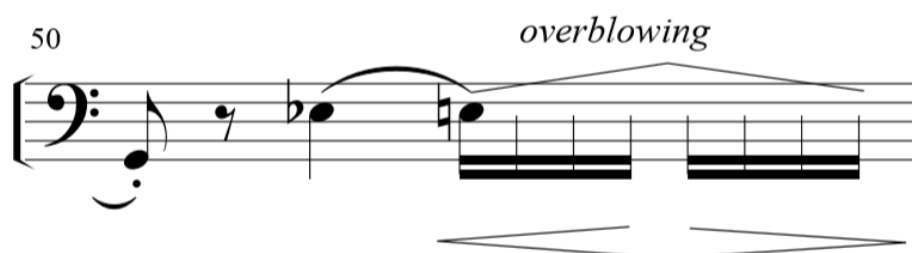


Figure 107. Concerto for Recorders and Chamber Orchestra by Carlos Zamora, second movement, bar 50: *ribattuto* effect.

Besides, the musical content of *Momento I* offered motives and certain gestures that could be performed in such a way as to suggest musical sonorities of wind instruments from the South American Andes territory. Among these sonorities are the airy sound of the zampoña (siku)²⁸³ and the quena, the powerful and ‘ripped’ (*rasgado* in Spanish) sound of the tarka, and a sort of ‘crying’ gesture also characteristic of the tarka, which are produced by the sharp attack of the notes using air rather than a spoken articulation, followed by the drop of the air pressure, that is of the note’s intonation.

Recalling this Andean sonic world within a contemporary music framework is one of Zamora’s compositional concerns, but this then became part of my own exploration of the instrument, to find the evoked instrumental voices and gestures related to their practice, whilst allowing the Paetzold’s voice and the idiomatic gestures from its own repertoire also to remain present. Thus, this piece served as a context within which collaboratively to imagine combined sonorities. Additionally, four months after premiering Zamora’s Concerto, I decided to link *Momento I* with a version of the second movement of the Concerto, arranged for a digital orchestra (in the manner of electronic symphonist Isao Tomita). Zamora’s new, digital version, *Taking Off from the Orchestra*, has been performed in recitals at Late Music York 2018 and at the Mexican Center for

²⁸³ *Siku* is the generic name, in both Quechua and Aymara, for the traditional Andean panpipe that is typically made from bamboo shoots but has also been made from condor feathers, bone, and other materials. Like the recorders (including the Paetzold model), sikus are built in different sizes and tunings.

Music and Sound Arts (CMMAS) in Morelia, Mexico (2019). The audio recording presented here is the live performance of the two linked pieces at the Late Music recital. Listen to [example 6.4: *Momento I* \(2015\) and *Taking Off from the Orchestra* \(2018\)](#) by Carlos Zamora, played on the Paetzold basset. The score of *Momento I* is in Appendix 6.3.

The second movement's use of the Paetzold.

Regarding the musical content, the Paetzold basset's lines develop in layers, with individual pitches in the high register, appearing inside virtuosic phrases of rapid notes and gestures in a lower register, evoking a siku (figure 108):



Figure 108. Concerto for Recorders and Chamber Orchestra, second movement, bars 6-8: gestures evoking a siku.

Also characteristic of siku playing is the use of acciaccaturas. They play a significant role in building phrases along this movement (figure 109):



Figure 109. Concerto for Recorders and Chamber Orchestra, second movement, bars 34-8: acciaccaturas.

Throughout the movement, a variety of short and contrasting gestures effectively illustrate the exploration of the Paetzold. These include various extended techniques such as ribatutto (overblowing), frullato, glissando, and different sputato articulations (figure 110):



Figure 110. Concerto for Recorders and Chamber Orchestra, second movement, bars 73-5: various extended techniques.

Listen to the second movement of Concerto for Recorders and Chamber Orchestra by Carlos Zamora, in [example 6.5](#). Score in Appendix 6.1.

Third Movement: Modern Alto Recorder

Zamora's previous concertos (mentioned earlier) were written for the alto recorder. He was, therefore, familiar with its register and typical characteristics, when playing with a string orchestra. The new concerto, however, was for chamber orchestra, inserting the instrument into a much more challenging context, especially regarding balance. It was this context, together with the ideas already discussed in terms of the significant variables in the process of instrumental selection, that made us choose the electroacoustic Modern Alto Recorder. The specific, atypical features of this recorder (examined in different ways in the first and second chapter of this thesis) provided Zamora with a significantly different instrumental world and scope to compose for.

As is evident in the research poster *The Birth of a Hybrid* (shown in figure 111) created as part of the project *Recorder: One who Retells*, the design of my electroacoustic Modern Alto Recorder, with its Baroque appearance combined with new technologies, was consciously emphasised and given a pointed role in expressing the concerto's aims. As mentioned in chapter 2, its equivalent on the recorder market is the 'Elody' model (figure 112), also created by Mollenhauer, which has almost the same characteristics but with a shape and an outer aspect significantly different to my 'hybrid-style' recorder, as well a different, more updated, in-mic system. This Elody model could also be (can be) used to play this movement, a choice that would provide a different, interesting instrumental contrast.



Figure 111 (left). Research poster *The Birth of the Hybrid* (first draft): the metamorphosed Modern Alto Recorder.

Figure 112 (right). 'Elody' by Mollenhauer company: electroacoustic recorder with an E-extension.

Regarding the orchestration, Zamora opted mainly for an immersive instrumental treatment, approaching the recorder almost as a member of the orchestra, but alternating this with a greater number of soloistic passages and gestures that allude to the *pifilca* (figure 113): a wind instrument (currently made of wood) that belongs to the Mapuche people.²⁸⁴ The peculiarity of this instrument (played by both men and women) is that it has only one or two perforations but no fingering holes, such that it produces only one or two pitches, which interact with the other instruments (essentially the *trutruca*, which is similar to the erke from northern Chile shown earlier, and the *cultrún*). The *pifilca* is mainly used in a Mapuche ceremony called the *Guillatún*.



Figure 113. Pifilca: Mapuche instrument.²⁸⁵

Throughout this movement, Zamora included a variety of musical gestures alluding to the two-note *pifilca*, ornamented with idiomatic *acciaccaturas*, as illustrated in figure 114.



Figure 114. Concerto for Recorders and Chamber Orchestra, third movement, bars 101-3: *pifilca* gestures.

Simultaneously portraying two instruments altered significantly my perception of the instrument actually played. While performing this movement, the Modern Alto Recorder seemed to me to evoke or transform itself into an imaginary, modernised *pifilca*, completely outside the ritual context in which I have listened to it, in the south of Chile. At the same time, the Baroque

²⁸⁴ The *pifilca* is found from the central zone of Chile to the Argentine provinces of Río Negro and Neuquén in Patagonia.

²⁸⁵ *Pifilca* Mapuche from the Coñaripe zone, Lake District Southern Chile, dating back approximately 200 years. Rodrigo Covacevich kindly authorised the use of this picture in an email sent to the author on 27 September 2019.

appearance of the recorder – especially in its upper part – and the awareness of its transformation into an electroacoustic instrument, hearing its sound coming from the speakers on stage and when dealing with its in-mic system, produced an intense experience of synchronicity during the live performance. This is an example of how instrumental ‘otherness’ generated a complex scenario in which different entities, cultures and ‘voices’ entwined, enriching the composition and the performance, offering new identified, expressive resources to my practice.

