

Towards a Precise Calculation of the Total Intended Duration of Luciano Berio's *Sequenza VII* for Solo Oboe

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Abstract

The score of Luciano Berio's *Sequenza VII* for solo oboe exhibits a strict and definite temporal space, yet most performers do not manage to perform the work within the prescribed time. The score is presented as a matrix with thirteen lines and columns and each line undergoes a temporal compression. The impetus of this practitioner-based study was driven by a need to find a method of performing the unusual time increments and to be as close as possible to the composer's intent regarding the temporal grid. The aim of this study was to investigate and demonstrate a method of calculating and performing the intended duration of *Sequenza VII* so that the performance realises the absolute duration intended by Berio. Two methods were used to calculate the total duration of the composition. The result of the precise calculation of the predetermined total duration of *Sequenza VII* is six minutes and thirty seconds, and therefore refines the results of previous explorations of this subject by other scholars.

Keywords: oboe solo; Luciano Berio; *Sequenza VII*; empirical duration; "absolute" interpretation; interpretivist perspective

Introduction

Vignette

My first encounter with Sequenza VII started on the day that Luciano Berio passed away in 2003. The news was relayed over the radio. I took out the score of Sequenza VII, which I had owned for a few years but had never had the courage to take on. Simply looking at it overwhelmed me. The oversized score from Universal Editions is printed on a single large sheet measuring 66.5 cm by 51.5 cm, which in itself poses a problem

as to how to balance the music on a stand. The most common practice is to use clothes pegs or small magnets to affix the top border of the page to the music stand. This method is satisfactory; however, it presents a challenge because the performer does end up “hiding” behind the score. For one of my performances, I split the score horizontally across the middle and placed it on two stands on each side of me. Although this opened me up to the view of the public it did break the overall matrix and denatured the score. The ultimate solution would, of course, be to memorise the work in order to truly liberate oneself from the constraints of the score. I set about “wrapping my head and fingers” around the technical aspects of the score, namely multiphonics, timbre changes on the B natural pitch and other notes requiring this technique, bursts of double and triple tonguing (or a combination of both), dynamic control, and so forth. Basically, all the detail of the content of the work. However, while studying the score, what baffled me was the matrix—the container. There is a visible duality within the score between the metered sections and those in proportional/stemless notation. I did not find a way to express the composer’s suggested time increments satisfactorily. My best guess was to approximate the values as I moved through the piece in an excessively linear manner. The sheer technical demands that I faced compromised the performance and left little room for artistry. (Olivier Barrier)

Luciano Berio’s (1925–2003) highly virtuosic *Sequenza* cycle represents a creative process spanning 44 years. The first of the series, *Sequenza I* for flute, was written in 1958 for Severino Gazzelloni and the last, *Sequenza XIV* for cello, in 2002 for Rohan de Saram. All the *Sequenzas*¹ were written for a specific performer as it usually was a personal meeting and/or friendship between the composer and a musician that gave rise to a particular *Sequenza* (Stoianova 1985, 392). There are several compositional offshoots: *Sequenza VIIb* for soprano saxophone stemming from the original *Sequenza VII*; *Sequenza IX* (1980) for clarinet was reworked as *Sequenza IXb* for alto saxophone and as *IXc* for bass clarinet; *Sequenza XIV* was adapted in 2004, after Berio’s death, by Stefano Scodanibbio and is now *Sequenza XIVb* for double bass. Berio also composed the *Chemins* series, which is an extrapolation, or proliferation as he liked to say, on the *Sequenzas*. *Sequenza II* for harp (1963) became *Chemins I* (1965); *Sequenza VI* for viola (1967) transformed into *Chemins II* (1967), *Chemins IIb* (1970), *Chemins IIc* (1972) and *Chemins III* (1968); *Sequenza VII* for oboe (1969) developed into *Chemins IV* (1975); *Sequenza XI* for guitar (1987) morphed into *Chemins V* (1992); *Chemins VI* (1996) was derived from *Sequenza X* for trumpet (1984) and was also known as *Kol Od*; and, *Sequenza IXb* (1981) lead to *Récit* or *Chemins VII* (1996). Finally, *Sequenza VIII* for violin (1976) was not part of the *Chemins* series but was modified to become *Corale* (1981). When all of these pieces are considered, it is indeed a very large cycle.

