The Influence of Berio Sequenza V on Trombone Repertoire and Technique

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Abstract

The trombone has a vast repertoire of techniques and sounds available and presents a range of possibilities to composers wanting to explore these areas. However, in the first half of the twentieth century many of these were not utilised whereas the second half of the twentieth century saw a period of change in the trends of instrumental technique. New approaches by composers and performers saw a rise in the number and type of instrumental techniques facilitated by instrument modifications and performance skills (Baldwin & Manchester Metropolitan, 2013; Herbert et al., 1997).

Luciano Berio wrote the series of 14 *Sequenzas* for solo instruments between 1958 and 2002 to explore the idiom and capabilities of each featured instrument and increase the available pool of techniques. Although, for example, John Cage's *Solo for Sliding Trombone* in 1957 (Cage, 1957-8) included distinct technical innovation, *Sequenza V* is widely regarded as the first substantial coherent work by a major western classical composer that consistently employs such extended techniques (Herbert, 2006). Berio's intention was to expand technique without using instrument alteration (Berio et al., 1989). My research is based around this pivotal time in trombone history and investigates how Berio's *Sequenza V* (1966) was a turning point in the development of trombone technique.

The aims of this research are to analyse and collate distinctive trombone playing techniques utilised in this and other pioneering works from the twentieth century. In addition, I aim to outline the distinctive characteristics influencing this development, and establish which techniques were introduced for the first time in this work and which ones were introduced earlier by other performers and composers including jazz artists. I will chart further innovation of composers and performers in the art and jazz idioms.

By learning and performing specific trombone repertoire, a critical commentary of this first-hand research will be produced. This will identify the impact of *Sequenza V* on later solo trombone repertoire, including how its performance and compositional techniques have been continued into newer works. This research expands on the body of knowledge available for the trombonist, providing an important resource for scholars and practitioners of the trombone and its repertoire and techniques.

Literature Review

Published Books

The Modern Trombone: a definition of its idioms **Stuart Dempster 1979**

This publication is specifically designed to supplement traditional methods to discuss and teach techniques that could be described as extended. In terms of detail, the research is extensive and very helpful to the practitioner. Major areas of technique such as vocal techniques and multiphonics are discussed at length whereas other areas are covered more briefly.

I would consider the section on muting types and technique to be an area for expansion as it is less extensive than other areas of technique. In addition to this, mutes have been further developed since this book was published, both in terms of manufacturing materials and technical improvements, leaving room for an update as to their progression.

Surprisingly, Berio's *Sequenza V* (Berio, 1966) is not a focal point within this book as one might expect, *Sequenza V* itself having been a collaboration between Berio and Dempster. More information on this collaboration is to be found in chapter 1(e).

This text has been very helpful to my research in the following ways.

1. It can be taken as a benchmark showing what exactly was considered an extended technique in 1979, giving something to compare against now in 2021.
2. The sections tutoring the musician on extended techniques are useful to myself as a trombonist who will be performing some of the works discussed.

Practical Introduction to Contemporary Trombone Techniques **Benny Sluchin 1995**

Sluchin is very thorough in his research for this publication. An unusual and welcome addition is the section on sound waves produced when playing extended techniques and how they are interpreted.

Rather than covering as many techniques as possible, Sluchin concentrates on a few main areas and describes to the reader how to produce them. I have used these methods and found them invaluable, particularly the section on multiphonics.

Several contemporary excerpts are shown in this book. Although they have not been analysed in any depth, Sluchin points out specific areas to note. The list of scores is very useful for quick reference between some of the major contemporary works.

This text has been very helpful to my research in the following ways.

1. It describes ways to approach multiphonic techniques.
2. The list of scores is of particular interest and contains clear instructive guides.
3. Although published in 1995 the work is still relevant to current study.

Trombone Technique **Denis Wick 1971**

This book is multifaceted and does not easily fit into any particular category. It could be considered a tutor book as it describes how to choose an instrument and how to play it, and it also gives basic explanations of how to perform specific techniques. However, it also contains contextual information on the trombone in history and teaching situations, which suggests this book is designed to be more informative than instructive.

Regarding *Trombone Technique* in relation to my own research, I have found it does cover some techniques that I am researching but not in depth. It gives a useful overview to aid my research.

In addition to this, *Trombone Technique* is written from the perspective of a very well-respected trombonist. This adds credibility to the research as it is performer-centred, as is my own research.

The Techniques of Trombone Playing **Mike Svoboda & Michel Roth 2017**

Although this text was published towards the end of my studies, it has still been an invaluable source. It gives helpful contextual information concerning the techniques it presents and the examples it gives. The techniques featured are mostly described in

detail and an extensive study of multiphonics and muting is included. Some of the information is brief such as the glissando and inhaled pitch.

Although *The Techniques of Trombone Playing* has been very useful for my research it has been more so for its contextual and descriptive list of techniques than for instructive performance analysis.

The Trombone **Trevor Herbert 2006**

Although *The Trombone* was published in 2006 it has been, for me, the most extensive text yet regarding the history of the trombone. Herbert's historical writing is detailed and covers a vast array of subjects. It is profoundly useful for researching the history of the trombone in jazz and its development early in the twentieth century. The subject of technique has a lesser focus, and the development of technique since 1996 is not given as much detail. An introduction of Berio's *Sequenza V* as historical context is featured along with a brief background in jazz techniques and mention of trombonists Stuart Dempster and Christian Lindberg. Herbert also explores how inhaled pitch features in works following *Sequenza V.* Although this was useful for my studies, his description of extended techniques and the work of Berio is not extensive.

Journal Articles

Luciano Berio's Sequenza V Analyzed along the Lines of Four Analytical Dimensions Proposed by the Composer **Hansen 2010**

This text is very detailed and focuses on analysing *Sequenza V*. Hansen contextualises the composition of *Sequenza V,* describing Berio's experience of Grock (Adrien Wettach) and specifically how this experience came to inspire the work. Hansen analyses the compositional style and gives the reader a good understanding of *Sequenza V* therefore aiding trombonists' interpretation of the work and enhancing their performance. There is no analysis of the techniques that are required to perform it, which are relevant to my own research.

Performing Berio's Sequenza V **Barrie Webb 2007**

Barrie Webb's article delivers useful insight into the performance of *Sequenza V* by a trombonist who has been playing this work for many years. He analyses various performers' approaches to the work, including attire (as instructed by Berio), and gives his own approach to the work. The article gives contextual information regarding Berio's writing and the Dempster/Globokar issues at the time, helping the reader to understand the background to the work. Webb also approaches performance elements, providing his own experiences and advice, but although the title alludes to how to actually play *Sequenza V,* this is not an instructive method.

1. 1900-1965 HISTORICAL CONTEXT: INFLUENCES ON SEQUENZA V

a. Early Twentieth Century Developments

The late nineteenth and early twentieth centuries saw a rise in virtuosity, aided by factors including instrument manufacture and the wide distribution of instrumental method books. The best known example of a brass method book was the *Grande Méthode Complète de Cornet à Piston et de Saxhorn* by Jean-Baptiste Arban (Arban, 1864). Although it was used for valved brass instruments, it was adapted for most brass instruments. Techniques were explained in the method books such as nuance, trill, and other embellishments, improving the knowledge and understanding of future instrumentalists. The emerging jazz movement saw a rapid rise in creative brass playing, with new innovative techniques such as the flutter tongue, growls, slide vibrato and muted sounds. These techniques were then absorbed into art music, changing the overall landscape and brass playing idiom (Baldwin & Manchester Metropolitan, 2013).

The mid-twentieth century saw a re-emergence of many of the above techniques in avant-garde music as composers and instrumentalists experimented with new ideas. The virtuosity achieved by instrumentalists laid the foundation of extended technique, and the new conceptions of sound required unorthodox skills, sometimes challenging to the performer, and many of these techniques became customary (Herbert et al., 1997). These creative aspects of performance became integrated into players' routines and became recognised and practised as "extended techniques".

Although a range of techniques appeared in the jazz idiom earlier in the century, many did not become more widely used and introduced into the 'mainstream' until the second half of the century. Although the first half of the century saw a new level in virtuosity (Herbert, 2006), the second half saw a growth of interest in timbre and exploration of the variety of sounds an instrument could produce. Unorthodox ways of producing sound were introduced, which at the time could have been considered extended technique. They were considered as a new form of virtuosity as producing them required the performer to have already excellent standard technique.

These changes and innovations extended to many wind instruments, some of which had little involvement in the jazz idiom. But the trumpet, a key jazz participant, developed strongly having reached a new level of popularity following manufacturing improvements in the early twentieth century (Wallace, 2007), and shared the limelight with the trombone. The similarities between trumpet and trombone technique in terms of sound production mean that a significant number of techniques can be immediately shared. For example, tonguing and multiphonics are produced in a similar fashion, although the latter are considered less effective on the trumpet since the smaller mouthpiece makes them more difficult to produce. The trumpet emulated the trombone in smearing between notes with half-valve techniques.

Flute repertoire and performance also saw a rise in technique expansion. Varese's composition of *Density 21.5* in 1936 undertook a revision in 1946 and percussive effects were added including key clicks on the instrument. It is worth noting that Bernstein's *Elegy for Mippy* II (Bernstein, 1950) was composed four years later and was one of the earliest works to include percussive effects for trombone. In 1958, Berio first notated the multiphonic in *Sequenza I* (Berio, 1992), although jazz flautists such as Sam Most had previously been known to use this technique (Arkoudis, 2019; Berio, 1992). *Sequenza I* also featured key clicks as well as harmonics, and this work further influenced the expansion of flute technique (Moorhead, 2012). One specific similarity between the flute and trombone is the open embouchure, which enables the performer to produce sung pitches while playing a note on the instrument. Composition for flute and trombone, unlike for reed instruments, must therefore consider the vocal range of the performer.

The clarinet has also been written about in terms of a period of change and development. In the Cambridge Companion to the Clarinet (Berio, 1980a), Roger Heaton writes about the post second world war period in particular, predominantly the 1950s–1970s, which saw a rise in technique expansion for clarinet. The composer-performer relationship became instrumental in the realisation of collaborative ideas and the rapid development of the instrument. This included techniques such as multiphonics and microtones as well as vocal sounds, and extreme ranges of pitch. It is important to note that clarinet multiphonics are usually performed using specific fingering rather than vocal sounds, although the voice can also be featured as another method. Clarinettist

Michel Portal collaborated with trombonist Vinko Globokar and oboist Heinz Holliger in the 1970s to create a series of works involving instrument disassembly. Of course, Berio's *Sequenza IXa* (Berio, 1980b) for solo clarinet, later adapted for bass clarinet as *Sequenza IXc* (Berio & Parisi, 1998) in collaboration with performer Rocco Parisi, includes the multiphonic as a prominent feature.

In the context of all these developments in wind playing, the trombone possessed its own technical characteristics, and its musical potential was illustrated by Luciano Berio. Many of the techniques featured therein had previously been used rarely if at all.

As presented in the lecture recital in 2015 (appendix 8(b)), new uses of syncopation in the art-music tradition emerged from jazz and were evidenced in *Sequenza V*. Syncopation was also featured in Milhaud's *Concertino d'Hiver* (Milhaud, 1953), written for Davis Shuman (1912–66) who taught trombone at the Juilliard School and was associated with early performances of Hindemith's Sonata (Hindemith, 1942). Milhaud's work had been studied by Berio and he found it left an impression on him (Berio et al., 1989).

The following chart (figure 1.1) demonstrates techniques that have featured in solo and accompanied trombone repertoire between 1900 and 1965, compiled from 18 works (appendix 6(b)) and selected by date written and accessed in the RNCM library or online. The techniques listed are featured in *Sequenza V* and indicate which were already in use prior to its composition. The list indicates that the main techniques in use prior to *Sequenza V* were the glissando (in various forms), the flutter tongue, and theatrical elements. Although the glissando was considered an established technique prior to 1966, only four out of eighteen works featured this and twelve did not feature any "new" techniques.

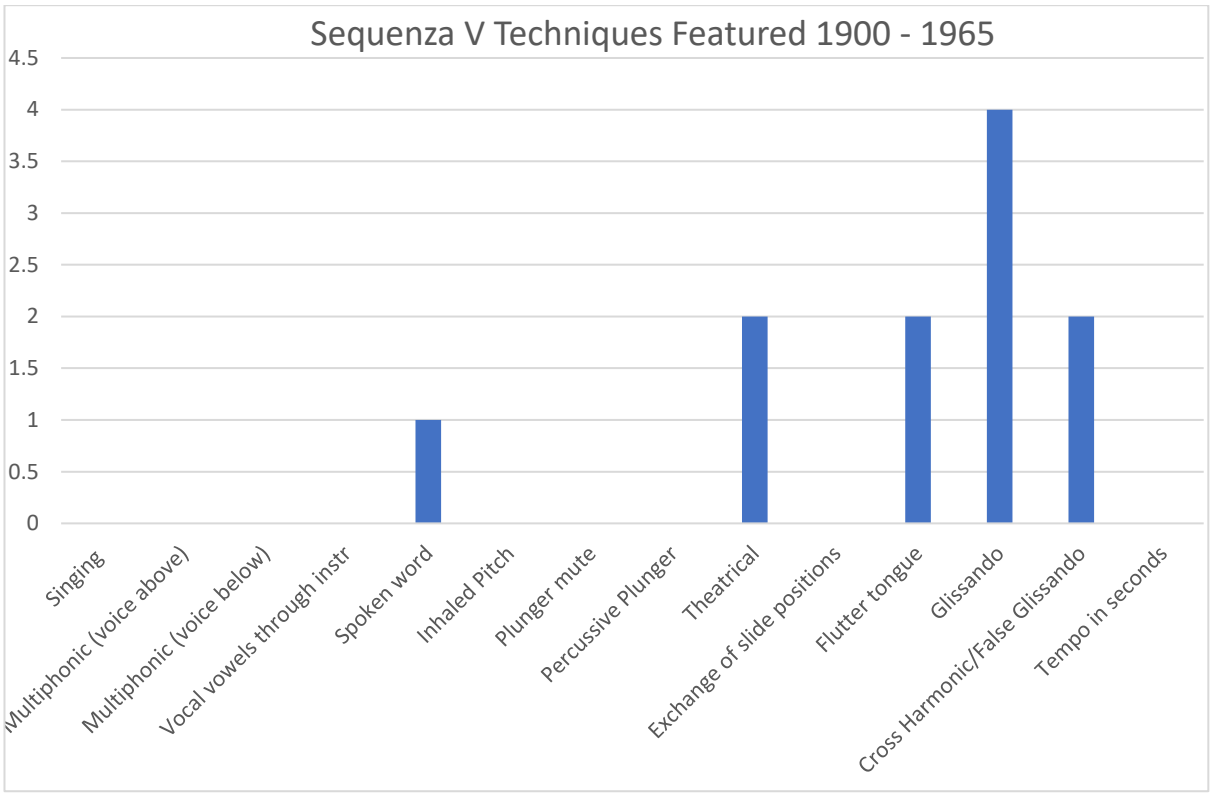


Figure 1.1. Chart listing specific techniques present in Berio's *Sequenza V*, demonstrating those that were present in works composed 1900-1965 (data compiled from appendix b). Created by K. Baldwin 2020.

b. <u>Glissando Techniques for Trombone</u>

The process of playing a brass instrument with a slide mechanism to alter pitch makes the trombone unique and in itself affords many possibilities, the main one being that it is easily capable of producing microtones. The trombone is the only brass instrument on which this technique can be executed genuinely and easily through operating the slide. The history of trombone glissando has been studied in detail in Herbert's *Glissando: a case study in continuity and change in brass performance idioms* (Herbert, 2010). The execution of a trombone glissando is not always as straightforward as it may seem as the performer is sometimes required to change technique in certain ranges.

The glissando can be performed in the following ways:

1. Slide glissando – along the line of the slide with its natural pitch.

2. ‘False’ glissando – skipping across harmonics, sounding as close to a slide glissando as possible by the performer.
3. Reverse or Harmonic glissando – the slide moves in reverse action to the direction of the pitch.

The pitches of the trombone and the operation of the slide are directly related to the harmonic series as described in the charts below:

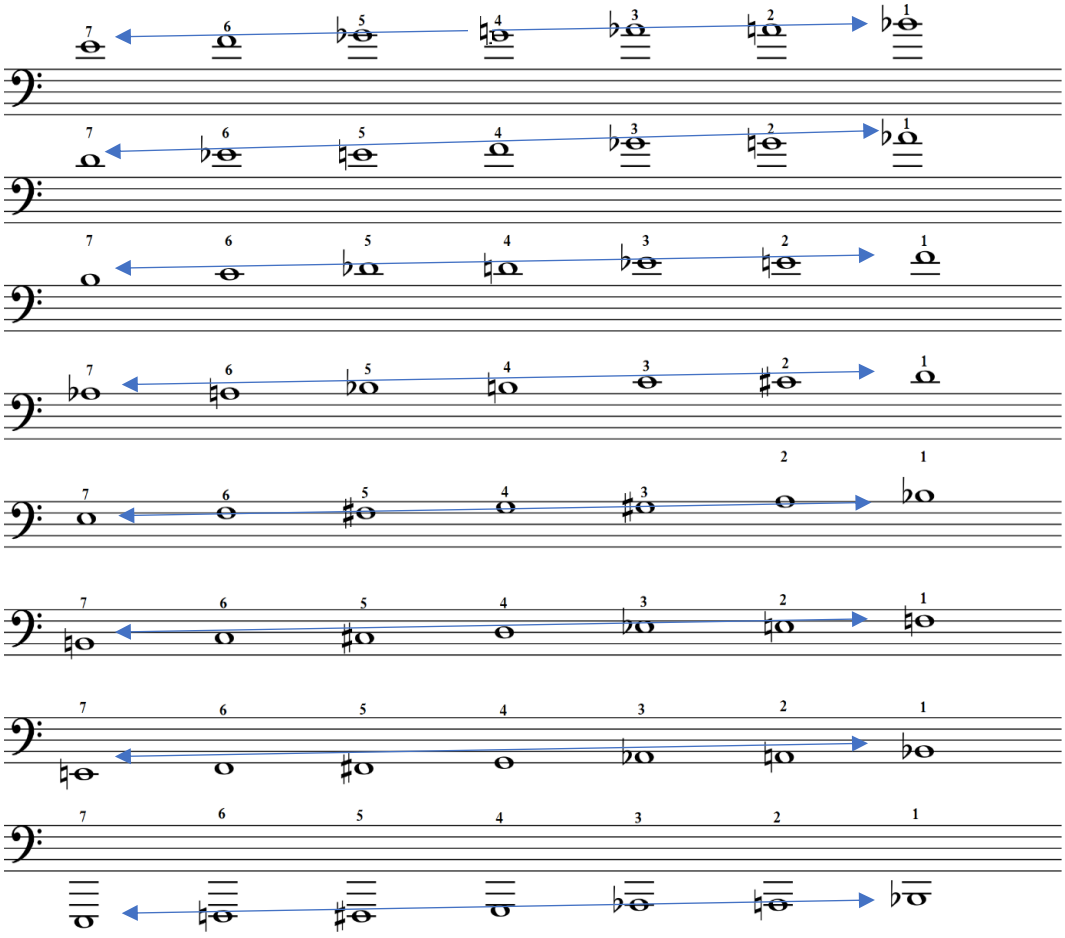


Figure 1.2(a). Chart of slide position notations to demonstrate possibilities for glissandi. Created by K. Baldwin 2020.

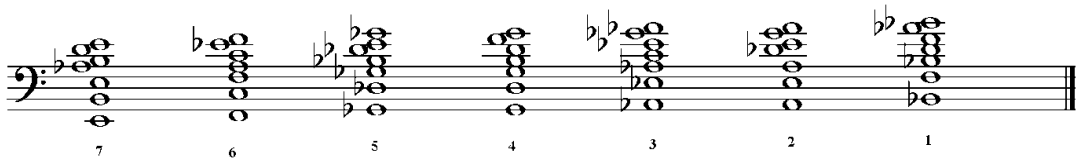


Figure 1.2(b). Chart demonstrating the harmonic series in relation to trombone slide positions (numbered). Created by K. Baldwin 2020.

Several points are shown clearly in figure 1.2(a):

1. The maximum interval that can be covered by a slide glissando is a diminished fifth.
2. The notes follow on from each other chromatically leaving no gaps. However, pitch overlaps appear from line 6.
3. The pitches of the harmonic series get closer together as the pitch gets higher. This also explains why there are overlaps as mentioned in point 1.
4. As another result of the decrease in intervals between harmonic series, notes appear more frequently so are possible in more slide positions in the higher series than the lower series, as also demonstrated in figure 1.2(b).
5. There is a gap in the pitches between lines 1 and 2 due to the increase in harmonic series as the notes descend.

A glissando can be performed on the trombone between any two notes on a single line as above (figure 1.2(a)), but the glissando cannot extend to a note on a different line. Typically, if composers require a slide glissando to be performed then it must be along the line of the slide with its natural pitch.

b.i The False Glissando

There are many instances in published twentieth-century music where glissandi for trombone do not concur with the patterns shown below in fig 3. To achieve glissandi in these circumstances, players have developed different methods to overcome the technical limitations of the instrument (Wick, 1984).

There are various reasons for this, including the following:

- The composer or arranger is not always aware that a natural glissando is not possible between any two notes selected.
- The glissando may have originally been within the range, but the music has been transposed to a different key.

- A different type of glissando is required.

Many professional players have devised methods to transition some of the above patterns by using alternative slide positions. Like with string instruments, one pitch can be played using several different methods on the trombone. A glissando can be produced by the performer moving across different harmonic series (figure 1.3) as they move the slide. This can be done using the full length of the slide, from positions I to VII, taking the slide in (for rising pitch) or out (for descending pitch) continuously until the desired pitch is reached, as shown below:

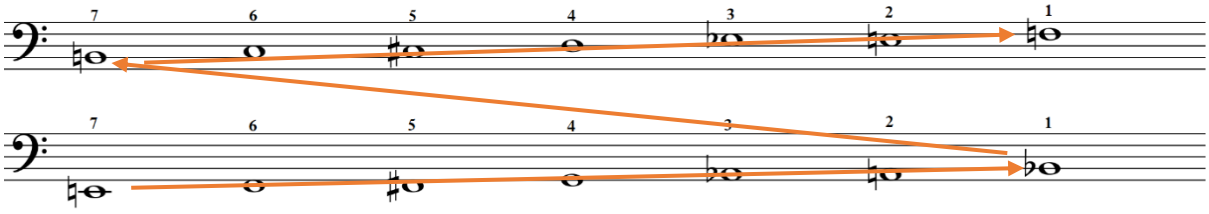


Figure 1.3. Chart of slide positions showing method of glissando. Created by K. Baldwin 2020.

Another method of executing a false glissando would be to skip across to another harmonic series before the destination is reached as shown below:

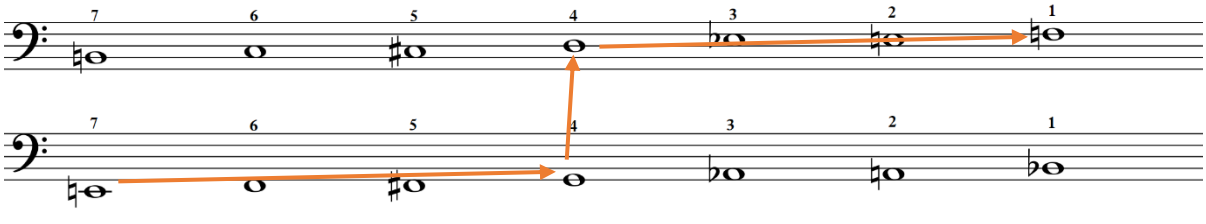


Figure 1.4. Chart of slide positions showing alternative method of glissando. Created by K. Baldwin 2020.

Depending on the skill of the trombonist, the transition between the pitches of the harmonic series can be possible using various different slide positions. The transition

can be disguised by speed so that the overall impression of a glissando is heard. Despite this, it is unlikely to sound as a true glissando, as it is the slide rather than embouchure that is modifying the pitch. Although this solution is not an obvious technique to use, especially considering the level of skill required, trombonists use it more frequently than one might imagine.

Deux Danses (Defaye, 1954), a duo for trombone and piano that became popular as a concert or audition piece, contains introductory phrases that appear to encapsulate these playing techniques. An analysis of the methods used in this context are pertinent to addressing the issues that frequently arise when playing contemporary music. This is, for trombonists, a prominent work that is performed regularly and known for its first two notes with the challenging glissando as well as a section in the extreme upper register. The glissandi featured are condensed below (figure 1.5) and are all impossible to play using the natural glissando. The first three intervals (featured in the opening theme) require a glissando over a major 9th. This is simply not possible with a slide glissando as this would only cover a maximum interval of a diminished fifth. The only way to perform these is using a false glissando.

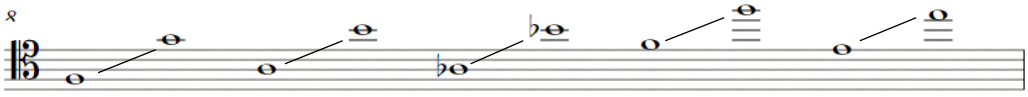


Figure 1.5. Chart of glissandi featured in *Deux Danses* by Defaye; *Danse 1 Danse Sacree*. Transcribed by K Baldwin 2020.

To perform the first glissando in figure 1.5 the performer would have to start on F in position VI and bring the slide upwards, initiating the rise in sound, then push the sound much higher than the natural rise and finish on G in either position II or IV (shown in figure 1.6). Alternatively, the performer could start in position I and quickly take the slide down for a glissando to the landing note. This has been explained on a slide chart below in figure 1.6.

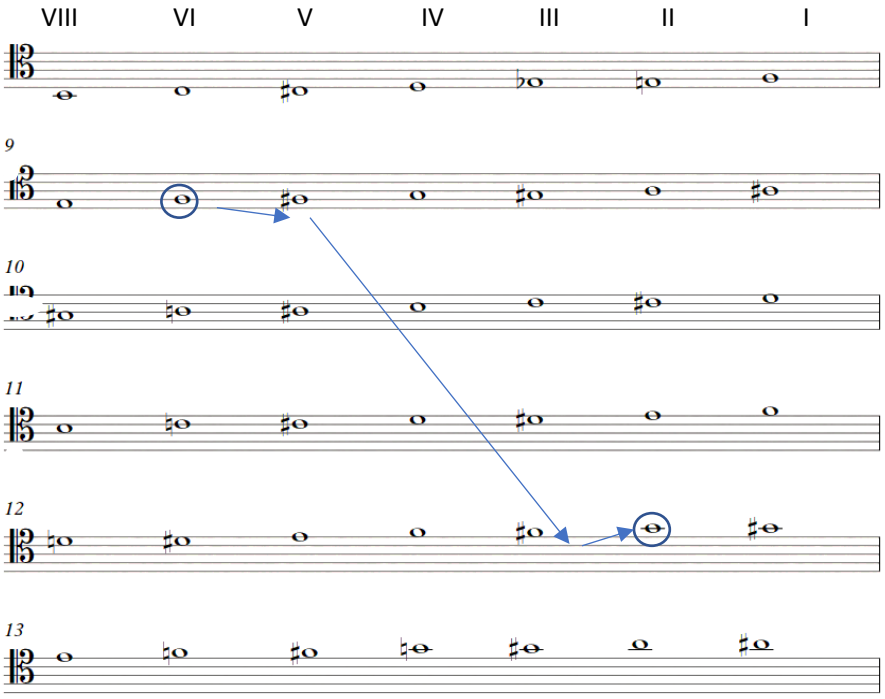


Figure 1.6. Chart of glissando 1 featured in *Deux Danses* by Defaye; *Danse 1 Danse Sacree*. Transcribed by K. Baldwin 2020.

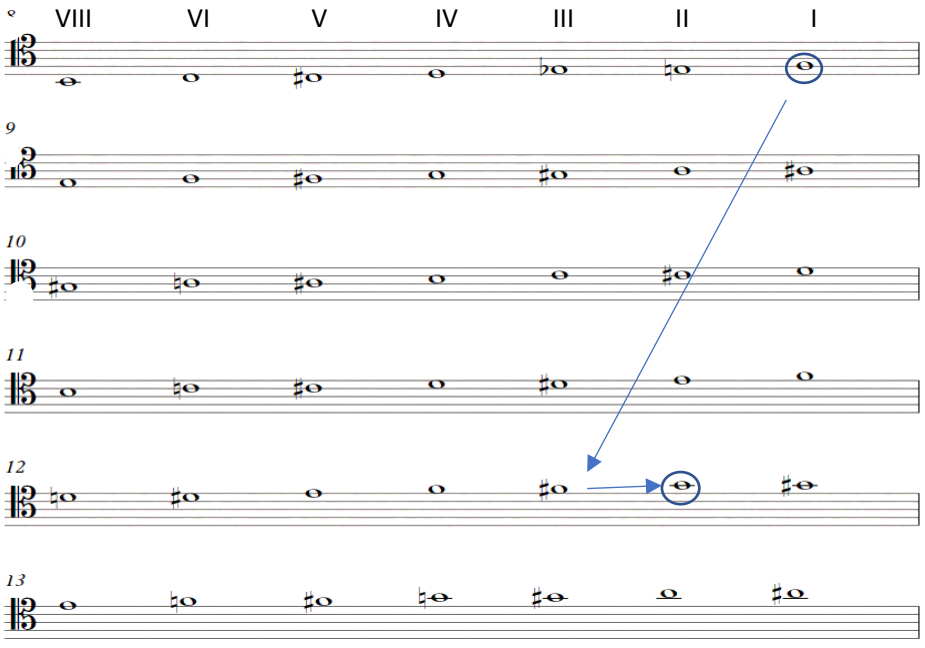


Figure 1.7. Alternative chart of glissando 1 featured in *Deux Danses* by Defaye; *Danse 1 Danse Sacree*. Transcribed by K. Baldwin 2020.