We agreed that I would make a cadenza. I wanted a space within the piece to articulate and express my impressions of the concerto’s material and to highlight the alto recorder’s voice. As in the piano-project’s cadenza, I aimed to highlight certain innovations of this model, such as the E-extension with its powerful and more flute-like sound. Alongside bringing back gestures played by the sopranino and the basset in the previous movements, I also recalled the idiomatic sound and rhythm of a traditional pifilca, making evident, for the first time, the allusion to the Mapuche ritual context, as a respectful homage to their resilient culture.

Listen to the third movement of the Concerto for Recorders and Chamber Orchestra (2017) by Carlos Zamora, in [example 6.2](#). The score is in Appendix 6.1. The score of my cadenza is in Appendix 6.2.

Conclusion

Overall, the concerto comprised a repurposing and recontextualisation of a variety of instruments and musical forms. Moreover, the abrupt aesthetic shifts between the first and second movement, in particular, and then the second and third movements, is principally produced by the change of recorder model. This generated a cultural and stylistic clash, and a combination of unusual and allusive instrumentation, all of which provided a rich creative context for my performative exploration of the significance and impact of specific instruments in performance.

The video of the premiere of Concerto for Recorders and Chamber Orchestra, on 14 February 2018 in the Sir Jack Lyons Concert Hall at the Department of Music of the University of York, can be watched in [Output 6.1](#). The score is in Appendix 6.1.²⁸⁶

²⁸⁶ The use of the published score was kindly authorised by Francia Gómez from Editorial Nacional (Chile). See written consent in the Appendix.

Conclusion

I will count as research reflective efforts to study the world and to create ways to share what we have learned about it.
(Elliot Eisner, 1997).²⁸⁷

The practice research undertaken in this doctorate contributes to current recorder practices and related understandings of the instrument in a number of ways. First, it acknowledges the current extraordinary variety of recorder designs as a distinctive attribute with expressive potential for creation and performance. Second, it offers newly created works in different formats, filling some of the identified gaps in the literature for specific modern recorder models, thus promoting the idiomatic use of novel instrumental characteristics. Thirdly, the devised scores provide opportunities (the musical means, but also notes on relevant processes) for other performers creatively to explore their criteria for choosing their instruments.

My aim was to identify objective and subjective variables that influence my processes of selecting recorders for addressing either extant or newly devised musical materials, and to respond creatively (individually and/or collaboratively) to those variables, generating original approaches to performance. All of this involved challenging the habits of practice, delving into my relationship with my instruments and generating shifts in the ways I perceive, assess, interact with and utilise them.

Hence, this research has valued processes as much as outcomes; processes that triggered a training of perceptions that allowed the identification of nuanced phenomena, thus enriching the artistic experience. Through my reflexive practice, theoretical research, and collaborative endeavours, I have broadened the recorder's performance contexts, the instrument's expressive scope, and my role and input as a creative performer-researcher. The research has also brought recorder performance practice into closer relation with other areas of knowledge.

Along the way, each instrument, as an entity – with distinctive and independent existence, objectively and perceptually – became an *agent*, taking an active role and producing specific effects or changes, as well as a medium, in expressing both itself and myself: its voice and mine. As Elliot Eisner reflects, '[a]s we learn to think within the medium we choose to use, we also become more able to raise questions that the media themselves suggest'.²⁸⁸ This required not a mere act of 'appropriation' of the instrument (as a tool) but of recognizing its role in communicating its independent existence, with its embodied information, expressive potential, and evocative or symbolic attributes. A renewed agency arose from these processes, with choices that therefore can be regarded as conscious and self-bearing.

²⁸⁷ Elliot W. Eisner, 'The Promise and Perils of Alternative Forms of Data Representation', *Educational Researcher* 26, no. 6 (1997): 6, <https://doi.org/10.3102/0013189X026006004>.

²⁸⁸ Eisner, 'The Promise and Perils of Alternative Forms of Data Representation', 6.

Throughout my PhD journey I identified a body of ‘variables’ that influence my instrumental selection criteria and the use of the instruments. These include:

- the performer’s search for a particular ‘instrumental voice’ (as defined on page 49) or an appropriate instrument

This might incorporate a search for a certain notional conception of an instrumental ‘type’, perhaps characterised as the loudest or as a ‘hybrid’ model, a ‘vintage’ or ‘contemporary sound’, or a fragile or precarious ‘voice’. Conversely, it might involve seeking a quite specific historical recorder model, or a specific construction (instruments with a specific joint, for example), or a double instrument, or even imagining a version of an instrument, such as the ‘never-ending-register’ recorder of *Coppel*.

- the performer’s perception of the instruments;

This may be influenced by received ideas of instrumental quality, hitherto taken for granted, or by the particular relationship with the instrument, derived from long term practical habits and the specific shared history, but also by particular features of the instrument, including its design and appearance.

- the affordances of the specific instrument (including its technical characteristics and capabilities, but also its perceived and hidden potential) and the agency carried therein.
- the demands of specific instrumental contexts;

The situating of the recorder in a specific ensemble context – whether in a large orchestra, a duo with a modern piano, with live electronics, and so on – raises questions about practical means of, or creative approaches to balancing the instruments, or to other aspects of ensemble texture.

- compositional information – a composer’s stated ideas and musical indications – expressed in a score or in the process of collaboration;

The forms of this, influencing the performer’s creative decisions, might include: designated alternative instrumental possibilities (recorder or flute, for example); implicit or explicit

allusion to instruments external to the work (for instance, musically invoking other wind instruments by imitating their sounds or idiomatic gestures, or alluding musically to their repertoire or style of ornamentation); the allusion to other musics, styles and contexts (such as traditional dances related to particular instruments, or the sonorities of a particular musical culture or from a particular period); and the preference for a particular instrumental voice (for instance, Frith's designation of 'a loud recorder with a strong projection, however retaining the purity of the baroque sound', or other such descriptive accounts of the kind of instrumental sound required but without specification).

- the historical periods and associated musical styles addressed or evoked through performance;

This opens up considerations of historically informed practice, but also wider questions of the perception of and relationship to the recorders' various pasts, all of which have fed into the performer's creative processes and individual artistic responses. In the context of contemporary practices, this concerns the chosen musical 'language' or sound world and its associated practices and creative processes.

In the research process, insights were gained from:

- the range of embodied, practical, conceptual and theoretical knowledge developed through my performance experience;
- collaborative processes with composers, other performers and recorder makers;
- workshops, residencies and interviews with performers, makers and composers;
- forms of theoretical knowledge – historical, philosophical and etymological – creatively re-appropriated and applied variously in the research and performance processes;
- literary sources that inspired original recorder performance contexts: poems, plays, songs' texts, stories and myths.
- literary resources that enhanced my instrumental exploration: amongst these are story-telling, imagery, anachronism, dichotomy, allusions, epigraphs, interrupters, catachresis, metaphors, analogies, and other figures of speech that deal with connotative and denotative meaning.

