Saxophone without mouthpiece

Kahl, D.P.

Chapter 6
Notation for Saxophone Without Mouthpiece

6.1 - Individualism in Notation

Throughout music history, notation has been a topic of deep and, at times, heated debate. The methods by which one reads and interprets music have shifted, evolved, and transformed over the centuries. When examining forms of written music throughout the Western tradition, one encounters countless examples of signs and symbols used to represent music. Major shifts in notation have often accompanied changes in our understanding of specific classifications of Western music. For instance, plainchant, recognizable throughout the Medieval period, is one of the earliest widely used examples of notation for the documentation and repetition of song. As polyphony developed during the Medieval period, early forms of staff notation emerged, with symbols placed on a staff to indicate pitch relationships. Despite these pitch relationships being represented, rhythm was often not precisely notated. However, during the Renaissance, composers such as Palestrina and Josquin des Prez refined their notation to indicate rhythm more precisely, using new note shapes to denote duration and time, reflecting compositional and performative needs. This trend of evolving notation to align with artistic and compositional practices continues throughout the course of music history into the present, with composers modifying, evolving, and creating new forms of notation as necessary.

In the 20th and 21st centuries, composers have not only continued the evolution of notational practices to suit their needs but by doing so have introduced entirely novel approaches to notation. During these periods, a single overarching or standardized notation system has never been achieved nor been pursued. And why should it? This unique individualism in notation enriches a work's artistic depth, facilitates the performance and recreation of novel and unheard-of sounds, and provides performers with the opportunity to learn and adapt to new signs and symbols. Novel forms of notation, whether intentionally or unintentionally, often transform a simplistic set of symbols and signs into something more complex.

However, Erhard Karkoschka, in his seminal work *Notation in New Music: A Critical Guide to Interpretation and Realization* (1972), emphasizes the dual importance of the efficacy of notation and its appropriateness to the music it represents. He argues that "the appropriateness of a notation to the music it represents is not the only criterion by which it is to be judged; its efficiency is just as important" (Karkoschka 1972: 1). In 1988, Richard Toop, in his pivotal article at the dawn of the so-called "New Complexity," highlights composer Chris Dench's views on the importance of notating music that is both complex and interpretable. Dench asserts, "I'm not interested in writing music that can't be played - that's stupid. If there is no mechanism by which something can be done, it simply gives the performer a hard time" (Toop 1988: 5). Toop identifies a unifying characteristic among four British "New Complexity" composers—Chris Dench, Michael Finnissy, Richard Barrett, and James Dillon—which is the maximalist complexity of their notation. Due to this complexity, Toop notes that the surface appearance of these

composers' notation is “very meticulously written” (Toop 1988: 5). However, he also argues that the calligraphy of each composer’s notation should not be “an aesthetic component of the musical idea”; instead, it should merely be “a vehicle for it” (Toop 1988: 5). Regardless of this distinction, Toop states that Brian Ferneyhough, another leading figure of “New Complexity,” approaches notation in a more “mannerist” way where the notation itself is also a form of artistic expression in addition to being a means to communicate musical ideas (Toop 1988: 5). Asserting this, Toop suggests that Ferneyhough’s scores may have an aesthetic dimension beyond musical function, where the visual appearance of the notation is an integral part of the artistic concept of the work. In the same article, Richard Barrett discusses that indeterminacy will always play a role in the performance of his works despite the meticulously notated music he crafts. He explains, “I would rather set down the musical ideas as they are, and accept a certain amount of indeterminacy from the players, than say ‘I can’t do this’, and then not do it and thus produce a work which, to an even greater extent, is a betrayal of the musicality behind it” (Toop 1988: 5). These arguments underpin the importance of notations role in the transmission of a composer’s musical ideas even in the most complexly notated music.

Commenting on Ferneyhough’s music, and the music of “New Complexity” composers more broadly, musicologist Richard Taruskin challenges the notational density that has seemingly become commonplace in this music:

> to speak of the appearance of the music is in this case not trivial, because composers associated with the New Complexity put much effort into finding notations for virtually impalpable microtones, ever-changing rhythmic divisions and tiny gradations of timbre and loudness in an effort to realize their idea of infinite musical evolution under infinitely fine control and presented with infinite precision, with absolutely no concession to ‘cognitive constraints’. (Taruskin 2010: 475-476)

Upon examining some of these scores (and my performance of many of them), one might empathize with Taruskin's palpable exasperation regarding the notational density and cognitive strain on performers. However, this also raises an intriguing question about the artistic potential that such works, characterized by saturated notation, could achieve in the hands of performers.

