

University of Tasmania

**‘Writing Wrong Right’:**

**An Investigation in Composing with Extended Techniques**

An Exegesis Submitted to

Conservatorium of Music

in partial fulfilment of the requirements for the degree of

Bachelor of Music with Honours (or Bachelor of Music (Elite) with Honours)

Conservatorium of Music

by

**Rhys Gray**

Hobart, Tasmania

2020-08-19

## Contents

Brief Background . . . . .	1
Key Questions . . . . .	2
Aims . . . . .	3
Literature Review . . . . .	3
Methodology . . . . .	6
Outcomes Of This Project, and Why It Is Relevant .	7
Outputs . . . . .	7

## Brief Background

In 2019, I completed my Honours exegesis at the University of Tasmania, titled ‘Harmonic Based Extended Techniques and their Compositional Applications’, a study of three extended techniques applicable to stringed instruments; half-harmonics, subharmonics, and multiphonics. I am interested in pursuing this line of research further, as I believe that there is still more to be learnt about the techniques that I have already covered, and that many other extended techniques lack the literature that composers can use to make informed decisions about their use. The purpose of this study will therefore be to explore extended techniques further, filling literature gaps and incorporating the techniques into my own artistic language.

Cellist and new music specialist John Addison has expressed an interest in developing his technique of ‘double touch’ harmonics with me, which he describes as ‘[...] where one engages two of the harmonic nodes on the same string in the same series simultaneously, which allows upper harmonics in the series that have never been stable nor dependable to become reliable and certain.’

His technical and theoretical knowledge will be useful in testing and conducting practical research on the techniques, with eminent composer Sofia Gubaidulina stating ‘I am convinced that we are dealing with a brilliant artistic personality here. It is to be expected that John Addison’s activities as an interpreter will have a vital influence on the next generation of musicians.’<sup>1</sup> As a

---

1. Personal correspondance between John Addison and Sofia Gubaidulina.

spectralist composer, I am primarily concerned with extended techniques that make use of microtonalities, exploit the harmonic series, and spatial acoustics. The recent shift of the Conservatorium of Music to the Hedberg provides an exciting opportunity to conduct research using the variable acoustic panels, and the ways that they can be used in site-specific works. The scope of my research would therefore be surrounding the treatment of these extended techniques; a holistic review of the techniques from the view of a composer and performers will shed light on the way that the techniques can best be produced.

As a composer, exploring subharmonics, multiphonics, double touch harmonics, and other extended techniques is particularly exciting, as they are fertile ground for new and unique sounds that can be used to develop my musical identity. I plan for the resultant thesis to be a practical document that composers and artists can use as a reference manual for the production and implementation of the techniques in their own practices.

### Key Questions

- How are extended techniques used in current literature, and are there ways to improve their delivery and make them more accessible to composers, performers, and audiences?
- Are there extenuating circumstances that keep these techniques from entering mainstream literature, or are they simply still in their infancy?
- How have other artists used these techniques, and what can we learn from artists that have already incorporated them into their practice?

- How can I incorporate these extended techniques into my personal practice and develop a unique style with them?
- How well understood is the physical production, and are there ways we can improve production of the sound in a performance context?
- What variables impact the production of these techniques?
- What can we learn from the way that these techniques are physically produced?

### Aims

- Develop my artistic voice and personal style through the incorporation of these extended techniques into my practice.
- Broaden the field of research by studying extended techniques that have not been extensively researched.
- Develop ways of communicating the best practices of techniques to increase their accessibility to others by formalising notation.
- The best practice of how to produce the techniques will be synthesised by understanding the physical properties of the techniques and how they are produced.

### Literature Review

This PhD is built upon the previous research that I conducted during my Honours, and there is significant overlap with the two topics. Therefore, the first item that is worthy of mention would be ‘Harmonic Based Extended Techniques and

their Compositional Applications’, which includes a ground-level review of the most seminal literature in the field. However, due to the limited scope of the exegesis, there were significant omissions, so for the sake of completeness its contents will be reviewed under the lens of ‘composing with extended techniques’.

To understand extended techniques, we must first establish a basis of what is considered a ‘regular’ technique, or rather, what the qualifying factors are for a technique to be considered extended. To do this, we will look at what techniques are commonplace in the literature, and which are less so. Techniques that require descriptions in the frontmatter or otherwise ‘extend’ the instrument beyond the normal canon would reasonably be understood to be considered extended techniques.