Furthermore, in Elliot Eisner's words, 'I identified ambiguity as a potential source of insight, a way of keeping the door open for fresh insights and multiple interpretations.'²⁸⁹

Underpinning all of this is an important and influential element in the process of selecting recorders: the singular history shared between the performer and the instrument. The performer's perception, understanding, appreciation (or rejection) and judgement of each recorder is marked by everything experienced since the first encounter with or the acquisition of the instrument. The initial exploration of the instrument, seeking out its particular qualities, is then followed by a recognition of its capabilities and limitations and moreover, of its 'character', prompting a deeper, sympathetic bond, somewhat unique: a complicity that is activated each time the performer and the specific instrument set off together towards performance.

Inevitably, my projects have opened up broad considerations that require further research beyond the scope of my thesis. Similar approaches could be used to examine the criteria for selecting recorders to perform Baroque repertoire, or to contemporary performance practices (for example), in relation to the specificities (and diversity) of style and context. Likewise, with so many different recorder models available, and new instruments always in production, it is important to continue creating new and idiomatic repertoire, deepening the exploration of the instruments' affordances, repurposing and recontextualising them, exploring creatively our perception of and relationship with their pasts: effectively reassessing the relationship with each instrument, in each new context. Also interesting would be to examine how the use of certain recorders sometimes 'grows' around certain performers, with individual players developing aspects of their performing style in relation to a particular instrumental model, and/or bodies of new compositions growing in relation to a player's personal instrumental preferences. Linked to this is the question of how recorder design influences performance styles, instrumental pedagogy and hence the approaches found in conservatoires and other musical institutions. These possible areas of future research could be creatively examined from various perspectives, including a reflexive approach rooted in practice such as mine, wherein the creative outputs represent 'possibilities': possible, rather than definitive, responses to questions that should remain open. In Adam Vincent's terms, each performance might be regarded as an 'evocative presentation of data.'²⁹⁰

Overall, the critical commentaries on the performance projects presented in this thesis reveal aspects of a performer's creative processes that often lie buried, while suggesting novel music making frameworks that emerge from the processes of creating a body of new performance work.

²⁸⁹ Elliot W. Eisner, 'The Promise and Perils of Alternative Forms of Data Representation', *Educational Researcher* 26, no. 6 (1997): 7, <https://doi.org/10.3102/0013189X026006004>.

²⁹⁰ Adam Vincent, 'Is There a Definition? Ruminating on Poetic Inquiry, Strawberries, and the Continued Growth of the Field', *Art/Research International: A Transdisciplinary Journal* 3, no. 2 (2018):54

Presentations

Carmen Troncoso, 'The Recorder and Its Manufacturing,' Presentation, Research Forum, Department of Music, University of York, 20 January 2016.

Carmen Troncoso and Lynette Quek, 'Early stages within the *Recordeur* project,' Presentation with live demonstration, Research Forum, Department of Music, University of York, 11 January 2017.

Carmen Troncoso, Desmond Clarke and Lynette Quek, 'Collaboration-based New Repertoire for the Electroacoustic Modern Alto Recorder: *Oiseaux Métamorphique* and *Recordeur I-II*,' Lecture recital, Postgraduate Forum 2017, Rymer Auditorium, University of York, 2 March 2017.

Troncoso and Quek, 'The Birth of a Hybrid,' Research Poster, Postgraduate Forum 2017, Foyer, Department of Music, University of York, 2 March 2017.

Troncoso and Quek, 'The Birth of a Hybrid,' HRC PhD Research Poster Competition, The Berrick Saul Building, HRC, University of York, 18 April 2017.

'Honourable mention' due to 'challenging the scope of presenting a performance-led research project'.

Troncoso and Quek, '*Audiovisual Recordeur I-II*,' Premiere, audiovisual screening, 'Sound Thought 2017: Festival of Music and Sound Research, Composition, and Performance', Centre for Contemporary Arts (CCA), University of Glasgow, 10 May 2017.

Troncoso and Clarke, 'Collaboration between performer and composer: *RECORDARI: a collaborative project exploring a non – linear juxtaposition of old and new repertoire*', Title of the performance: 'Ye may record a little, ye may whistle (Episodes 2 and 3 of *Recordari*),' Lecture recital, The Arts & Philosophy Conference: 'Creative processes in the Arts', supported by the Humanities Research Centre of York, Rymer Auditorium, Department of Music, University of York, 5 June 2017.

Troncoso and Quek, 'Exploration of in-mic systems and research into the Paetzold recorder,' Research Trip to Mollenhauer and Kunath workshops in Fulda, Germany, 20-23 June 2017.

Troncoso and Quek, *Audiovisual Recordeur I-II*, audiovisual screening: 'Activating Inclusive Sound Spaces Conference', Creative Arts Building, University of Huddersfield, 8-9 July 2017.

Troncoso, 'Macrofistulus project: interaction of large-size instruments,' Presentation and audiovisual screening, PG Musicology Seminar, the Rymer Auditorium, Department of Music, University of York, 12 October 2018.

Troncoso and Carlos Zamora, 'Joint Compositions: Concerto for Recorders and Chamber Orchestra,' Performance talk, PG Forum 2018: 'Music in Context', The Tree House, Berrick Saul Building, Humanities Research Centre, University of York, 14 February 2018.

Troncoso, 'Carmen Troncoso en Siglo XXI,' Interview with José Oplustil, Radio Beethoven, Santiago, Chile, 3 April 2018,
<https://www.beethovenfm.cl/podcasts/carmen-troncoso-en-siglo-xxi/>.

Troncoso and Quek, 'Composer/Computer/Distance!' *Audiovisual Recordeur* and *Macrofistulus: An Audiovisual Narrative*, DEGEM, Computer Music Conference in Sheffield, 3-4 May 2018.

Troncoso, Interview with Álvaro Menanteau, Universidad de Santiago, Chile, 7 May 2018. Works from the PhD.

Troncoso and Eisner, 'Collaborative Project Double Pipes, Antique et Moderne,' Presentation and Demonstration, Composition Seminar, The Rymer Auditorium, 5 June 2018.

Troncoso and Quek, *Recordeur Whistle*, 'Between old and new repertoire, instruments and styles: new works for different recorders and electronics,' Conference: 'Music, Medievalism, And Modernism; Between Old and New,' Institute of Musical Research, University of Huddersfield, Royal Music Association (RMA), 28 June 2018.

Troncoso, Quek, 'Audiovisual Afternoon at Shandy Hall: a one-hour journey around Sterne's house showcasing film and audio works linked to poetry, Showcasing of *Coppel: A Narrative* and *Audiovisual Recordeur I*,' The Laurence Sterne Trust at Shandy Hall, Coxwold, 30 June 2018.

Troncoso, 'The Coppel project: exploring the creative potential of instrumental agency and affordances,' Presentation, Postgraduate forum 2018, The Rymer Auditorium, Department of Music, University of York, 26 September 2018.

Troncoso, 'CD "Beyond" de Carmen Troncoso,' Interview with José Oplustil, Radio Beethoven, Santiago, Chile, 2 January 2019,
<https://www.beethovenfm.cl/podcasts/estrenamos-beyond-de-carmen-troncoso/>.

Troncoso, Quek and Guillermo Eisner, Project: "'Voices". Works for Recorders and Digital Media created at York (2016-1018). Concerts and Conferences in Mexico,' Universidad Nacional Autónoma de México, Mexico City and Morelia, 25 February to 1 March 2019.

