

## Christopher Bochmann's *Essay XIII* for Alto Saxophone Solo: Proposed Fingerings for Timbre Shifts and Multiphonics

Mário MARQUES<sup>1</sup>

**Abstract:** *Written in 2001, Christopher Bochmann's Essay XIII for solo Eb alto saxophone requires the performer to choose the alternate fingerings or Timbre Shifts used at several moments of the piece, as well as for the multiple choice multiphonics proposed by the composer. The principals of use and choice of fingerings supported by the work's feasibility will be examined based on the literature of different authors. This paper intends to present the information necessary for the execution, bearing in mind the technical difficulties, challenges and results that the employment of these extensive techniques always represent, whilst respecting the composer's initial idea. The result was submitted and proposed to the composer Christopher Bochmann and was approved for record release.*

Key-words: *Fingerings, Multiphonics, Timbre Shifts, Essay XIII, Christopher Bochmann*

### 1. Introduction

*Essay XIII* for saxophone solo is part of a group of pieces written for solo instrument. These pieces are part of a series that began with *Essay I* for solo trombone, written in 1980, up to *Essay XXI* for clarinet, composed in 2021 ([www.christopherbochmann.com](http://www.christopherbochmann.com)) – according to the composer, “somewhat superficially similar to Luciano Berio’s group of *Sequenzas* - that use the specific characteristics of the instrument as a starting point for the composition” (Telles 2018). The composer further states that: “There is no conscious intention to explore all possibilities, nor to write virtuoso music, although this sometimes happens” (Telles 2018, 64); therefore, the piece fits the main definition of essay: “brief literary composition on a given theme or subject, usually in prose, with an analytical, speculative or interpretative nature” (Bochmann 2005). As a genuine

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<sup>1</sup> PhD. Évora University, CESEM [mdmarques@uevora.pt](mailto:mdmarques@uevora.pt)

essay, *Essay XIII* operates in idiomatic writing, exploring the technical potential of the saxophone, particularly the use of extended techniques such as *Timbre Shifts*, *multiphonics*, and the over-high pitch register.

This paper summarizes the proposed fingerings for all *Timbre Shifts* and *multiphonics* moments in *Essay XIII*. Regarding *Timbre Shifts*, the technical resource of the work's first section is based on a fast and continuous discourse. This research presupposes its feasibility, technical and timbric consistency. Its applicability depends mainly on the balance of the fingering, alternating with the main fingering, avoiding major imbalances in a *Molto Vivo* movement.

In *Essay XIII's* *multiphonics*, Christopher Bochmann does not prescribe the *multiphonic* to be used. He only defines a note that we think is the predominant frequency. The research for the chosen *multiphonics* was mostly bibliographic, in particular *Hello! Mrs Sax* by Jean-Marie Londeix, *Les sons Multiples aux Saxophones* by Daniel Kientzy and *The techniques of saxophone* by Marcus Weiss and Giorgio Netti.

The aim of the proposal was to present it to the composer. He approved its subsequent inclusion in the original score and resulting musical release. The validation of this proposal will also be corroborated by the audio recording made at Escola Superior de Música de Lisboa in December 2021.

## 2. Extended techniques: Timber Shift and Multiphonics

The composers' creative motivation in writing music for saxophone is associated with the countless sonic and timbric possibilities of this instrument. The development of extended techniques for traditional musical instruments contributed not only to broaden the timbre variety but also to change the musical discourse during the second half of the past century (Bartolozzi 1967).

According to Murphy (2013) "Extended techniques" is a term referring to any sounds, colors, or performance requirements that explore beyond the standard parameters of the instrument".