Movement 2 presents a different style and a repeated motif featuring false glissandi. These are shown below in figure 1.8.

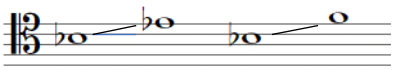


Figure 1.8. Chart of glissandi featured in *Deux Danses* by Defaye; *Danse 2: Danse Profane*. Transcribed by K. Baldwin 2020.

This work of 1954 has been chosen to demonstrate the acquisition of technical skills that are pre-requisites in playing the avant-garde music that followed in subsequent decades. Acquiring these skills requires extensive study to control the sound, and the performer must force the sound using increased air flow and adjustment of the lips for it to go in the right direction and finish on the intended final note. In the higher section this was more straightforward to achieve with more flexibility around pitching in this range. This work has been featured in the performance portfolio (appendix 7(h)) to demonstrate use of false glissando.

b.ii Reverse Slide Glissando

This technique involves moving the slide in the opposite direction to the direction of the changing pitch. If this is executed quickly and with enough force of breath and tonal direction, a glissando can be produced. The effect is comparable to the sound of glissandi on other instruments such as woodwind, as individual notes are sounded en route rather than the glissando moving smoothly between the start and end notes. If executed more slowly, it can create a reverse slide passage, not dissimilar to a slur, as demonstrated in the *Sanctus* in Britten's *War Requiem* (Britten & Owen, 1962) and later in *Basta* (Rabe, 1982), both of which can be heard in the performance portfolio (appendix 7(d)).

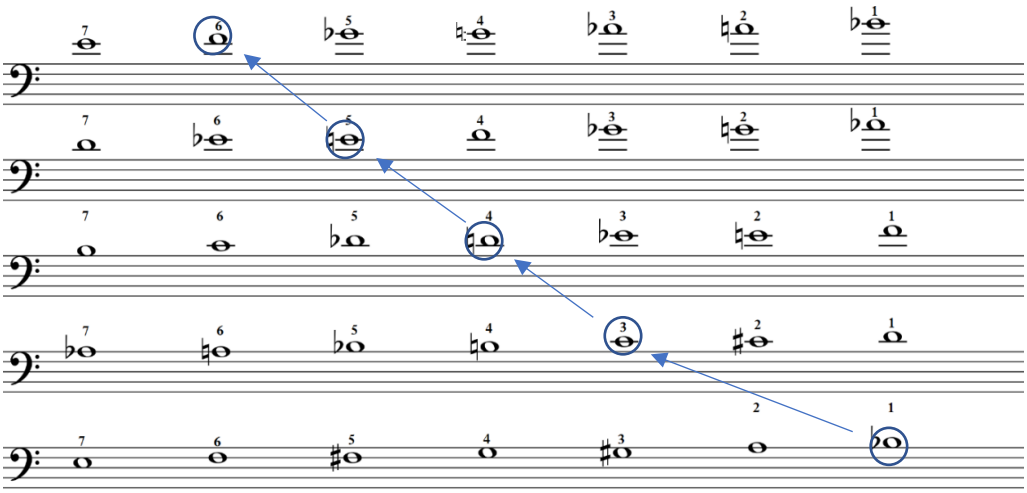


Figure 1.9. Chart of slide positions, example of notations to demonstrate slide positions passed during a reverse glissando. Created by K. Baldwin 2020.

c. Flutter Tongue

The large mouthpiece, the wide bore of the instrument, and the forward-facing bell mean that the trombone can amplify articulations well. There are several types of articulation that are particularly effective on the trombone. The flutter tongue was popularised by jazz though it exists in classical repertoire too, for example *Die Frau ohne Schatten* (Strauss & Hofmannsthal, 1919), and its use is prolific and widely accepted in standard repertoire (Dempster, 1979). The 'growl' is a very similar technique to the flutter tongue, but is produced further back in the throat rather than with the tongue. This is possible on most wind instruments and is produced by rolling 'r's or throat effect (depending on the anatomy of the performer's mouth). These are sometimes combined with mutes for further variation.

Prior to the publication of *Sequenza V* the flutter tongue and the growl were popular in jazz. Flutter tongue featured in ragtime music in the late nineteenth and early twentieth centuries (Herbert, 2006). An example of this can be heard in the 1919 recording[1] of James Reese Europe's *Memphis Blues* by W. C. Handy (Handy, 1916). The 'growl' became popular with jazz practitioners in the late 1920s such as 'Tricky Sam' Nanton who

[1] https://youtu.be/S4xODDsTpCw accessed 11.2.21

combined this technique with a plunger mute to imitate the sound of talking (Nanton, 1927).

The *Concertino d'Hiver* (1953) by Darius Milhaud was chosen as a work to perform for this portfolio because of the direct influence of Milhaud's compositional style on Berio and his work (Berio et al., 1989). The middle movement requires the performer to use a cup mute for large sections, creating a specifically quieter and muffled tone, as well as flutter tongue. These features come from the influence of jazz on Milhaud, whose work then influenced Berio's work. It is challenging for the performer to learn as the trombone does not lend itself easily to the leaps in range featured throughout and the pitching issues that these leaps create. In particular, a prominent feature of *Concertino d'Hiver* is a false glissando in the second movement combined with flutter tongue (Milhaud, 1955). Please refer to appendix 7(g) for a performance of this work.

d. Theatrical Works

The trombone can be considered theatrical in character due to the distinctly visible use of slide movement to operate it. Around the turn of the twentieth century, American trombonist Arthur Pryor impressed audiences with his showmanship and musicianship on world tours and on many recordings with the Sousa Band (Herbert, 2006). His audiences thought it was a trick that a trombone could be played with such virtuosity and on occasion inspected his trombone to see if it was genuine (CD sleeve, Pryor, 1997). Pryor created a visual element to his trombone performance, but his published music did not feature theatrical instructions. This idea of showmanship in America continued into the twentieth century and a black minstrel comedic theme led to novelty solos such as *Lassus Trombone* (Fillmore, 1915), *The Joker* (Moss, 1928) and *The Acrobat* (Greenwood, 1936), though acting was still a by-product, not an intrinsic part of the repertoire.

In 1950, Bernstein's *Elegy for Mippy II* featured the performer's tapping foot. It is common for amateur players to tap along as they endeavour to keep in time, but this is considered one of the first times a theatrical element was introduced to solo trombone repertoire as an instruction in the score (Duke, 2001). In this instance the challenge is to keep the foot-tapping steady and consistent whilst performing the work. As a simple but

highly visible feature in the development of trombone theatre I have included a video recording of this work in my portfolio (Bernstein, 1950). For further information regarding the performance of this work please refer to the performance portfolio (appendix 7(f)).

John Cage's *Solo for Sliding Trombone* (1958) could be considered a compendium of sound palette for the listener. The work features a series of notes performed in different manners including disassembly of the instrument. At the time this may have been surprising for audiences and inspired curiosity about what the performer would choose to do next. Although it is likely to have inspired composers to consider more sound possibilities for the trombone, composers at the time tended to use standard rather than extended technique to produce pitches, instead adopting mutes and disassembly to vary the sound (Cage, 1960).

e. Berio and Grock

Berio wrote *Sequenza V* (Berio, 1966) about his former childhood neighbour Charles Adrien Wettach (1880-1959), also known as the celebrated Swiss clown Grock. Grock was an accomplished multi-instrumentalist, and this impressive ability featured heavily in his act[2].

Berio explains: "In Sequenza V for trombone solo, the memory of Grock, the last big clown, peeps out. Grock was my neighbor at Oneglia: he dwelt in an odd and complex country house in the hills, in a sort of oriental garden with small pagodas, small lakes, bridges, streams and weeping-willows. With my school fellows I used to climb over his garden's gates to steal oranges and tangerines. During my childhood the closeness, the excessive familiarity with his name and adults' indifference prevented me from comprehending his genius. Only later--I was 11 years old--I had the chance to see him in performance at "Teatro Cavour" in Porto Mauricio I realized it. During that performance, just once, he suddenly stopped and, staring at the audience, he asked: WARUM (why). I didn't know whether to laugh or cry, I wished I could do both of them. After that experience I haven't stolen oranges from his garden anymore." *Sequenza V* is a tribute to that "warum" (Conant, 2016).

[2] https://www.youtube.com/watch?v=PMvL8rV1ssI (last accessed 18.2.21)

Years later he wrote *Sequenza V* about Grock, with the two main sections (A and B) representing two sides of his personality, introvert and extrovert. Grock's 'why' is a recurring theme throughout the work (Berio, 1966) .

Figure 1.10. Photograph of Charles Adrien Wettach, also known as Grock. From https://famousclowns.org/clown-pictures/grock-photo-gallery/ (last accessed 18.2.21).

Although part of the B section of *Sequenza V* was first performed in April 1965 by the Slovenian composer and trombonist Vinko Globokar (1934-) as the unpublished work *Essay* (Baker, 1994), Berio had as early as 1964 expressed his intention to compose a *Sequenza* for Stuart Dempster (1936-) (Halfyard & Osmond-Smith, 2007), a renowned American trombonist and composer, and the two collaborated to complete the work. The complete *Sequenza V* was eventually both commissioned and premiered by Dempster in San Francisco in March 1966 (Osmond-Smith & Berio, 1991). Although Globokar gave the UK premier performance in London in 1966 and the German premier recording in 1967, Globokar himself maintains that he did not collaborate with Berio to create the initial composition *Essay*. Hence, we must acknowledge that this composition seems to have been written for Dempster. This is consistent with Berio's indications in the score as well as with Dempster's own words: "I would occasionally goof around in rehearsals like I goof around generally [...] Berio said that I am like Grock – he said that several times – and I think that was the inspiration for the piece" (Webb, 2007) (Baker, 1994) (Halfyard & Osmond-Smith, 2007).

2. PERFORMING SEQUENZA V

a. Introduction and Context

Works such as Luciano Berio's *Sequenza V* (Berio, 1966) can be challenging to approach, particularly when the score appears to convey many simultaneous and rapid instructions such as in this case. The unconventional notation (figure 2.10) includes no time signature, key signature, or traditional western notation. Also, a line representing the plunger mute appears below the stave throughout, which can be a surprise on first viewing. Having witnessed a common response amongst both student and professional trombonists of fear and suspicion when suggested they might learn this work, I decided that breaking down that barrier was important to make the notation and techniques featured in *Sequenza V* more accessible to trombone students and the wider trombone community.

In 2017 a survey completed by trombone students at the Royal Northern College of Music who were presented with the score for *Sequenza V* brought interesting responses. For example:

> *"Looks very hard"*
>
> *"Visually complex score, sounds strange"*
>
> *"Where do I begin?"*

Survey 11.12.2017, Kerry Baldwin

Sequenza V at initial glance gives an impression of unconventional and complex notation, with an added sub-stave with instructions for use of the plunger mute (as demonstrated in figure 2.10). Despite 8 out of 11 students having heard of the work, only one had previously attempted to play it. Most students found that an initial barrier to learning *Sequenza V* was that it was visually daunting, but despite this did wish to learn to play it. Although it is not uncommon for composers to invent new ways of notating non-standard sounds, for example with graphic scores, these do pose a challenge to the performer who must take time to decipher the composer's intentions.

The score is specific, and every sound and movement is instructed according to the intentions of the composer. There are few texts or studies to help the trombonist with the techniques presented in some contemporary pieces, therefore instruction from a small pool of specialists is one of the only ways available.

The last decades of the twentieth century and the early twenty-first century saw a small number of books published that gave specific information about trombone playing techniques. These may be useful to trombonists who can research the featured trombone techniques and how to produce them before attempting to learn *Sequenza V*. For example, Benny Sluchin's *Practical Introduction to Contemporary Trombone Techniques* (Sluchin, 1995) instructs the performer on techniques such as multiphonics, and Dempster's *The Modern Trombone* (Dempster, 1979) gives examples of how these techniques feature in twentieth century music. More recently Svoboda and Roth introduced further information on extended techniques in a book entitled *The Techniques of Trombone Playing* (Svoboda & Roth, 2017) and Matthew William Haislet reviewed existing multiphonic instruction texts in his 2015 dissertation *The Art of Multiphonics: a Progressive Method for Trombone* (Haislet, 2015)

My own experience of learning *Sequenza V* has been guided by trombone tutors and visiting specialists at the RNCM and further afield, and also by studying texts detailing the intentions of the work, such as *Performing Berio's Sequenza V* (Webb, 2007). I have collated various findings, information gathered from British specialist performers such as John Kenny, and research conducted with the RNCM trombone department. This chapter analyses how to perform *Sequenza V* and gives an overview of the techniques required to tackle the work, assuming no previous knowledge of extended techniques. I have also devised a collection of exercises for tackling the challenges of Luciano Berio's *Sequenza V* derived from the multiphonic passages featured in the work itself.

b. Preparing to Learn Sequenza V

i. Instructions

The score of *Sequenza V* contains information for the performer, including an addition by Stuart Dempster in the front cover instructing how to dress, where to aim a spotlight and how to act. The reverse side of the score gives a key to reading the notation as well as the techniques that must be used (Berio, 1966). Although many recordings of *Sequenza V* have been made, they differ in performers' interpretation of techniques. Examples of this include: costume, glissandi, the 'frantic' section and timing.

ii. Equipment: Instrument

Sequenza V does not venture outside of the orthodox range of the trombone, pitched in Bb. Although the range of the trombone was clarified early in the twentieth century by Widor as E below the bass clef stave to D above the treble clef stave, the tessitura rose in pitch during the first half of the twentieth century. This was aided by musicians such as Arthur Pryor and Tommy Dorsey who brought the higher range pitches into mainstream practice. Although the sixth system of section B in *Sequenza V* briefly ventures into the extreme high range, the rest of the work stays within the standard range as advised by Widor (Baldwin, 2013; Widor, 1906). *Sequenza V* is performed without requiring the extra low range of a fourth added by the additional valve operated by the left thumb. This could be considered a surprising decision from Berio as *Sequenza V* is all about expanding the capabilities of the trombone, and the extra notes that the valve facilitates could have provided significant further expansion. However, using the valve comes at the cost of the trombonist being able to use the plunger mute. Although thumb valves had undergone manufacturing improvements over the course of the nineteenth and early twentieth centuries, it still was not until the late twentieth century that leading players began to use them as their standard equipment (Herbert, 2006). The left hand is occupied with the mute throughout, meaning it would not be possible to operate a valve at the same time. This of course means that any working trombone will be suitable for performing *Sequenza V,* so it makes most sense to perform it with a

straight trombone to avoid extra weight on the left hand/wrist area – this is most welcome when operating the mute.

Despite this, and although there is no visual evidence available of the original performers, trombonists frequently perform *Sequenza V* with a trombone complete with thumb operated valve. Of nine *Sequenza V* performances analysed on YouTube, seven performers use a trombone with an extra valve[3].

iii. Equipment: Mute

The score indicates that a metal plunger mute is to be used throughout the work. These were more commonly found in 1966 when *Sequenza V* was written. Many models of plunger mute have been manufactured for minimum noise in performance and to avoid instrument damage, and these are more commonly made of rubber or with a rubber rim rather than metal. The use of rubber not only dampens the sound but also prevents the 'metal on metal' sound required for the rattling sections, so if a metal mute cannot be found, performers can either remove the rubber rim or attach brass pins around it to create this sound. Stuart Dempster disagreed with the instruction of the metal mute in *Sequenza V* and was not able to gain clarification from Berio as to whether this instruction was correct. He opted to use a rubber plunger mute with brass pins.

Metal mutes absorb very little sound so enable the trombonist to alter the timbre without losing dynamic. Although volume can be absorbed by mutes inserted into the bell (thus forcing the performer to compensate with additional air pressure), the plunger mute effect changes the volume from full (when fully open) to very low (when almost closed) and all the variances in between. (The mute should not be fully closed unless

[3] https://www.youtube.com/watch?v=OnfApTtzJmk Christian Lindberg (viewed 15.1.20)
https://www.youtube.com/watch?v=fJjQOIBv97c Deb Scott 28.9.15 (viewed 15.1.20)
https://youtu.be/VRNToDNpIOM Joey Munoz 6.12.12 (viewed 15.1.20)
https://www.youtube.com/watch?v=2Z5Vz-QPUcU David Bruchez-Lalli 22.2.08 (last accessed 15.1.20)
https://www.youtube.com/watch?v=xn8d0ox4M-g Richard Harris 2002 (last accessed 15.1.20)
https://www.youtube.com/watch?v=zkS0IVW3vb0 Petar Stoykov 2012 (last accessed 15.1.20)
https://www.youtube.com/watch?v=htD_TXSpLx4 Harrison Reed (last accessed 15.1.20)
https://www.youtube.com/watch?v=k-_vX7qMvqA Simon Bolivar 29.5.18 (last accessed 15.1.20)
https://www.youtube.com/watch?v=hyCw8xUIXp0 Kenneth Johnson (last accessed 15.1.20)

specified as this gives a very different effect). This gives a wide range of possibilities, all of which are fully controlled by the performer (Herbert et al., 2019). The mute should be comfortable to hold as it is used throughout the piece. If holding the mute securely poses a challenge to the performer, a handle can be attached.

iv. Equipment: Costume

Although it is known that Berio was influenced by Grock the clown when he wrote this work (Conant, 2016), this has been interpreted over the years in different ways. It has become traditional in more recent years to perform *Sequenza V* with the persona of a clown, including wearing a clown costume, although this has not been specifically instructed in the score (Nicholson, 2016).

Sequenza V has become well known for the clown costume as a result and to some extent this has become a barrier to its performance as many trombonists are not comfortable with dressing up! However, contrary to popular belief, this is not necessary. Stuart Dempster, for whom the piece was written, states that his performances of *Sequenza V* are inspired by the stories of Grock, rather than an opportunity to act like him (Webb, 2007).

On the reverse of the *Sequenza V* score (Berio, 1966), instruction is given as to what the performer should wear. White tie is specified, which gives further room to interpretation, but does suggest male formal concert wear. Grock wore ill-fitting formal suits so it is plausible that this could mean dressing like him, but perhaps this is for the performer to decide for themselves.

The 1960s were a time of development in areas such as experimental theatre and interdisciplinary practice of the arts (Bithell, 2013). German composer Mauricio Kagel featured theatre in works such as *Match* (1964), a contest between two cellos (Attinello 2001), and American composer John Cage featured theatre in *4'33* (Cage, 1962). *General Speech* (Erickson, 1967), which featured military costume, was published the year after *Sequenza V* (Berio, 1966), and this is discussed further in chapter 3(a).

c. Movement

As the instructions on the score are few, the performer is free to make their own decisions, particularly based on how visual they intend their performance to be. Some trombonists prefer to maximise physical movement whereas others believe that this detracts from the music as the main event.

The suggestions given explain that the trombonist should perform the work as if in an empty hall and when entering give the impression of being about to "sing an old favourite" [song] (score cover, Berio, 1966). Dotted lines show where the instrument should be lifted up and down (below) – these are given on the first line and last note of the piece.

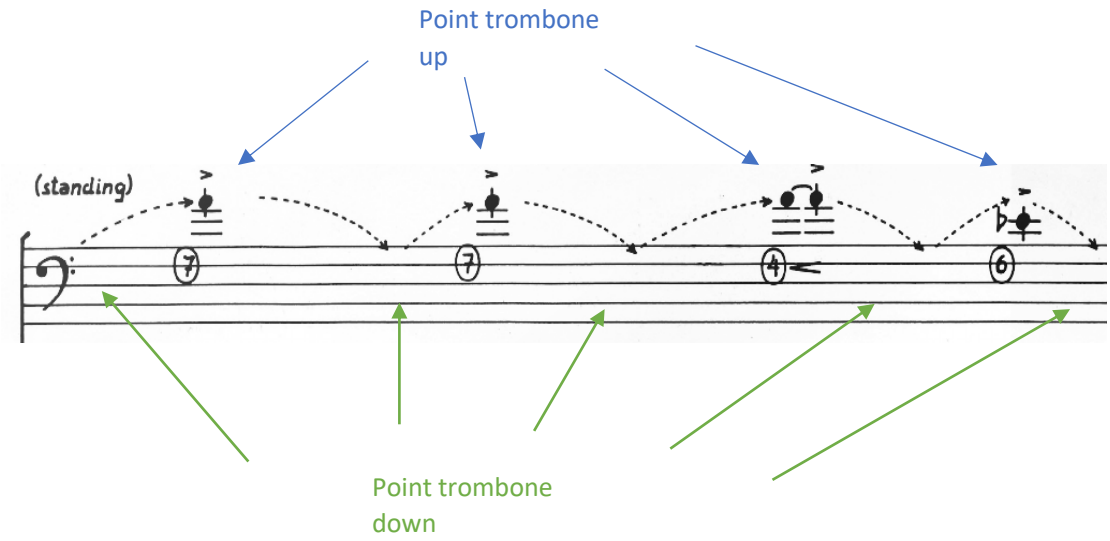


Figure 2.1. Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The physical movement required during the A section indicates that it would be preferable to perform this from memory to allow for more movement in the space. In addition, lifting the trombone up and down also requires moving the head, making it impossible to keep eyes on the score.

At the end of the section marked A (figure 2.12), the trombonist sits down on a low chair with a low stand (as instructed in the score) and performs the B section without further theatrical gestures apart from lowering the instrument on the very last note.

d. Interpreting the Score

Although, as previously mentioned, information is given on the reverse of the score, a more detailed description is given below of the practical requirements of interpreting the symbols:

i. Tempo

The tempo and pulse are indicated in different ways to standard notation. Although a traditional stave has been used for pitches, there are no bar lines to help measure the pulse. Brackets above the stave give the approximate (circa) number of seconds each section should take in terms of actual distance on the paper. This is reasonably specific, but it is not really possible to measure this accurately in performance as one would do with a regular pulse.

Although less common now, it was not unusual at the time to use bracketed tempo markings along with other symbolic instructions. Graphic scores, along with mixed graphic/standard notational scores, became popular in the 1950s to enable the composer to instruct the performer when traditional notation was not sufficient to relay the information (Cummings et al., 1995). In the case of tempi, this method can be precise but without pulse. John Cage also featured a mixed score for *Solo for Sliding Trombone* (Cage, 1957-8) but with an indeterminate tempo rather than the more specific tempo Berio featured in *Sequenza V*. In the section marked A (as clarified below in figure 2.2) an initial duration is given but then this is altered more frequently, even at the start of each line in the first few systems. In the B section (clarified in figure 2.3) only one duration is given for the whole section.

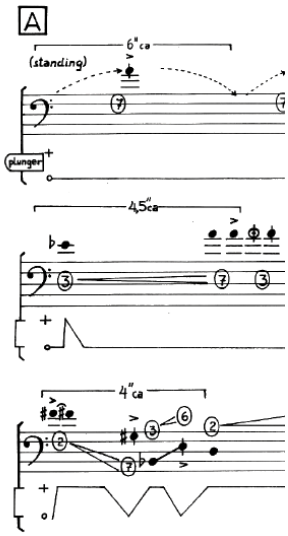


Figure 2.2. Diagram of *Sequenza V*, examples of tempo. L. Berio, 1966.

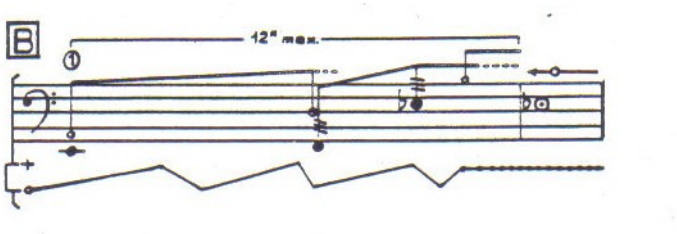


Figure 2.3 Diagram of *Sequenza V*, example of tempo. L. Berio, 1966.

ii. Notation

For most of *Sequenza V*, a traditional bass clef stave is utilised, creating some familiarity in pitch reading for a bass clef trombonist. In this instance the score is written using only note heads without stems so a new way of reading the notation must be understood. Although this could still be considered unconventional, Berio also featured note heads in *Sequenza III* for female voice, although this also included indeterminate pitch in specific sections where the stave itself was removed (Berio, 1968). The style of notation featured in *Sequenza V* was not unusual at the time and was also featured in works such as Earle Brown's *Synergy II (Brown, 1972)* and John Cage's *Solo for Sliding Trombone* (Cage, 1957-8). Therefore, this was not the first time such notation was used in trombone repertoire.

Although it may initially appear that this makes the piece more complicated, removing the element of pulse can in fact simplify the timing. The closer together the notes, the quicker they are played, and when further apart they are played more slowly. Figure 2.5 indicates the notes that will be played very quickly and also those that are much further apart. These are displayed in pairs where the first is sustained and the second is short.

A vertical line through the note head indicates to play it short and no line at all indicates to sustain the note until the next one is played. This is indicated in figures 2.4 and 2.5.

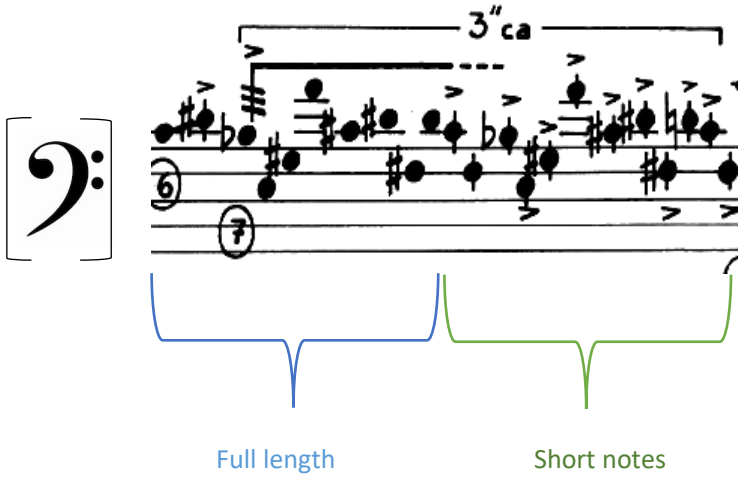


Figure 2.4 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

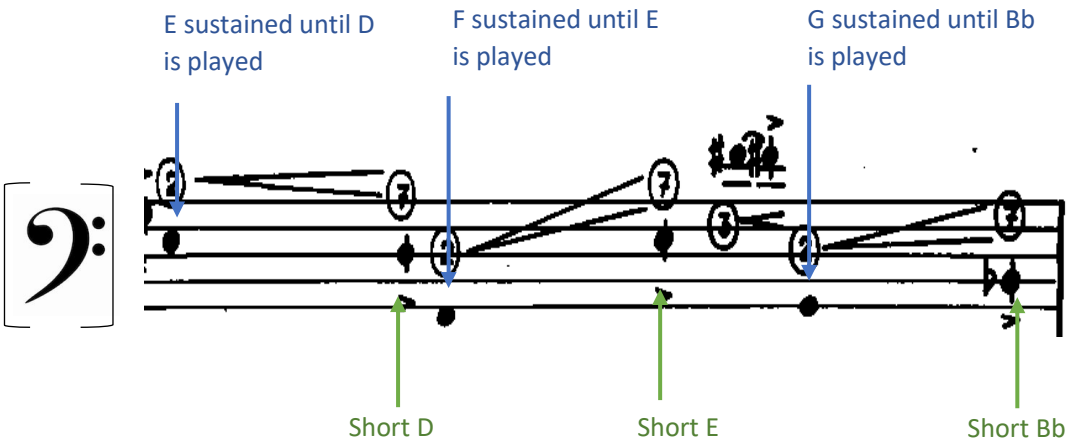


Figure 2.5 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

Vocal pitches are notated differently as a circle with a dot inside to distinguish from the played note. This is shown in the final bar of figure 2.5. This style of vocal notation is also featured in works such as *Res/As/Es/Ins-pirer* (Globokar, 1973).

iii. Dynamics

Standard Italian terms for dynamic range are not featured in this work at all. Instead Berio uses a numerical system with a scale of 1-7. This was a more unusual way of scoring dynamic range at the time and there is little evidence found at this time to suggest this same numerical system has been used in other works. The numbers are placed above or below notes and circled to specify how loud they should be, with 1 being the quietest and 7 being the loudest (shown in figure 2.6). These are often allocated to individual notes. Standard symbols for crescendo and diminuendo are still used.