Monday 25 February 2019: Conference, Postgraduate Research Seminar, Faculty of Music, UNAM (Universidad Nacional Autónoma de Mexico), México City.

Tuesday 26 February 2019: Conference Recital, Contemporary music research seminar (SEMUC- Seminario de Música Contemporánea), Ónix-UNAM, Coyoacán, México City. Presentation of the project Double Pipes, Antique et Moderne. Live performance of *Being in the Sounds* and *Recordari, A Cycle in Seven Movements*.

Thursday 28 February 2019: Composition Seminar CMMAS, Auditorio CMMAS, Mexican Center for Music and Sound Arts (Centro Mexicano para la Música y las Artes Sonoras), Morelia, Michoacán. Presentation of Videos *Being in the Sounds* and *Coppel. A Monologue*.

Friday 1 March 2019: Recital 'Voices. Obras para flautas dulces y medios digitales', Auditorio CMMAS, Morelia. Includes *Being in the Sounds*, *Recordari: A Cycle in Seven Movements*, *Taking Off from the Orchestra* and *Epigraph*.

Troncoso, Quek, *Audiovisual Recordeur I-II* and *Epigraph*, Ciclo de Música Electroacústica, Temporada 2019, LIS Laboratorio de Imagen y Sonido, Campus Cultural, Isla Teja, Universidad Austral de Chile, Valdivia, Chile, 17 May 2019.

Troncoso, Quek, *Audiovisual Recordeur I-II*, Electronic Music Concert, Ciclo MUAK (Mujeres Artistas Kompositors, Women Artists Composers), Museum of Contemporary Art of Quinta Normal, Santiago, Chile, 9 November 2019.

Resource List

'Affordances'. *Interaction Design Foundation*.

Accessed 9 August 2019. <https://www.interaction-design.org/literature/topics/affordances>.

Alker, Hugo. *Die Blockflöte*. Wien: Verlag H. Geyer, 1962.

Alvarez, Maria. 'Agency and Two-Way Powers'. *Proceedings of the Aristotelian Society* 113, no. 1 (2013): 101-21. <https://doi.org/10.1111/j.1467-9264.2013.00347.x>.

Amapiola fusion band. *Aquí*. Independiente, 2009. CD.

'An Introduction to Action Research'. *Faculty of Education, University of Lethbridge*.

<https://www.uleth.ca/education/research/research-centers/action-research/introduction>.

Apel, Willi and Archibald T. Davison (eds.). *Historical Anthology of Music: Oriental, Medieval, and Renaissance Music*. Volume I. Cambridge, Massachusetts: Harvard University Press, 1949.

Arnaud, Gerard. *Diablos Tentadores y Pinkillus Embriagadores...En La Fiesta de Anata/Phujllay: Estudios de Antropología Musical Del Carnaval En Los Andes de Bolivia, tomo I*. (La Paz: Universidad Autónoma Tomás Frías: Plural Editores, 2010).

Arnold, Lydia. 'Action Research – characteristics'. *Learning, teaching, technology, assessment and research*.

Accessed 8 August 2019. <https://lydiaarnold.wordpress.com/2007/11/27/action-research-characteristics/>.

'Autoethnography'. *WIKIPEDIA: The Free Encyclopedia*.

Accessed 8 August 2019. <https://en.wikipedia.org/wiki/Autoethnography>.

Ball, Christopher. 'Renaissance and Baroque Recorders: Choosing an Instrument'. *Early Music* 3, no. 1 (1975): 11-18.

Bassano, Giovanni. *Ricercate Passaggi et Cadentie*. Partifi, 1585. <http://partifi.org/foOQl/segment/>.

Bates, Eliot. 'The Social Life of Musical Instruments'. *Ethnomusicology* 56, no. 3 (2012): 363-95. <https://doi.org/10.5406/ethnomusicology.56.3.0363>.

Baumann, Max Peter. 'Andean Music, Symbolic Dualism and Cosmology'. In *Cosmología y Música en los Andes*, edited by Max Peter Baumann, 15-66. Madrid: Iberoamericana, 1996.

Bellamy, Mary. 'Developing Instrumental Sound Resources Through Collaborative Compositional Practice'. *Journal for New Music and Culture* 1, no. 10 (2013): 1-18.

Bennetts, Kathryn, and Peter Bowman. 'Lux Aeterna', 2015, 1-30.

www.bennettsbowman.org.uk/get_lib_doc.php?doc_id=228.

Berio, Luciano. *Circles*. London: Universal Edition, 1961.

Blezinger, Stephan. 'Renaissance Recorders after S. Ganassi'. *Meisterwerkstätte für Flötenbau*.

- Accessed 12 July 2019. <http://www.blezinger.de/en/ganassi.html>.
- Bollinger, Geri. *Ausdrucksstarke Blockflöten*.
 Accessed 12 July 2018. <http://www.geri-bollinger.ch>.
- Bolt, Barbara. 'Artistic Research: A Performative Paradigm?'. *Parse*, no. 3 (2016).
<http://parsejournal.com/article/artistic-research-a-performative-paradigm/>.
- Bolton, Philippe. 'Electroacoustic Recorders'. *Handmade Recorders & Flageolets*.
 Accessed 12 July 2018. <http://www.flute-a-bec.com/electr gb.html>.
- . 'The Evolution of the Recorder's Bore'. *Handmade Recorders & Flageolets*.
 Accessed 15 July 2018. <http://www.flute-a-bec.com/evolutionpercegb.html>.
- . 'The Flageolet'. *Handmade Recorders & Flageolets*.
 Accessed 1 July 2019. <http://www.flageolet.fr/index-gb.html>.
- . 'Fork or Cross Fingerings on the Recorder'. *Handmade Recorders & Flageolets*.
 Accessed 20 July 2019. <http://www.flute-a-bec.com/doigte-fourche-gb.html>.
- . 'The Story of the Electro-Acoustic Recorder'. *Handmade Recorders & Flageolets*.
 Accessed 12 July 2018. <http://www.flute-a-bec.com/histoire-flute-electro-acgb.html>.
- . 'The Electroacoustic System for Recorders'. *Handmade Recorders and Flageolet*.
 Accessed 12 July 2018. <http://www.flute-a-bec.com/systeme-electroacoustiquegb.html>.
- . 'Ganassi Recorders'. *Handmade Recorders & Flageolets*.
 Accessed 12 July 2019. <http://www.flute-a-bec.com/ganassgb.html>.
- Bowers, Jane. 'Vivaldi's Music for Flute and Recorder by Federico Sardelli'. *Performance Practice Review* 13, no. 1 (2008). <https://doi.org/10.5642/perfpr.200813.01.09>.
- Braun, Joachim. 'Introduction'. In *Music in Ancient Israel/Palestine: Archaeological, Written, and Comparative Sources*. Michigan: William B. Eerdmans Publishing Company, 2002.
- Breukink, Adriana. 'Bassano consort recorders'. *Adriana Breukink: Recorder Maker / Performer / Designer*.
 Accessed 9 July 2019. <http://www.adrianabreukink.com/>.
- . 'Eagle'.
 Accessed 8 July 2019. <http://www.eagle-recorder.com>.
- . 'Frequently Asked Questions'.
 Accessed 8 July 2019. <http://adrianabreukink.com/faq.php>.
- Breukink, Adriana, and Jo Kunath. 'Breathing Types'. *Eagle*.
 Accessed 15 July 2019. <http://www.eagle-recorder.com/page.php?pag=blaastype&lang=en>.
- Brown, Adrian. 'Consort Recorders'. *Adrian Brown: Recorder Maker*.
 Accessed 9 July 2019. <https://adrianbrown.org>.