Trombonist Kevin Fairbairn, in his dissertation on physically polyphonic works for trombone, directly addresses the artistic potential inherent in such notational variation. He observes, “despite the complex web of associations and mutual influences that are clearly present, no two notations are the same, even from the same composer. Somehow, the exploration of physical polyphony as an organizational principle for notation has proven resistant to systemization, even within single composers’ works” (Fairbairn 2020: 23). This diversity of notation, which has proven immune to standardization, can be seen

as both evolving and devolving over time as needed for the sonic output the score demands. Musicologist Stuart Paul Duncan, in his examination of Ferneyhough's use of physically polyphonic notation in two different works written for cello (*Time and Motion Study II* (1977) and his *Second String Quartet* (1979-1980)), reflects on this notion, offering a perspective that seemingly inverts Taruskin's argument. Examining the two works and the systems of notation and treatment of the cello implemented in them, Duncan makes the claim that Taruskin's argument is problematic: "Had he used the example from *Time and Motion Study II* to demonstrate 'New Complexity's' apparent evolution of musical notation to a point of no return, his assertion would surely have had greater impact. Instead, his use of the *Second String Quartet* undermines the argument that the composers were only focused on the embodiment of complexity through notational 'evolution'" (Duncan 2010: 145-146). This distinction not only undermines Taruskin's argument but also shows that Ferneyhough alters his use of notation as needed to bring his sonic ideas to life and not only to fulfill a need to continually evolve the concept of notation itself.

The ongoing flux of notational diversity has resulted in a rich and multifaceted exploration. This evolution both frustrates (as in the case of Taruskin) and encourages (as in the case of Fairbairn) artistic expression. Ultimately, the choice of notation rests with the composer. Fairbairn also addresses the reluctance among his fellow performers to engage with works that employ unconventional notational practices: "The disorientation from traditional techniques required to reimagine instrumental practice when approaching these experimental notations seems to be the primary—if not only—defining feature demarcating the limits of the repertoire that resides behind this barrier of entry" (Fairbairn 2020: 24). Fairbairn acknowledges the limitless potential of different notations, particularly those that use multiple staves to represent a multifaceted array of parameters. Inherently boundless in its artistic value, notation is ultimately meant to be understood so that a performer can interpret an aural image of the given signs and symbols, thereby bringing that aural image to life.

This chapter focuses on the notation used to represent SWMP techniques, driven primarily by performance and practice considerations. Throughout my career, I have performed and practiced an innumerable amount of works for saxophone, including those without mouthpiece, many of which are inspired by or rooted in "New Complexity." When I perform SWMP pieces, I often encounter two common reactions: awe at the capabilities of the saxophone in producing these unique sounds, and curiosity about how composers successfully notate and incorporate these techniques into their works. Discussions with composers about employing these techniques frequently reveal a significant barrier: the challenge of notation and the lack of accessible, reliable information on their proper usage. Conversations with fellow saxophonists consistently highlight the necessity of standardizing the notation for these techniques. Moreover, many saxophonists tend to avoid both complex and simple works that utilize SWMP techniques, stating that the notation and lack of resources are major obstacles to their

performance. Given these concerns, this chapter will examine and analyze existing models of notational practices for these techniques. By doing so, I aim to clarify for saxophonists the intended meanings behind these notations, discuss why certain notations are successful or problematic, and provide guidance on interpreting them more effectively. Subsequently, I will offer my own notational suggestions, presenting a model that composers can adopt. This model aims to diminish the frequently mentioned barriers, thereby facilitating the broader adoption and performance of these innovative techniques. While advocating for a more standardized model of notation for these techniques, I will also propose the importance of the performer-composer relationship. Using some ideas outlined in Roland Barthes seminal text "The Death of the Author" (1967), I will seek to show that in many cases the meaning of a text (score) is often defined by the interpretation of the reader (performer) rather than the author (composer).

6.2 - Notational Practices in the 20th and 21st Century

It is neither possible nor the aim of this research to exhaustively trace the evolution and development of all notational practices; however, some common trends and themes can be identified. These will be discussed in the overview of notation used in the repertoire for SWMP. In the early 20th century, the works of early serialists and atonal composers were already pioneering new notational territories. Especially during the period of free atonality,[40] composers such as Schoenberg, Webern, and Berg required new forms of notation to articulate their musical ideas in a clear and detailed way. A primary deviation from traditional notational practice by these composers pertained to structural compositional elements: musical scores began to exhibit greater rhythmic complexity, characterized by intricate beat subdivisions, precise tempo markings, an extensive range of dynamic instructions, unconventional scales (whole-tone, octatonic, chromatic scales, etc.)[41] that also included early microtonality – as speculated by Ferruccio Busoni in his essay *Sketch of a New Esthetic of Music* (1907 [1911]) – and sophisticated pitch arrangements derived from both traditional and novel compositional techniques. These developments required more exact notations.