In *Essay XIII*, one of the extended techniques used is the *Timber Shift*, which shares a technical resemblance with *bisbigliando* or with *Timbral Fingerings*. Although the term is not agreed upon in some of the literature, it has remarkably similar applicability in principle of use. Briefly, this saxophone technique can be defined as:

*"With regards to fingerings, there are generally two ways of accomplishing a timbre change on the saxophone. The first method is similar to microtone production: perform a pitch while lowering, or raising, a non-essential key. It*

*is not uncommon for timbre fingering and microtone fingerings to overlap. A second method is by voicing overtones off a low fundamental fingering"*  
(Murphy 2013, 16)

In turn, Weiss and Netti (2010) define Timbral Fingerings as: For each tone, in addition to the standard fingering, alternate fingerings also exist. This makes it possible to play a tone with different colorings. Many scores call for various colorings of a tone or the fast change of timbre on one tone. The latter is often indicated by the term *bisbigliando*, which refers to a timbral trill with two or more alternate fingerings.

Also on Timber Shift, Murphy says: "The saxophone displays excellent capability in generating many different tone colors (timbres)" (Murphy 2013, 16). There is a striking resemblance to *bisbigliando*<sup>2</sup>, a technique with the same principle of execution. But while *bisbigliando* assigns the metric definition of the timbre shifts to the performer, the rhythmic metric in Timber Shifts is defined by the rhythmic notation written by the composer.

Another extended technique used in *Essay XIII* is multiphonics, which may be understood as: Multiphonics consist of the production of several notes at once by otherwise monophonic instruments. Their production in woodwinds requires a specific technical study on fingerings and embouchure. (Pablo E. Riera et al. 2013) the appearance of multiphonics in woodwinds renewed the existing repertoire for these instruments, stimulating the interest of composers and performers for this new kind of sonority (Bartolozzi 1967). *Les sons multiples aux saxophones* by Daniel Kientzy (1982) and *Hello Mr. Sax!* by Jean-Marie Londeix (1989). These works presented a catalogue of the possible multiphonic tones in the seven members of the saxophone family, addressing the fingering, pitch, trill possibilities, and variables of the dynamics. They have been indispensable for the development of several musical pieces and are responsible for the interest that these sonorities generated during the last 30 years. However, these studies, and a more recent one focused on playing techniques (Weiss and Netti, 2010), do not address the more problematic aspects of the multiphonic tones, such as their dynamical nature and their complex timbre attributes. Another of the common problems associated with multiphonic tones lies in their musical notation. Some recent works addressed this issue including, for example, the parameters of the modulation frequency in the notation (Gottfried 2008).

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<sup>2</sup> Bisbigliando is a type of timbral trill: soft, subtle and rapid, bringing the sound alive from within, without noticeably modifying the pitch. On the saxophone it is easily distinguishable and is easily produced, by alternately opening and closing the appropriate Key. (Londeix 1989,46)

### 3. Methodological Principles

Choosing fingerings to perform a work is not technically difficult to apply per se. The current literature has enough information for us to assign a specific fingering for each case. On the other hand, extended techniques require an innovative approach (not only in relation to fingerings), where the demand is roughly comparable to learning the fingerings of a new wind instrument. As Pablo E. Riera et al. (2013) put it, (2013), “Multiphonics consist of the production of several notes at once by otherwise monophonic instruments. Their production in woodwinds requires a specific technical study on fingerings and embouchure.” Considering the limitations in timbre aspects, ensuing fingering, as well as changes in embouchure and mouth cavity placement in some multiphonics. Also relevant are the issues related to what Keefe and Laden (1991) refer to, “As the blowing pressure is increased, this distortion creates new frequencies (products) and alters substantially the timbre of the sound. Finally, there are certain regimes where the acoustic system behaves chaotically (Keefe and Laden 1991).” In this context, the research undertaken kept in mind this resonance and timbral balance aspects with reference to multiphonics. Concerning the timbral fingerings, the focus was on the execution comfort, always privileging economy of effort, particularly each fingering option alternated with the standard fingering without neglecting the musical outcome with minimal movement and alteration in the fingerings.

### 4. Proposal for Timbre Shifts in *Essay XIII*

The preference for the results obtained for Timbre Shifts reflect this care for economy of effort, without disturbing the natural balance surrounding the piece about the quality of timbre, sound, and dynamics.