1 The grammatically correct plural would be *Sequenze*, however, all the scholars, except for Michel (2007), use the term *Sequenzas* as does Berio himself.

In 1969, *Sequenza VII* was written for and dedicated to the famous Swiss oboist, composer and conductor, Heinz Holliger, who premiered the work in Basel, Switzerland. Holliger has been an influential driving force for the expansion of the oboe's repertoire and technique. There are more works of importance dedicated to him than to any other oboist. As an illustration of Berio's personalisation of his work for Holliger, the score of *Sequenza VII* includes a performance note stating that a drone pitch B natural (the letter H) should be heard throughout the piece (Albera, in Bosseur and Michel 2007, 267). Furthermore, coincidentally, the total number of letters in Heinz Holliger's name, thirteen, mirrors the presentation of the score in a matrix (grid) containing thirteen lines and thirteen columns.

It is a great challenge to learn and perform Berio's *Sequenza VII* and an even greater one to try and be as true as possible to the composer's intent with regard to the temporal structure, that contains unusual time increments. The score is not written in conventional metre but rather assigns durations in seconds and decimals to columns. In addition, Berio uses both conventional and proportional notation, where at times it is only the graphic positioning of the stemless note head in the bar that provides the performer with suggestions as to when to place it.

The unusual time spans and contrasting use of musical notation present the performer with structural and conceptual difficulties in approaching the learning and performance of this composition. Berio's *Sequenza VII* is an iconic work in modern oboe repertoire. Few works challenge the performer's abilities and technique as this one. In a quest for exploring ways to improve performance of the temporal issues inherent in the work, previous scholarly work was consulted. In the year 2000, Berio gave his permission for the publication of Dr Jaqueline Leclair's interpretation of the work known as *Sequenza VIIa* (Leclair and Berio 2000). In this version, Leclair rewrote the score using a pulse of 60 bpm (i.e. one second), and the columns containing time spans with decimals used portions of the pulse, for example: 11/16 for 2.7" or 7/16 for 1.8". This metred version by Leclair is a valuable contribution toward a just interpretation. Alessandrini (2007, 73) remarks that, through this personal method, Leclair aimed to express the time increments as accurately as possible.² However, she continues, *Sequenza VIIa* does not offer an exact calculation of rhythms made by measuring the physical spaces between note heads in the sections written in proportional notation.

From a phenomenological perspective, the biggest challenge of performing *Sequenza VII* is to be consistently accurate in the expression of the unusual time increments. Estimating these durations by "feeling" always tends to exceed the required time spans. The impetus of this study³ was driven by a need to find a method of performing the

2 Berio's *Sequenza I* for flute was also written with proportional notation yet Berio was dissatisfied with some performances, which he called "piratical" (Osmond-Smith 1985, 99). He subsequently published a metred version of this *Sequenza*.

3 This article is based on an MMus dissertation by Oliver Barrier.

unusual time increments, and to be as close as possible to the composer's intention *vis-à-vis* the temporal grid, which underscores the overall structure of the piece. The question driving the study is whether an approach using combinations of pulses to express both the temporal structure and the positioning of the notes within the bars, written in proportional notation, could result in a performance duration closer to the composer's intention.

Method

A performance-led mixed method research approach was used for this study as it required a “multitude of skills, assumptions and practices that the researcher employs” (Lincoln and Denzin 2003 25). According to Gray (1996), practice or performance-led research is initiated in practice, where questions, problems and challenges are identified, informed by the practice. Performative researchers use a variety of strategies, such as reflective practice, observation, performance ethnography and autobiographical inquiry (Gray 1996). The research situates itself within practice-based research in as much as it relates to an artefact—a musical score. Furthermore, practice-led elements in this study focus on a renewed approach with goal-oriented practice strategies, geared towards a performance. Thus, the study assumes a post-positivist perspective as a pragmatic and useful paradigm/design incorporating some aspects of positivism balanced with interpretivist concerns around subjectivity and meaning (Seale, in Maree 2007, 65). Berrier intentionally developed a strategy to bring out “tacit knowledge” (Nelson 2006 113) informed by a critical reflection of the performance of the work over time.