In the mid-20th century, the ascendancy of experimentation marked another significant shift as composers sought to explore new methods of organizing sound and to challenge conventional conceptions of musical form and notation. This period witnessed the emergence of graphic notation as a pivotal development, with prominent figures such as John Cage, Earle Brown, Karlheinz Stockhausen, and Cornelius Cardew employing visual symbols and diagrams to convey their musical ideas. Graphic notation offered enhanced flexibility and interpretative freedom, thereby encouraging performers to engage more creatively with the score. It endowed composers with an unprecedented level of

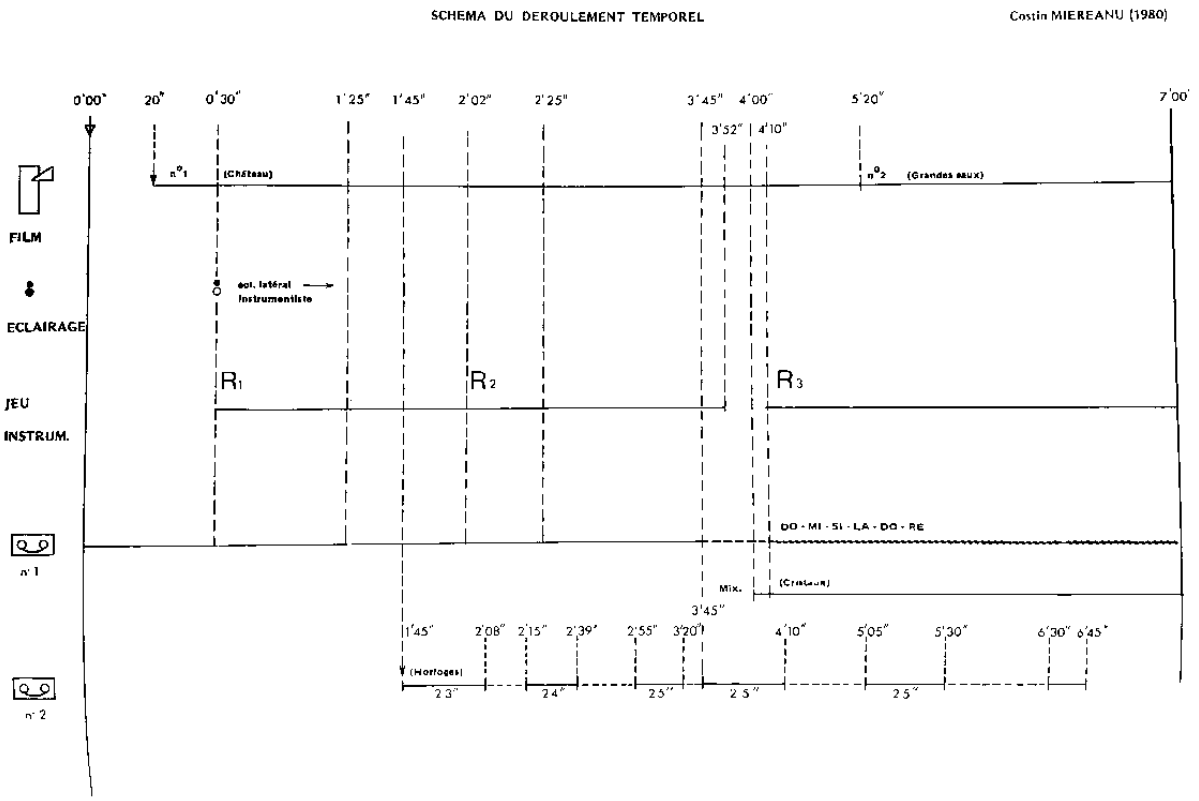
[40] "Free atonality" appeared roughly between 1908 and 1923 and preceded the development of a more structured atonality characterized by the Second Viennese School.
[41] While unconventional scales were still notated using the traditional diatonic system, the widespread use of tonal centers and key signatures began to fade among contemporary composers of the time. This distinction led to more meticulously notated music with more signs and instructions for the performers.

expressiveness, allowing them to convey complex and nuanced ideas that were difficult or impossible to represent with traditional notation. The use of non-traditional symbols, shapes, and diagrams expanded the notational vocabulary available to composers. This could include anything from geometric shapes, lines, and colors to more pictorial or abstract designs. The notation designed by Cardew or Brown, for example, inspired imaginative realizations by experimental and daring performers.

Expanding the sonic possibilities of traditional instruments through innovative playing techniques (such as multiphonics, microtones, and preparation) became the logical progression for composers and performers in the late 20th century and necessitated new and different forms of notation. The notation for these techniques grew increasingly detailed and specific, often necessitating annotations or supplementary instructions to elucidate performance methods. These varied innovations of the past required deviations from standard and traditional forms of notation.