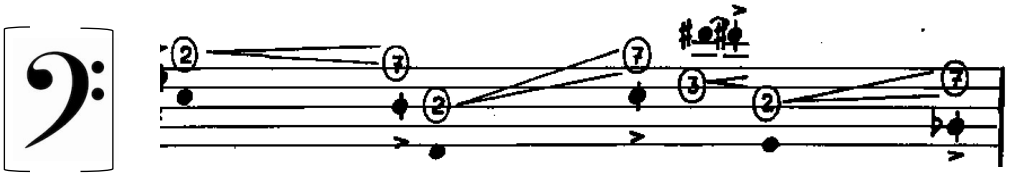


Figure 2.6 Diagram of *Sequenza V*. L. Berio, 1966.

iv. Muting

A plunger mute alone features throughout *Sequenza V*. A separate and continuous line underneath the stave gives instructions as to the exact times when this should be moved open and closed. When the line rises this indicates the mute becoming more of a closed position and at the bottom it is fully open. Using traditional mute notation (+ closed o open), this would look as follows (figure 2.7):

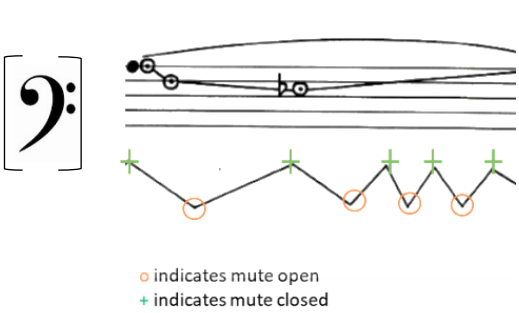


Figure 2.7 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The crossed symbol (figure 2.8) indicates complete closure of the mute. This can cause the pitch to rise slightly so it would be typical for the performer to lengthen the slide to compensate for the rise in pitch.

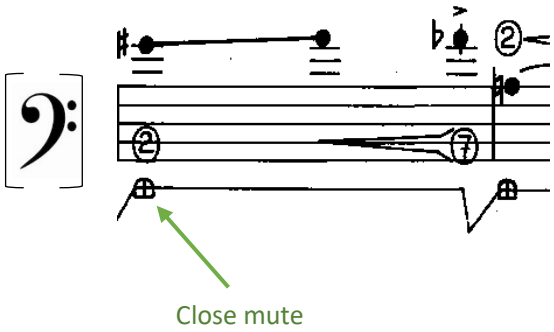


Figure 2.8 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The dotted line below the stave shown in figure 2.9 indicates that the mute should be rattled against the bell of the trombone with the left hand. This should make a metallic sound (further discussed in chapter 2(b)iii). Research into techniques used in twentieth century trombone repertoire (appendix 6(b)), demonstrates that, to my knowledge, this particular and distinctive technique has not been found in any other works. This sound is featured in the B section only. This is not to be confused with a dotted line above the stave featured in the third system (figure 2.9).

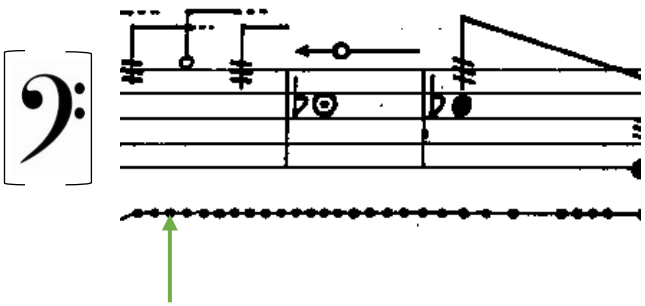


Figure 2.9 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

e. <u>Sections A and B</u>

The first section labelled 'A' differs from the much longer 'B' section. It is explosive and high impact and as it contains specific theatrical movement it is instructed to be performed standing. The A section is the 'extrovert' section of the work, interpreting the Grock side of Charles Wettach's character (Hansen, 2010).

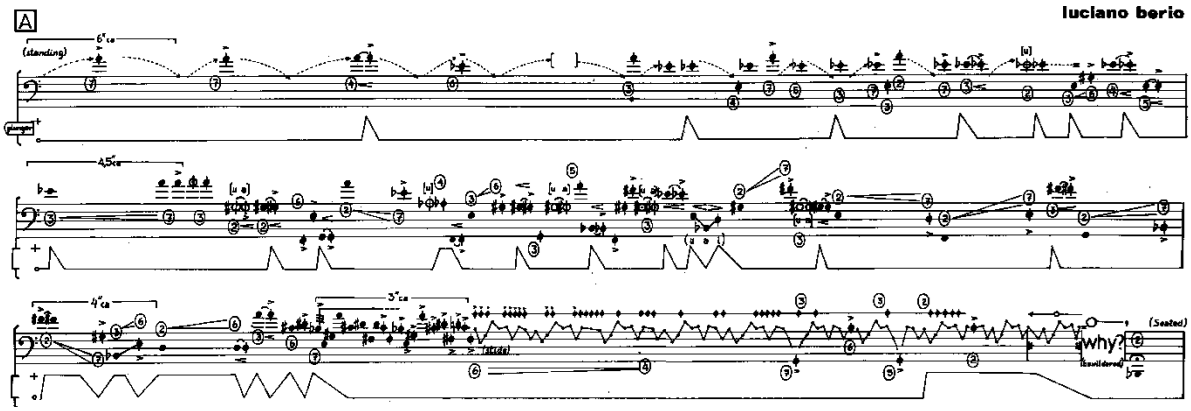


Figure 2.10 Diagram of *Sequenza V,* A section. L. Berio, 1966.

The initial notes (figure 2.10) are to be played very loudly and as short as possible into the audience with the plunger mute fully open. The third, however, is started with the

mute closed and then quickly opened to give a 'wah' effect whilst the fifth note is anticipated but not played.

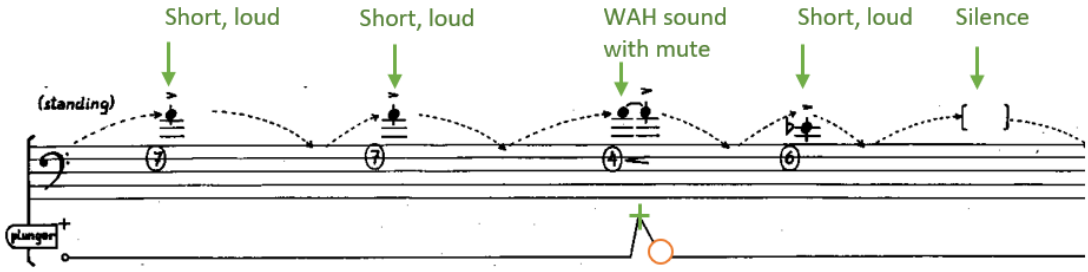


Figure 2.11 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

There are six specific places in this section where sung and played notes are performed separately but adjacently at the same pitch. This really shows two timbres of the same note mimicking each other and it is important that the pitches are sung accurately. On the first and third notes the vocal pitches are to be sung using an 'ooo' sound and the others as 'ooo'-'aaah', which also mimics the 'wah' sound produced by the mute.

f. <u>WHY</u>

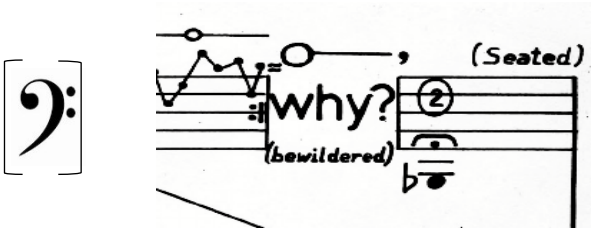


Figure 2.12 Diagram of *Sequenza V*. L. Berio, 1966.

The word "WHY" is spoken out loud at the end of the A section (figure 2.12). This is an important fundamental part of this work. As mentioned previously, Grock the clown, the inspiration for *Sequenza V,* was recalled by Berio to have uttered the word "Warum?" in

one of his performances. In his interview with me, trombonist John Kenny refers to this: *"[Why]… is what makes us human."* (Appendix 6(a))

Although WHY is only spoken out loud once, it features within the music in a number of less obvious places. The syllables U-A-I forming the word WHY are sung out loud in the A section. Sometimes not all three are formed and they are cut short after one or two. This concept is initially introduced in the third note of *Sequenza V* (figure 2.10) but is featured in both the A and B sections.

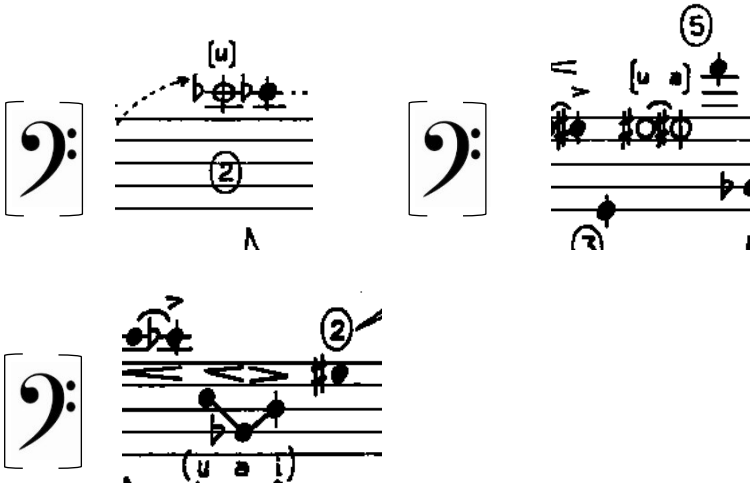


Figure 2.13 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

As the pitches are sung through the instrument (figure 2.13), the mouth is to be shaped into the form it would take to pronounce the syllables in standard speech – thus the note is also played in this manner. This change in the shape of the vocal cavity distorts the sound of the note, for example the sound 'ooo' brings the cheeks in and purses the lips. This can produce a rich sound but also may lead to a loss in the muscle tension required to perform the note, resulting in a drop in pitch. In order to produce the correct pitches on the trombone, the performer's lips must vibrate at the appropriate frequency for each note, for example A4 = 440 vibrations (opening and closing of the lips) per second (Herbert et al., 2019). The challenge for the performer is that they are required to retain this whilst still forming the vocal syllable at another pitch. The sound 'aah'

opens up the vocal tract and would typically open the mouth, however this is not practical whilst performing a note. The vocal cavity must be as open as possible with the exception of the lips, which must remain in position to produce the correct pitch on the trombone. The 'eee' sonority stretches the cheeks outwards and produces a pinched sound. It may be a challenge for the performer to effectively make the different sounds heard, but the more pronounced these effects are, the more impact they will have for the listener.

g. <u>The Third Staff System</u>

The third system poses a visual challenge and a multi-layering of techniques. The first nine notes are repeated, initially represented with standard notation and then further with indeterminate pitches, represented visually by a linear pattern.

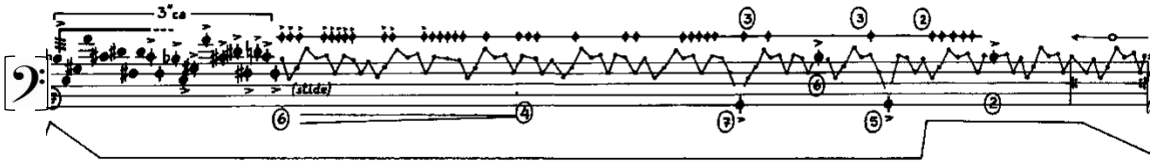


Figure 2.14 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

To perform this the trombonist must first learn the initial note pattern:

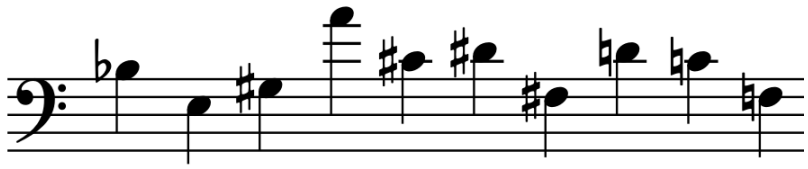


Figure 2.15 Transcription of the third system note sequence by K. Baldwin.

The pattern is initially played with full length notes and then repeated with short accented notes. Following this there are further repeats as represented by the line

taking the shape of the notes, however these are slide movements only without sound. Sounds are made at the points indicated by the dotted line above as demonstrated in figures 2.16 and 2.17. The performer must be aware of the repetitive nature of the score despite the changing notation style. The changing focus to the shape and articulation during this section is clear by the manner in which Berio reduces the size of the individual pitches in favour of a more linear approach.

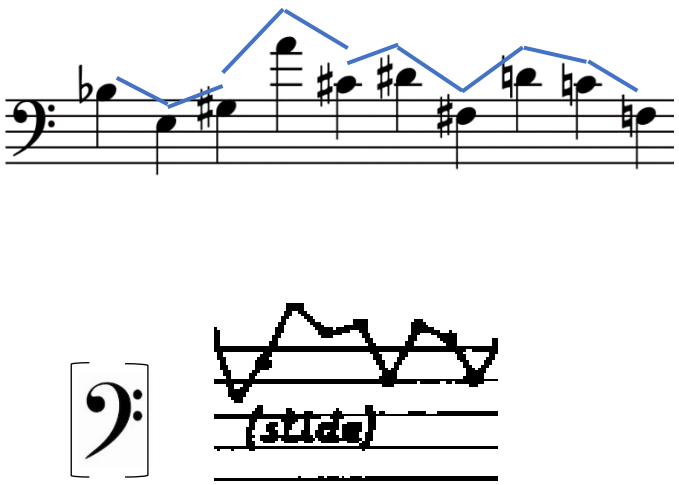


Figure 2.16 Diagram of *Sequenza V* with annotations and transcription (above) by K. Baldwin. L. Berio, 1966.

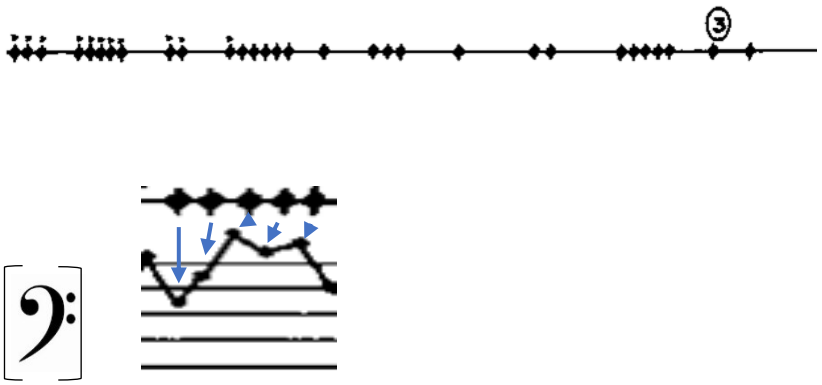


Figure 2.17 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The larger notes are not part of this pattern but are to be played more prominently (figure 2.18).

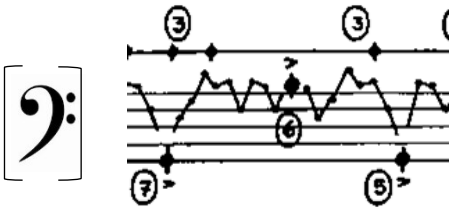


Figure 2.18 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

In the final part of this section the slide movement is continued but the performer is instructed to inhale through the instrument. No pitch is produced, rendering only the sound of the performer's breath audible.

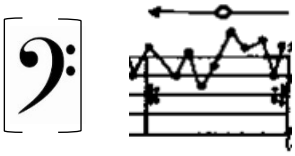


Figure 2.19 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

h. Multiphonics

The use of multiphonics is prominent in *Sequenza V* and is one of its defining features. This technique involves singing and playing simultaneously and could be considered the most substantial area of study needed for trombonists to master the work. It is imperative that anyone who wishes to play this work can either perform these already or learn how to do so. Included at the end of this guide is further instruction in multiphonic techniques, complete with exercises to aid the learning of the specific uses in *Sequenza V*. More recently, two studies focusing on trombone multiphonics have been published including studies for the learner to aid multiphonic progression. These are *The Art of Multiphonics; a Progressive Method for Trombone* (Haislet, 2015) and *Hooked on Multiphonics* (Baker, 2016). It would be advisable to include these in preparation to perform *Sequenza V*.

The range of vocal pitches in *Sequenza V* is as follows:

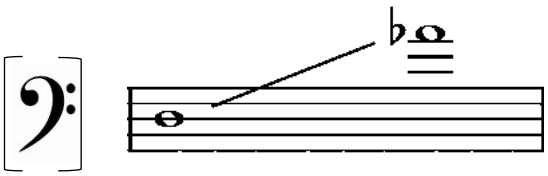


Figure 2.20 Diagram of the vocal note range of Berio's *Sequenza V* by K. Baldwin.

The New Harvard Dictionary of Music gives standard vocal ranges as below:

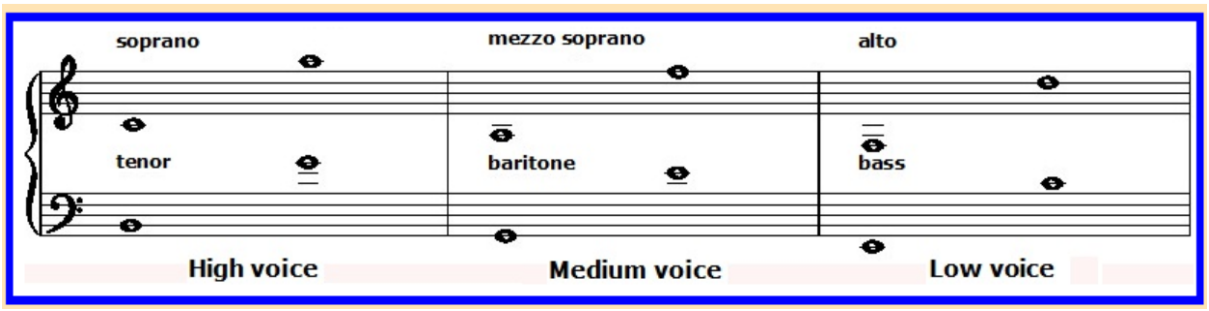


Figure 2.21 Diagram of Vocal Range. Reprinted from '*The New Harvard Dictionary of Music*' https://web.library.yale.edu/cataloging/music/vocal-ranges (University) (last accessed 18.2.21).

The tenor vocal range is the highest of the common male vocal ranges, however the range for *Sequenza V* exceeds the highest given note by a semitone. The alto voice is the lowest female voice, but the *Sequenza V* range is a minor third lower. Therefore, there is no standard range that the *Sequenza V* fits neatly into; the tenor range is the closest, but the performer may still need to sing falsetto.

As *Sequenza V* was written for male trombonist Stuart Dempster, the vocal range is naturally more suited to male voices. However, female trombonists should also be able to perform this work. The pitches are likely to be at the lower end of their vocal range so may have slightly altered sound qualities, but they can be achieved. An option for women performing this is to sing the pitches an octave higher, which gives a different timbral quality; this is further discussed in chapter 3(c)ii. Three notable performances of

Sequenza V by trombonists Benny Sluchin, Christian Lindberg and Alan Trudel have been further analysed in chapter 2(q).

The first time multiphonics feature is on the second page, and immediately the voice and trombone are a semitone apart, creating instant tension. This creates a sound described as 'beating', which can be heard when two pitches are a semitone apart[4]. The voice stays on the same pitch and then the trombone changes pitch to match that of the voice. Following this they glissando upwards in unison.

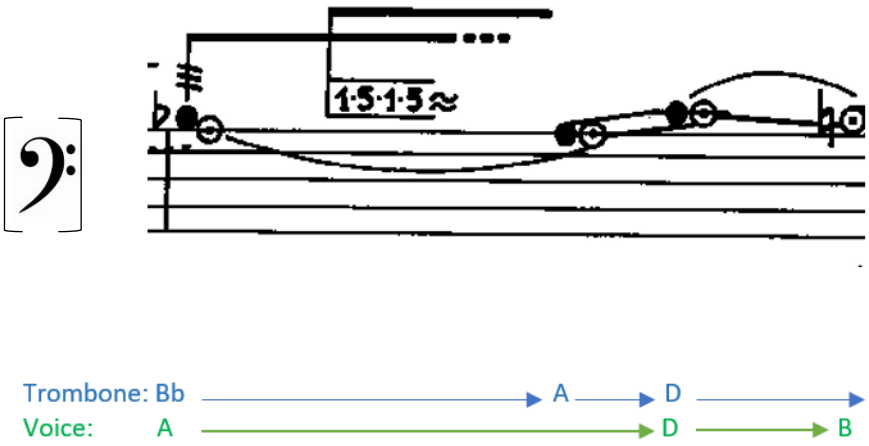


Figure 2.22 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

i. <u>Final Bar</u>

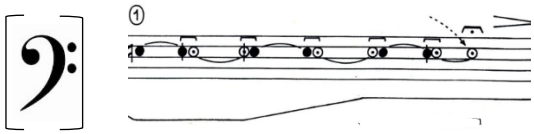


Figure 2.23 Diagram of *Sequenza V*. Final bar. L. Berio, 1966.

[4] Beating is an acoustic phenomenon caused by dissonance between two sound waves of close frequency Taylor, C., & Campbell, M. (2001). Sound. In *Grove Music Online*.

The final bar involves the performer passing a single note between the instrument and voice. There is an overlap at the point of passing so that the sound is continuous, and this must be done with as little disruption as possible.

The last note indicates that the trombone be lowered, thus completing the up/down movements featured in the very first system. This is the only theatrical gesture in the B section.

j. The Sixth Staff System (B Section)

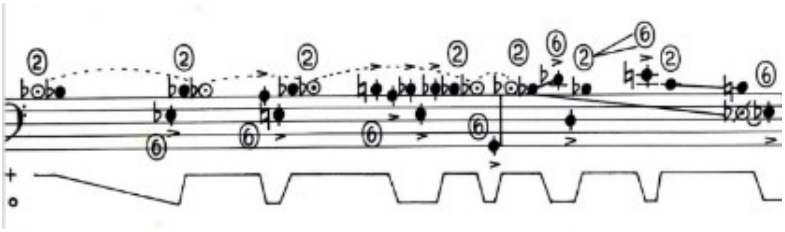


Figure 2.24 Diagram of *Sequenza V* section B, 6th Staff system. L. Berio, 1966.

This system is multi-layered in terms of technique and sound. It may help to break this down into each layer.

The vocal line is mostly constant, and this must be held throughout to the point where the glissando starts.

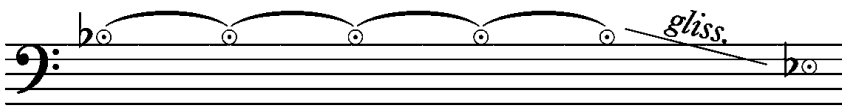


Figure 2.25 Diagram of *Sequenza V*. Vocal line extracted by K Baldwin. L. Berio, 1966.

During this time, the mute and trombone are producing a very specific effect. Most of the trombone pitches are performed with the mute open as indicated below in blue

(figure 2.26). When the mute is closed again the most prominent sound is the repeated Bb, which sounds almost like a drone (figure 2.26, orange).

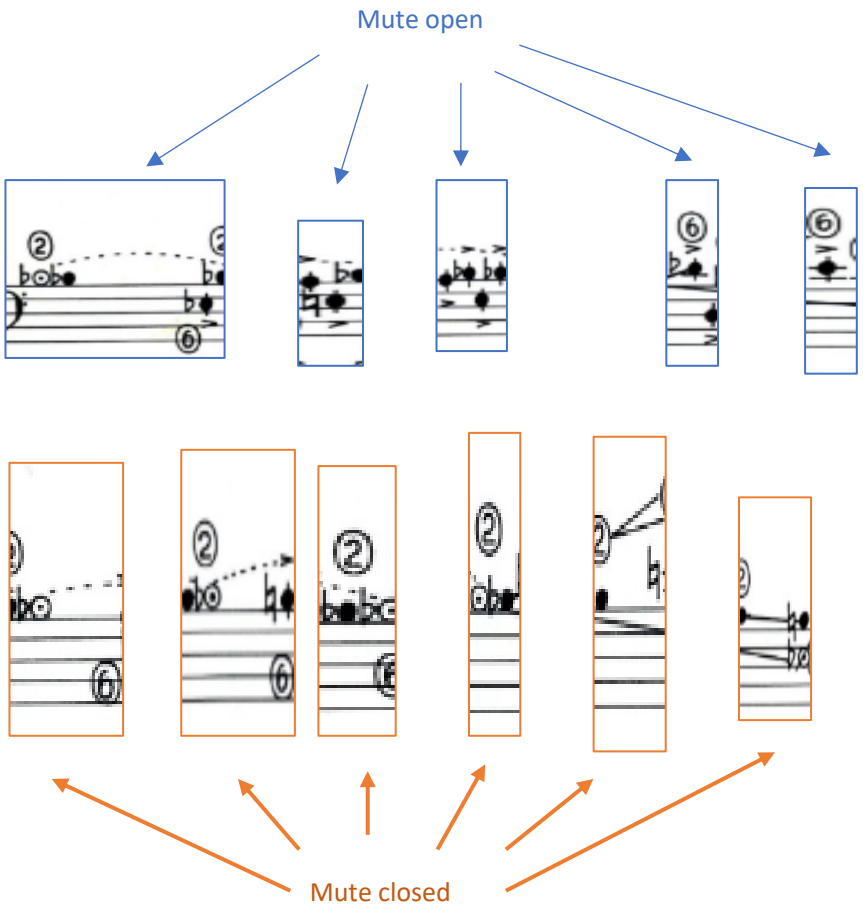


Figure 2.26 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

k. Further Vocal Pitches

In order to consolidate the B section of *Sequenza V* into a seamless work, it is also a requirement to produce a pitch whilst inhaling, known as Inhaling Singing or the Italian term *Inhalare La Voce*. This technique is more typically considered an extended vocal technique rather than something already in the trombonist's repertoire (Vanhecke et al., 2017). Inhaled pitch is a part of the human voice that is used when gasping or when children make animal noises or cry. In the case of *Sequenza V* its function is to give the

performer the opportunity to take a breath without interrupting the continuous sound. Below (figure 2.27) demonstrates how this is written in the score (Berio, 1966).

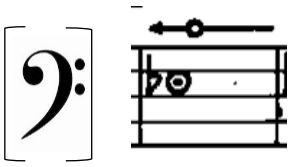


Figure 2.27 Diagram of *Sequenza V*. L. Berio, 1966.

l. Glissandi

Glissandi are indicated by straight lines between notes but as previously detailed are not always straightforward, since two notes on the trombone cannot always be joined naturally by a glissando. However, despite this, impractical glissandi are regularly encountered. As *Sequenza V* was written with the guidance of a trombonist, it is surprising to see such glissandi within the work.

Some of these are true and some are false as per the examples below:

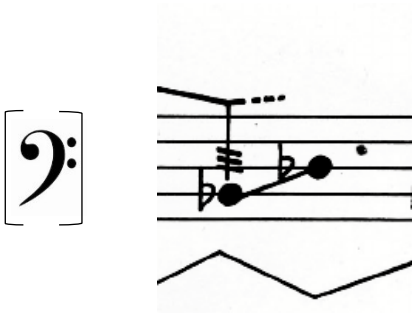


Figure 2.28 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

In the above example the glissando is not naturally possible between these positions. The glissando chart shown in figure 1.2(a) demonstrates that it is only possible to perform a glissando between the Db and B, not the Bb, which is on a different harmonic series:

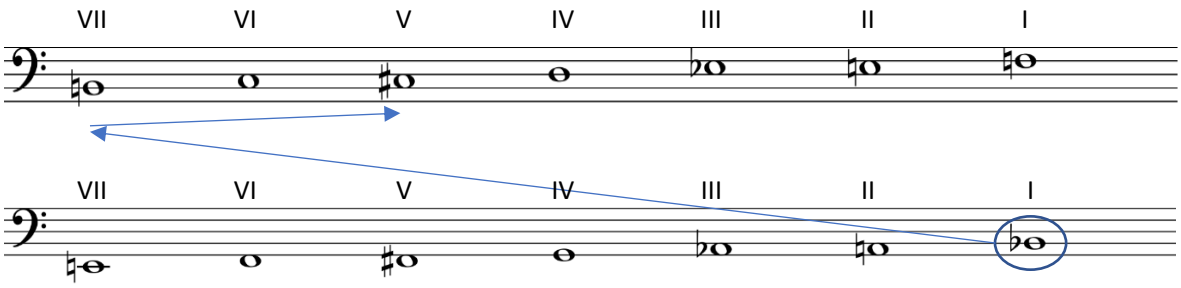


Figure 2.29 Diagram of trombone slide positions by K. Baldwin.

There are two options in this case. One option is the trombonist performs a Bb in position VII with the slide extended to make the note as flat as possible and the lip then forces this down (also known as bending) as far as it can go to reach a Bb. The glissando can then be executed upwards to its end point of Db in position V.

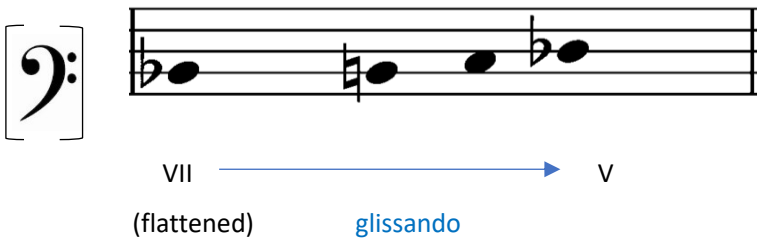


Figure 2.30 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

Alternatively, the Bb is performed in position I and a slur is performed by moving the slide outwards to B in position VII. The glissando can then be performed from the B natural upwards. Slurring is a challenge between these two notes so this risks the B being heard as a separate note.