- . ‘“Ganassi” recorders’. *Adrian Brown: Recorder Maker*.
 Accessed 12 July 2019. <https://adrianbrown.org>.
- Brown, Adrian, and David Lasocki. ‘Renaissance Recorders and Their Makers’. *American Recorder*, 2006, 19-31.
- Butler-Bowdon, Tom. ‘The Medium Is the Massage (1967) Marshall McLuhan & Quentin Fiore’. *Philosophy Classics*, 1967. <http://www.butler-bowdon.com/marshall-mcluhan---the-medium-is-the-massage.html#>.
- Carrijo, Daniela, and Betiza Fernandez. ‘Musica Brasileira para Flauta Doce e Piano’. *Revista Diálogos: Linguages Em Movimento*. 1 (2015): 9-21.
- Cartwright, David. ‘Toucan flutes - Drones’. *Second Voice Flutes*.
 Accessed 10 July 2019. <http://www.secondvoiceflutes.co.uk/?index>.
- Chadwick, Whitney, and Isabelle de Courtivron (eds). *Significant Others: Creativity and Intimate Partnership*. London: Thames and Hudson, 1993.
- Cirlot, Juan Eduardo. *Diccionario de Símbolos*. 2006. Madrid: Ediciones Siruela, 1958.
- . ‘Simbolismo fonético I-II-III’. *La Vanguardia* (1970).
- Clement, Winne. *Fujaraflutes*.
 Accessed 10 July 2019. <http://www.fujaraflutes.com/>.
- Coakley, Frances. *Note Book: An electronic Compendium of Matters Past and Present Connected with the Isle of Man*, 2002. www.manxnotebook.com/.
- Cohen, Jennifer Louise. ‘Playing with Time: The Creative Embodiment of Knowledge in the Performance of Baroque Flute Music’, PhD Thesis. University of York, 2018.
- Compañía de Céfiro, La. *The Language of the Birds: Confabulations of Music and Poetry*. SVR Producciones, 2009. CD.
- Crispin, Darla, Bob Gilmore, and (eds.). *Artistic Experimentation in Music: An Antology*. Orpheus Institute, Leuven University Press, 2014.
- Crotty, Michael. *The Foundations of Social Research: Meaning and Perspective in the Research Process*. London: Sage Publications Inc., 1998.
- Cuervo, Luciane. ‘Sonetos de Amor de Adami, Para Flauta Doce e Piano : Análise e Performance’. *Per Musi, Belo Horizonte*, no. 26 (2012): 159-69.
- Denshire, Sally. ‘Autoethnography’. *Sociopedia.Isa*, 2013. <https://doi.org/10.1177/205684601351>.
- Dolmetsch, Jeanne and Andrew Mayes. *Carl Dolmetsch: A Centenary Celebration*. Mytholmroyd: Peacock Press, 2011.
- Dolmetsch Organisation 2000 – 2013. ‘Millenium Large Square Bass Recorders’. *Dolmetsch Online: Millenium Recorders*.

- Accessed 23 August 2017. <http://www.dolmetsch.com/millennium.htm>.
- Donoso, María Elena. 'The Chilean National Identity and the Indigenous Peoples of Chile'. PhD Thesis. University of Warwick, 2004. <http://wrap.warwick.ac.uk/1210/>.
- Duo Divertimento. .*Cl: Compositores Chilenos*. Portaldisc.com, 2008. CD.
- Ehrlich, Robert. 'An ethnomusicological study of a modern performing tradition in Western art music: the "Dutch School" of Recorder Playing'. M. Phil Thesis. King's College, 1989.
- Eisner, Elliot W. 'The Promise and Perils of Alternative Forms of Data Representation'. *Educational Researcher* 26, no. 6 (1997): 4–10. <https://doi.org/10.3102/0013189X026006004>.
- Eisner, Guillermo. *Musica de Barrio*. Mexico: Cero Records, 2019. CD.
- Elder, Samuel A. 'Physical Basis of Woodwind-Recorder Voicing'. *Journal of the Acoustical Society of America* 35, no. 11 (1963): 1901. <https://doi.org/10.1121/1.2142752>.
- Ellis, Carolyn, and Arthur Bochner. 'Autoethnography, Personal Narrative, Reflexivity: Researcher as Subject'. *Handbook of Qualitative Research*, no. 28 (2000): 733-68. <https://doi.org/10.1017/CBO9781107415324.004>.
- 'Elody'. *Mollenhauer: Enjoy the Recorder*.
Accessed 08 July 2019. <https://www.mollenhauer.com/en/recorders/recorders/series-overview/elody-2#content>.
- 'Erke'. *WIKIPEDIA: The Free Encyclopedia*.
Accessed 12 June 2018. <https://en.wikipedia.org/wiki/Erke>.
- Finlay, Linda. 'Negotiating the Swamp: The Opportunity and Challenge of Reflexibility in Research Practice'. *Qualitative Research* 2, no. 2 (2002): 209-30.
- Fitch, Fabrice, and Neil Heyde. "'Recercar"-The Collaborative Process as Invention'. *Twentieth-Century Music* 4, no. 1 (2007): 71–95. <https://doi.org/10.1017/S1478572207000539>.
- Froehlich, Sussane. "'Artistic Research Project": Introducing the Helder Tenor (Blog)'.
Accessed 12 June 2018.
<https://susannefroehlichrecorder.wordpress.com/2016/01/03/introducing-the-helder-tenor/>.
- Gammon, Robert. 'Review: University Chamber Orchestra, Sir Jack Lyons Concert Hall, University of York , February 14'. *The Press*. 16 February 2018.
<https://www.yorkpress.co.uk/news/15999388.review-university-chamber-orchestra-sir-jack-lyons-concert-hall-university-of-york-february-14/>.
- Ganassi, Sylvestro, and Traslated by Dorothy Swainson. *Opera Intitulata Fontegara: A Treatise on the Art of Playing the Recorder and of Free Ornamentation (Venice, 1535)*. Edited by Hildemarie Peter. Robert Lienau Musikverlag, 1956.