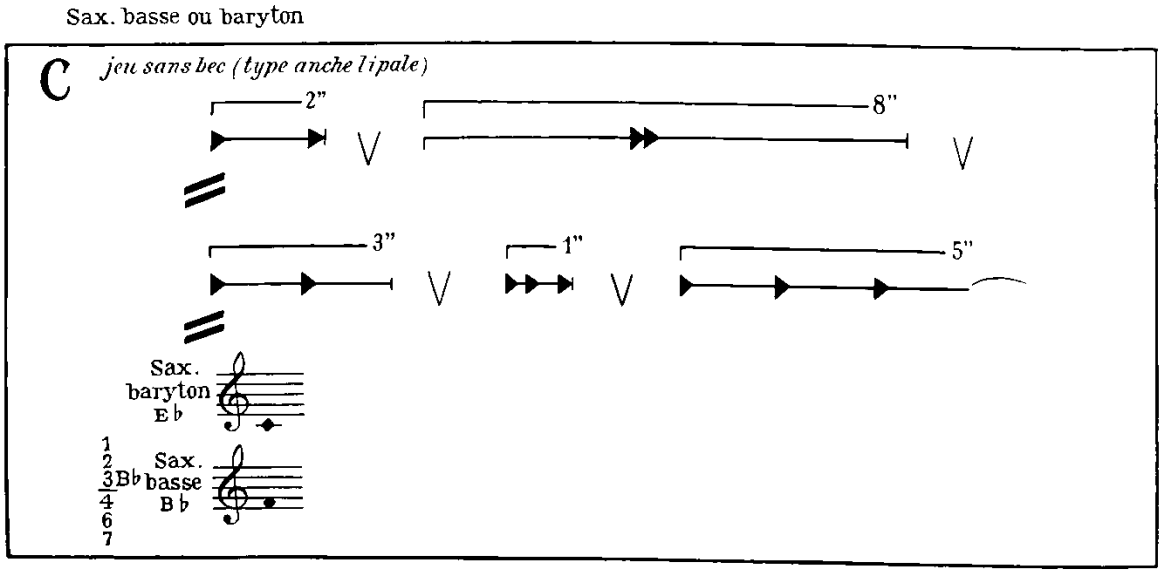
The notation used to represent SWMP naturally integrates and continues to evolve from these practices of the past. For example, In *Do-Mi-Si-La-Do-Ré* (1980/1981), Costin Miereanu employs a notation system that combines both conventional and unconventional elements because the piece entails a diverse array of playing techniques. The notation of this piece consists of two layers (see the figure below which outlines the timeframe of the first half of the work). The first layer connects five larger, numbered sections (R1, R2 … R5) to tape and film elements. Miereanu calls these sections "réservoirs." Each reservoir holds blocks of musical material which should be performed within a determined amount of time. The choice to either play or not play these blocks, the order in which the blocks may be played, and the time it takes to transition from one block to another is up to the saxophonist to determine.

DO-MI-SI-LA-DO-RE



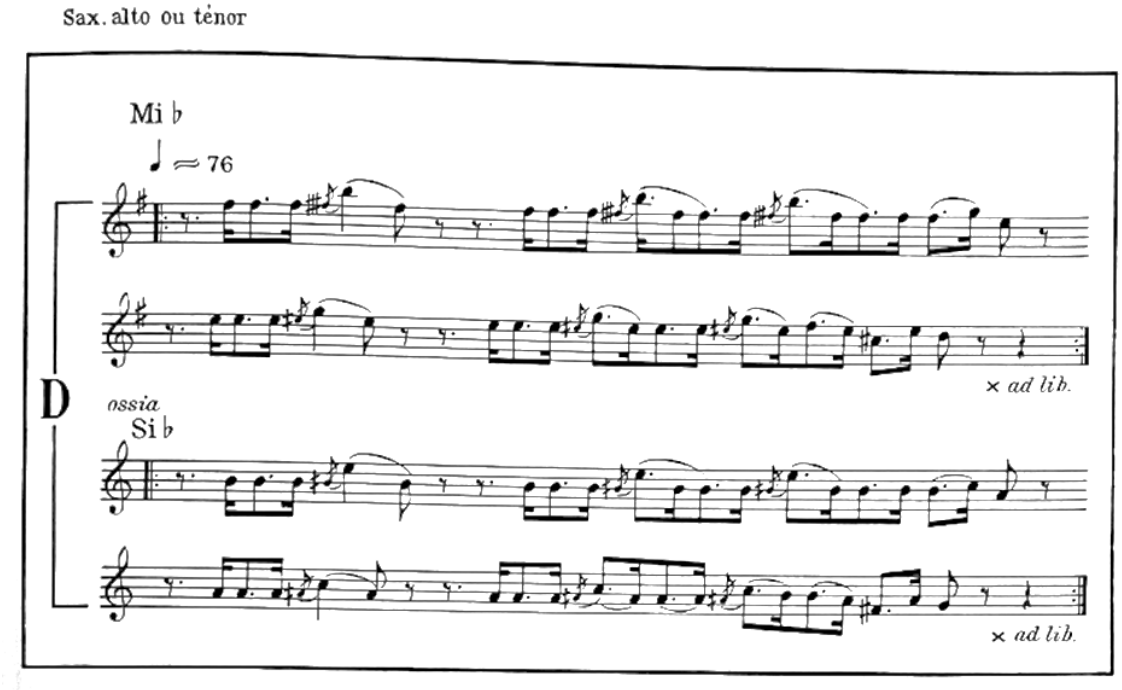
Costin Miereanu's *Do-Mi-Si-La-Do-Ré* for saxophone, tape, and video (1980/1981), p. 2
In the figure above, Miereanu precisely plans the exact timeframe of each element of the work. "R1," "R2," etc. indicate the precise timing of the "réservoirs." The performer must keep in mind this larger structural framework while performing the blocks of musical material contained within each reservoir.