Results and Discussion

Calculating the Empirical Duration of *Sequenza VII*

Two methods were used to calculate the total duration of the composition: Method I includes the result of the sum of the core structural length of the matrix, without the fermatas added to the total duration of all the fermatas. Subsequently, Method II proceeds similarly to the first method, however, it then subtracts the length of the written note over which the fermatas are placed.

Method I: Calculation of Durations

The first step included calculating the intrinsic length of the matrix without considering the numerous fermatas. As stated earlier, the piece contains 13 lines (1–13) and 13

columns (A–M) as seen in Table 1 below, and one could calculate the duration by either a) adding columns, or by b) adding lines. Individual bars are referred to within a grid, for example B2 or M10. Furthermore, the word unit will be used instead of bar, given that it seems more appropriate for the style of notation. Table 1 below shows the temporal structure and the time compression and includes the first calculation.

Table 1: Temporal structure of each of the thirteen lines in Berio's *Sequenza VII* for oboe

A	B	C	D	E	F	G	H	I	J	K	L	M
3"	2.7"	2"	2"	2"	2"	1.8"	1.5"	1.3"	1.3"	1"	1"	1"

CALCULATION 1: COLUMN A) AND LINES B)

$$\begin{aligned}
 & \text{a) } ^A(13 \times 3) + ^B(13 \times 2.7) + ^{C-F}4(13 \times 2) + ^G(13 \times 1.8) + ^H(13 \times 1.5) + ^{I-J}2(13 \times 1.3) + ^{K-M}3(13 \times 1) \\
 & = 39 + 35.1 + 104 + 23.4 + 19.5 + 33.8 + 39 \\
 & = 293.8''
 \end{aligned}$$

$$\begin{aligned}
 & \text{b) } ^{I-13}13(3 + 2.7 + 4 \times 2 + 1.8 + 1.5 + 2 \times 1.3 + 3 \times 1) \\
 & = 13 \times 22.6 \\
 & = 293.8''
 \end{aligned}$$

Adding lines is a simpler calculation since each line has the same duration in this matrix (without the fermatas), whereas the columns undergo a temporal compression/acceleration. It is necessary to notice this structural indication. It should be taken into consideration that the core structure of 293.8'', or 4 minutes and 53.8 seconds, is very rapid indeed.

Secondly, a recalculation of the duration adding the fermatas follows. There are 26 units containing fermatas, and it is worthwhile to notice, as further structural information, that every column contains at least one fermata, but not every line does. On line 13, units B, E, H and J each contain two fermatas making a grand total of thirty presented in List one below (Table 2):

Table 2: List 1: Units containing fermatas

A	B	C	D	E	F	G	H	I	J	K	L	M
8	4,12,13	13	10,12	8,11,12,13	2,6,12	12,13	13	11,13	13	11,12	12,13	11,13

Note: Italics: units containing two fermatas = total 30

Adding the length of each fermata to the core structure results in a total of 414.8" (see calculation 2):

CALCULATION 2: LENGTH OF FERMATAS AND CORE STRUCTURE

$$\begin{aligned} &\text{core structure } 293.8 + \text{fermatas } [\text{column A } (5) + \text{B } (6 + 3 + 4 + 3) + \text{C } (2) + \text{D } (5 + 3) + \\ &\text{E } (5 + 5 + 2 + 3 + 4) + \text{F } (6 + 4 + 5) + \text{G } (4 + 2) + \text{H } (3 + 5) + \text{I } (4 + 2) + \text{J } (4 + 2) + \\ &\text{K } (3 + 5) + \text{L } (6 + 5) + \text{M } (5 + 6)] \\ &= 293.8 + 121 \\ &= 414.8'' \end{aligned}$$

Therefore, the total duration of *Sequenza VII* using the first calculation method is 414.8", which is equivalent to 6 minutes and 54.8 seconds. Interestingly, this approximate duration is cited by other researchers. Alessandrini (2007, 71; 2008, 60) uses this exact result to calculate a line by line value of discrepancy/accuracy with regards to recordings by Heinz Holliger and László Hadady.⁴ Strum (2012, 48) also uses this exact same result. Redgate (2007, 226) writes that "the work is about seven minutes long" and mentions, interestingly, that "the publisher states ten minutes as the duration on the Universal Edition website." Roberts (2003, 39) writes about a total duration of 6 minutes and 53 seconds but does not elaborate on how he devised this result. Leclair (2010, 103) approximates the length of the piece at 7 minutes and 46 seconds.