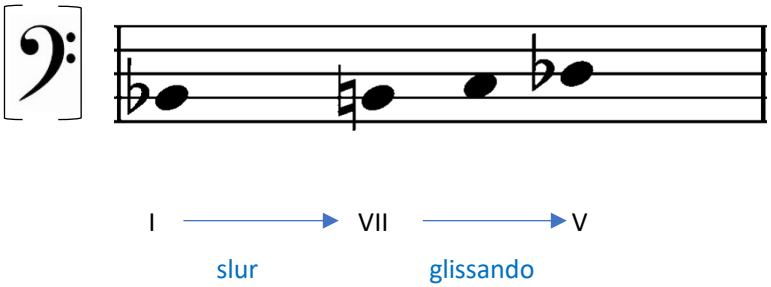


Figure 2.31 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

The choice is at the discretion of the performer who may wish to try each option and see which is more effective for them.

Having analysed nine *Sequenza V* video performances (YouTube, referenced on page 124), some variations can be seen between performers regarding the techniques they have chosen to use. The glissando shown above (figure 2.28) is played using the first technique (figure 2.30) by five of the performers. Only two selected the second option (figure 2.31) and performed only a short glissando at the top, going out to approximately 3rd position rather than extending all the way out to 7th.

Two performers performed without any glissando at all. Possible reasons for this decision may be lack of understanding of how to achieve the effect, misinterpretation of the score or underdeveloped technique. They may have been influenced by other performances executed in a similar way. Another possibility is that the prominence of the glissando in comparison to the pitches may have been underestimated.

The below example (figure 2.32) also comes within the same category as figure 2.28 Again, this features a Bb, which is typically played in position 1.

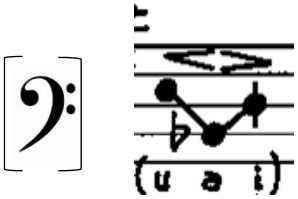


Figure 2.32 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

Again, the harmonic series below shows that these notes cannot be played as a true glissando as they sit across more than one line of the series (figure 2.33).

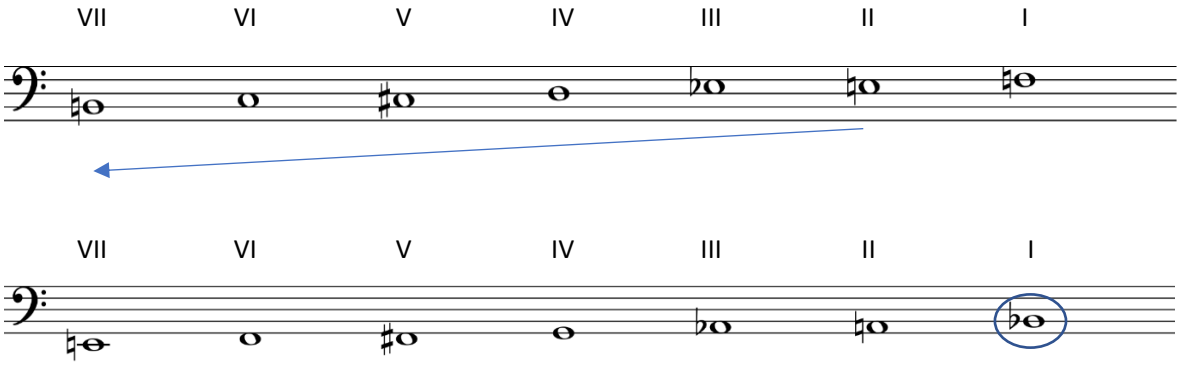


Figure 2.33 Diagram of trombone slide positions by K. Baldwin.

The glissando could be performed in either of the following ways:

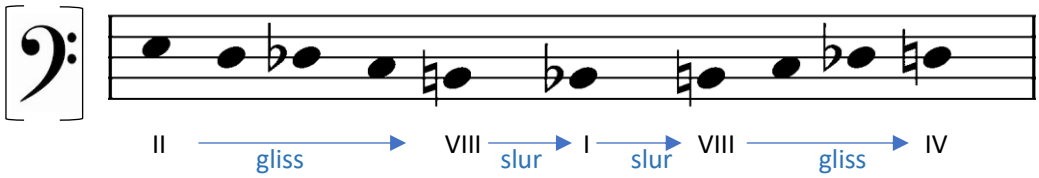


Figure 2.34 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

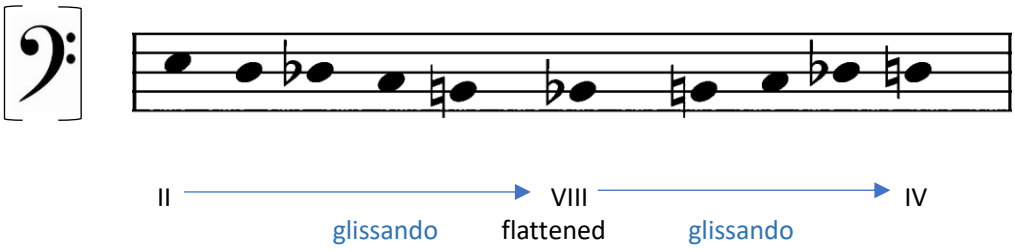


Figure 2.35 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

Of the nine online performers observed on YouTube, four chose the second option of lip bending the note (figure 2.34), only one chose to move the slide back in (figure 37). Interestingly the lip bending in each case did not actually reach as low as the Bb pitch and instead stopped short without having even reached the full length of the slide. The other four chose to use no glissando and either played the notes separately or with a slur, thus avoiding the technique all together.

Although the figure 2.35 option is more popular, the disadvantage of this is that it is more difficult to produce a stronger sound dynamically when a note is 'bent'. Not being a true pitch as to where the slide naturally lies produces a weaker sound. However, one will notice a crescendo and diminuendo with the bent note at the dynamic peak, so this means that the performer will have this added issue to consider.

m. Mulitiphonic Glissandi

There are further examples of more complex glissandi combined with multiphonic notes featured in *Sequenza V*. These will require considerable attention in order to be played effectively.

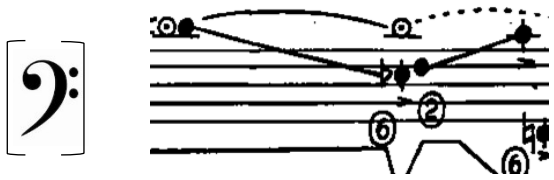


Figure 2.36 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The main challenge in the above excerpt (figure 2.36) is altering the pitch of the played note all the way to a major 7th interval whilst keeping the sung note steady. The sung note, having originally been in unison, naturally wants to move with the played note and drop down with it, but it must not. Due to the large range the glissando is a 'false' one.

It stops on Eb and then returns from the slightly higher pitch of F. To go across all three systems would not create a very smooth effect so it would be acceptable to play positions 1-7 and then return to 3rd as quickly as possible and drop the pitch down to the Eb.

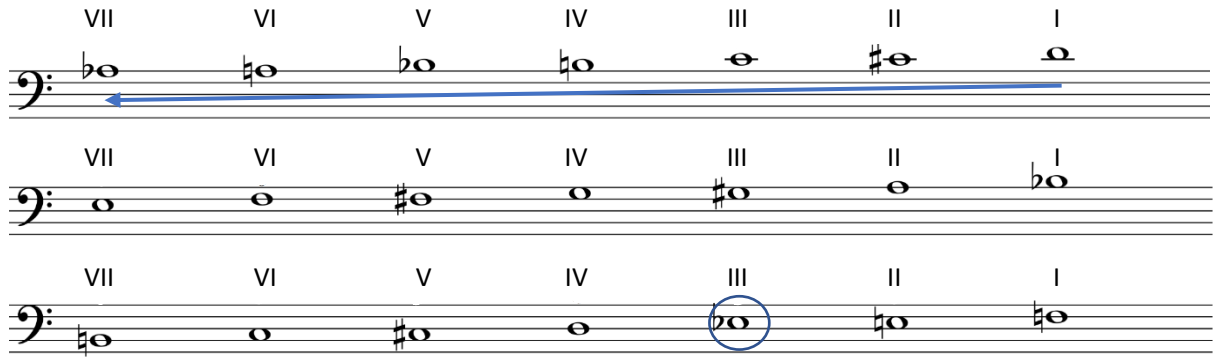


Figure 2.37 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

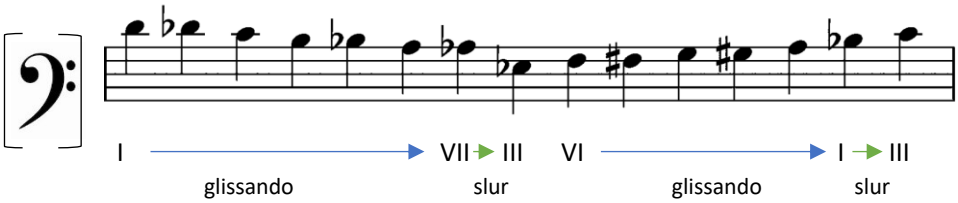


Figure 2.38 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

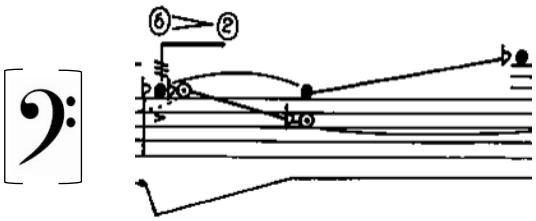


Figure 2.39 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The above can either be played with a reverse slide glissando, forcing the sound to ascend through the slide positions 1-7 or quickly moving from Bb in position 1 to B in position 7 and performing two glissandi with a quick movement from 1 to 4 in between.

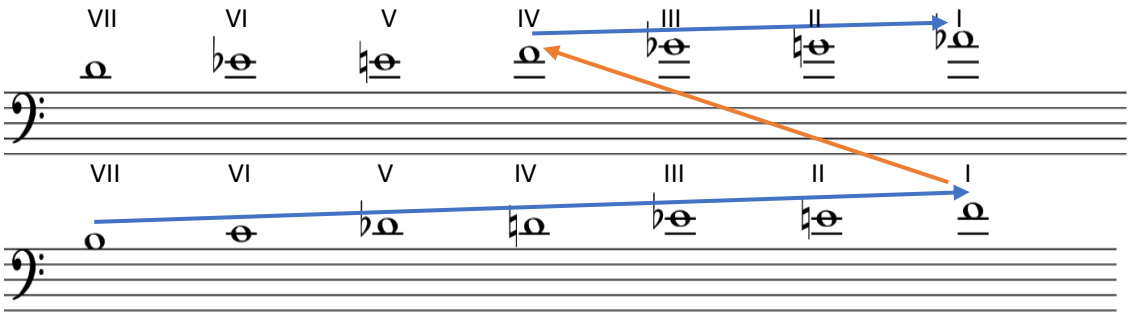


Figure 2.40 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

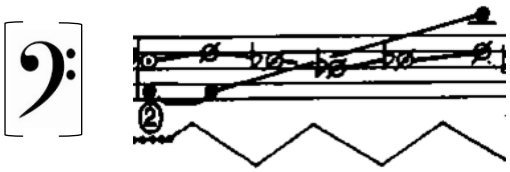


Figure 2.41 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The above (figure 2.41) is the most complicated to perform but can be broken down into sections. The glissando will need to be made up of smaller glissandi between four systems:

There are three occasions where the glissando must stop and the slide must move out to the next system. This can coincide with the mute moving in, using this to hide the switch.

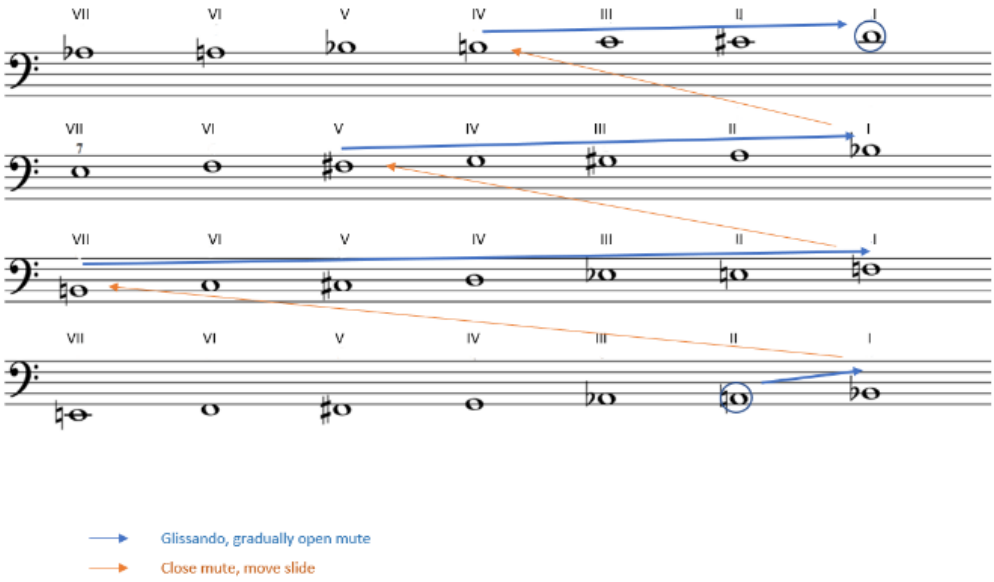


Figure 2.42 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

The orange lines indicate that a slur should take place to the next system, and within this the mute should be closed and then gradually opened again over the next glissando. As this is performed with a multiphonic vocal line as well, this will need to be included in the performance.

Another example of a false glissando is featured in the B section of *Sequenza V*, on the fourth bar of the second line (figure 2.43). This is discussed in further detail in chapter III of Stuart Dempster's *The Modern Trombone* (Dempster, 1979).

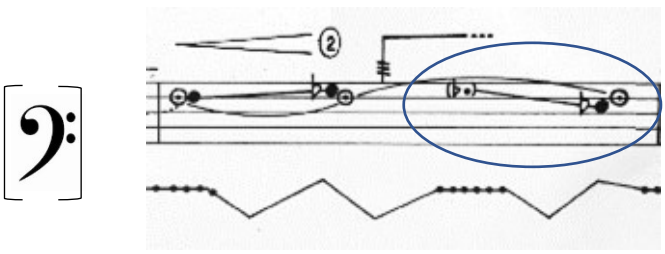


Figure 2.43 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

n. Enharmonic Changes

There are four examples of enharmonic changes that feature in *Sequenza V*. These are all found on the first two lines of the score on page 2:

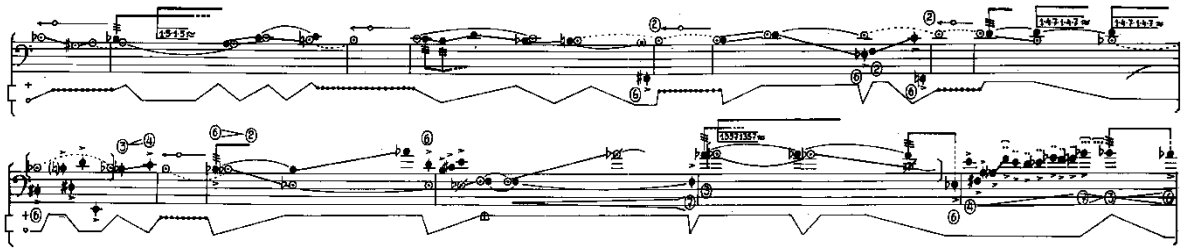


Figure 2.44 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

To break these down each will be studied individually:

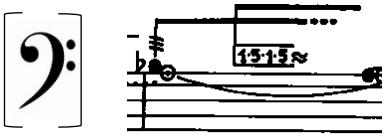


Figure 2.45 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The above diagram (figure 2.45) shows numbers 1 and 5 and the note Bb. As Bb can be played on the trombone in slide positions 1 and 5, the performer should change between playing Bb in 1 and Bb in 5 as below:

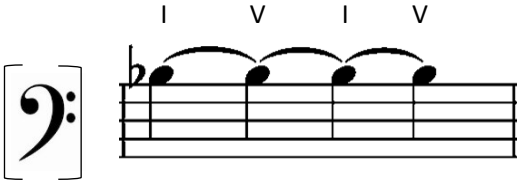


Figure 2.46 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

To perform this effect the trombonist must alternate quickly between these two positions for as long as the note lasts. If the slide action is quick enough and the breath flow is projected the note should not change to a different pitch and no glissando should be detected.

The second example shows D as the pitch and numbers 1, 4 and 7. This is also used in the third instance:

Figure 2.47 Diagram of *Sequenza V* with annotations by K. Baldwin. L. Berio, 1966.

The slide is to be rapidly alternated between D played in 1st position, D played in 4th position and D played in 7th position with a continuous sound. The performer must keep good control of the note and not allow it to change to anything other than D. Also note that the other examples contain slide positions that change direction once reached so the note will naturally be reached at that point. As the 4th position is reached on the way down to the 7th this will need to be briefly stopped at as it can easily be passed over.

The fourth example shows the note Ab and the numbers 1, 3, 5 and 7.

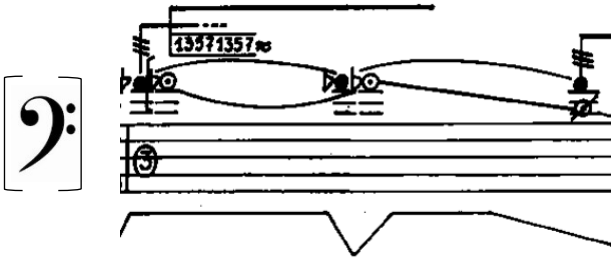


Figure 2.48 Diagram of Sequenza V with annotations by K. Baldwin. L. Berio, 1966.

To perform this the trombonist would alternate between positions as below (figure 2.49) in the same manner as previously described:

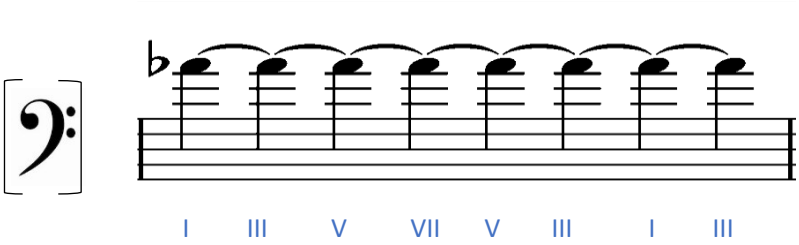


Figure 2.49 Diagram of trombone slide positions by K. Baldwin featured in Berio's *Sequenza V*.

o. <u>Breathy Sounds</u>

Represented by a small, hollow note, breathy sounds are typically avoided by trombonists by ensuring a good seal from the mouthpiece on the lips. In this case, Berio instructs the performer to do the opposite by breaking this seal and allowing air to escape from the lips outside of the mouthpiece, but not moving the mouthpiece far enough away for the note to be lost.

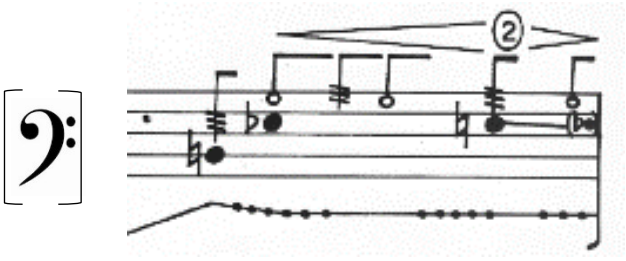


Figure 2.50 Diagram of *Sequenza V* . L. Berio, 1966.

p. Flutter Tongue

Also found in figure 2.50, the flutter tongue is alternated with the breathy sounds.

In *The Modern Trombone* (Dempster, 1979), Dempster writes that, in his experience of teaching, the use of flutter tongue is frequently stated to be one of those things that "either you can do or you can't" (Dempster, 1979). In my own experience this is also the case but perhaps largely due to the natural anatomy of the performer's mouth. As previously noted, flutter tongue can be challenging or even impossible for performers who are unable to lift the tongue up to produce this technique and for those such as myself with a condition called ankyloglossia, also referred to as tongue-tie (Dovel, 2010). The performer may have to use an alternative technique to produce the sound. My preference is to use my throat to make a 'growl' sound – this is one of the accepted techniques to closely resemble the flutter technique.

q. Notable Performances of Sequenza V

Further performances have been included in the analysis of sections of *Sequenza V* (chapter 2.(q)), but three prominent recordings by practitioners Benny Sluchin, Christian Lindberg and Alain Trudel bring forward interesting points of discussion[5]:

i. Christian Lindberg

Lindberg created an engaging performance for the audience, using the theatrical aspect of *Sequenza V* to create maximum interest. Facial expression was a particular feature. He wore a clown costume for this performance, and although this was not instructed by Berio (Chapter 2(b)iv), it is possible that his performance set a precedent for other trombonists who went on to assume it was a requirement for performing *Sequenza V.* Lindberg performs a very clear multiphonic section at the end of the line (figure 2.51), something that can be a challenge for the performer to project. Another notable

[5] https://youtu.be/38Ufx-v_XVI Benny Sluchin (last accessed 20.1.21)
https://youtu.be/PYR1yYtdoMU Alain Trudel (last accessed 21.1.21)
https://www.youtube.com/watch?v=OnfApTtzJmk Christian Lindberg (viewed 15.1.20)

difference in interpretation is the 'frantic' section on the third staff system (figure 2.14) – Lindberg performs all these notes audibly rather than creating a silent slide effect as seen in the score. Sometimes he leaves longer periods of silence than expected between notes that are scored close together, for example at the bar line (figure 2.52). In addition, the quieter sounding 'B' section, indicated with dynamic marking '1' (figure 2.3), is performed with a very prominent dynamic and flutter. He also plays the glissando at figure 2.32 as three individual notes, a surprising interpretation given that Berio's instruction for the featured glissando is so clear.

ii. Benny Sluchin

Sluchin's recording is audio only so it is not possible to comment on the visually theatrical side of his performance. However, the techniques he uses are clearly audible. Sluchin's performance aligns most accurately with the score compared with all the other recordings studied for this research, with attention given to timing and note spacing as well as choice of appropriate techniques. The powerful and short initial notes create high impact for the listener and the audio recording gives the impression he used the option given in figure 2.35 for the glissando on the third staff system (figure 2.32). As per the score instructions, the 'frantic' notes are not sounded (figure 2.14), although it is not possible to see if he represents the relevant slide movements. Section 'B' (figure 2.3) is performed at the specified low dynamic with an interesting and uncomfortable sound. The only negative observation is that it is not possible to hear the flutter tongue in the pedal note in figure 2.53.

iii. Alain Trudel

This recording is also audio only and it is interesting to note the similarities with the Lindberg recording. For example the 'frantic' section on the third stave system (figure 2.14) is played as a series of sounded notes rather than silent slide movement. The glissando (figure 2.32) is also ignored and played as three individual notes. Hesitations can be heard despite the proximity of notes, such as the two notes shown in figure 2.52, however particular clarity of multiphonic sounds can be heard at the end of this line

(figure 2.51). One particular feature of this recording is that although the performer is male, the inhaled pitch notes are sounded an octave higher, which suggests that the low written pitch can be an issue for male as well as female voices.

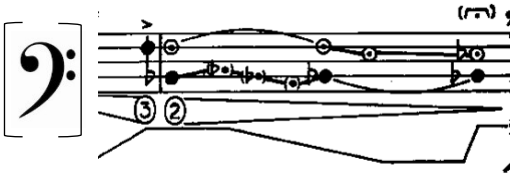


Figure 2.51 Diagram of *Sequenza V.* Multiphonic section. L. Berio, 1966.

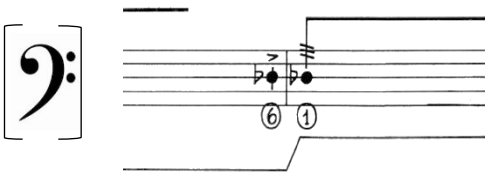


Figure 2.52 Diagram of *Sequenza V.* Close Bb pitches. L. Berio, 1966.

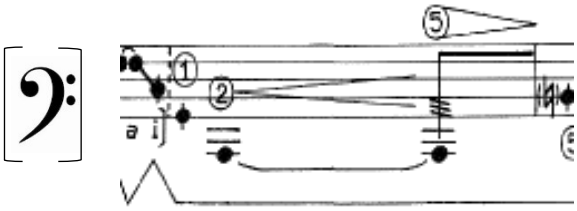


Figure 2.53 Diagram of *Sequenza V.* Pedal A with flutter tongue. L. Berio, 1966.

3. 1966 – 2020 HISTORICAL CONTEXT: THE IMPACT OF SEQUENZA V

a. Techniques Repeated

The *Sequenza* series can be considered a landmark in twentieth century performance and composition because of how it expands technique in both trombone and voice. There are some similarities between *Sequenzas* in terms of the sounds explored and the level of virtuosity. As mentioned in chapter 1, *Sequenza I* for flute contained techniques such as harmonics and percussive sounds and the clarinet/bass clarinet *Sequenzas* featured multiphonic sounds created using alternative fingering techniques. *Sequenza II* for harp also featured percussive sounds; the body of the harp is made from wood, which lends itself well to different percussive sounds. Of course, the virtuosic nature of the *Sequenza* series also applies to the harp as there are so many rapid pedal changes.

Sequenza IV for piano explored the resonant sounds made by the strings[6]. This was also a feature of *Sequenza VI* for viola, in which the resonant sounds are continued using a tremolo effect. Both the violin and viola *Sequenzas* feature polyphony, which at the time was an unusual focus for instruments considered primarily monophonic.

Although one might expect *Sequenza X* for trumpet to contain many similarities in focus to that of *Sequenza V* for trombone, this is not the case. The two *Sequenzas* both feature the flutter tongue; however, the focus areas of *Sequenza X* are the further types of tonguing such as double and doodle (these techniques can also be performed on the trombone, but do not appear in *Sequenza V*), and of course valve techniques such as tremolos that are not possible on the trombone. *Sequenza XII* for bassoon also features different types of tonguing and explores the vocal multiphonic like in *Sequenza V*. Circular breathing is also a feature of *Sequenza XII*, a specific technique not featured in any of the other *Sequenzas,* although *Sequenza V* does feature inhaled breath in order to create continuous sound ("Berio's Sequenzas," 2016; Edition, 2021).

The impact of *Sequenza V* (Berio, 1966) was substantial as it gave composers fresh ideas regarding the possibilities of the trombone and the sound palette that was available.

[6] The piano is also featured as a sympathetic resonance effect in *Sequenza X* for trumpet. This is the only accompanied Sequenza although the piano is not actually played.

The next few years saw new works composed in response to *Sequenza V*. There are a number of connections suggesting influence – one example is American composer Jacob Druckman, who composed *Animus 1* (Druckman, 1966-1967) for trombone featuring techniques such as multiphonics, spoken word (through and outside of the trombone) and theatre. Another is Argentinian composer Carlos Roque Alsina, whose *Consecuenza* (Roqué Alsina, 1969) for trombone appears to pay homage to *Sequenza V* in the title and in the techniques used – *Consecuenza* features multiphonic notes and use of the plunger mute. Alsina was appointed an 'Artist in Residence' in Berlin from 1964 to 1966 where he was introduced to Berio, and then participated in the Center of Creative and Performing Arts in Buffalo, New York from 1967 to 1969 alongside Stuart Dempster. These events, in addition to the similarities demonstrated between the two pieces, suggest that *Sequenza V* was an influential factor in the composition of *Consecuenza.*

Following these works the idea of spoken word through the instrument was developed further with Erickson's *General Speech* (Erickson, 1967). The most prominent techniques in this piece include speech made through the instrument, creating manipulated sounds from the vocal cavity – this technique was brought to prominence in *Sequenza V* with the word WHY. The performer has also to dress in military uniform to give this speech. As *General Speech* was commissioned by Stuart Dempster, the same trombonist who worked with Berio on the composition of *Sequenza V*, it is not surprising that there are similarities and that some of the techniques from *Sequenza V* were introduced in the writing of *General Speech*.

Another work to pay homage to *Sequenza V*, albeit some years later, is Tom Johnson's *Sequenza Minimalista* (Johnson, 1992). Johnson focuses on the pitches used with some of these removed and replaced between the bars. This gives a disjointed quaver rhythm throughout Sequenza Minimalista, a very different style to that of *Sequenza V,* which does not have a regular rhythmic pulse. The visual movement of the slide is also important as it must be moved from 1st position through to 7th and back, passing all these notes on the way. *Sequenza Minimalista* is featured in the performance portfolio (appendix 7(e)).