So, whereas the first layer consists of the reservoirs, that is, the five numbered sections, the second layer is formed by the blocks of musical material that make up the reservoirs. These blocks are labeled with letters (see two examples below). Within each of them, Miereanu uses different types of notation (conventional and unconventional). For example, in the block labeled "C," the saxophonist is instructed to perform trumpet sounds, with a sideways triangle indicating articulations and a line indicating that they should sustain the pitch. The lengths of the notes are notated precisely, while the duration between sustained pitches and accents and the lengths of silences are left to the performer themself to determine. Elements of freedom also arise in how one interprets the trumpet sound notation, which saxophone the performer chooses to perform on, how often the instructions in the block are repeated, and the timeframe chosen between and within these blocks (for example, in block C, seen below, a performer might choose to interpret the silences longer or shorter depending on how much time they have in the reservoir due to the fact that Miereanu does not give a time indication for these rests).



Costin Miereanu's *Do-Mi-Si-La-Do-Ré* for saxophone, tape, and video (1980/1981), p. 6
This block C presents a straightforward graphical depiction of trumpet sounds. Within it, the saxophonist is instructed to produce individual notes, sustaining each for the specified duration indicated. Triangles denote instances of rearticulation, while continuous lines signify seamless transitions between successive notes, interspersed with brief pauses.

In contrast to the unconventional notation in block C, block D has a more traditional notation. Some freedom is permitted here for the performer, as seen in the choice of instrument and the flexibility in the amount of repetition, indicated by the "X ad lib" marking at the end of the second line, for example.



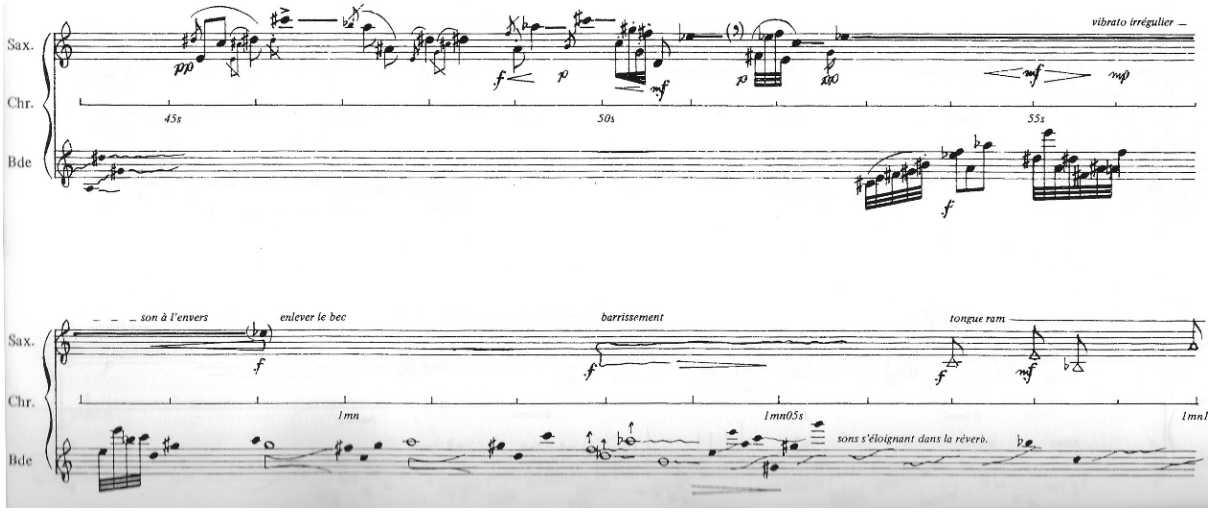
Costin Miereanu's *Do-Mi-Si-La-Do-Ré* for saxophone, tape, and video (1980/1981), p. 7
In block D the notation is traditional. I have it included here to show the juxtaposition between conventional and nonconventional systems of notation Miereanu has used.