- Geiringer, Karl. *Musical Instruments: Their History in Western Culture from The Stone Age to the Present Day*. London: George Allen and Unwin LTD, 1959.
- Giovanni Bassano: *Ricercate Passaggi et Cadentie*. Partifi: IMSLP Library. Venice: Giacomo Vincenzi & Ricciardo Andimo, 1585.
Accessed 10 June 2019. <http://partifi.org/foOQl/segment/>.
- González, Ramón Andrés. *Diccionario de Instrumentos Musicales*. Ediciones Peninsula, 2001.
- Gorton, David, and Stefan Östersjö. 'Choose Your Own Adventure Music: On the Emergence of Voice in Musical Collaboration'. *Contemporary Music Review* 35, no. 6 (2016): 579-98.
<https://doi.org/10.1080/07494467.2016.1282596>.
- Griscom, Richard, and David Lasocki (eds.). *The Recorder: A Research and Information Guide*. Third edition. Routledge, 2012.
- . *The Recorder: A Guide to Writings about the Instrument for Players and researchers*. New York and London: Garland Publishing, 1994.
- Groom, Catherine. 'Peter Holtslag and "The Three Bressans"'. *The Recorder Magazine* 31, no. 4 (2011): 133-34.
- Hamon, Pierre. *Hypnos*. France: Zig-Zag Territoires 90101, 2009. CD.
- . *Lucente Stella*. France: Opus 111 – OPS 30-122, 1995. CD.
- Hasbún, Octavio and Victor Rondón. *Música Contemporánea Chilena Dúos y Tríos Para Flautas Dulces, Viola Da Gamba y Piano*. SVR Producciones, 1993. CD.
- Hayden, Sam, and Luke Windsor. 'Collaboration and the Composer: Case Studies from the End of the 20th Century'. *Tempo* 61, no. 240 (2007): 28-39.
<https://doi.org/10.1017/S0040298207000113>.
- Heidegger, Martin. *The Basic Problems of Phenomenology* [1927], trans. Albert Hofstadter. Bloomington: Indiana University Press, 1982.
- 'Helder'. *Mollenhauer*.
Accessed 15 July 2019. https://www.mollenhauer.com/images/stories/PDF/Sound-Unit_En.pdf#content.
- Hickmann, Ellen. 'The Iconography Of Dualism: Pre-Columbian Instruments and Sounds as Offerings?' (1970). In *Cosmología y música en los Andes*, edited by Max Peter Baumann. Madrid: Vervuert, 1996, ISBN 3-89354-555-7.
- Huidobro, Vicente. *Obra poética*. Ed. Cedomil Goic. Santiago: Ediciones de la Universidad Católica de Chile/ALLCA XX, 2003.
- HEMU, Conservatoire de Lausanne, Politano Antonio. *PRIME: Paetzold Recorder Investigation for Music with Electronics*.

- Accessed 15 June 2018. <http://primeresearch.ch/>.
- Hopkins, Jasper. 'Coincidentia Oppositorum in Cusa's Sermons'.
 Accessed 15 June 2018. <http://jasper-hopkins.info/CusaOnCoincidencePlusNotes.pdf>.
- . *Nicholas of Cusa On Learned Ignorance: A Translation and an Appraisal of De Docta Ignorantia*. Minneapolis: The Arthur J. Banning Press, 1981.
<https://doi.org/10.1093/acprof:osobl/9780199769308.003.0001>.
- Hunt, Edgar. *The Recorder and Its Music*. London: Ernst Eulenburg Ltd, 1977.
- Husserl, Edmund. *Ideas*. London and New York: Routledge Classics, 1931.
- 'Iterative Approach'. *ScienceDirect*.
 Accessed 8 August 2019. <https://www.sciencedirect.com/topics/computer-science/iterative-approach>.
- John-Steiner, Vera. *Creative Collaboration*. Oxford University Press, 2000.
- Karkowski, Zbigniew. 'Where Language Ends, Music Begins'. *PoetryFilm: Research Art Project*, 1992.
<https://poetryfilm.org/2015/02/12/where-language-ends-music-begins-zbigniew-karkowski-experimental-musician-1958-2013/>.
- Kemmis, Stephen, and Robin McTaggart. *The Action Research Planner*. Geelong, Victoria: Deakin University Press, 1988.
- Key, Ryan. 'How to Adapt to Your Environment: When Change Happens, How do you Respond?'.
everydayAgile.
 Accessed 08 August 2019. <https://everydayagile.com/how-to-adapt-to-your-environment-39357455a698>.
- Kitto, John (ed.). *A Cyclopædia of Biblical Literature*, volume 2. New York: Mark H. Newman, 1846.
- Koselleck, Reinhart. 'History, Histories, and Formal Time Structures.' In Koselleck, Reinhart, and Keith Tribe. *Futures Past: On the Semantics of Historical Time*, 93-104. Columbia University Press, 2004. <http://www.jstor.org/stable/10.7312/kose12770.10>.
- Kunath, Joachim. 'Blockfloetenbau: Paetzold by Kunath'. *Kunath Blockfloeten*, 2018.
 Accessed 14 July 2019. https://www.kunath.com/index.php?cat=c1050533780_Paetzold-by-Kunath-paetzold-by-kunath.html.
- Küng Blockflöten GmbH. 'History of Küng'. *KUNG: Die Flötenmanufaktur*.
 Accessed 12 July 2018. <http://www.kueng-blockfloeten.ch/>.
- La Compañía de Cefiro. 'Stampede of birds'. *The Language of the Birds: Confabulations of Music and Poetry*. SVR Producciones, 2009. CD.
- Lander, Nicholas S. *Recorder Home Page*.
 Accessed 20 August 2017. <http://www.recorderhomepage.net/>.

- . 'History: Classical & Romantic periods'. *Recorder Home Page*.
Accessed 13 April 2019. <http://www.recorderhomepage.net/history/>.
- . 'History: Innovations'. *Recorder Home Page*.
Accessed 1 July 2019. <http://www.recorderhomepage.net/history/>.
- . 'How the recorder got its name: The noun "recorder"'. *Recorder Home Page*.
Accessed 15 September 2017. <http://www.recorderhomepage.net/history/>.
- Lasocki, David. 'A Listing of Inventories and Purchases of Flutes, Recorders, Flageolets, and Tabor Pipes, 1388–1630'. In *Musicque de joye: Proceedings of the International Symposium on the Renaissance Flute and Recorder Consort*, edited by David lasocki. Utrecht: STIMU Foundation for Historical Performance Practice, 2005. 419-511.
- . 'Researching the Recorder in the Middle Ages'. *American Recorder* 52, no. 1 (2011): 18-23.
- . 'What We Have Learned about the History of the Recorder in the Last 50 Years', 2012.
Accessed 16 July 2019. <http://music.instantharmony.net/miscellaneous.php>.
- Lassetter, Leslie. 'Music Iconography and Medieval Performance Practice'. *College Music Symposium* 31 (1991): 91-116. <http://www.jstor.org/stable/40374128>.
- Laws, Catherine. 'This Is Not A...'. In *Collaborative and Distributed Processes in Contemporary Music-Making*, edited by Lauren Redhead and Richard Glover, 167-84. Newcastle upon Tyne: Cambridge Scholars Publishing, 2018.
- . 'Piano Personae: Performance, Subjectivity and Experimentation'. In University of York. The York Research Database, 2016. [https://pure.york.ac.uk/portal/en/publications/piano-personae\(05be58b5-d68b-49e0-86bc-1d01eae8143d\).html](https://pure.york.ac.uk/portal/en/publications/piano-personae(05be58b5-d68b-49e0-86bc-1d01eae8143d).html).
- Lebrecht, Sophie, Moshe Bar, Lisa Feldman Barret, and Michael J. Tarr. 'Micro-Valences: Perceiving Affective Valence in Everyday Objects'. *Frontiers in Psychology* 3, no. 107 (2012): 1-5.
<https://doi.org/10.3389/fpsyg.2012.00107>.
- Li Virghi, Francesco. 'Double Recorder'. *Dolciflauti*.
Accessed 20 March 2019. <http://www.livirghi.com/instruments-of-the-middle-age/flutes-of-the-middle-ages/>.
- . 'Praetorius Recorders'. *Dolciflauti*.
Accessed 9 July 2019. <http://www.livirghi.com/Renaissance/praetorius-recorders/>.
- . 'Rafi Recorders'. *Dolciflauti*.
Accessed 9 July 2019. [livirghi.com](http://www.livirghi.com).
- Losseff, Nicky. 'Projective Identification, Musical Interpretation and the Self'. *Music Performance Research* 4 (2011): 49-59.
- Lycke, Benjamien. 'Les Usines'. YouTube video, 07:11. Posted by