Robert Dick’s seminal ‘The Other Flute’ was a landmark work in extended technique documentation, painstakingly notating the outputs, fingerings, and qualities of flute multiphonics and other extended techniques.<sup>2</sup> The structure of its content is logical, though is hampered by the need to refer to a key.



There are three aspects that are relevant to the literature review; literature surrounding the techniques themselves, literature with how the techniques are presented, and scores. Scores are necessary to understand how composers implement extended techniques in practice. By reviewing their frontmatter and the symbol notation, we gain an understanding of how composers present information to performers, and can build a system of notation that maps consistently with the rest

---

2. dickOtherFlute1989.

of the established canon. Consequently, seminal scores will be included in the literature review so that we may understand how they work. These scores' notation systems for extended techniques will be broken down into their elements, and through comparative analysis of how different composers implement the same techniques, we will be able to find how textual, symbolic, and graphic notation systems can be used to achieve the desired results.

Textual notation, i.e. instructions printed in the score, are the most straight forward, but limited to what can be summarised in few words. Symbolic notation assigns the technique to a symbol, typically with the instructions placed in the frontmatter. Graphical notation systems are often used when the binary of symbolic notation is restrictive, and requires a greater fidelity than textual notation can provide. An example of this can be seen in Kaija Saariaho's notation of overpressure, wherein she uses a black bar to represent the amount of overpressure required, temporally relational to the position in the score. Discussion of the framework used in Dimpker's thesis.<sup>3</sup>

The most significant of developments in the area is the recent special January 2020 *Tempo* journal issue, dedicated entirely to string multiphonics. It was collated by Dr. Ellen Fallowfield, who notably contributed the landmark thesis *CelloMap* (and eponymous website) in 2009.<sup>4</sup>

---


3. **dimpkerExtendedNotationDepiction2012.**

4. **fallowfieldCelloMapHandbook2009.**

## Methodology

Through interviews with players at varying stages of proficiency and familiarity with the techniques, I will be able to uncover the barriers to producing these techniques. Document analysis of existing resources and compositions will help direct and support the line of enquiry. Autoethnography of my creative process will document the research process and clarify my intent.

The aim of this research project is not to make the techniques popular enough to make clarification of technique unnecessary, or for it to enter the canon of techniques so that it is no longer considered to be ‘extended’ (as the Bartok pizzicato has). Rather, this is intended to act as a resource for composers and artists to be drawn upon as a reference for when they wish to use the technique. A considered and informed judgement call over a technique can only be made when the technique is understood well. The composer will communicate the information necessary to realise the technique to the player, typically through the frontmatter. In order to better understand what information composers deem useful to communicate to players, a review of scores with similar techniques will take place. By breaking the score’s frontmatter content up into its actions, we can understand how composers communicate their desired techniques to players.

By using the polling option of online forums such as the Facebook group ‘Music Engraving Tips’, we will be able to rapidly crowdsource data. 



## Outcomes Of This Project, and Why It Is Relevant

This project will provide me with a better understanding of the mechanics and musical capabilities of the extended techniques. As these techniques currently have a deficit of literature, both instructive and artistic; there are few resources for people to learn from, and even fewer practical examples of how to implement the techniques in a musical context. My research will address this, filling the research gaps where identified. The outcome of my research into the technique of ‘double touch harmonics’, as developed by John Addison, is particularly relevant as it presents an exciting possibility for a new method of producing familiar harmonics. This will increase the number of available fingering positions of harmonics within existing compositions, as well as providing more colour options for performers to choose from.

## Outputs

My research into underexplored techniques will broaden the performative and compositional palette available to artists. Through the documentation of my process in researching this technique, it will be catalogued and brought into the literature, facilitating further development.

Through a comprehensive review of how composers construct their frontmatter, guidelines to how new and experimental techniques can be communicated to performers will be developed. This will lower the friction of learning new works, and promote the uptake of contemporary works. This will be

further aided by the development of a  $\text{\LaTeX}$ style which can quickly scaffold the relevant extended techniques for consistent and universal verbiage.

The resultant thesis, ‘Writing Wrong Right: Composing With Extended Techniques’, will consequently be a practical document, suitable as a reference for artists interested in implementing extended techniques into their practice.