This dual-layered approach to timing and notation in *Do-Mi-Si-La-Do-Ré* enhances the complexity and depth of the performance. Miereanu asks the performer to maintain a nuanced understanding of both macro- and micro-temporal frameworks while navigating the diverse expressive possibilities afforded by conventional and extended techniques. Miereanu's innovative notation invites the saxophonist to engage deeply with the interplay between structure and spontaneity, fostering a dynamic and expressive rendition of the work that allows each performance to be unique while maintaining the work's structural basis. Notably, *Do-Mi-Si-La-Do-Ré* stands among the pioneering works that delve into the SWMP practice. The minimalist nature of the notation mirrors the novel character of this practice during its inception.

The advent of electronic and computer-generated music brought forth new challenges and opportunities for both sound production and notation. As composers and musicians explored the capabilities of electronic instruments and digital technologies, traditional methods of musical notation were challenged and expanded to accommodate these innovations. Electronic music allowed for the creation of sounds that were previously unimaginable with acoustic instruments alone, such as synthesized tones, sampled sounds, and complex audio manipulations. These novel sonic textures required new approaches to notation to accurately represent their timbral qualities, spatial characteristics, and dynamic changes. Moreover, computer-generated music introduced algorithms and generative processes that could produce compositions beyond the scope of human-composed music. Notational developments in this realm involved translating algorithmic structures and computational parameters into readable scores or graphical representations that could guide performers. The evolution of electronic and computer-generated music thus prompted composers and music theorists to rethink traditional notational practices. Experimentation with graphical scores, algorithmic notation systems, and hybrid approaches led to the integration of traditional symbols with new graphical elements or digital instructions. These developments continue to shape contemporary music notation, reflecting ongoing advancements in technology and expanding possibilities for musical expression and performance.

In the realm of electronic and computer-generated music, the pursuit of innovation has led to a rich tapestry of developments. Composers like Karlheinz Stockhausen and Pierre Schaeffer stand out as pioneering innovators who developed specialized notation systems tailored to electronic music. These systems included graphic representations of sound waves and detailed instructions for manipulating tape recordings, reflecting a deep exploration of new sonic possibilities. The advent of computer technology enabled further innovations such as interactive scores and algorithmic compositions. Interactive scores allowed for real-time interaction between performers and computer-generated elements, while algorithmic compositions involved software generating music based on predefined rules.

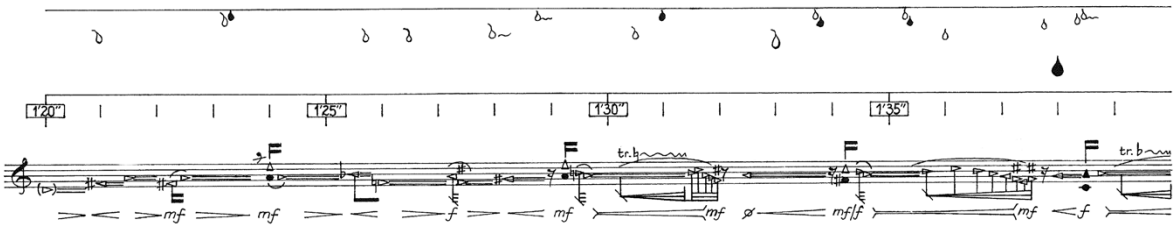
An example of this evolution can be seen in Jean-Claude Risset's *Voilements* (1987), where time is divided into precise intervals measured in seconds. The solo saxophonist must adjust their rhythm and gestures to synchronize with these intervals, while simultaneously responding to graphic notations demanded in the solo part and written in the tape part. The barrissement technique, seen in the middle of the second staff, is notated with a graphic block and a squiggly line without any pitch parameters. Here the saxophonist chooses their fingering and pitches at random, adhering to the dynamics and rhythm indicated by the block. Conversely, Risset follows the barrissement technique with very clear pitches from the tongue ram technique, indicated by hollow triangles. Below the saxophonist's staff, indicated by "Bde," is the transcription of the tape part. Risset has included some precise cues for the saxophonist to follow but has also left musical material more ambiguous by notating curved lines that follow the gesture of the sound rather than precise pitches. This dual approach grants the saxophonist freedom, while adhering to the cues provided by the tape component.