The use of new techniques became a real focus following *Sequenza V*. Throughout the late 1960s and 1970s, many more works were composed that made use of the

techniques featured in this work. Figure 3.1 displays data taken from 85 works dated from 1966 to 2019 (full list to be found in appendix 6(b)) and tracks the trends for prominent techniques featured in *Sequenza V* following its publication. These works were chosen as they were solo repertoire that could be found online, in the RNCM library, my own collection and also solo tenor trombone works listed in the *Annotated Database of 102 Selected Published Works for Trombone Requiring Multiphonics* (McKenney Davidson, 2005). An immediate sharp rise is seen in most of these techniques with particularly high use in the 1970s, demonstrating that *Sequenza V* made a considerable impact. The most prominent line in blue above all the other lines shows the use of a natural glissando; these data along with the flutter tongue have been extracted and represented in a separate chart for clear viewing in figure 3.2. Glissando was also the most popular technique prior to the composition of *Sequenza V* and is still featured more frequently than other techniques. This is likely because of the distinctive nature of the glissando as a prominent feature of the trombone. The flutter tongue data, indicated by a blue line in figure 3.2, also follow its pattern, showing that the two techniques have followed a similar journey of use throughout the second half of the twentieth century.

Techniques such as speech into the trombone and the percussive plunger mute featured in compositions until the 1970s and then, apart from one instance of the percussive plunger mute in *Instable* (de Vienne, 1990), were not featured again in any of the works shown in the chart.

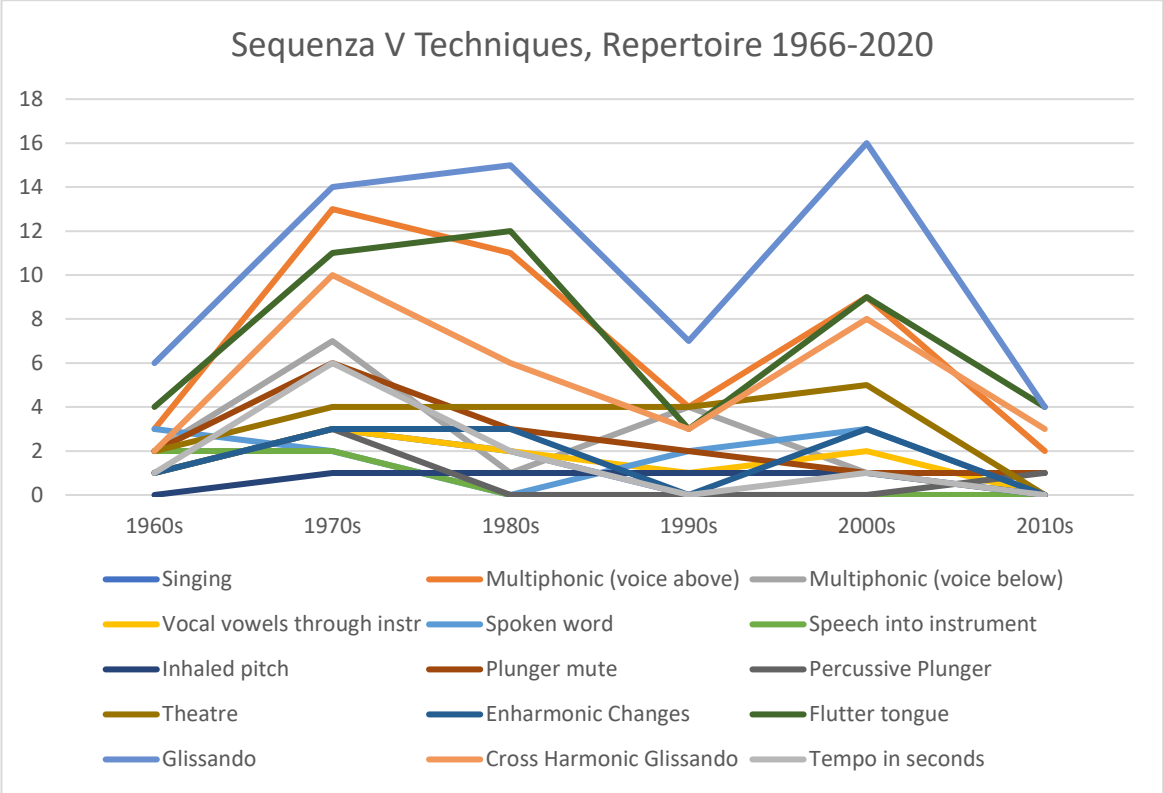


Figure 3.1. Chart of techniques featured in *Sequenza V* with a timeline of their use (data compiled from appendix b). K. Baldwin 2020.

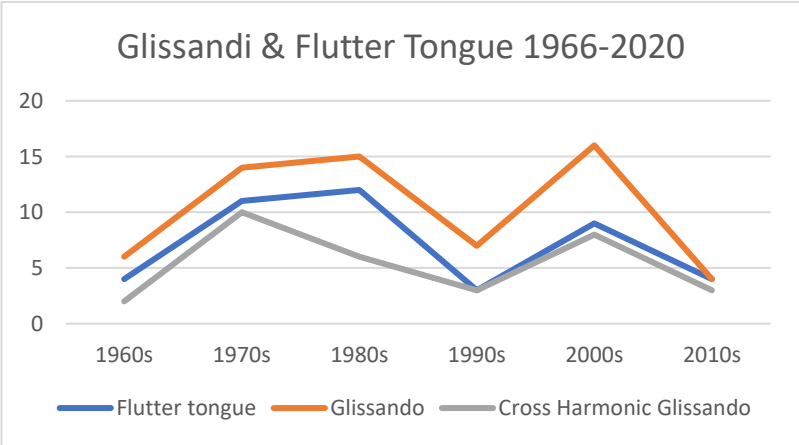


Figure 3.2. Chart of glissandi and flutter tongue featured in *Sequenza V* with a timeline of their further use (data compiled from appendix b). K. Baldwin 2020.

Apart from the glissando, the use of vocal techniques is the area that has seen the greatest increase in use since 1966. These include multiphonics, singing and speaking. Here is a breakdown of how the use of these techniques has changed:

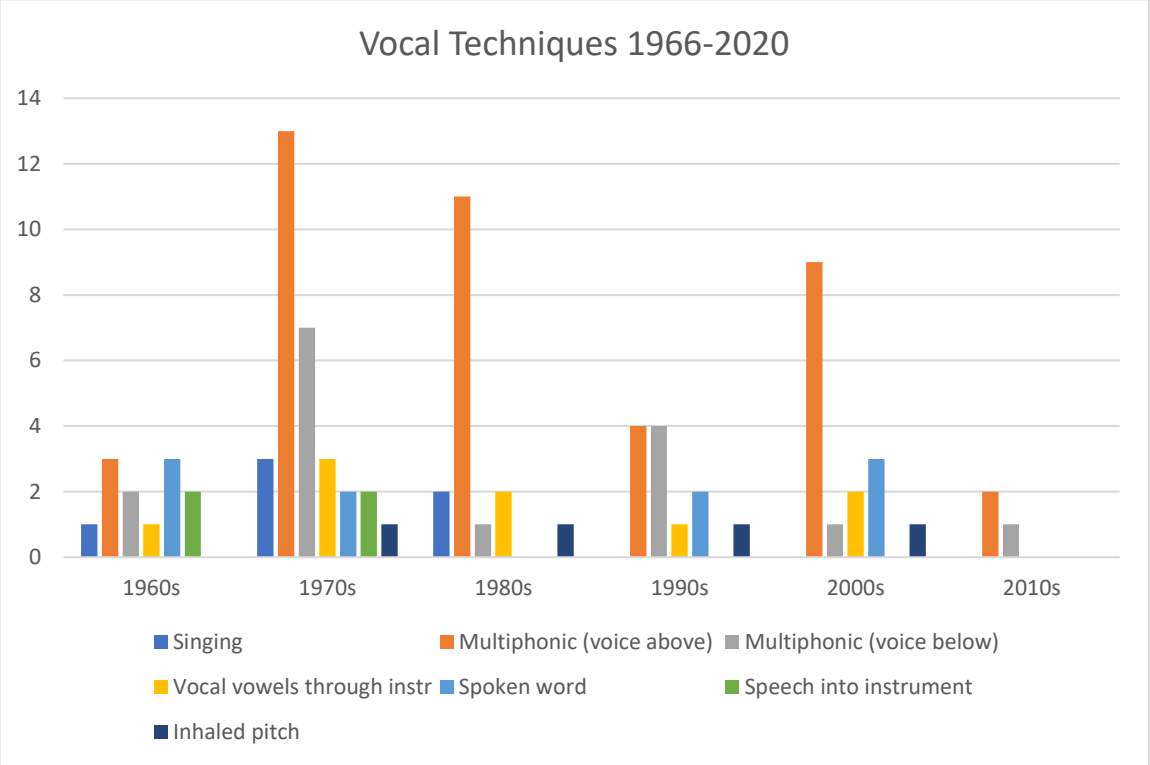


Figure 3.3. Chart of vocal techniques featured in *Sequenza V* with a timeline of their further use (data compiled from appendix b). K. Baldwin 2020.

As noted in figure 3.3, the multiphonic with the voice at a higher pitch than the trombone has been the most popular, and the multiphonic with the voice below the pitch of the trombone has featured far less. There are no obvious reasons for this but possible explanations could be that performing multiphonics with the voice below the trombone is more difficult, or that the sung note is typically a weaker and less flexible sound (Baker, 2016) and therefore gives a less desirable effect at the base of a chord, as concluded from my own experiences. Dempster describes the lower vocal pitch as "possibly harder to control" (Dempster, 1979).

A frequently performed work featuring techniques such as multiphonics, theatre and exchanging slide positions is *Basta* by Folke Rabe (Rabe, 1982). The theatrical element is very straightforward in that the performer runs on stage at the start of the piece and runs out at the end. Even the most acting-adverse soloist would be unlikely to reject the piece on the grounds of this level of theatre. The multiphonic chords all have the voice above the trombone and within the same range of notes featured in *Sequenza V*. The lowest note is F, making it accessible for the lower female range. Bars 43-53 demonstrate the use of resolving multiphonic chords, another technique that can be traced back to *Sequenza V* as shown in figures 3.4 and 3.5.

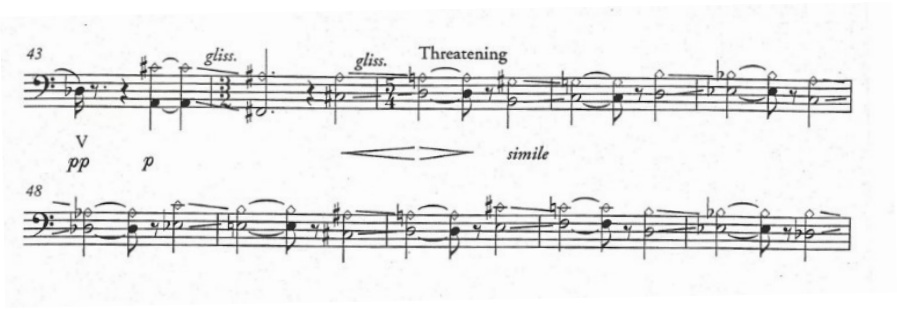


Figure 3.4. Excerpt of resolving multiphonic chords featured in *Basta*. Folke Rabe 1982.

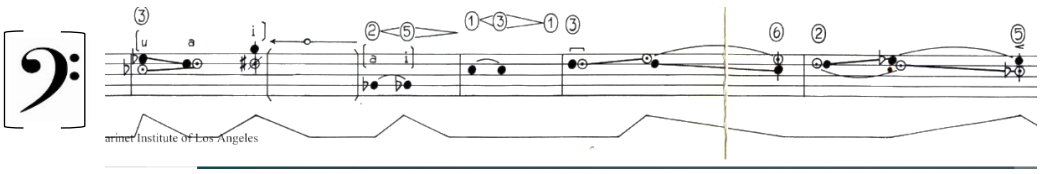


Figure 3.5. Excerpt of resolving multiphonic chords featured in *Sequenza V*. Luciano Berio 1966.

Basta does require the performer to use a trombone with an F attachment as the range cannot be achieved without it. This is not something that was featured in *Sequenza* V so could be considered a further development. As there is no requirement for the left hand to operate a plunger mute, it is free to operate an F thumb attachment without hinderance.

A feature to highlight in *Basta* is the use of enharmonic changes. This technique also featured in *Sequenza V* and saw further use until the 1980s but disappeared from the

chart from the 1990s onwards (figure 3.6). In the example shown (figure 3.7), the slide is moved quickly between positions I and V, playing the same note, and gives a very specific effect.

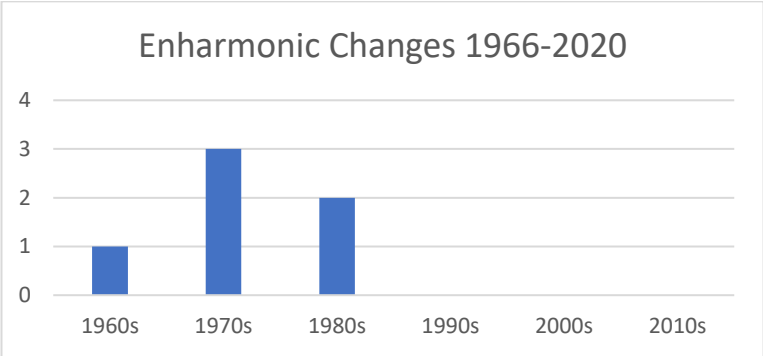


Figure 3.6. Chart of enharmonic changes featured in *Sequenza V* with a timeline of their further use (data compiled from appendix b). K. Baldwin 2020.

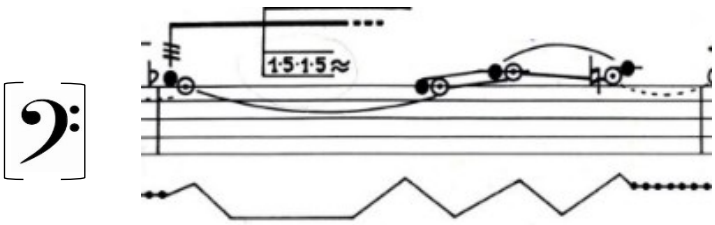


Figure 3.7. Excerpt of enharmonic changes featured in *Sequenza V*. Luciano Berio 1966.

Figure 3.8. Excerpt of enharmonic changes featured in *Basta*. Folke Rabe 1982.

Another prominent technique featured in *Basta* is the glissando and slur that is cross-harmonic, a feature specific to the trombone. As described in further detail in chapter 2, this can create a glissando but when played slowly it creates a slur with a specific cross-harmonic sound. In *Sequenza V* the glissandi and cross-harmonic slurs are featured

with enough speed to disguise the sounds in between the pitches, creating the desired effect. In *Basta* this is developed further so that the in-between sounds become the feature of the passage. This technique is featured almost exclusively for long passages in Basta as demonstrated in figure 3.9, and featured as a cross-harmonic glissando in multiple places as shown in figure 3.10. Demonstrations of these effects can be heard within the full work in the performance portfolio (appendix 7(d)).

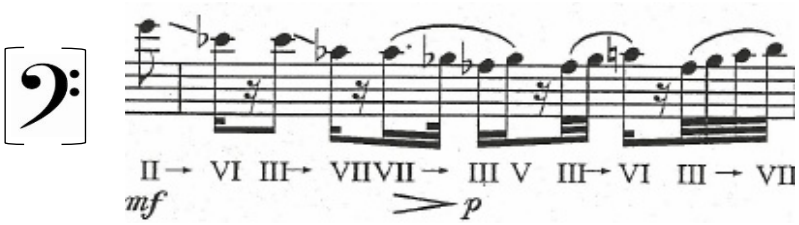


Figure 3.9. Excerpt of cross-harmonic passage featured in *Basta*. Folke Rabe 1982.

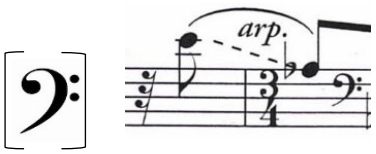


Figure 3.10 Excerpt of cross-harmonic glissando featured in *Basta*. Folke Rabe 1982.

b. <u>Further Developments</u>

Although the 1990s saw a decrease in techniques related to *Sequenza V,* further techniques started to emerge that had not been featured at the time. Although instrument disassembly was featured in John Cage's *Solo for Sliding Trombone* (Cage, 1957-8), no other works in my selection featured disassembly until the 1990s, when it was featured in three new pieces: *9.28.85* (Mabry, 1995), *Dream Sequen*ce (Asia, 1996) and *Blue Wolf* (Edwards, 1997). Another concept that certain composers had experimented with in the 1950s and 1960s, including Terry Riley and Pauline Oliveros, was the use of electronics combined with instruments. Berio had an interest in electronics and wrote several works in this period that made use of them, the earliest

being *Mimusique* (Berio, 1953). Stuart Dempster also had an interest in electronics and performed many works including tape, for example *Theater Piece* (Oliveros & Harris, 1965). Further works for trombone and tape were to follow, such as *Impromptu for Trombone and Tape* (Brown, 1973). However, despite his interest in electronics and his collaboration with Dempster, Berio did not feature any use of electronics in the *Sequenza* series, focusing instead on actual instrumental technique.

Although electronic effects are not featured in *Sequenza V*, indirect influences are present in some of these works. For example, in Drake Mabry's *9.28.85* (Mabry, 1995), Mabry's reference to feeling like a circus clown is a clear link to *Sequenza V* (Berio, 1966) and its connection with Grock. *9.28.85* also features multiphonics and vocal vowels. An online shop selling sheet music for Mabry's compositions, published the following quotation from the Introduction to *8.28.*85: "the overall feeling should be one of a circus clown" (Mabry, 1985, https://www.sheetmusicplus.com/title/9-28-85-digital-sheet-music/19933587).

Jan Sandström wrote a new work, *Trombone Concerto No. 1: Motorbike Odyssey* (Sandström, 1989b) in 1989 for leading trombonist Christian Lindberg. This work features many techniques from *Sequenza V* such as plunger mute combined with flutter tongue (creating the sound of a motorbike), multiphonics, glissandi and the less popular technique of inhaled pitch. Theatrical elements are also featured such as the performer creating the outline of a map with the trombone slide. Lindberg himself performs the work dressed in leathers, having entered the stage on a motorbike. Originally written for trombone with orchestra, a short version of *Motorbike Odyssey* was created for trombone with CD accompaniment called *A Short Ride on a Motorbike* (Sandström, 1989a). The CD recording was designed to be an accompaniment only, rather than making space for interactive performance.

In 1999 Christian Lindberg wrote *Bombay Bay Barracud*a (Lindberg, 1999), which featured live performance with a DVD accompaniment. Although not a new concept, this was the first time it was featured in a solo trombone work. *Bombay Bay Barracuda* brought a new aspect to performance with theatre as this was provided by the actors on the screen. Although the trombonist performs mostly solo lines, the highly visual DVD encourages the listener to watch the actions on the screen, thus taking attention away

from the live trombonist. This visual addition to live performance can alter the viewer's perception of which is the soloist, the DVD recording or the trombonist on stage.

Jacob Ter Veldhuis composed a solo work, *I Was Like Wow* (Jacob, 2007), for trombone and film, for Dutch trombonist Jörgen van Rijen. The film was created by Jan Willem Looze and features two American soldiers talking about their experiences of being wounded in the Iraq war in 2003. Such powerful imagery and messaging takes full stage in this work and although the live trombone performance is an important part of the performance overall, the listener's attention is on the screen. The focus of the work is on the speech patterns created by the soldiers and, in order to fit the parts together, the trombonist has to respond to these patterns in some sections rather than sticking to a pulse. Multiphonic chords also feature in this work as well as glissando, and these are considered further in chapter 4(a). *I Was Like Wow* is part of the performance portfolio (appendix 7(a)).

c. Female Trombonists: Vocal Impact

When vocal sounds are added to an instrument, creating a chord (multiphonics), this brings a new area of possibility and challenge to composers. The vocal range of the performer must be considered for the composer to determine what type of voice their composition would suit. As regards writing for reed instruments, where multiphonic sounds are commonly produced by using alternative fingerings, this is not affected by vocal range. Further information on multiphonics is given in chapter 2(h) and appendix 8(a).

Although multiphonics are documented since 1806, when they were featured in the *Horn Concertino op. 45* by Carl Maria von Weber (Weber & Kling, 1959), there is little evidence to show that multiphonics for brass were fully exploited before Berio's *Sequenza V* until 1966. They were featured heavily in this work and many more works to follow.

During the 1960s, at the time *Sequenza V* was written, most trombone music was written for male trombonists as there were very few female trombonists at the time, but this number has increased greatly since then (Kenny, 2003). In addition to this,

Sequenza V was written with and for male trombonist Stuart Dempster, so it is understandable that female vocal ranges were not considered. Svoboda and Rath describe the *Sequenza V* multiphonic range as “hardly playable by women” and explain that performances in this particular vocal range by women are “only possible in exceptional circumstances” (Svoboda & Roth, 2017).

Despite the increase in repertoire featuring multiphonics following *Sequenza V,* and in later years, when the range of vocal pitches is examined it is clear to see that the intended performers for the majority of these works, whether or not they were also collaborators in the composition process, are male. It has taken a long time for society to overcome the stereotype of brass performers being male (playing brass instruments was considered unfeminine). The feminist movement since the 1960s influenced the increase in women playing brass, and from then onwards a distinct change in trends has been clear (Herbert et al., 2019). There is now a much higher percentage of female trombonists today than in the 1960s. As described by Stuart Dempster in his contribution to Jen Baker’s book *Hooked on Multiphonics* “comparatively few women played trombone [in the 1970s] thankfully there are an increasing number of female trombonists” (Baker, 2016).

Some examples of trombone compositions are shown below in this timeline. Please also refer to technique chart (appendix 6(b)) for further examples.

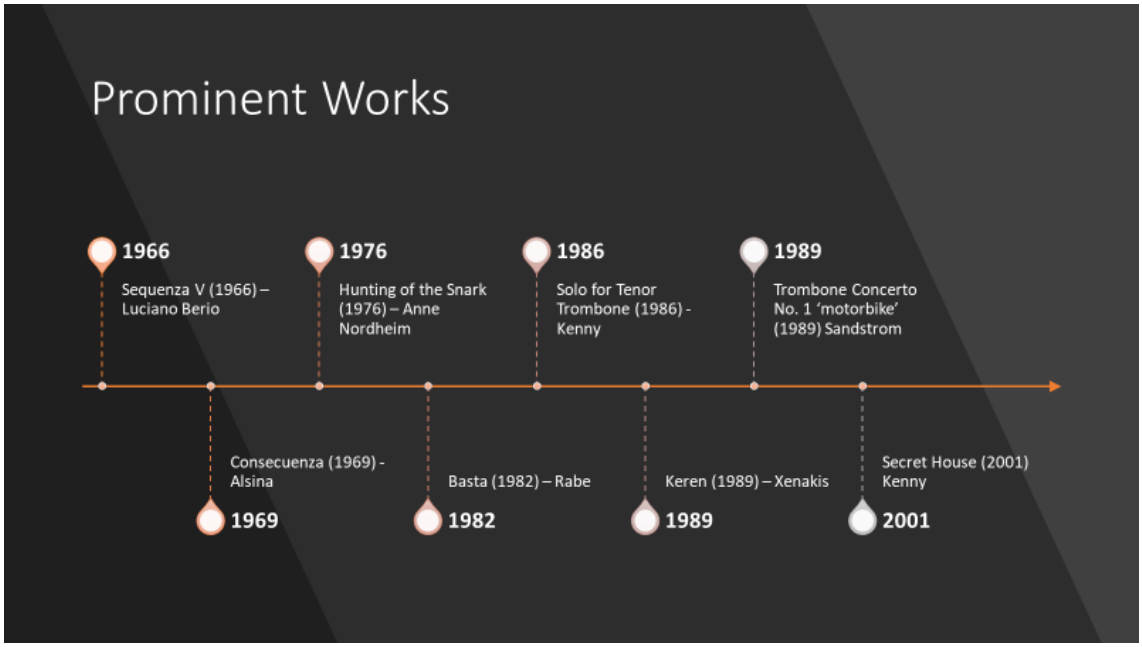


Figure 3.11. Diagram of trombone example works as a timeline by K. Baldwin.

In the 1980s, female trombonist Abbie Conant was a victim of discrimination and began a well-documented legal battle for equality of musicians. It was widely believed that female trombonists did not have the physical strength to equal that of male trombonists:

"You know the problem, we need a man for the solo trombone." Mr Celibidache, Munich Phil, 1982 (Conant, 2016).

Following a lengthy legal battle with the Munich Philharmonic, Abbie Conant proved that there is no difference between the capability of a woman to play the trombone and the capability of a man. The trombone can therefore be considered non-gender-specific, and female trombonists became more socially accepted as a direct result of Conant's legal ruling. Notable female trombonists include Helen Vollam, (BBC Symphony Orchestra), Katy Jones and Roslyn Davies (Hallé Orchestra), and the current trombone cohort at the RNCM is 40% female (Conant, 2016).

Despite the evidence that women can play the trombone just as well as men, with Conant's legal ruling in 1982, multiphonic trombone repertoire has largely continued to

be written to suit male vocal ranges rather than female ones (see list of works in appendix 6(b)).

Standard vocal ranges are shown in figure 3.12 below, with female on the top line and male on the bottom line:

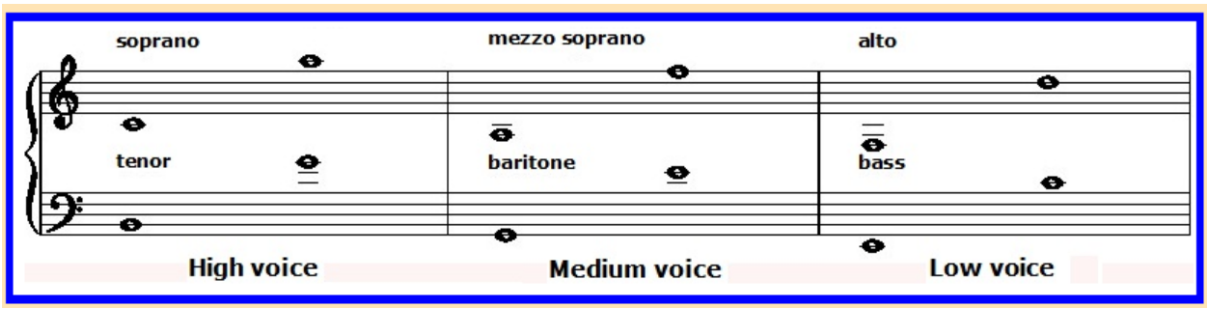


Figure 3.12 Diagram of Vocal Range. Reprinted from '*The New Harvard Dictionary of Music*' https://web.library.yale.edu/cataloging/music/vocal-ranges (University) (last accessed 18.2.21)

Therefore, a range that could be considered 'female', that is, both alto and soprano voices could sing all the pitches in between, is shown below (figure 3.13):

Figure 3.13. Diagram of amalgamated minimum female vocal range by K. Baldwin.

A 'male' range, that is, both tenor and bass voices could sing all the pitches in between, is shown below (figure 3.14):

Figure 3.14. Diagram of amalgamated minimum male vocal range by K. Baldwin.

These diagrams show that only a middle C could be considered universal to all voices. Bearing this in mind, the composer's choice would have to be either male or female voices. Alternatively, they could write mostly mid-range pitches, making it accessible to alto and tenor voices, but leaving out the high or low ranges achievable only by soprano or bass voices. This would avoid bias towards one gender.

As vocal ranges are varied and do not always fit neatly into the ranges shown in figures 3.12 and 3.13, some musicians may have to adapt the sung pitches in multiphonic trombone performance, for example by moving them up or down an octave. While this makes the music accessible to more performers, it affects the sound of the piece in ways that are explored below.

i. Impact on Pitch

The most obvious pitch difference is that the vocal line sounds an octave lower or higher than the composer intended. This difference fundamentally alters the sound produced and its impact on the listener. The higher pitched female voice creates a very different sound, as John Kenny expressed: when this is realised, the resulting tone colour is fundamentally altered (Kenny, 2003).

ii. Impact on Intervals/Chords

As the most common way of accommodating a higher voice is to move the vocal line up an octave, the interval between the played note and the sung note is affected. Adding an octave transforms it into a compound interval where the two notes are much further apart, which affects the sound of the chord. An example of the difference might be that performing a close interval such as a major second would produce sonic effects such as 'beating' and distortion (see figure 3.15)[7], and these effects would be lost if the chord

[7] 'Beating' is a vibration effect caused when the played and sung pitches are close together, for example moving away from a unison point to a semitone or a tone apart. This creates an interference in the wave patterns as described by Hjertmann "regular fluctuations in the volume of two sounds whose frequencies of oscillation are similar" Hjertmann, B. (2013). *Combination Tones as Harmonic Material* Northwestern University]. Illinois.

become a compound major second. If these are fundamental features of the work, then the overall impact is fundamentally changed.

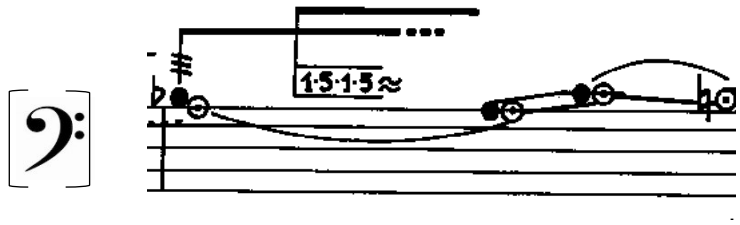


Figure 3.15. Diagram of *Sequenza V*. L. Berio, 1966.