- 'enoa community'. 21 May 2015. Accessed 5 July 2019.
<https://www.youtube.com/watch?v=bloulC6KrpY>.
- MacMillan, Douglas. 'An Organological Overview of the Recorder 1800-1905'. *The Galpin Society Journal* 60 (2007): 191-202.
- . 'What's in a Name the Recorder?'. *Recorder Magazine* 34, (2014): 51-53.
- Mansfield Thomson, John (ed.). *The Cambridge Companion to the Recorder*. Cambridge: Cambridge University Press, 1995.
- Marsh, Roger. *Coppel*. London: Decipherer (Arts) Press, Ltd., 2018.
- Mayes, Andrew. 'Aspects of Performance Practice in Works for Recorder Composed for Carl Dolmetsch between 1939 and 1989'. PhD Thesis, vol. 2. Birmingham Conservatoire, Birmingham City University, 2008.
- Mayer Brown, Howard. 'The Recorder in the Middle Ages and the Renaissance'. In *The Cambridge Companion to the Recorder*, edited by John Mansfield Thomson, 1-25. New York and London: Cambridge University Press, 1995.
- . *Carl Dolmetsch and the Recorder Repertoire of the 20th Century*. Aldershot: Ashgate, 2003.
- McAteer, Mary. *Action Research in Education*. London: Sage Publications Ltd, 2013.
- McLuhan, Marshall and Quentin Fiore. *The Medium is the Massage*. Middlesex: Penguin Books Ltd., 1967.
- Mense, Lucia. 'Introduction to the Double Recorder "Ars Nova": Exercises and short pieces hot to begin with playing the double recorder'. Available at
 Li Virghi, Francesco. *Dolciflauti*.
 Accessed 10 July 2019. <http://www.livirghi.com/insights-2/il-flauto-doppio-ars-nova-metodo/>.
- Michala Petri. "'A Pacifying Weapon" by Sean Hickey (Part I)'. YouTube video. 08:17. Posted by
 'OUR Recordings'. 01 April 2017. Accessed 8 June 2019.
<https://www.youtube.com/watch?v=GcNTpevhjRY>.
- . 'Michala Petri plays Sunleif Rasmussen (b.1961) Winter Echoes'. YouTube video. 16:28.
 Posted by 'OUR Recordings'. 23 January 2015. Accessed 9 July 2019.
<https://www.youtube.com/watch?v=WycR5JItJKo>.
- . 'Michala Petri and Odense Symphony Orchestra: "Your Voice Out of the Lamb"'. YouTube video. 21:54. Posted by 'OUR Recordings'. 17 Jan 2018. Accessed 9 July 2019.
<https://www.youtube.com/watch?v=SUbCu344IuU>.
- Michel, Winfried. 'Glissgliss'. *Mieroprint Musikverlag*. 1995.
<https://mieroprint.de/produkt/michel-winfried-glissgliss-1995/>.

- Mollenhauer, Bernhard. *Csakan ... wiederentdeckt*.
 Accessed 1 July 2019. <https://www.csakan.de/en/csakan-rediscovered>.
- Montagu, Jeremy. *The World of Medieval and Renaissance Musical Instruments*. Vancouver: Douglas David & Charles Limited, 1976.
- Montiel-Overall, Patricia. 'Toward a Theory of Collaboration for Teachers and Librarians'. *Research Journal of the American Association of School Librarians* 8 (2005): 1-31.
- Muñoz, Paola. *Música Contemporánea Chilena Para Flauta Dulce*.
 Accessed 14 July 2019. <http://flautadulcecontemporanea.com/porflauta.php>.
- Norman, Don. *The Design of Everyday Things*. Philadelphia: Basic Books, 2013.
- Norman, Sally Jane. 'Contexts of / as Resistance', *Contemporary Music Review* 32, no. 2–03 (2013): 275-88. <https://doi.org/10.1080/07494467.2013.775805>.
- Oliver, Harriet. 'Footjoint'. *The Recorder Magazine* 34, no. 3 (2014): 108.
- O'Kelly, Eve. *The Recorder Today*. Cambridge: Cambridge University Press, 1990.
- . 'Professional Recorder Players (and Their Instruments) II: The Twentieth Century'. In *The Cambridge Companion to the Recorder*, edited by John Mansfield Thomson, 175-83. Cambridge: Cambridge University Press, 1995.
- Olsen, Dale A., and Daniel Edward Sheehy, eds. *The Garland Encyclopedia of World Music Volume 2: South America, Mexico, Central America, and the Caribbean*. New York and London: Garland Publishing, Inc., 1998.
- Östersjö, Stefan. 'SHUT UP' N' PLAY! Negotiating the Musical Work'. PhD Thesis. Lund University, 2008.
- . 'The Resistance of the Turkish Makam and the Habitus of the Performer: Reflections on a Collaborative CD-Project with Erdem Helvacioğlu'. *Contemporary Music Review* 32, no. 2-3 (2013): 201–213.
- Page, Christopher. 'German Musicians and Their Instruments: A 14th-Century Account by Konrad of Megenberg'. *Early Music* 10, no. 2 (1982): 192-200.
- 'Palimpsest'. *The Chicago School of Media Theory (blogs)*.
 Accessed 12 July 2019.
<https://lucian.uchicago.edu/blogs/mediatheory/keywords/palimpsest/>.
- Palumbo, Vito. 'Dan Laurin & Eagle Recorder'. YouTube video. 06:33. Posted by: 'Bokeh Imaging'. 15 Feb 2017. Accessed 19 March 2019.
<https://www.youtube.com/watch?v=2g0uTpzX2w8&t=52s%2C>.
- Petrini, Anna. *Crepuscolo: Works for the Paetzold Contrabass Recorder*. dbProductions, 2012. CD.
- 'Phenomenology'. *Stanford Encyclopedia of Philosophy*.