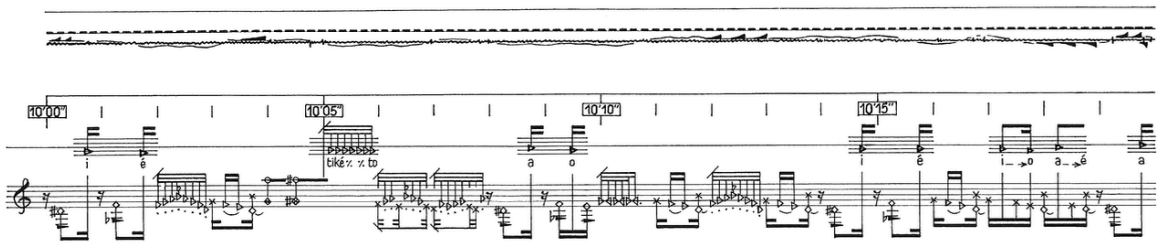
Jean-Claude Risset's *Voilements* for saxophone and tape (1987), p. 5
The evolution of notation often parallels technological advancements and the increasing technical proficiency enabled by notation software. In this excerpt, a blend of traditional notation conventions and handwritten graphical elements is evident, particularly noticeable in the tape component and instructions for SWMP techniques. In the second line, Risset directs the saxophonist to execute the barrissement technique followed by several tongue rams. The barrissement technique is depicted by a single unfilled and incomplete box, introducing ambiguity regarding the specific fingerings or sets of fingerings to be employed by the performer to achieve the desired sound texture. In contrast, the notation for tongue rams is presented with clarity and precision.

Bernard Carloséma's *Clepsydre* (1998) for solo saxophonist and tape represents a significant evolution in notational practices, providing extensive artistic freedom for the saxophonist while integrating a diverse array of notation forms. Similar to Risset's *Voilements*, time in *Clepsydre* is delineated in seconds, yet Carloséma's approach allows for greater complexity and variability in rhythmic notation, blending conventional and unconventional methods throughout the score. A notable feature of *Clepsydre* is its tape part, which is exclusively notated using graphic symbols. These symbols range from lines to small bubble structures indicating sound cells, as well as representations of sound

waves. This offers a visual guide for interpreting the electronic component emphasizing the composers' intentions to focus on timbral and gestural qualities rather than traditional pitch and strict rhythm. In contrast to Risset's approach, Carloséma provides a comprehensive table of contents detailing the precise function of his notation. This enhances clarity and facilitates the saxophonist's navigation of the score, ensuring a more nuanced and informed performance. This practice of detailed notation explanations would later become commonplace in new music scores, reflecting a broader trend towards transparency and accessibility. *Clepsydre* exemplifies how innovative notation can enhance artistic expression and collaboration between performer and electronic elements. By incorporating diverse notation forms and detailed explanations, Carloséma encourages interpretation and experimentation while advancing the frontier of electronic and acoustic integration in music composition. His work stands as a testament to the evolving complexity and richness of contemporary musical notation practices.