Performers may also choose to alter some but not all of the pitches if there is a discrepancy between which can and which cannot be performed at the original pitch. For example, in Jacob Ter Veldhuis's *I Was Like Wow* (Ter Veldhuis, 2007) the multiphonic chords written are summarised in semibreves below:

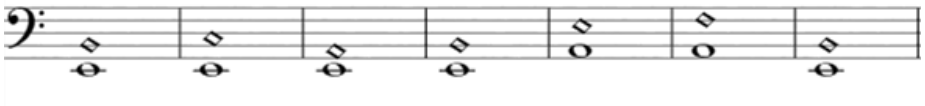


Figure 3.16. Diagram of multiphonic chords featured in *I Was Like Wow* by Ter Veldhuis. Reproduced by K. Baldwin.

When learning this myself I found that I could not sing the original pitch of the upper notes in chords 1-4 (figure 3.16) as they are below my vocal range, but I could sing chords 5 and 6 at pitch. In situations like this, the performer must decide whether to adjust the whole vocal line or just the notes that are uncomfortable to sing, considering the difference this will make in sound and vocal line as well as how intervals will be affected. In my own case I made a judgement that keeping the chord effect was more important than the vocal line staying true, so I chose to alter just the notes that were out of my vocal range. This kept the intended effect for some of the chords, creating the chords below:

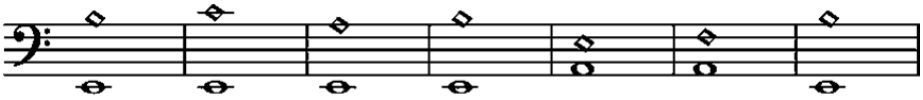


Figure 3.17. Diagram of altered multiphonic chords featured in *I Was Like Wow* by Ter Veldhuis. Reproduced by K. Baldwin.

My recording of this work demonstrates these chords, and I believe I was successful in creating the desired sound.

iii. Difference in timbre

Although every voice has its own unique timbre, replacing a male voice with a female voice can make a large difference in timbre. John Kenny refers to writing for the trombone with female vocal multiphonics as a "new instrument". This is because of the specific sound created when multiphonics are produced using the upper female vocal range (Kenny, appendix 6(a)).

d. Secret House

Secret House was written by John Kenny in 2003 for Emily White, a female trombonist he worked alongside. Knowing her abilities and vocal range, he wrote *Secret House* specifically for her to perform with a dancer. The work was then published as a trombone score, which can be performed with or without the presence of the dancer (Kenny, 2003).

Multiphonics feature prominently in *Secret House* and a specific feature is that the female falsetto is used (bars 33 and 34 are shown in figure 3.18). This technique is rarely used so it is unlikely that the range and control need will have been worked on before learning this piece.

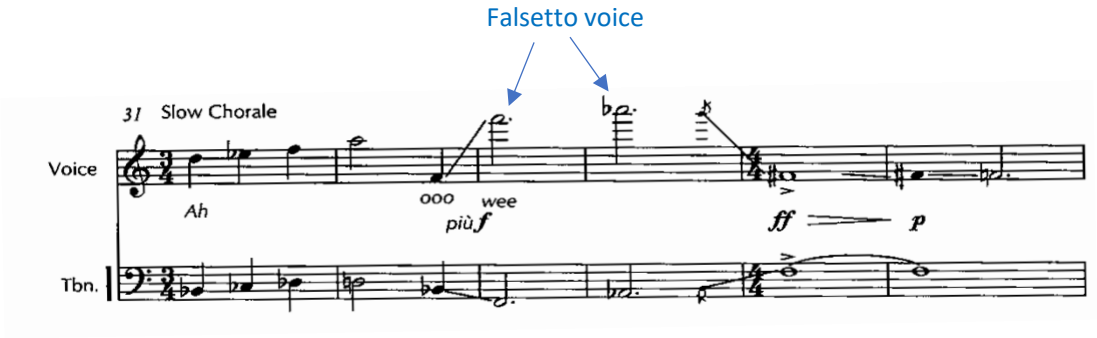


Figure 3.18. Diagram of falsetto voice multiphonics featured in *Secret House* by John Kenny.

The final two bars of figure 3.18 demonstrate the use of the augmented octave. While *Sequenza V* features the semitone multiphonic, which creates a distortion effect, *Secret House* features the same semitone difference but an octave apart. The two parts then resolve onto the same note, F, but an octave apart. The similarity between this and *Sequenza V* can be seen in the final bars below (figure 3.19):

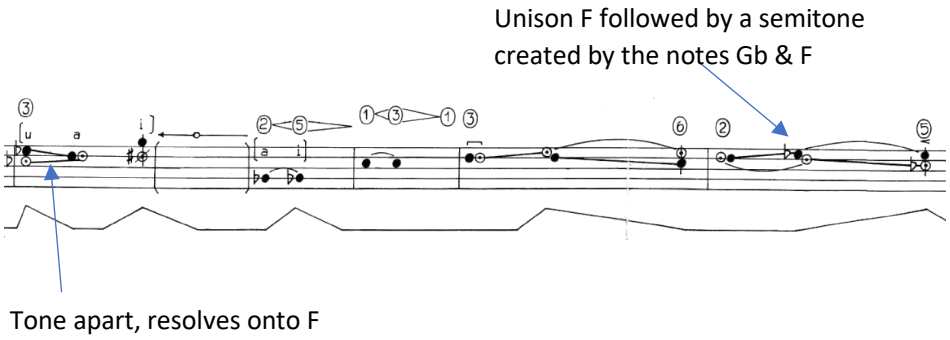


Figure 3.19. Diagram of multiphonic chords featured in *Sequenza V* by Berio. L. Berio, 1966.

Despite the fact that *Secret House* was written for trombone and female voice, with multiphonics, since its publication in 2003 there has been very little exploration of this combination. Further multiphonic studies and pieces have been undertaken by

trombonist Jen Baker (Baker, 2016) but compositions that specialise in female vocal ranges are still difficult to find. *Secret House* is featured in the performance portfolio (appendices 7(b) and 7(c)) and in chapter 4(b) and 4(c).

4. PERFORMANCE AS RESEARCH: CRITICAL EVALUATION

The main focus of this research is the techniques utilised in repertoire that influenced or were influenced by *Sequenza V* (Berio, 1966), with performance as the research tool to give specific insight.

This performance portfolio has required unorthodox and extended techniques to be learned in order that challenging repertoire can be performed. This section provides a written account of this learning journey, addressing the reasons for choosing each piece, considering how the music has been approached, and giving the research outcomes.

a. I Was Like Wow – Jacob Ter Veldhuis (2007)

Reasons for choice

I Was Like Wow (Ter Veldhuis, 2007) was written for, and recorded by, Jorgen van Rijen. This piece uses film, so the audio recording does not enable the listener to experience the full impact of the work. It includes techniques such as multiphonics, harmonic glissandi and rhythms directly related to the speech of the soldiers featured in the film. Unusually, the trombonist plays an accompanying role, with the film taking lead. One similarity to *Sequenza V* is that this work includes multiphonic chords. Another is the interaction between trombone playing and speech: while *Sequenza V* features the sound and intonation of the word WHY, Ter Veldhuis notates the rhythmic patterns of the speech in the film for the trombonist to play.

Research Outcomes and Insights

An instructive section in the score gives direction from the composer on how performers should approach, learn, and rehearse this piece to achieve a satisfactory performance. He suggests listening to the recordings and studying the score for some time before attempting performance. The performer needs to understand how the vocal patterns

translate into rhythmic patterns. The score includes four recordings of different sections so these can be learned by ear as well as from reading the score. A full transcript of the speech is also included. These resources are invaluable to the performer and make the piece more approachable. The learning process for this work mostly involved familiarisation with the sounds on the recording. Further to this, practice included rehearsing the rhythmic patterns, bearing in mind the vocal inflections of the speech in the video, and making sure that these matched in speed and volume. It was also important to work on stamina and breathing in the final sections where the passages are busy and the range is high, especially as fatigue sets in.

Learning and performing *I Was Like Wow* has shed valuable insight into the work, including its challenges, as well as its role in the development of trombone repertoire and technique. Research-informed decisions about its performance must be made by the performer, for example regarding the theatrics that come about because of the inclusion of film, and how the performer should act in response to it. It becomes apparent in the early stages of learning that the trombonist's part plays an accompanying role, and therefore they should perform and act accordingly. This means performing at the tempo on the track, balancing the dynamic with that of the speaker, and following the vocal lines. For this portfolio, the performance was filmed with the video taking prominence, and with the music stand in the dark at the side of the screen.

Finally, the performer must consider the vocal range in the multiphonic section and, if it is unsuitable, decide which would be the most appropriate notes to sing. Please see chapter 3(c)(ii) for further details regarding this section. The trombonist is required to learn the discipline of performing with a recording, combined with some freedom to play interactively by ear. This ensures that the demands of the vocal patterns and inflections are met in performance.

b. Secret House – John Kenny (2003)

Reasons for choice

Secret House (Kenny, 2003) was written specifically for trombone and female voice, an important historical development in trombone multiphonic writing. It requires a high

level of instrumental technique as well as having other elements such as percussion and singing. John Kenny spoke about *Sequenza V* in an interview (appendix 6(a)) and how it influenced his writing. Techniques that also appear in *Sequenza V* include multiphonics for a specific vocal range, multiphonic 'chatter' and the use of speech within the music. Other notable features of this work are the extreme high range and use of harmon mute. Although *Sequenza V* features the plunger rather than the harmon mute, both create a distinctive 'wa' sound.

Research Outcomes and Insights

Secret House can be daunting at first as the composer gives a vast range of performance directions, some of which are simultaneous so require logistical planning. The multiphonic section made challenging by dissonant intervals between the trombone and the voice, and the voice must remain with this dissonance rather than resolve. For example, as indicated in figure 4.1, it is tempting to resolve the dissonance caused by the Ab by singing an A, so keeping the semitone down was a challenge. See also the augmented octave indicated in figure 4.2 – the use of the female voice, in a range higher than a male voice, results in much wider multiphonic intervals than those found in *Sequenza V*. Further to this, the section shown in figure 4.2 is challenging because the pitch is so high, particularly the vocal glissando in bar 33. If this pitch is uncomfortably high for the performer's natural vocal range, they will need to work on their vocal practice.

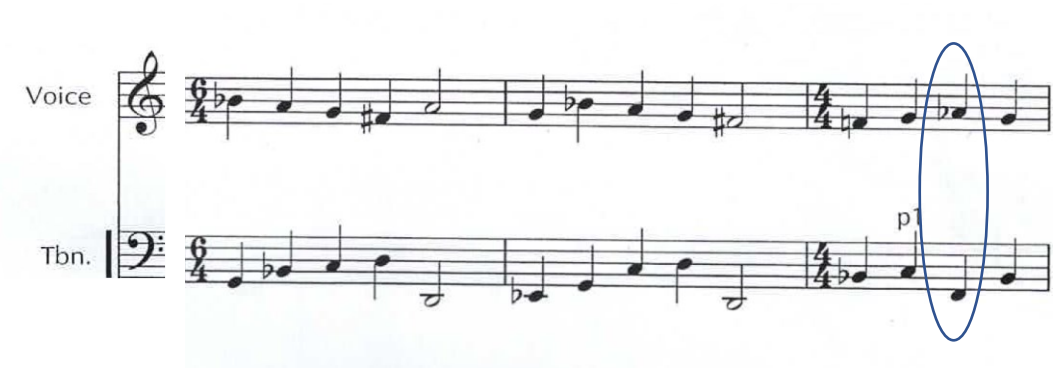


Figure 4.1. Diagram of voice multiphonics featured in *Secret House* by John Kenny.

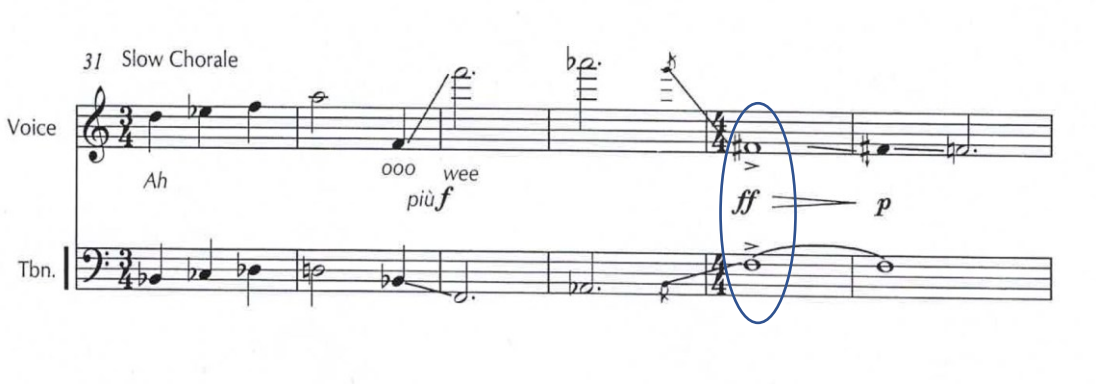


Figure 4.2. Diagram of voice multiphonics featured in *Secret House* by John Kenny.

Learning *Secret House* immediately presents a challenge as it requires percussion instruments that may not be easily available, and finding a space to set them up for practice over an extended period of time may be impractical. In addition, the performer may need guidance on selecting and playing the percussion instruments. They may decide to learn sections of the work that do not include percussion first while they overcome these obstacles.

Listening to the CD and watching the DVD (Kenny, 2007) of this work can be helpful for learning. While the DVD only shows the first movement, the CD contains the complete work, performed by Emily White for whom the work was written.

Like *Sequenza V*, the score of *Secret House* contains notation that may be unfamiliar to trombonists. For example, reading percussion notation will likely require extra time and preparation. It may be helpful to adapt the score, for example by annotating or colour coding. Another challenge is the coordination between speech and percussion, particularly in bars 38-39 (figure 4.3).

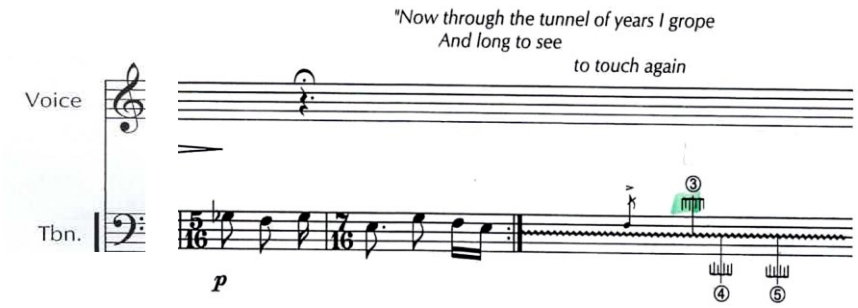


Figure 4.3. Diagram of speech and percussion featured in *Secret House* by John Kenny.

Following a first performance of *Secret House* movement 1 at the RNCM Research Symposium in May 2018, feedback was given that although the trombone performance sections were effective, the spoken word was unclear, and balance was affected. This was valuable information for future performances of this movement.

The second movement presents very specific challenges such as the operation of drum kit foot pedals simultaneously with trombone performance. Adequate coordination can be achieved by practising in a seated position and stamping the feet on the ground before introducing the drums.

The female vocal range in this work is high pitched at times, with occasional falsetto. Bar 46 in movement 3 (figure 4.4) can be challenging for lower pitched voices, causing discomfort and resulting in shorter practice sessions.

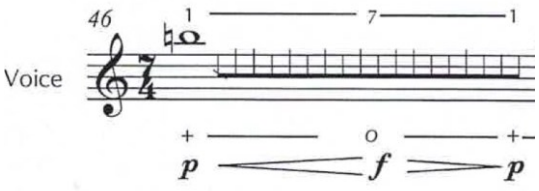


Figure 4.4. Diagram of vocal pitch featured in *Secret House* by John Kenny.

An initial full performance of *Secret House* took place in the RNCM lecture theatre on 22nd May 2019, 12 months after the performance of movement 1. Overall, the performance was mostly successful, though it informed further considerations such as lighting. The standard solo performance light did not lend itself well to the layout of the stage with three areas of performance. It was not possible to see the colour coding in the percussion part and it was too dark to read the sheet music in the non-lit areas. Further feedback was given on improving diction as this was not a strength of the performance. This is another element of the work in which the trombonist may not have received prior training.

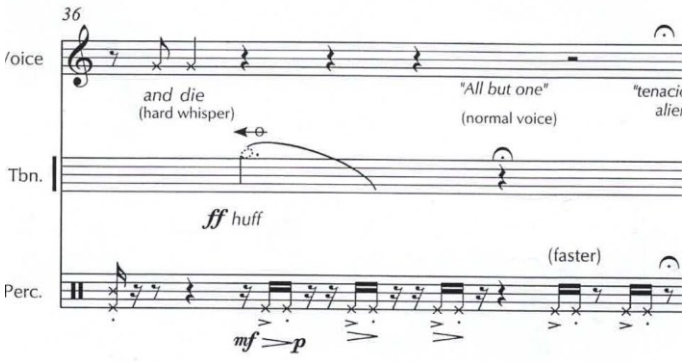


Figure 4.5. Diagram of drumbeat featured in *Secret House* by John Kenny.

A lesson with John Kenny soon after provided more valuable insight into *Secret House*. This included the style of the speech sections, the falsetto voice, and the intention behind some of the drum sounds. For example, the drumbeat in bar 36 (figure 4.5) represents a heartbeat. Working with the composer on his piece was an invaluable experience and significantly contributed to my understanding of the work. It can be assumed that Berio also gained valuable insight when working with Dempster to compose *Sequenza V*, particularly into his experience of learning the work and its challenges.

The recording of *Secret House* took place in July 2019 and was a significant achievement and addition to the portfolio. The work shows major development in trombone repertoire and technique in the second half of the twentieth century. The number of challenges within this work that the performer must overcome in order to achieve a successful performance is considerable. The experience of learning *Secret House* was

important to my development as a performer. Performing a work that involves so many logistical difficulties furthers our understanding of twentieth century trombone repertoire by affording us the opportunity to experience the work live.

c. Secret House – John Kenny (Recording with Lower Voice)

Reasons for choice

The decision to record *Secret House* again, with the vocal part sung an octave lower than written, was inspired by Emily White's comments about the different effects created by the male voice. Areas of particular interest were the differences in pitch, timbre and multiphonic chords.

Research Outcomes and Insights

Although it could have been expected that this challenge would take considerable time and preparation, the techniques that had been learned already were adaptable to the lower vocal sections. The learning process involved re-learning the relevant sections, particularly the multiphonic chords with their new intervals.

One finding was that the difference in overall sound was not as anticipated. The lower pitch gave a different timbre but did not affect the overall message of the music – the impact of the poem and the message of 'home' (appendix 6(a)) stayed constant throughout. The sections with drums and percussion remained the same whenever the voice was absent, so there was no change to the impact of these sections. In the multiphonic chords, the lower vocal pitches offered an alternative sound palette to the original sound. This could be considered an addition to the overall soundscape.

d. Basta – Folke Rabe (1982)

Reasons for choice

Basta is popular amongst music students and is often used to introduce students to contemporary music. As such, it has become educationally significant. Many of the techniques used in *Basta* are also used in *Sequenza V,* such as multiphonics. Particularly

important are the enharmonic changes, which are less common in other works (figure 3.6). *Basta* also features the trombone's extreme high range in its last bars. Like *Sequenza V, Basta* has a notable theatrical element: the performer must run onto the stage at the start and run out at the end.

Research Outcomes and Insights

One of the main challenges when learning *Basta* is creating evenness with the reverse slide action notes. One of the reasons for this is that the slide positions for these are not always evenly spaced in terms of physical length. For example, in bar 27, getting from the first note, A, to the second note, B, means travelling between positions II and VI, bypassing position III, whereas bar 28 features several shifts between positions IV and V, which are adjacent (figure 4.6). Another challenge is the final glissando followed by a low G (figure 4.7), which requires a lot of effort in terms of force and volume. The multiphonic resolving chords in the middle section (figure 3.4) are within a vocal range accessible to most voices, male and female, so it is unlikely that the performer should have to make any adaptations in pitch. Harmonically, the chords created have similar pitches to each other, making shifts between them comfortable for the performer. When learning the enharmonic shifts, the trombonist must keep their breath pressure consistently high to keep the pitch the same, making sure they do not allow a glissando to happen, which would move the pitch.

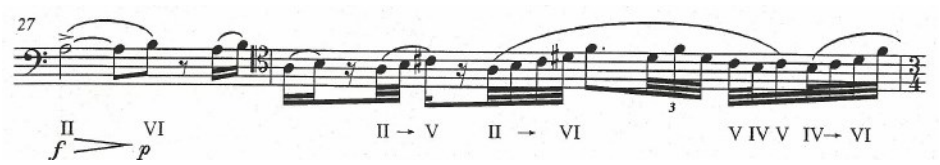


Figure 4.6. Diagram of reverse slide positions featured in *Basta* by Folke Rabe.

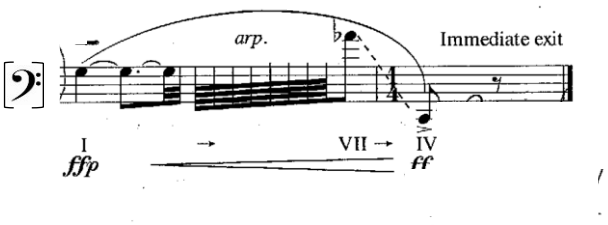


Figure 4.7. Diagram of reverse slide glissando featured in *Basta* by Folke Rabe.

Basta is an excellent introduction to extended technique for trombonists because of its approachability and its performance impact – it is typically well received by audiences. Despite it being a chronologically later work, trombonists may find it prepares them well for learning *Sequenza V* as both works make use of techniques discussed in the paragraphs above. The performer can learn to perform the multiphonic notes using a straightforward range and ease of pitches in order to gain control over reverse slide action notes and cross-harmonic glissandi. Learning and performing these techniques gives a good basis from which to develop them further in learning *Sequenza V*.

The addition of *Basta* in the portfolio demonstrates an alternative work that contains many techniques shared by *Sequenza V* but used in a less challenging way. The work may appear innovative to students who are using it as an introduction to contemporary techniques, however it might not be seen as innovative when considering that it was written after *Sequenza V* and other works that share its techniques.

e. Sequenza Minimalista – Tom Johnson (1992)

Reasons for choice

Sequenza Minimalista was performed by trombonist Matthew Gee at the RNCM as part of a recital demonstrating old and new technique. It pays homage to *Sequenza V* as detailed further in chapter 3. Having attended the performance, it was clear that *Sequenza Minimalista* was relevant to this portfolio project. The pitches based on the *Sequenza V* score are arranged into order in a minimalist, repetitive style.

Research Outcomes and Insights

This work can appear simplistic on initial viewing of the score or listen to a performance. However, once the trombonist has performed it themselves, it becomes apparent that this is not the case. The slide must constantly travel between all the slide positions from I to VII and back to I throughout the work. This means significant use of alternative positions is needed, continuing this theme. In addition to the confusion this can cause to the performer in terms of unfamiliarity of positions, the notes can be difficult to pitch and play in tune because of the adjustments required for alternative slide positions. However, the composer has considered this throughout the piece and ensured that it is

always practical to perform the written notes in these positions. Since alternative slide positions may be unfamiliar, this does require careful study and planning prior to performance.

These challenges are not immediately obvious to the trombonist and are likely discovered once they are learning the work. As *Sequenza Minimalista* lasts eleven minutes and is repetitive and relentless (as demonstrated in figure 4.8), keeping momentum throughout the piece can cause both physical and mental strain. The trombonist's lip and arm must endure this throughout.

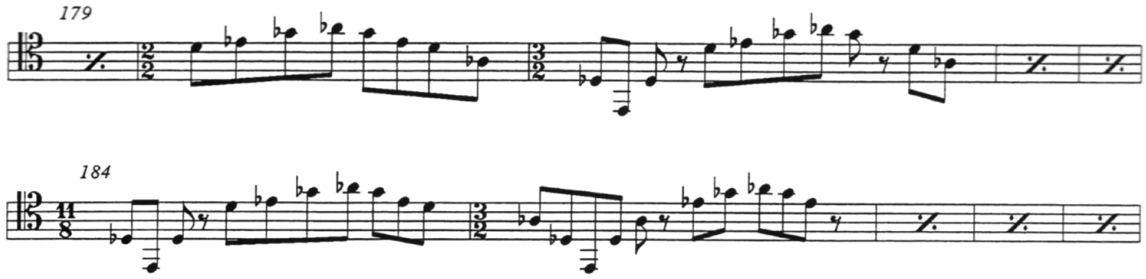


Figure 4.8. Diagram of slide pattern repetition featured in *Sequenza Minimalista* by Tom Johnson.

f. Elegy for Mippy II – Leonard Bernstein (1950)

Reasons for choice

At first glance, *Elegy for Mippy II* appears straightforward and can be performed without the foot tap with ease. However, having learned of the historical importance of the foot tap in this piece, it can be deemed the focus. Since the foot tap is the only unusual feature, *Elegy for Mippy II* can be considered one of the more accessible works for trombone in this portfolio. Although foot tapping was not featured in *Sequenza V*, it can still be seen as part of the expansion of technique at the time, and the encouragement of performers to produce alternative sounds. Percussive effects such as the foot tap are found in other pieces following *Sequenza V* such as *Consecuenza* (Roqué Alsina, 1969) and *Secret House*, which includes drum kit.

Research Outcomes and Insights

Learning foot tapping as part of a solo work can present challenges. The tapping must provide a consistently steady beat whilst the performer also plays the trombone, and they must not allow the solo line to distract and disrupt this. In addition, the tap must be consistent in volume regardless of the volume of the instrument. These challenges are not obvious when studying a score and can only be discovered in performance.

Overcoming these challenges in order to perform *Elegy for Mippy II* is a valuable learning experience. The prior research knowledge is essential in terms of understanding the importance of the different elements such as the foot tapping. Although it is a short work in comparison to some of the other works in this portfolio, it commands an important place in trombone history.

g. Concertino d'Hiver – Darius Milhaud (1953)

Reasons for Choice

Concertino d'Hiver was identified when researching jazz influence evidenced in *Sequenza V*. This has been further documented in the lecture recital (appendix 8(b)). As Milhaud used elements of jazz in his compositions and this was clearly demonstrated in *Concertino d'Hiver*, this work can be considered important context for the composition of *Sequenza V*. The syncopated writing style pays homage to the ragtime era, a precursor to jazz (Herbert, 2006). A false glissando features at the end of the second movement, also featured in *Sequenza V*.

Research Outcomes and Insights

Listening to recordings and speaking to other performers, it is clear there are many different interpretations and styles of playing this work. For example in Christian Lindberg's recording (Lindberg et al., 1988), he plays this piece in a marcato style with very pointed and separated notes. This gives a lively feel to the piece and accentuates the syncopation in the opening sections. Some trombonists prefer to bring out certain notes, particularly accenting the low notes, or quavers to accentuate the syncopated rhythm. To perform in this way required strengthening of certain techniques such as the pivot technique to increase the impact of the lower register.

In this case, being mentored by professional trombonists was invaluable. Simon Cowen, Davur Juul Magnussen, and Zoltan Kiss were all consulted about the stylistic possibilities for *Concerto d'Hiver*. Zoltan advised that the notes should be given more equal prominence, rather than bringing out specific ones, to increase the line and phrasing of the music.

One challenge when learning this work was the leaps in range, which can be difficult to achieve accurately when performing on any brass instrument. Another was the muted section in the second movement, as it was difficult to play in such a way to be heard clearly and with the tone of the mute above the accompaniment. A further challenge is that the flutter tongue is combined with the cup mute, and because of the increased air pressure of the mute this creates a more challenging environment to execute a flutter. The trombonist can overcome this challenge by pushing a greater amount of air through than usual, and they can consider including a growl technique to accentuate the flutter sound.

Concertino d'Hiver is a challenging work and when learning it the performer will find that the style of writing does not always lend itself well to the trombone despite it having been written specifically for this instrument. There are many challenges for the performer including leaps between pitches in the upper and lower registers, and passages of music where breathing opportunities are scarce. Projecting the sound when executing flutter tongue muted is difficult, especially if a true flutter is not possible and the performer is substituting this technique with a throat growl. The performer will find that the similarities between *Concertino d'Hiver* and *Sequenza V* mean that the background learning required to learn one work will aid them with both works. The false glissando, the flutter tongue, and the leaps between high and low registers are shared by both pieces. Learning *Concertino d'Hiver* is good preparation for learning *Sequenza V* as the trombonist will have studied these techniques.

h. Deux Danses – Jean-Michel Defaye (1954)

Reasons for Choice

The trombone writing of Defaye is contextually important for *Sequenza V*, particularly with regards to the use of false glissando (chapter 1b), and in developing a 'light music' approach to the high register. Both the high register and the false glissando were features of *Sequenza V* some twelve years later. The second movement features syncopation combined with false glissando, however the particularly prominent first movement displays the glissando and high register more fully for the listener.