- Accessed 08 August 2019. <https://plato.stanford.edu/entries/phenomenology/>.
- Pickering, Michael. 'Experience as Horizon: Koselleck , Expectation and Historical Time'. *Cultural Studies* 18, no. 2–3 (2004): 271-89. <https://doi.org/10.1080/0950238042000201518>.
- Politano, Antonio. 'Biennale Musica 2010'. You Tube video, 03:44. Posted by 'BiennaleChannel'. 18 Oct 2010. Accessed 25 August 2019. <https://www.youtube.com/watch?v=qeY1g8wPfyI&t=2s>.
- . 'Fausto Romitelli – Seascape (1994) Paetzold recorder'. You Tube video, 07:35. Posted by 'giul_m'. 28 Oct 2015. Accessed 15 August 2017. <https://www.youtube.com/watch?v=uBr3Vmy5EdI&t=349s>.
- Poulenc, Francis. *Sonate pour Flute et Piano*. Chester Music, 1992.
- Rankin, Susan. 'Some Medieval Songs'. *Early Music* 31, no. 3 (2003): 327-44.
- 'Recorder'. *Memidex Free online dictionary/thesaurus and more....*
Accessed 14 Sept 2017. <http://www.memidex.com/recorder>.
- 'Recorder'. *Dictionary.com*.
Accessed 10 June 2017. <http://www.dictionary.com/browse/recorder>.
- 'Recorder'. *Collins English Dictionary*.
Accessed 10 June 2017. <https://www.collinsdictionary.com/dictionary/english/recorder>.
- 'Recorder (n.)'. *Online Etymology Dictionary*.
Accessed 10 June 2017. <https://www.etymonline.com/word/recorder>.
- 'Recorder'. *The New Grove Dictionary of Musical Instruments*. Edited by Stanley Sadie. London: Macmillan Press Limited, 1980.
- 'Recorder (musical instrument)'. *Wikipedia, the free encyclopedia*.
Accessed 07 August 2017.
[https://en.wikipedia.org/wiki/Recorder_\(musical_instrument\)](https://en.wikipedia.org/wiki/Recorder_(musical_instrument)).
- Redhead, Lauren, and Richard Glover. 'Introduction'. In Redhead, Lauren, and Richard Glover (eds.). *Collaborative and Distributed Processes in Contemporary Music making*. Cambridge: Scholars Publishing, 2018.
- Roe, Paul. 'A Phenomenology of Collaboration in Contemporary Composition and Performance'. PhD Thesis. University of York, 2007.
- Roe, Paul, and Jane O'Leary. 'The Listening Composer/Searching Together'. *Paul Roe: Musician, academic, educator, coach*. 2009.
Accessed 08 August 2019. <https://paulroemusic.com/the-creative-performer/>.
- Rowland-Jones, Anthony. 'Iconography in the History of the Recorder up to c . 1430 : Part 1'. *Early Music* 33, no. 4 (2005): 557-74. <https://doi.org/10.1093/em/cah149>.

- . 'Iconography in the History of the Recorder up to 1430 - Part 2'. *Early Music* 34, no. 1 (2006): 3-28. <https://doi.org/10.1093/em/cah188>.
- Schiffman, Zachary Sayre. *The Birth of the Past*. Baltimore, MD: Johns Hopkins University Press, 2011.
- Schroeder, Franziska. 'Bringing Practice Closer to Research – Seeking Integrity, Sincerity and Authenticity'. *International Journal of Education Through Art* 11, no. 3 (2015): 343-54. https://doi.org/10.1386/eta.11.3.343_1.
- Shirey, David L. , 'Archives /Art vs. Artifacts in Montclair'. *New York Times*. 15 February 1981. Accessed 15 June 2019. <https://www.nytimes.com/1981/02/15/nyregion/art-vs-artifacts-in-montclair.html>.
- Sokolowski, Robert. *Introduction to Phenomenology*. Cambridge: Cambridge University Press, 2000.
- Steenhoven, Karel van, and Ulrike Mauerhofer. *Flutessence: Blockflötenunterricht Hochschule Fuer Musik Karlsruhe*. Accessed 15 July 2019. <http://www.flutessence.de/index.html>.
- Stubley, Eleanor. 'Being in the Body , Being in the Sound: A Tale of Modulating Identities and Lost Potential'. *Journal of Aesthetic Education* 32, no. 4 (1998): 93-105. <https://www.jstor.org/stable/3333388>. Accessed: 8 July 2019.
- 'Synergy'. *IGI Global: Disseminator of Knowledge*. Accessed 11 August 2019. <https://www.igi-global.com/dictionary/collaborative-synergy-leadership-business/4429>.
- Tarasov, Nik. 'Harmonische Blockflöten: Die Geschichte Einer Neuen Blockflöten-Generation'. *Windkanal, Das Forum Für Die Blockflöte*, no. 2 (2004): 14-21. <https://www.windkanal.de/images/files/stories/PDF/2004-2/Windkanal-2004-2.pdf>.
- 'Tarka (Flute)'. *WIKIPEDIA: The Free Encyclopedia*. Accessed July 14, 2019. [https://en.wikipedia.org/wiki/Tarka_\(flute\)](https://en.wikipedia.org/wiki/Tarka_(flute)).
- The Noise Consort. 'Chroma'. YouTube video, 04:13. Posted by 'InFiné Music'. 5 February 2016. Accessed 6 July 2019. <https://www.youtube.com/watch?v=rda3-qGy3jE>.
- Terenyi, Turi. 'Musical Instruments'. *Wood-n-Bone*. Accessed 20 July 2019. <http://www.wood-n-bone.co.nz/>.
- Toit, Wessie du. 'Art and Artefact'. *Prospect*. 5 September 2013. Accessed 15 June 2019. <https://www.prospectmagazine.co.uk/blogs/prospector-blog/art-and-artefact-damien-hirst>.
- Troncoso, Carmen. *Concertos for Recorder and String Orchestra/ Chilean Composers*. Independent

- production. 2012. CD.
- . *New Music for Recorders by Chilean Composers: In-ventando Project (2003–2012)*. Santiago: Universidad Academia de Humanismo Cristiano, 2nd edition, 2014.
- Trowell, Brian. 'King Henry IV, Recorder Player'. *The Galpin Society Journal*, no. 10 (1957).
- University of Lethbridge. 'An Introduction to Action Research'.
 Accessed 08 August 2019. <https://www.uleth.ca/education/research/research-centers/action-research/introduction>.
- Vincent, Adam. 'Is There a Definition? Ruminating on Poetic Inquiry, Strawberries, and the Continued Growth of the Field'. *Art/Research International: A Transdisciplinary Journal* 3, no. 2 (2018): 48-76.
- Virdung, Sebastian (translated by Beth Bullard). *Musica Getutscht: A Treatise on Musical Instruments (1511)*. Cambridge University Press, 1993.
- Vries, Tom. 'Ganassi'. *Tom de Vries: Recorders*.
 Accessed 12 July 2019. <http://www.devriesrecorders.nl/ganassi.html>.
- 'What does it mean to say that "remembering the future and not the past?"'. *Physics Stack Exchange*.
 Accessed 15 July 2019. <https://physics.stackexchange.com/questions/191209/what-does-it-mean-to-say-that-remembering-the-future-and-not-the-past>.
- Williams, Alexandra Mary. 'The Dodo Was Really a Phoenix: The Renaissance and Revival of the Recorder in England 1879-1941. Vol 1'. PhD Thesis. University of Melbourne, 2005.
- Wolkenstein, Oswald von. 'Late Medieval Music (1300-1400), German: Song Der May'. In *Historical Anthology of Music: Oriental, Medieval and Renaissance Music, Vol. 1*, edited by Archibald T. Davison and Willi Apel, Seventh ed., 64-65. London: Oxford University Press, 1949.
- Zahnhausen, Markus. 'Toccatà (Schlaflied Fuer Einen Kolibri)'. In *Flauto Dolce Solo (1988/1990): 7 Stücke Für Blockflöten*, edited by DOBL 4457, 12-14. Doblinger, 2002.
- Zamora, Carlos. *Concerto for Alto Recorder, Flute and Strings*. Santiago: Editorial Nacional, 2017.
- . *Wind Quintet 1*. Santiago: Editorial Nacional, 2017.