This is a very quick and fast-moving piece, however, there seems to be something lacking in this calculation and result. This first method implies that the note or rest over which the fermata is placed still contributes its nominal duration value to the calculation. Since the fermatas are placed over a portion of the total duration of the unit, trumping its value, and thus shortening the unit's intrinsic length, one realises that this calculation is overextended and that there should be some seconds shaved off this time calculation.

The second calculation method will take this correction into consideration and present a more accurate calculation of the total duration.

Method II: Calculation of Durations

For a true and accurate calculation of the total prescribed duration of *Sequenza VII*, it must be realized that each unit containing a fermata does not follow the pattern of unit length added to fermata length. Therefore, as a first step, the duration of the core structure omitting all the units which contain a fermata needs to be calculated (see calculation 3):

4 When using the refined result presented below, these interpreters' inaccuracies becomes even greater.

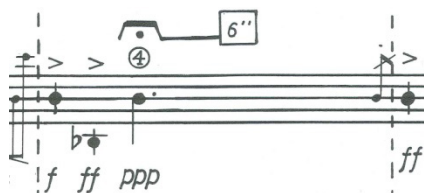
CALCULATION 3: CORE STRUCTURE 293.8 MINUS DURATION OF UNITS CONTAINING FERMATAS

$$\begin{aligned}
 & [\text{column A } (3) + \text{B } (3 \times 2.7) + \text{C-F } 2(13 \times 4 - 10) + \text{G } (2 \times 1.8) + \text{H } (1 \times 1.5) + \text{I-J } 1.3(13 \\
 & \times 2 - 3) + \text{K-M } (13 \times 3 - 6)] \\
 & = 293.8 - 46.1 \\
 & = 247.7
 \end{aligned}$$

The duration of the core structure, omitting units containing fermatas, is 247.7" which equates to 4 minutes and 7.7 seconds. To this total, the precise duration of each of the units containing fermatas is subsequently added.

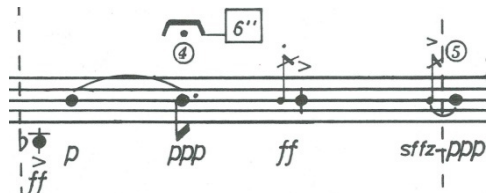
As an illustration with two score examples, the first two fermatas in the composition will be analysed in Examples 1 and 2, namely units 2F and 4B respectively:

Example 1: Unit 2F, intrinsic duration of 2"



The intrinsic duration of unit 2F is two seconds; however, it should be noticed that the fermata is placed over a dotted quarter-note at 60 bpm with a duration of 1.5 seconds. Therefore, the “non-fermata” portion left in the unit is 0.5 seconds. Added to this is the value of the fermata marked as 6 seconds, resulting in total duration for unit 2F of 6.5 seconds, and not 8 seconds as the first calculation method would yield. It is important to note that, in this calculation, the B4 grace note at the end of the unit will follow conventional musical practice and be played as a *vorschlag/anacrusis*, thus slightly shortening the 6-second fermata. The quantity is negligible (inferior to one tenth of a second), and the phrasing is respected.

Example 2: Unit 4B, intrinsic duration of 2.7"



The structural duration of this unit 4B (Example 2) is 2.7 seconds. Since the fermata is placed above a dotted eighth note, lasting 0.75 seconds in intrinsic duration, it follows

that the rest of the unit lasts 1.95 seconds. Adding a 6-second fermata gives an exact duration for unit 4B of 7.95 seconds. This may seem a little complicated, but it follows the axioms and ideals of the intended interpretation. In this instance, the B grace note can be played on the metrically strong beat, because with this notation, Berio indicated that the Bs should be played as close together as possible.