Research Outcomes and Insights

This work requires stamina as much of the first page is in the extreme high range. In order to be able to tackle *Deux Danses*, the performer must have enough resilience to play in this register for longer periods of time than would typically be expected. Preparation for this included the use of study books such as *How Trombonists Do It* (Crees & Gane, 1988)*, Circuit Training* (Gane, 2003) and *Methode Complete* (Lafosse, 1946). Instruction from Simon Cowen, Zoltan Kiss and Jiggs Wigham was invaluable, and Zoltan Kiss has recorded an alternative version of the work.

The glissandi featured in *Deux Danses* require some consideration from the performer including experimenting with different slide positions to get the best results. Research into different slide positions is discussed in further detail in chapter 1(b)i. For the performance portfolio the glissando demonstrated in figure 1.7 was selected for the first two notes and was found to be particularly effective in the recording (appendix 7(h)). The final section of the first movement features muting, which can be strenuous for the performer as it creates an increase in air pressure following sustained periods of high register.

Research and performance of this work gives the trombonist an appreciation of how it might have been received in 1954. Judging from the information given in the repertoire chart showing practice at the time (appendix 6(b)), this work would likely have been a challenge for trombonists. For example, the range and glissandi were exceptional in their performance demands and the melodic line was very developed in its style, incorporating the singing style legato made popular by Tommy Dorsey (Baldwin, 2013).

It is useful for the performer to research the type and method of glissando prior to performing the work as it helps them to select the most appropriate route to effective performance. In addition, they should research the style of performance at the time of the work's composition, in particular the sound of the higher register and muted sections that require preparation and control. This work provides good preparation prior to *Sequenza V* as it helps the performer to understand the trends at the time, and creates a foundation in stamina and playing in the extreme high range before they attempt learning the later-written *Sequenza V*. Finally, the experience of working out the best method for the false glissandi in *Deux Danses* gives the trombonist confidence in doing the same for *Sequenza V*.

i. M6 Troll – Lucy Pankhurst (2014)

Reasons for Choice

This work was relevant to the portfolio for several reasons. It was written by a fellow PhD candidate so is the most recent work in the portfolio and demonstrates a more recent area of development. This includes techniques such as cross-harmonic glissandi, multiphonics and flutter tongue. *M6 Troll* also features electronics, an alternative area of development that is not featured in *Sequenza V.*

Research Outcomes and Insights

In order to learn this work, the performer must be able to create specific sounds using avant-garde techniques. Rather than focusing on a select few extended techniques, lots of different techniques appear in small quantities. It is a short work in comparison to most of the other compositions within this portfolio, however with the multiphonic and lip trill additions the level of technical demand is high. The multiphonics that are featured are suitable for a wide range of voices, female or male, and are presented with the voice creating the higher pitches, which can help the performer create a stronger sounding chord. Since it is easier to control the vocal notes when performing this type of multiphonic (see chapter 2(h) and 3(c)ii), this also means that the performer is likely to be able to learn these sections more quickly. Pankhurst specifies that the glissandi featured in this piece should be performed in 6th position throughout, passing through

specific individual notes as a lip gliss/rip. The resulting effect bears similarity to the glissando sounds featured in *Basta* (Rabe, 1982) (appendix 7(i)) and *Secret House* (Kenny, 2003) (appendix 7(b)). A more uncommon technique featured in *M6 Troll* is the flutter tongue/growl performed on pedal notes. Although it is less uncommon in this range it is not difficult to perform.

Creating the recording of *M6 Troll* was a very different experience to that of the other works in the portfolio, including *I Was Like Wow* (Ter Veldhuis, 2007), which includes video content. Each section was prepared and recorded separately using a Roland-05. After completing each section, they were then layered on top of a track of traffic noise recorded by the composer to create the finished portfolio.

M6 Troll can be considered approachable despite its electronic component as the work is much shorter and less difficult than some of the other works such as *Secret House* (Kenny, 2003). Clear instructions from the composer help the performer to know which techniques are expected. It also introduces basic recording equipment for the beginner, and multiphonics in a higher range than *Sequenza V*. An interesting similarity between *M6 Troll* and *Sequenza V* is the use of the pedal flutter tongue; pedal notes are within the standard range of the trombone and the flutter tongue is so frequently used that it can be considered an orthodox technique, rather than extended. It is unusual, however, to combine both techniques, and both works share this albeit for just a single note in *Sequenza V*. Dempster briefly discusses this combination technique in *The Modern Trombone* (Dempster, 1979), advising that due to the low frequency of vibrations the pedal note is very similar to the flutter in its delivery. He suggests that the performer ignore the flutter tongue altogether in favour of concentrating on the volume of the pedal.

j. <u>Sequenza V – Luciano Berio (1966)</u>

<u>Reasons for Choice</u>

As the overall research aim is to prove that *Sequenza V* was a pivotal work in trombone history, this was a necessary inclusion for the portfolio. To create impact amongst trombonists, and to aid accessibility, this was performed in a lecture recital format. Not

only may this encourage more contemporary music to be performed by trombone students, but it is an area of interest that may affect their own attitudes to tackling the work.

Research Outcomes and Insights

Undeniably, it is difficult for musicians learning unfamiliar techniques to achieve them without instruction, and if tutors rarely teach contemporary techniques this exacerbates the issue of them rarely being learned. Of the trombone student cohort at the Royal Northern College of Music in Manchester, although around 70% had heard of *Sequenza V*, very few had even considered attempting such a work and nobody had performed it. The score of *Sequenza V* can appear very daunting and considerable study time is needed to understand how to read it before the performer attempts some of the techniques that are likely new to them. With the likelihood of students being unable to access help from tutors on this work, it is no surprise that many discard the work in favour of alternatives that are instantly readable and playable.

Having experienced the challenge of finding a suitable trombone tutor in the past, this could be a real barrier to somebody wanting to start learning the work. Further instruction with practitioners like Barrie Webb can be recommended; he helped with studying the impact of theatrical techniques, including different ways to present to the audience. Although some performers stick to the standard guidance, others add their own gestures such as getting closer to the audience in the A section to create further impact.

The false glissando can be performed by changing the slide action rather than the lip action; this is discussed further in chapter 3. Barrie recommends the position I option (figure 2.34) for the glissando rather than position VII (figure 2.35).

Other pieces of advice given by Barrie include noting that the second stave has different timing instructions than the first line, so is played at a different speed. Further, longer phrases can be interpreted to be split into smaller phrases, so these are brought out, especially in the B section. Barrie encouraged stronger accented notes in the first line of the A section; when these are preceded by short silences, they make more of an impact, as does emphasising the ‘frantic’ section in the third line.

Having worked with other artists during the course of creating this portfolio, not all of them have been able to give insight into *Sequenza V* because of unfamiliarity with the work.

Notable challenges include producing the inhaled pitches. The trombonist must close their throat slightly, pushing air past the vocal cords, and this produces a sound. This can cause discomfort and fatigue, and prolonged practice can cause soreness in the throat.

Some performers may find they are physically unable to produce the exact pitch specified, particularly female performers, as the vocal range in *Sequenza V* is lower than the standard female vocal range. In this case the performer's own limitations would determine whether they transpose the pitch up an octave or perform a different pitch altogether.

Some of the articles published about *Sequenza V* approach issues around the interpretation of the work and its context, however it is rare to find commentary on the practicalities of learning to play it. Learning *Sequenza V* or starting with some of the more immediately accessible works such as *Basta* can encourage the trombonist to explore further contemporary works. To help address this common problem of inaccessibility, chapter 2 helps the learner to tackle Berio's *Sequenza V*, including how to read the notation. This instruction, insight and support could encourage an increase in how often *Sequenza V* is performed.

Although *Sequenza V* is very complex and presents challenges, every time it is studied and performed the techniques within it are improved and enhanced. Approaching *Sequenza V* for this thesis and increasing accessibility (chapter 2) has been based on experiences of study spanning ten years.

Prior performances of *Sequenza V* include the following: Masters Performance December 2012, BTS day Crewe December 2012, Performance Students at MMU year 3 2010, year 1 2011, year 2 October 2013.

5. CONCLUSIONS

This project has been a substantial undertaking, gaining understanding of representative trombone techniques over the course of the twentieth century, investigating their origins, and putting them into practice.

To summarise the research outcomes, each performance in the portfolio has been preceded with research as well as practice to learn or refine techniques for an effective performance. This process has helped me develop as a practitioner able to perform substantial works often avoided by trombonists with standard technique. Mastering pre-*Sequenza V* works such as *Deux Danses* (Defaye, 1954) and *Concertino d'Hiver* (Milhaud, 1953) will prepare a performer well to study and learn to play *Sequenza V* as they both make use of techniques such as the false glissando, which is also found in *Sequenza V*. The research into this technique carried out in this thesis (chapter 1(b)i), along with demonstration (appendix 4(h)), has made a significant contribution as to how and why specific glissandi can be selected and executed. This contribution should enable the performer to adapt this skill to works such as *Sequenza V* itself and later works such as *Basta* (Rabe, 1982).

The score for *Sequenza V* presents challenges for the performer, but with sufficient guidance to help them understand how to perform it and how to create the required sounds (chapter 2) it can be made much more accessible. The lecture recital and performance (appendix 8(a)) should be helpful for trombonists and encourage further performances of the work.

There are substantial differences between trombone music composed before and after *Sequenza V* both in the techniques used and the ways music has been taught. Many of the works composed after 1966 are considerably more complex and time consuming to learn than before. For example, *Secret House* (Kenny, 2003) can be considered challenging because of the high level of skill required to execute techniques such as the multiphonics and high vocal range. The performer can use the research into *Sequenza V* in this thesis to help them understand the origins of many of these techniques, and to help them prepare for performance itself. The use of theatre has also been a significant development in trombone writing post-*Sequenza V,* including in *Secret House* and *Motorbike Odyssey* (Sandstrom, 1989b). Works such as *I Was Like Wow* (Ter Veldhuis,

2007) and *Bombay Bay Barracuda* (Lindberg, 1999), where theatrics were included in video form rather than performed by the trombonist, allow the performer to incorporate this element without having to act themselves.

As regards the study into techniques used before and after *Sequenza V,* with the exception of electronic developments, there have been few further developments of trombone technique that have made as much of an impact as *Sequenza V* did 54 years ago. *The Techniques of Trombone Playing* (Svoboda & Roth, 2017) gives a more recent account of developments, however very little of this could be considered new in comparison to *The Modern Trombone* (Dempster, 1979) following on from Dempster's work with Berio and *Sequenza V.* The influence of *Sequenza V* is clearly traceable from 1966 to 2020. I would conclude that it was indeed a pivotal work and changed the course of history in the field of trombone repertoire and technique.

The focus of this research is to demonstrate where *Sequenza V* takes its influence from, and how it has influenced further trombone repertoire and technique. In addition, it gives valuable insight into the experience of learning and performing this work and other related works. This research is limited in that it only considers changes to trombone repertoire directly influenced by *Sequenza V* and does not consider unrelated techniques. Future areas of research could include new ideas for expanding trombone developments in the twenty-first century and further research into trombone and electronics in performance.

APPENDICES

6. MISCELLANEOUS

a. INTERVIEW - John Kenny 14th June 2019

I met with John to discuss his work, especially the influences of Berio's *Sequenza V* and his composition of Secret House. These are his comments below:

The trombone is a medium for human expression, it has an archaic and simple structure. It enables us to flow into it emotionally and physically.

Defeating the simplicity is the task, most repertoire doesn't require it.

Berio's *Sequenza V* is a political piece. Western composer exploring instruments not fully explored. Targets of imagination. Search for new voices and sounds. Desire to reach back in time for inspiration. Search for deeper meaning. Vocals truly and genuinely new. Stretched into an area that western music did not. Once unlocked the trombone was freed up. *Sequenza V* was the key to unlock the door. I found *Sequenza V* in the library and it changed my life. I started performing it and it gave me a platform, I could then fill the rest of the programme which whatever I wanted.

Berio enabled me to find a voice beyond the trombone. I self-taught it but worked with Berio himself and with Stuart Dempster. It gave me the confidence to compose and explore. WHY is the definition of being human.

Secret House has been an extraordinary and liberating journey. It is gender political, levels the playing field. I find misogyny weird in brass playing and overseas cultural problems for females. The early 80s was a turning point.

I wanted people to book me not just because I was a trombone player, I became an actor. Saw an advert looking for actors who were also musicians. I became a professional actor, it was out of the comfort zone but was supported.

With my teaching I had an increasing number of girl students, they were motivated and high achievers. Berio as a man that was the demographic. I decided to work with female voice and created a new instrument.

I taught Sequenza V to girls. Either they sing in a register that is lower than comfortable or transpose an octave but lose the unity that the work intends. I wanted to move forward, writing for female falsetto which is rarely used but exists. Secret House was always intended as a standalone piece. I worked with Emily (White) learning to cross the break into falsetto and control it. There is baggage of what it is to sing and it's not the description of what we normally associate as singing.

House as protective shell. House as identity. The middle movement is House as a body, pregnancy. Take something on board and give something up – invasive.

It is the only piece I've written for trombone that I can't actually play!

Is it an object or is it an instrument? Unexplored potential. All musical instruments are mediums of expression.

I wanted to show not only can a woman play trombone as well as any man, but in my mind we often say women are very good at multasking.

Pushes the performer to not only push the capabilities of the instrument but multiphonics at a level no man could perform. Also theatrical aspect of having a woman perform it.

They have to be:

1. Good enough to play the trombone part
2. Challenging the idea of physical theatre – and we have a physical theatre

It's one of the most demanding works ever written for an instrumentalist.

Poetry underlying the artistic element. The musical instruments work as a set.

I moved away from Berio's *Sequenza V* as both more simplistic and more complicated. The collaboration between composer and artist has been very important and a very satisfying journey.

Emily had no singing or acting training. Secret House in its full form is a duo – for musician and dancer.

b. DATA: COLLATED CHART OF TECHNIQUES

Date (timeline)	Title	Composer	Source* (see	solo/ accompanied	Technique: Vocal Sounds							External Effects			Technique Effects		Glissandi		Time	Other
					Singing	Multiphonic (voice above)	Multiphonic (voice below)	Vocal vowels through instr	Spoken word	Speech into instrument	Inhaled pitch	Plunger mute	Percussive Plunger	Theatrical	Exchange of slide positions	Flutter tongue	Glissando	Cross Harmonic /False Glissando	Tempo in seconds	
1902	Morceau Symphonique	Alexandre Guilmant	k	a																
1911	Konzert No. 1	Alschausky	k	a																
1915	Cavatine	Saint-Saens	k	a																
1924	Concert	Grondahl	k	a																
1941	Sonate	Paul Hindemith	k	a																
1950	Elegy for Mippy II	Leonard Bernstein	k											✓				✓		
1951	Fantasy	Paul Creston	k	a																
1953	Concertino d'Hiver	Darius Milhaud	k	a												✓	✓			
1953	Romanza	Otto Hoser	k	a																
1954	Deux Danses	Jean-Michel Defaye	k														✓	✓		
1954	Concertino	Jose Berghmans	k	a																
1956	Concerto	Gordon Jacob	k	a																
1956	Choral Varie	Roger Boutry	k	a																
1957	Hommage a Bach	Eugene Bozza	k	a																
1957	Sonatine	Jacques Casterede	k	a																
1958	Solo for Sliding Trombone	John Cage	k						✓					✓		✓	✓			disassembly
1962	Sonata for Solo Trombone	Barney Childs	k																	indeterminacy
1964	Mysterious Horse Before the Gate	Alan Hovhaness	k														✓			
1966	Caprice	Alan Raph	k																	
1966	Animus 1	Jacob Druckman	m			✓		✓	✓	✓		✓		✓						
1966	Sequenza V	Luciano Berio	k		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	
1967	Five Pieces for Trombone & Piano	Ernst Krenek	k	a					✓	✓					✓	✓	✓	✓		dissassembly
1967	General Speech	Robert Erikson	m						✓					✓			✓			
1968	Divertimento	Edward Gregson	k	a												✓	✓	✓		
1968	Music for Sliding Trombone	Rob du Bois	m			✓	✓									✓	✓			
1969	Consecuenza	Carlos Roque Alsina	m		✓	✓	✓					✓	✓			✓	✓		✓	
1969	Aria, Scherzo et Final	Jean Aubain	k	a													✓			
1970	Three Sketches	Andrew Imbrie	m			✓											✓	✓		
1970	Ricercare	Marcel Bitsch	k	a																
1970	Concerto	Pierre-Max Dubois	k	a												✓	✓	✓		
1972	Prelude & March	Christopher Dedrick	m			✓											✓			
1972	Multiphony III Gradients)	John Anthony Celona	m			✓	✓	✓			✓					✓	✓		✓	
1972	Canto II	Samuel Adler	k													✓		✓		
1973	Impromptu	J E Brown	k														✓			electronics
1973	Sonata (Vox Gabrieli)	Stjepan Sulek	k	a																
1974	Tre Monodie	Antony Vazzana	m			✓	✓												✓	
1974	Incabado	Morgan Powell	m			✓						✓	✓			✓	✓	✓	✓	
1975	Rhapsody for Trombone	Gordon Langford	k	a														✓		
1975	Res-As-Ex-Ins-pirer	Vinko Globokar	m			✓	✓	✓ +	✓	✓				✓		✓	✓			(+mouth cavity distorti
1976	Camel Music	Howard Buss	m		✓	✓			✓	✓		✓		✓			✓			
1976	Silences	John-Paul Rieunier	m		✓	✓	✓					✓			✓	✓	✓	✓	✓	
1976	Sonorities III	Walter Hartley	m			✓	✓									✓	✓	✓		
1977	Canzone	Andre Bon	m			✓						✓	✓			✓	✓			
1977	Seesaw Music	David Felder	m																	
1977	Nexus	David Felder	m			✓	✓					✓		✓	✓	✓	✓			percussive mouthpiece
1978	Conditions of a Solitary Bird	Laurence Borden	k			✓		✓								✓	✓	✓	✓	
1979	Episodes	Dan Yuhas	m		✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	
1979	Sonata	Gordon Jacob	k	a																
1979	Fantasia	Hidas Frigyes	k																	
1979	Parable	Vincent Persichetti	k															✓		
1980	The Hunting of the Snark	Arne Nordheim	k		✓	✓						harmon				✓				
1980	Sonatina	Bryan Kelly	k	a																

Date (timeline)	Title	Composer	Source* (see	solo/ accompanied	Technique																	Other
					Vocal Sounds							External Effects			Technique Effects		Glissandi	Time				
					Singing	Multiphonic (voice above)	Multiphonic (voice below)	Vocal vowels through instr	Spoken word	Speech into instrument	Inhaled pitch	Plunger mute	Percussive Plunger	Theatrical	Exchange of slide positions	Flutter tongue	Glissando	Cross Harmonic /False Glissando	Tempo in seconds			
1980	Concert Variations	Don Lusher	k	a																		
1982	Romance	Axel Jorgensen	k																			
1982	Monologue 16	Eugene Hartzell	k																			
1982	Basta	Folke Rabe	k			✓								✓				✓				
1983	Improvisation	Enrique Crespo	k												✓			✓	✓			
1983	Harsonara	Laszlo Dubrovay	k									✓						✓				
1983	Exegesis	Philip Brink	m													✓	✓	✓	✓			
1984	Libero	Istavan Lang	k													✓	✓	✓	✓			
1984	Monophony VIII	Robert Hall Lewis	k													✓	✓	✓	✓			
1985	Sonata	John Kenny	k			✓		✓				✓			✓			✓	✓			
1986	Preludes	Joel Elias	m			✓										✓		✓				
1986	Sonata for Trombone	John Kenny	m			✓		✓						✓		✓		✓				
1986	Soundweb	John Rimmer	k									✓		✓		✓		✓				features tape delay
1986	Keren	Xenakis	k													✓		✓				
1987	Indeed	Pascal Dusapin	m			✓	✓					✓				✓		✓				
1988	Dialogues for Trombone & Piano	John White	m			✓										✓		✓		✓		
1988	In Memorium H.K.	Philip Grange	k													✓		✓	✓			
1989	Trombone Concerto	Derek Bourgeois	k	a								✓						✓				
1989	Query	Donald Appert	m		✓	✓													✓			
1989	Motorbike Oddysey	Jan Sandstrom	k			✓					✓	✓		✓		✓		✓				
1989	Ronald McDifficult	Wayne Baxley	m			✓												✓				
1990	Bells of Vineta	Bent Sorensen	k			✓	✓					✓						✓				
1991	Bombibone Brassbit	Jan Sandstrom	k																✓			
1992	Sequenza Minimalista	Tom Johnson	k																			
1993	Subadobe	Fredrik Hogberg	k						✓					✓				✓				
1995	9.28.85	Drake Mabry	m			✓	✓	✓								✓		✓	✓			dissassembly
1996	Dream Sequence 1	Daniel Asia	m			✓	✓		✓		✓	✓		✓		✓		✓				dissassembly
1998	Ruach	Philip Wilby	m			✓	✓							✓		✓		✓				
1998	Equator	Tansy Davies	k																			
1999	Bombay Bay Barracuda	Christian Lindberg	k											✓				✓	✓			with DVD
1999	Petite Suite	Serge Baudo	k	a														✓				
2000	Doodallynastics	Brian Lynn	m			✓			✓					✓		✓		✓	✓			
2000	Secret House	John Kenny	k			✓			✓		✓	✓		✓				✓				
2000	Three Sketches in the form of a Sonata	Simon Lesley	m			✓			✓			✓		✓	✓			✓				
2001	Downtown Diversions	Adam Gorb	k	a																		
2001	Blue Wolf	Brad Edwards	m			✓									✓			✓				dissassembly
2002	Slide Show	George Nicholson	m			✓	✓							✓	✓	✓		✓	✓			
2002	Concerto for Trombone and String Orchestr	Torstein Aagard-Nilsen	k										harmon					✓				
2003	Four Winds	Philip Willby	k											✓		✓		✓				
2004	Joe Jack Binglebandit	Christian Lindberg	k			✓										✓		✓	✓			
2004	Flourish	Eric Crees	k															✓	✓			slide trill with doodle tongu
2004	Ombre/Penombre	George Nicholson	k			✓		✓								✓		✓				
2004	Judas Mercator	Peter Maxwell Davies	k															✓	✓			lip trills
2005	The Slaughtered Lamb	Ivor Hodgson	k													✓		✓	✓			
2006	Lucifer	Simon Wills	k													✓		✓	✓			
2008	I Was Like Wow	JacobTV	k			✓										✓		✓				electronics
2008	Excito Quod Evenit	Peter Swan	k			✓		✓								✓		✓	✓			
2009	Trunk	Adam Gorb	k															✓				
2010	Instable	Bernard de Vienne	k			✓	✓						✓	✓		✓		✓	✓			
2010	Fantasia	Dan Jenkins	k													✓		✓				
2014	M6 Troll	Lucy Pankhurst	k			✓										✓		✓	✓			electronics
2019	Solum	Jonathan Bates	k	a												✓		✓	✓			with audio

* k – score research by Kerry Baldwin

m - data extracted from Michael McKenny Davidson: An Annotated Database of 102 Selected Published Works for Trombone Requiring Multiphonics 2005

c. MULTIPHONIC EXERCISES (1-16)

Learning to play Multiphonics

Benny Sluchin suggests (Sluchin, 1995) that when initially learning this technique the note on the trombone should be produced and held, after establishing this add in the vocal note in any pitch. Practice this in reverse also with the vocal note leading and combine with different stopping times.

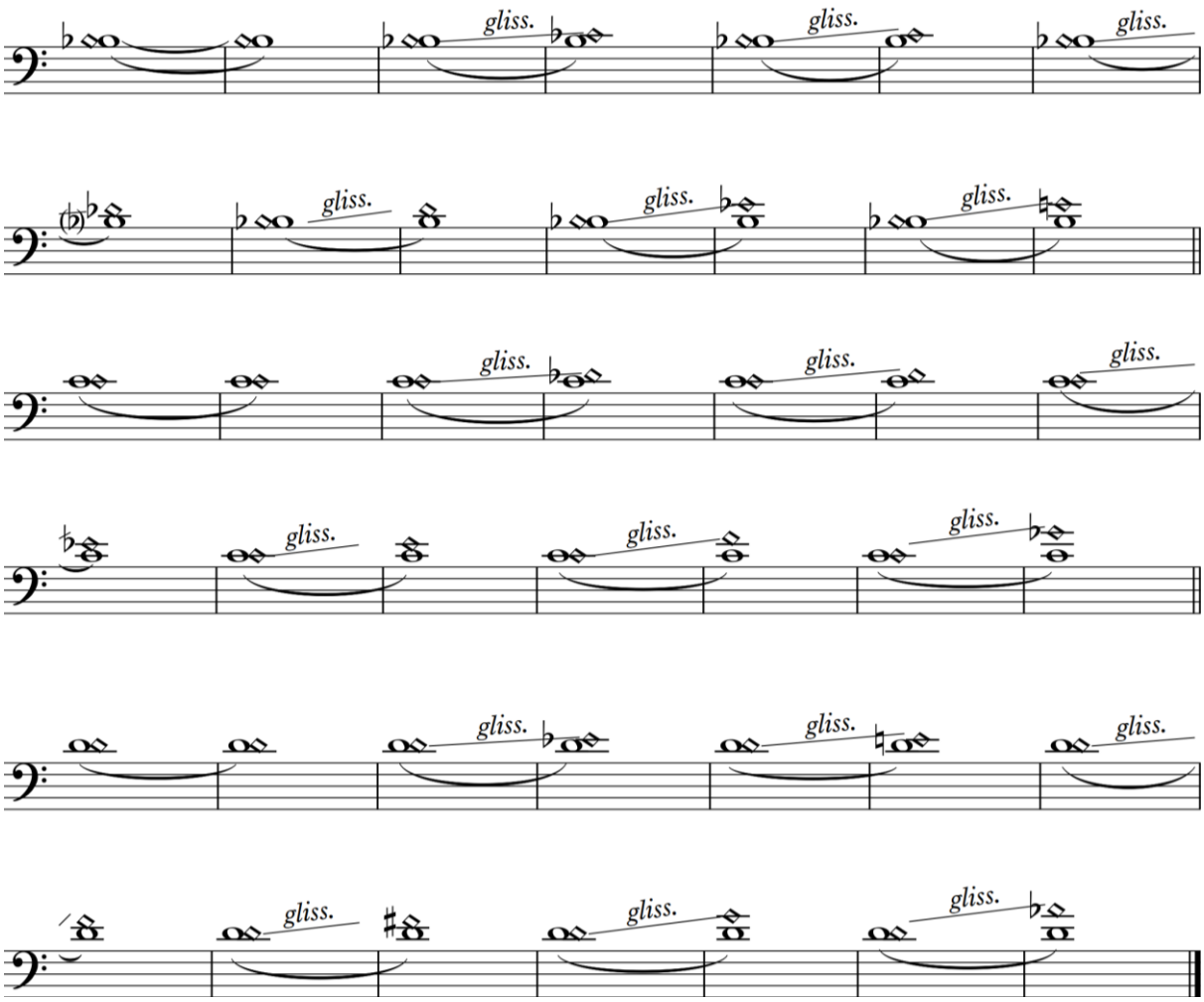
Having successfully used this technique myself to learn to produce multiphonic notes I would recommend this method. However, I have created further exercises involving a much more complex set of multiphonic sounds with the voice and instrument moving more independently. I would suggest a more gradual increase in independence and the vocal sounds being explored moving to and from the trombone sounds. Sequenza V does include a number of multiphonic effects which can be arranged in order of difficulty to make a series of exercises increasing in complexity.

The initial exercises start with both the vocal and trombone pitches in unison to help establish the pitches. As the trombonist becomes more confident with producing a different pitch at the start of the note the later exercises will feature this technique.