Within the results obtained, two tables are shown in which a fingering is assigned to the note and its corresponding timbre shifts. This fingering is interpreted with three variants. The fingering marked in black has a conventional correspondence, while the combination of the black and red fingering corresponds to the proposed Shift timbre fingering. The red fingering corresponds to the fingering variation between one and the other, and the number of fingers changed between one fingering and the other is easily perceptible. Consequently, an economy of effort can be accomplished effectively, privileging the musical outcome.

**Table 1.** Fingerings for timbre shifts in *Essay XIII*, p.1, systems<sup>3</sup> 1 - 5

**Table 2.** Fingerings for timbre shifts in *Essay XIII*, p.1-2, systems 5 -16

From figure 1, we can also see the proposed introduction of the fingerings in *Essay XIII*'s score. For each note with the corresponding Shift timbre, the sign (+) is added, emphasizing rigor and visual perception for the performer.

<sup>3</sup> *Essay XIII* does not contain bar numbers; we have therefore opted to reference the examples we consider relevant by indicating the position of the respective bar(s) in the score system to which they belong, supplementing this information with an indication of the relevant page.

**Molto Vivo** Christopher Bochmann

(legato sempre)

*f* N.B. Repeated notes are to be played legato with different fingerings.

Figure 1. C. Bochmann- *Essay XIII* –p.1, 1-2 systems

## 5. Proposal for Multiphonics in *Essay XIII*

After experimenting with the selected multiphonics, the query and subsequent definition was based on several criteria.

Fig. 2. C. Bochmann- *Essay XIII* –p. 3, system 19

Analyzing the notation chosen by C. Bochmann for the several multiphonics in *Essay XIII*, we find the following aspects, confirmed by the composer himself<sup>4</sup>:

The multiphonic does not define all the sounds sought by the composer. Conversely, C. Bochmann introduces a definite note among some indefinite ones which form the multiphonic. This definite note is always equidistant among the indefinites. All multiphonics have a written dynamic indication of *ff* and *fff*.

Accordingly, we have analyzed multiphonics with positive behavior by these criteria in the existing literature. Among them, the dynamic behavior with results

<sup>4</sup> Personal statement by the composer on 14-09-2022 during a joint work session, in which the author illustrates the different choices and respective options for the several extended techniques.

identical to those of the written notation; the inclusion of the note written by C. Bochmann in the multiphonic as an intermediate note of the multiphonic itself.

In figure no. 3, we can observe the multiphonic written in *Essay XIII*, with the fingering introduced by the author, as well as its correspondence with D. Kientzy's multiphonic no. 50 in *Le Sons Multiples*. In this same correspondence, we can observe, from left to right, the sounds produced by the alto saxophone (transposing instrument in Mib), the real sounds, the behavior dynamics, and the corresponding fingering.

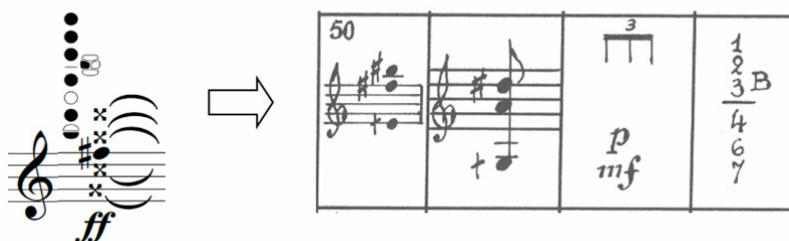


Fig. 3. Correspondence result between C. Bochmann- *Essay XIII* -p. 3, system 17 and Kientzy, Daniel. "*Le Sons Multiples*", p.33

In figure 4 we observe the multiphonic written in *Essay XIII* with the fingering introduced by the author and its correspondence with the multiphonic no. 1 by M. Weiss and Giorgio Netti in *The Techniques of Saxophone Playing*. In this correspondence, we can observe, from left to right, the corresponding fingering, the sounds produced by the alto saxophone (transposing instrument in Mib), the behavior dynamics and the real sounds.