Most of the calculations are straightforward, and Berio included enough indications to be able to compute the exact intended duration of virtually all the units. What follows in List 2 is a computation of all the units containing fermatas in such a precise way so as to calculate the true and intended duration of *Sequenza VII* according to the score:

Table 3: List 2: Duration of units containing fermatas

<p>2F = 6.5 ; 4B = 7.95 ; 6F = 5 ; 8A = 7.5 ; 8E = 6.5 ; 10D = 6.5 ; 11E = 6.25 ; 11I = 4 ; 11K see below ; 11M = 5.5 ; 12B = see below ; 12D = 4 ; 12E = 3 ; 12F = 6 ; 12G = 4.5 ; 12K = 5 ; 12L = 6 ; 13B = 7.7 ; 13C = 3 ; 13E = 8 ; 13G = 3.25 ; 13H = 8 ; 13I = see below ; 13J = 6 ; 13L = 5.5 ; 13M = see below</p>
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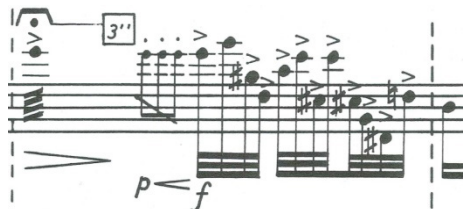
Adding all these durations give a total of 125.65 seconds for the straightforward units containing fermatas. The more complex or “interpretative” units are 11K, 12B, 13I and 13M. These four will be discussed individually in Examples 3 to 6 below as they contain added difficulties when calculating their intended duration.

Example 3: Unit 11K, intrinsic duration of 1"



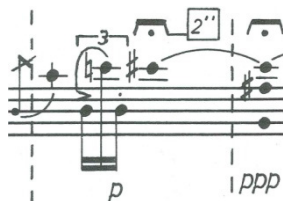
When interpreting this unit, which has an intrinsic duration of one second, the sound should not be broken between the fermata and the grace note. Consequently, the grace note should be played as close to the beat as possible, resulting in the whole unit worth 3.375 seconds, instead of 3.5 seconds had there been a 32nd rest. Once again, this result may seem complicated because one can perceive and visualise an increment of one hundredth of a second but certainly not one thousandth. The gesture in 32nd notes is thus executed with a pulsation at 160 bpm.

Example 4: Unit 12B, intrinsic duration of 2.7"



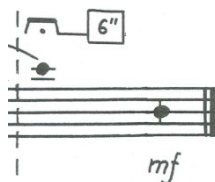
This unit has an intrinsic duration of 2.7". The grace notes are played before the beat, if conventional music practice is followed. However, in this instance, the fermata would be truncated by about two tenths of a second. One could add a pulsation of 300 bpm on the grace notes to make the unit worth 4.7" or be consistent in the judgment of the grace notes as upbeats to calculate the duration of the unit at 4.5". Unit 12 B and the ensuing ones to be discussed, are the only three in the piece that contain interpretation and not certainty in the calculation of their intended duration.

Example 5: Unit 13I, intrinsic duration of 1.3"



This unit that has a structural length of 1.3", although it could be interpreted otherwise. It is, however, best to keep it in line with one of the recurrent pulsations and time increments found in this interpretation, i.e.: 0.25 seconds or one pulsation at 240 bpm, which is a 16th note at 60 bpm. This fits in well with the graphic positioning of the note head. Therefore, the total duration of the unit is 2.75 seconds.

Example 6: Unit 13M, intrinsic duration of 1"



The last unit of *Sequenza VII* is straightforward and should last exactly 6 seconds since the last B4 natural demarcates the 6 seconds and is played on the beat and as short as possible having theoretically no duration. However, since sound still has to be emitted, it works well to round off the grand total, if it is taken to last 6.025 seconds, to cancel the five thousandth of a second found in unit 11K.