1. Vocal Ascending

K Baldwin

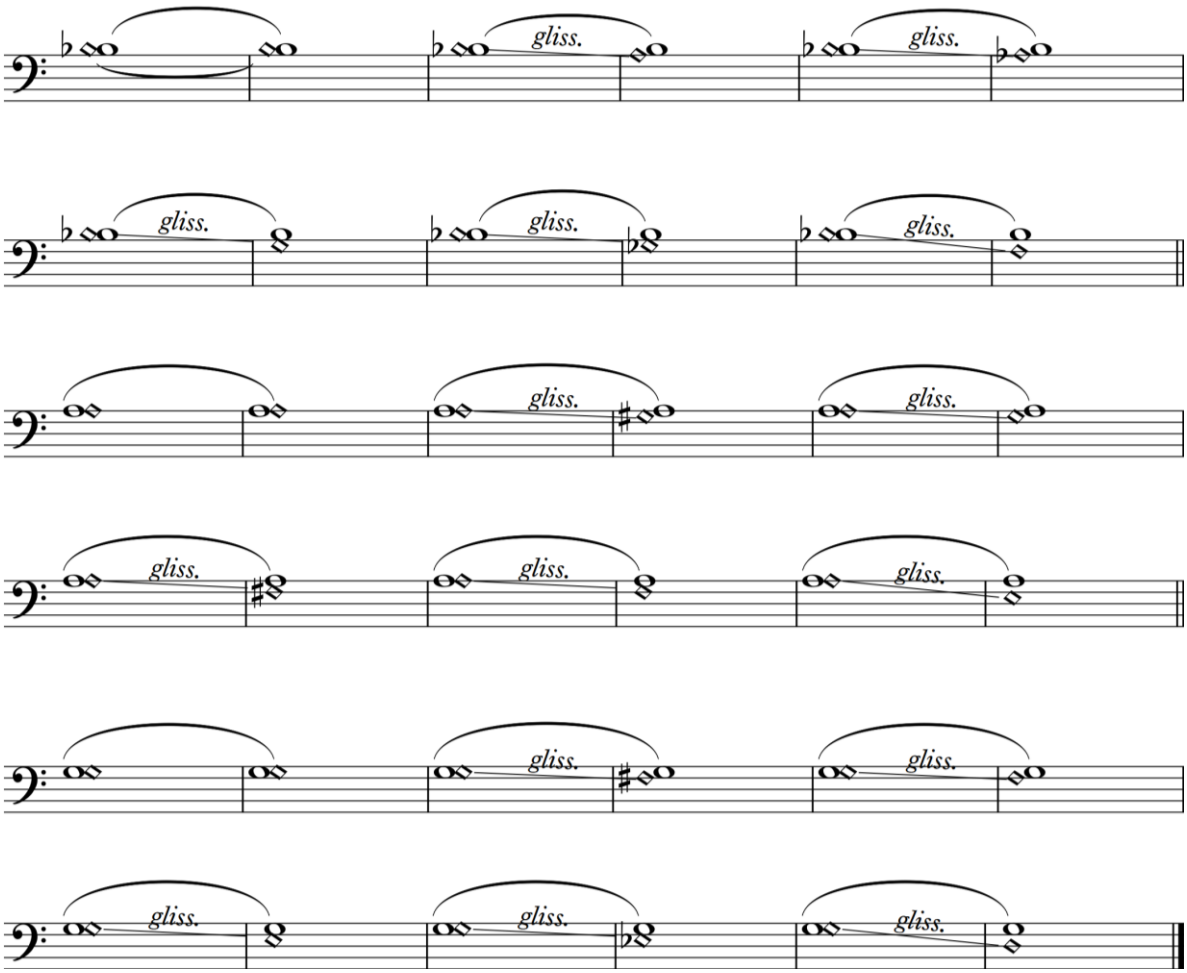
The pitches start in unison and the vocal pitch ascends away. This will start to give the voice independence. Note that when the vocal and trombone pitches are this close together you will create a 'beating' sound that increases in velocity as you move. This is frequently featured in Sequenza V but not shown on the score, a natural side effect.



2. Vocal Descending

K Baldwin

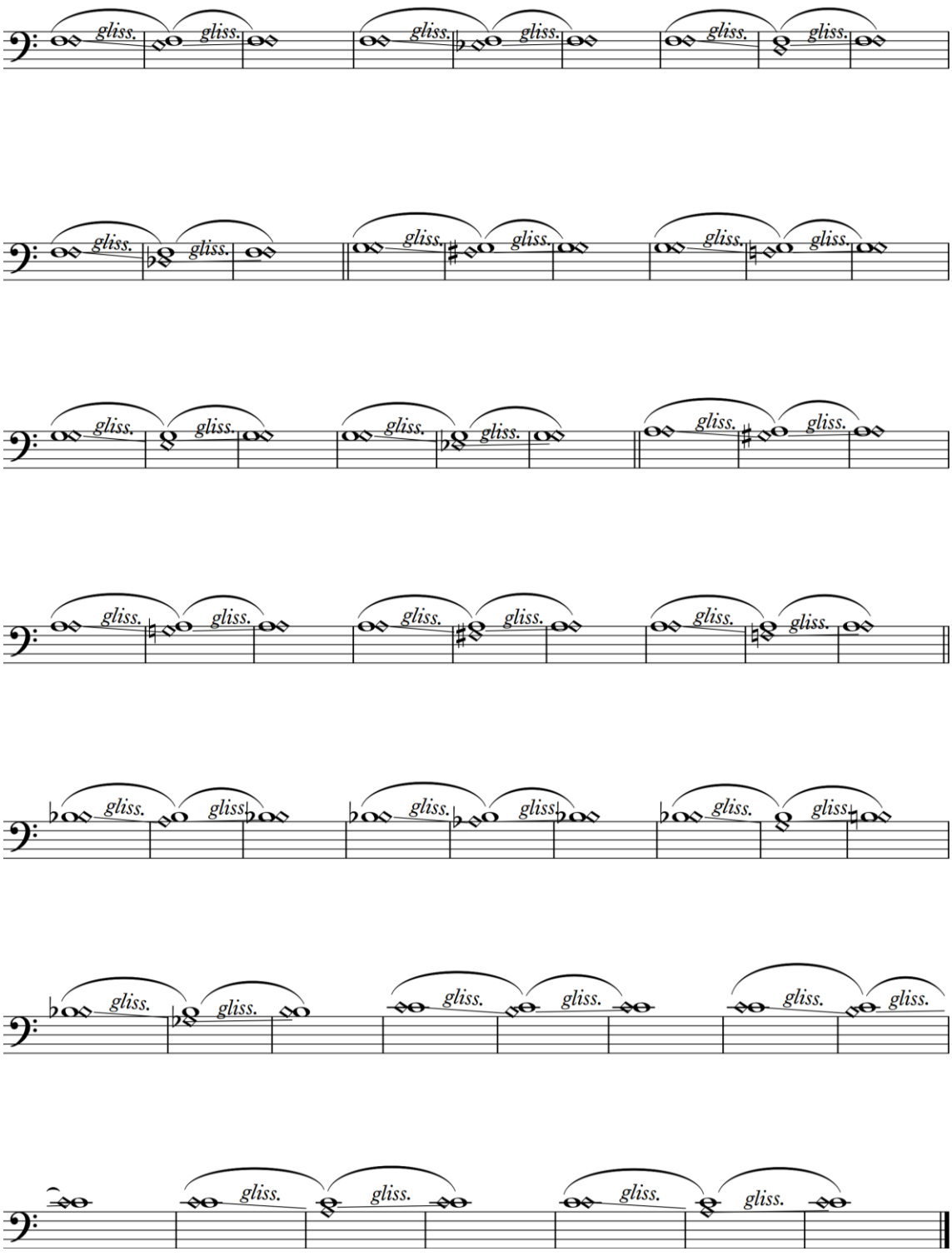
Although this exercise is very similar to the vocal ascending it is challenging to move the voice below the trombone pitch without them both dropping down. Despite the relaxing of the throat when the vocal pitch moves, the lips and air speed must be kept constant in order for these to remain at the correct pitch.



3. Vocal Descending Return

K Baldwin

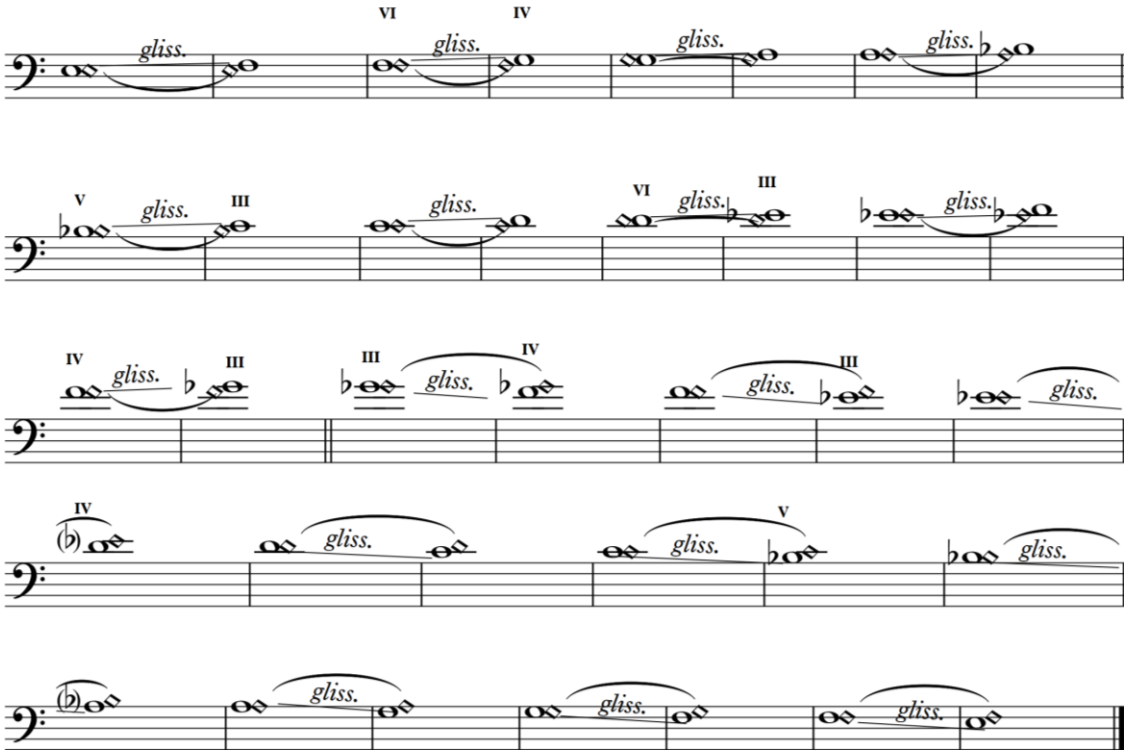
Sequenza V features the return of the voice to the original unison pitch. When it returns and intonation is in line with the trombone note the ‘beating’ sound should stop.



Trombone Glissando

K Baldwin

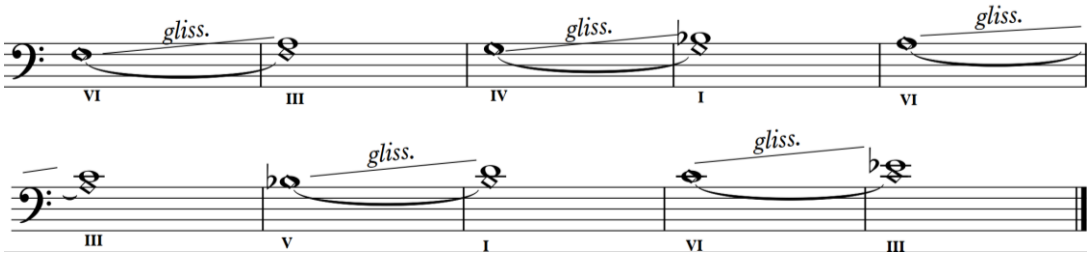
In this exercise the voice is held steady whilst the trombone note changes pitch using a glissando



4. Trombone Glissando 2

K Baldwin

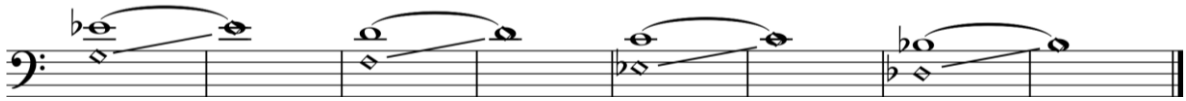
This exercise covers a larger interval to extend the range



5. Trombone Glissando 3

K Baldwin

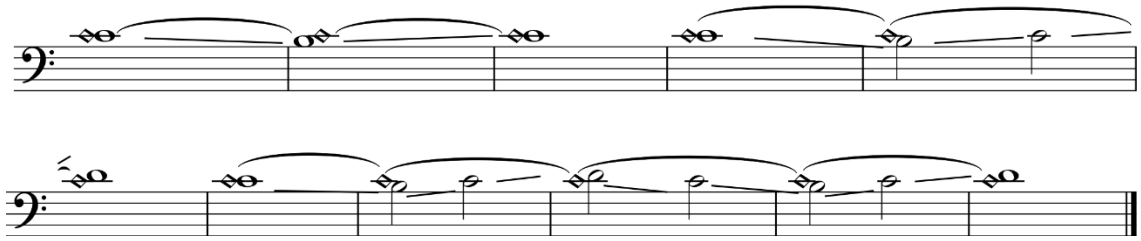
The trombone pitch drops below the vocal pitch using a glissando



6. Trombone Glissando 4

K Baldwin

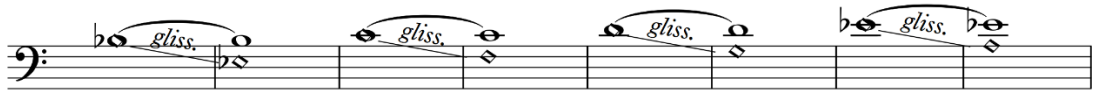
Further progress moving the trombone pitch above and below the vocal pitch.



7. Vocal Glissando

K Baldwin

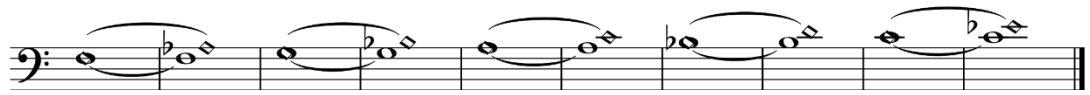
The trombone note remains constant whilst the voice changes pitch using a glissando. The vocal glissando covers a much wider range so helps push the independence of the two notes.



8. Moving Voice

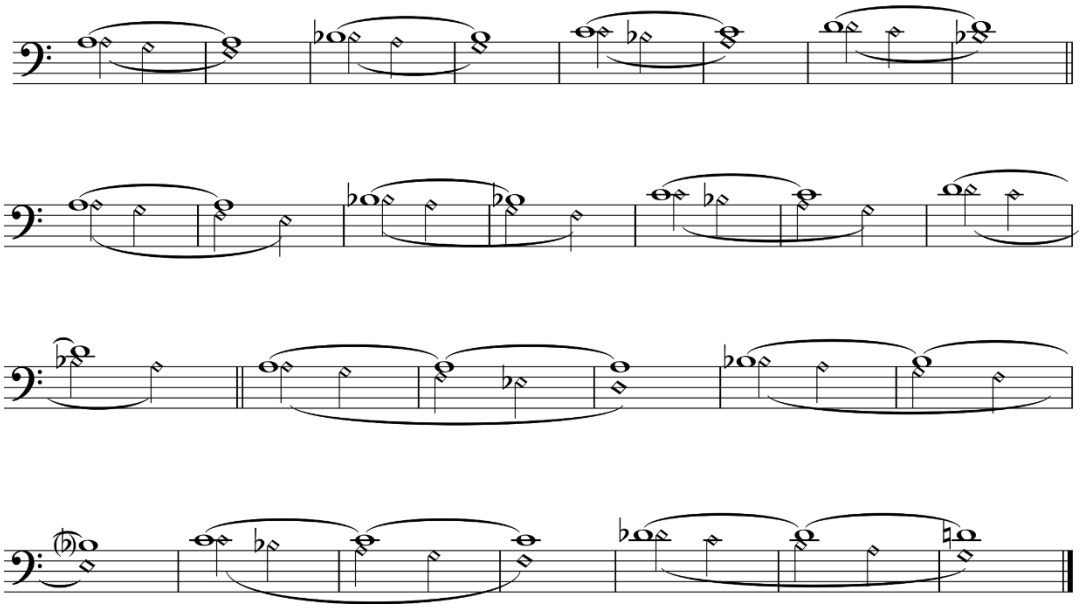
K Baldwin

The next four exercises allow the voice freedom to move while the trombone pitch remains constant.



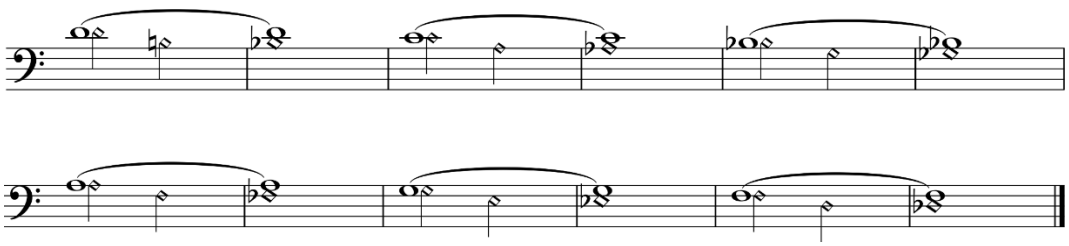
9. Moving Voice 2

K Baldwin



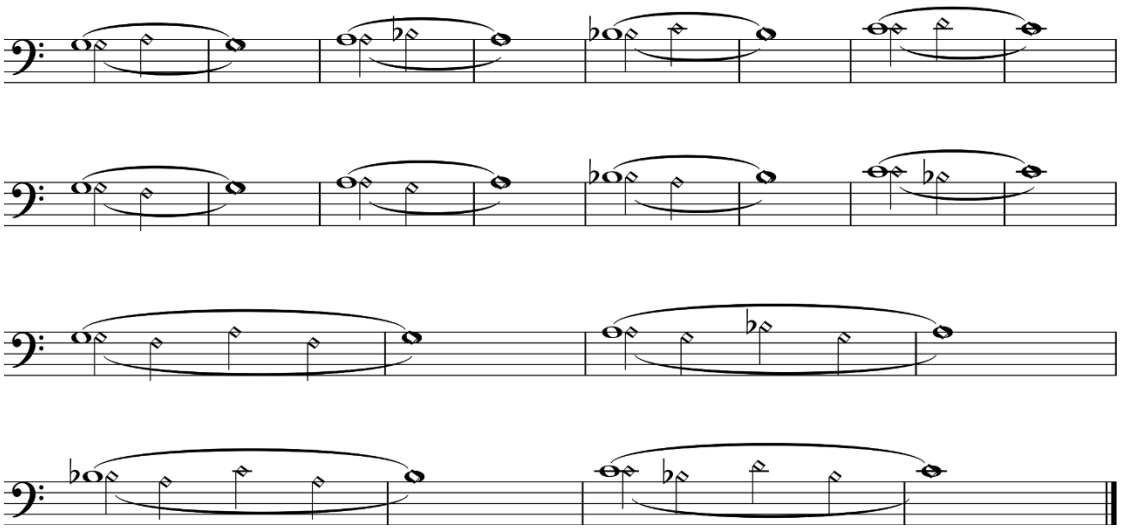
10. Moving Voice 3

K Baldwin



11. Moving Voice 4

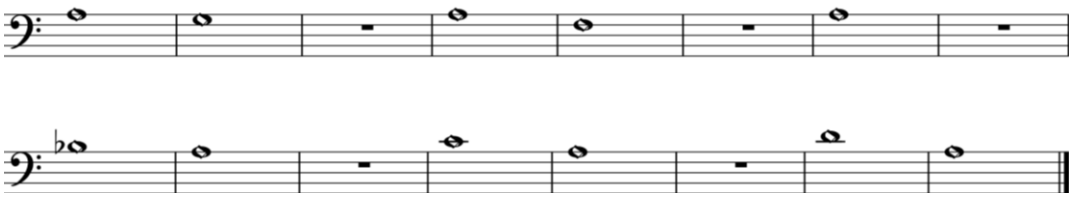
K Baldwin



12. Unison

K Baldwin

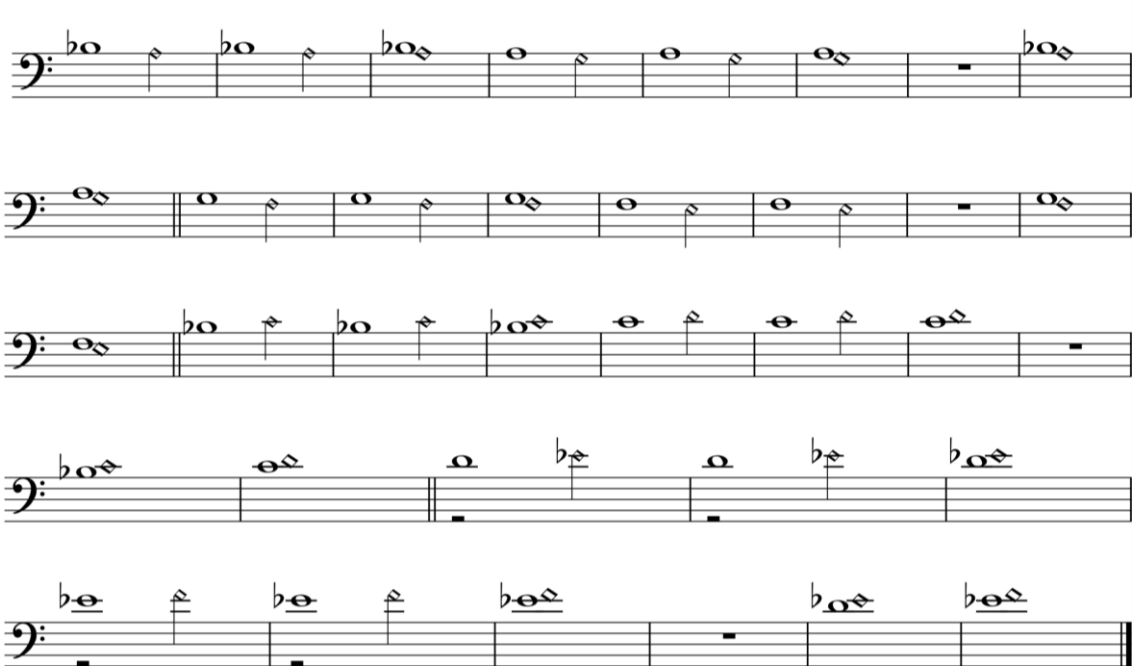
Practicing pitching correctly with the voice at the same time as the trombone



13. Close Pitches

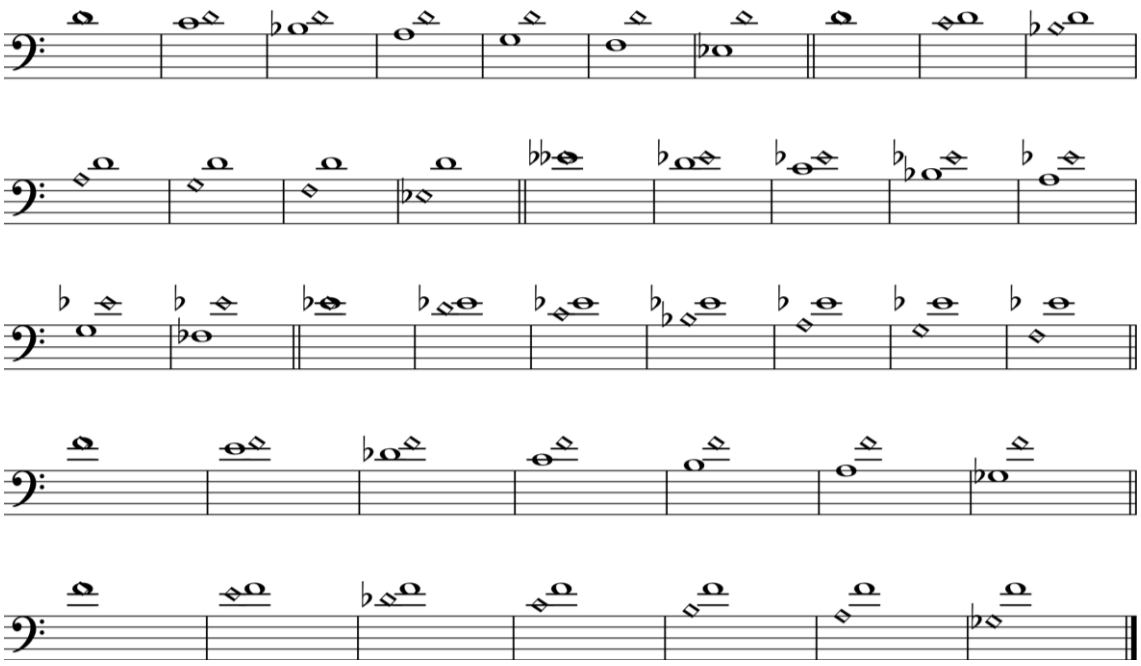
K Baldwin

This is the first exercise featuring the vocal and instrumental notes starting on different pitches. In each instance the second note is initially delayed in order to help pitching when learning this technique.



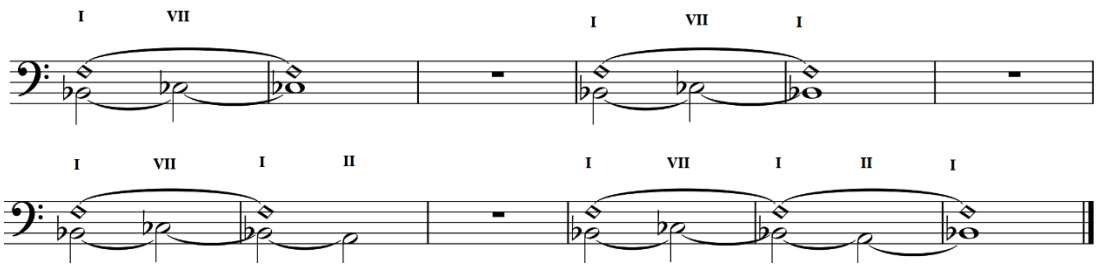
14. Intervals

K Baldwin



15. Advanced Multiphonics

16. Advanced Multiphonics 2



d. **Student Survey**

Kerry Baldwin, Royal Northern College of Music
124 Oxford Road, Manchester, M13 9RD
Kerry.baldwin@rncm.ac.uk

RE: Participation in PhD research investigating trombone repertoire and technique

I am writing to invite you to participate in a research project entitled *The Influence of Berio Sequenza V on Trombone Repertoire and Technique*, as part of a PhD in Performance based at the Royal Northern College of Music in Manchester under the supervision of Professor John Miller and Doctor David Horne. The project is to be undertaken over a six year period and includes submissions in the form of performances and thesis. This project has been reviewed by the RNCM's Research Ethics Committee (REC) overseen by the Research Committee.

Prior to Berio's *Sequenza* series the trombone's role was largely conventional in terms of both technique and repertoire. The second half of the twentieth century saw a period of change in the trends of instrumental technique. New approaches by composers and performers saw the rise in extended instrumental techniques facilitated by instrument modifications and performance skills along with the liberation of jazz. The sound palette of the trombone was extended in the use of mutes, articulations, multiphonics and instrument modifications such as the increased use of the thumb valve. Berio wrote the series of 14 *Sequenzas* for solo instruments in order to explore the idiom and capabilities of each featured instrument and increase the available pool of techniques. After *Sequenza V,* new works for trombone further developed certain aspects of technique it featured and appeared to have been influenced by the work. I plan to investigate the techniques featured in *Sequenza V,* to place them in their historical context before, during and after 1966; and finally, to analyse their influence on, and incorporation in, later repertoire. In a sequence of performances, I will play indicative works in order to present my findings concerning Berio's role in what proved to be a turning point in trombone composition.

As part of this research I would be grateful if you would take part in a questionnaire. This is intended to gather information about your experiences of extended technique, if

have learned extended techniques and whether you have had guidance learning them. You have been chosen because you are a student of trombone performance, any insights on this matter you wish to share would be very much appreciated.

The questionnaire is entirely voluntary, if you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form). If you decide to take part you are still free to withdraw at any time. The data you provide will be anonymous (separated from your name) and confidential (not disclosed to anyone else). I may publish reports based on my findings, but you will not be identifiable from the data included.

By submitting a completed questionnaire, however, you are giving your informed consent to participate in my study. You do not have to answer any question that you do not wish to answer.

I would welcome the opportunity to be able to contact you for further information, clarification and to keep you informed of the development and the outcomes of the research. The data will be stored securely for a maximum of two years. If I wish to re-use your data within this time period I will seek your permission to do so. At the end of the period your data will be destroyed.

If you have any further questions regarding this interview or overall project please do not hesitate to contact me at Kerry.baldwin@rncm.ac.uk or my supervisor John Miller john.miller@rncm.ac.uk

Thank you very much for taking the time to help with this research project

Best wishes

Kerry Baldwin
PhD Candidate, Royal Northern College of Music

Participant Consent Form:

The Influence of Berio Sequenza V on Trombone Repertoire and Technique

Kerry Baldwin, RNCM, BAL11011477

1. I confirm that I have read and understand the information letter dated 10.02.20 for the project in which I have been asked to take part and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withd at any time without giving any reason. ☐
3. I understand that my responses will be used as part of an academic th I give permission for members of the research team to have ac to my responses. ☐
4. I give permission for my comments to be quoted (where applicable) ☐
5. I understand that the investigator(s) must adhere to the Ethical Code of Practice set down by the RNCM's Research Ethics Committee (REC). ☐
7. I agree to take part in the above research project. ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of person taking consent (*if different from lead researcher*)	Date	Signature
_____	_____	_____
Researcher	Date	Signature

Questionnaire

Name:

Year of study:

1. Have you heard of the Sequenza V by Luciano Berio?

2. Have you ever made any attempt to learn to play this work?

   YES/NO

   If *NO* go straight to question 5

3. Did you seek any help/tuition learning Sequenza V? Please give further details if possible

4. Did or would you feel that you were able to make progress when attempting or practicing this by yourself?

5. (if you answered YES to question 2 please ignore) Is there any particular reason why not?

6. Do you find the work daunting? If yes please explain

7. Is it a work you would like to learn if you should be given guidance?

8. What are your first impressions on viewing the score?

9. Do you find the theatrical side of the work off-putting?

10. Are there any extended techniques that you would like to be able to play but don't know how?

11. Have you attempted to learn any other works involving extended techniques such as multiphonics or theatrical elements?

Any other comments questions you would like to add?

Thank you

Kerry Baldwin

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