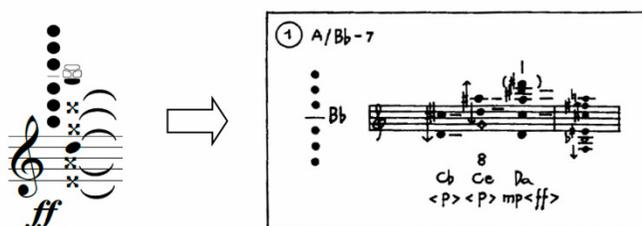


Fig. 4. Correspondence result between C. Bochmann- *Essay XIII* -p. 3, system 18 and Weiss, Marcus and Giorgio Netti. *The Techniques of Saxophone Playing*, p.78

In figure 5 we can also identify the multiphonic written in *Essay XIII* with the fingering introduced by the author and its correspondence with D. Kientzy's multiphonic no. 64 in *Le Sons Multiples*. In this same correspondence we can observe, from left to right, the sounds produced by the alto saxophone (transposing instrument in Mib), the real sounds, the behavior dynamics, and the corresponding fingering.

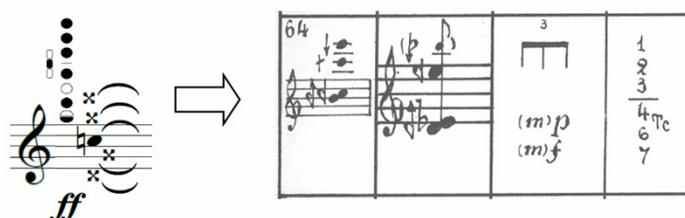
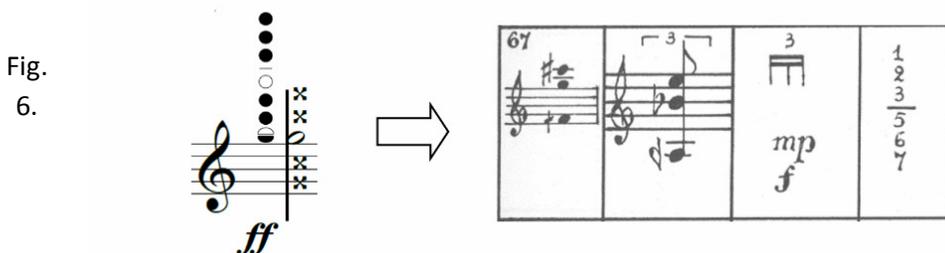


Fig.5. Result of the correspondence between C. Bochmann- *Essay XIII* -p. 3, system 18 and Kientzy, Daniel. "Le Sons Multiples", p.40

Finally, in figure 6 we can see the multiphonic written in *Essay XIII* with the fingering introduced by the author and its correspondence with D. Kientzy's multiphonic no. 67 in *Le Sons Multiples*. In this correspondence we can also observe, from left to right, the sounds produced by the alto saxophone (transposing instrument in Mib), the real sounds, the behavior dynamics, and the corresponding fingering.



Correspondence result between C. Bochmann- *Essay XIII* -p. 3, system 19 and Kientzy, Daniel. *Le Sons Multiples*, p.40

## 6. Conclusion

Christopher Bochmann's *Essay XIII*, in its edition (so far, author's edition), covers several aspects that the interpreter must make decisions about from a playing point of view. In these aspects, we have identified the indefinite or partially indefinite timbre shifts and multiphonics, since the composer only notates one note. In timbre shifts, considering the rapid nature of this musical writing, we have identified fingerings that would add a sufficient level of technical proficiency for a balanced performance, given the quick character of the musical passages in which this effect is written. Economy of effort was considered, guaranteeing for each musical note and its change with Timbre Shift the movement of a maximum of two fingers, respecting the author's purpose. Regarding the multiphonics, we have identified three aspects related to their writing. The defined note, its equidistant placing in the multiphonic itself, and the dynamics. Four direct relations to the multiphonics written were found, fulfilling these three aspects that characterize the multiphonics written by C. Bochmann. These extensive techniques identified and proposed were added to the original score, contributing to a clarification of the intended result, following Christopher Bochmann's original idea. These results were registered by this study's author and will soon be available on record.

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[www.christopherbochmann.com](http://www.christopherbochmann.com) (last access on 8/10/2022).