Therefore, adding these four values shows that the total length of the litigious units is 16.65 seconds, making the grand total 390" (see calculation 4):

CALCULATION 4: TOTAL LENGTH OF LITIGIOUS UNITS

$$247.7 + 125.65 + 16.65 = 390"$$

To conclude, according to this study, the most accurate total duration calculation of Berio's *Sequenza VII* is 390 seconds, which equates to 6 minutes and 30 seconds.

Shape of Sequenza VII

As a humorous and possibly unplanned consequence of the fermatas on the lengths of lines one to thirteen, a novel visual representation of the gradual undulation of the overall temporal structure of score can be seen. After successive returns to the core duration (the temporal drone) of 22.6" in line 9, an exponential expansion can be noticed. The resulting shape is quite similar to a baroque oboe, musette or bombarde, or at least, some kind of oboe ancestor with a flared bell as shown in Figure 1.

Line 1 = 22.6
 Line 2 = 27.1
 Line 3 = 22.6
 Line 4 = 27.85
 Line 5 = 22.6
 Line 6 = 25.6
 Line 7 = 22.6
 Line 8 = 31.6
 Line 9 = 22.6
 Line 10 = 27.1
 Line 11 = 36.425
 Line 12 = 43.1
 Line 13 = 58.225

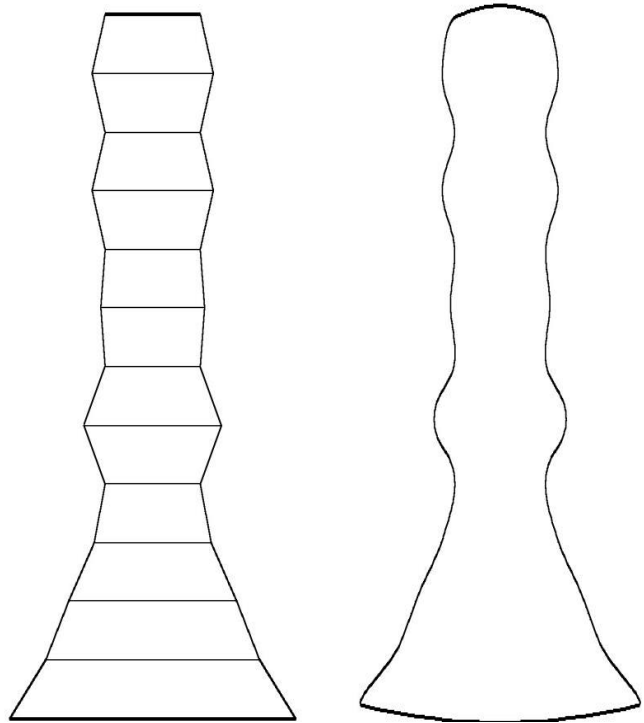


Figure 1: Shape of *Sequenza VII*

Conclusion

The aim of this article was to explore a method of calculating the intended duration of *Sequenza VII*. The result of the calculation was found to be 6 minutes and 30 seconds, which is much faster than any of the recordings readily available. The closest recorded duration is by Heinz Holliger who plays one of his versions in 7 minutes and 1 second.⁵ Recordings of other oboists are almost 9 minutes long. The goal of the study was to try to remain as close as possible to the composer's intent in the overall total duration. Future research could include a method to reach this temporal goal while being consistent over multiple performances. *Sequenza VII* is highly paced; the piece moves along very quickly, all the phrases, gestures and figurations, if executed well, impart a sense of mechanism, development, and teleology. There does not seem to be much place for interpreters' freedom/whim/caprice and rubato playing, which would negatively impact those moments of floating "stasis," which occur more and more frequently towards the end of the work. This is counting only held note(s)/effects under fermatas and not the

5 Ermitage ERM 164-2, 1995

other shorter moments of stasis found rather liberally throughout the composition. In sum, one could suggest that the stark contrasts in the mechanistic and static elements in *Sequenza VII* emulate the contrast between the two types of musical notation i.e. the conventional versus the proportional, or as Leclair (2010) puts it: free and strict. Performers need to understand that the deterministic structure being unveiled will suffer greatly if it is not adhered to as strictly as possible. To conclude, this article contributes to the general paucity in research about the oboe and performance, and particularly the temporal aspects of Berio's *Sequenza VII*.

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