Bernard Carloséma's *Clepsydre* for saxophone and tape (1998), p. 2

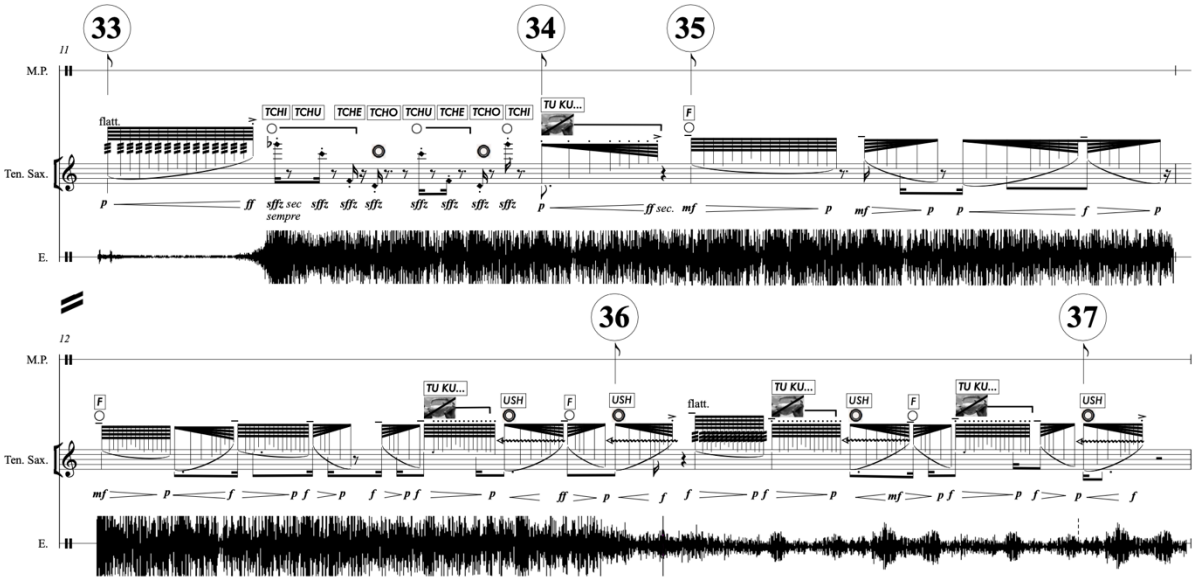


Bernard Carloséma's *Clepsydre* for saxophone and tape (1998), p. 11

In these two excerpts Carloséma utilizes multiple staves, each serving distinct purposes to depict various parameters. Particularly notable are the top two staves which visually represent the tape part, while directly beneath, the chronograph indicates the passage of time. In the first example, a variety of notehead variations are employed to signify different sounds. Additionally, rhythmic elements are intentionally imprecisely notated, affording performers a degree of freedom from strict rhythmic rigor. In contrast, in the second excerpt, the staves below the chronograph adhere more conventionally. They are separated to distinctly delineate the vocalized air pitch part from other techniques employed. The lowest staff specifies the execution of tongue rams, neutral exhaling and inhaling breath sounds, trumpet sounds, and key clicks.

With the advent of sophisticated software like MaxMSP, composers have embraced new artistic directions in music composition. Juan Arroyo's *Sikuri I* (2012) exemplifies this evolution, where traditional time-based notation gives way to a more dynamic representation of musical elements within the MaxMSP environment. In *Sikuri I*, Arroyo utilizes numbers to signify file event changes in the MaxMSP patch, rather than traditional time signatures. This approach allows for a flexible and non-linear temporal structure; the saxophonist interacts with the software in real-time, responding to cues indicated by

these numerical events. Beneath these numerical indicators Arroyo provides a waveform, offering visual insights into the sonic textures that will be manipulated within the MaxMSP patch. This dual-layered notation system combines technical precision with artistic freedom, enabling the saxophonist to interpret and shape the sonic output in collaboration with the software's capabilities. Moreover, Arroyo introduces new symbols in the notation, primarily representing sonic textures that will undergo manipulation through external sound processors. These symbols guide the performer in crafting expressive interpretations while interacting dynamically with the electronic components of the composition. This integration of advanced software and innovative notation exemplifies a broader trend where technological advancements in music composition influence and drive notational developments. As composers harness the capabilities of MaxMSP and similar platforms, they expand the expressive possibilities of electronic and acoustic music, pushing the boundaries of traditional notation to accommodate new modes of musical creation and performance. Traditional notation often is not able to represent what a composer wishes to convey to a performer.



Juan Arroyo's *Sikuri I* for saxophone and electronics (2012), p. 15

The evolution of notational innovations has been further extended through tools like MaxMSP, enabling performers to trigger programmable actions at their discretion. This capability fosters deeper expressions of uniqueness in each performance, where rhythmic and timed elements can be performed more ambiguously based on the performers intention in the moment. In Arroyo's score, new methods for notating SWMP techniques are prominently featured. Particularly striking is the depiction of the "half Incan trumpet sound," symbolized by an image of an Incan trumpet with a line crossing through it. This notation signifies the specific demand for the barrissement technique. Also notable are passages in which air pitch is indicated without specific noteheads, allowing saxophonists the latitude to determine fingerings based on the general contour of the line. These advancements underscore a shift towards notation that not only communicates musical intentions but also invites performers to contribute with their own creativity, enhancing the richness and individuality of each rendition.

In the contemporary landscape of music, notation serves a crucial role for both composers and performers, albeit with evolving challenges and opportunities. Notation acts as a bridge between the composer's creative vision and the performer's interpretation,

facilitating communication and guiding the realization of musical ideas. However, the expansive range of notational techniques and innovations—from traditional scores to graphic notation, electronic interfaces, and algorithmic systems—reflects both the liberating potential and the complexities faced by performers today. While contemporary notation offers unprecedented artistic freedom and innovation, it also challenges performers to navigate a diverse and sometimes complex landscape of musical languages and technologies. The role of the performer in interpreting notation is pivotal, requiring a balance between fidelity to the composer's intent and the exploration of personal artistic expression. Thus, the purpose of notation lies in facilitating a meaningful dialogue between composition and performance, and enriching the musical experience for both performers and audiences alike. In the following section, I will expand upon this multifaceted concept in discussing the purpose of notation for the contemporary performer.

6.3 - The Purpose of Notation for the Contemporary Performer

Today, as elaborated in the preceding sections, composers possess an extensive array of notational tools to communicate their aesthetic and auditory ideas. The potentialities of these tools appear boundless, engaging performers on both artistic and practical dimensions. From an artistic and practical dimension, the intricacy of graphical elements, symbols or texts within a score invariably influence a performer's interpretation – whether intentionally or unintentionally. This dynamic prompts a pertinent inquiry: What role does notation play for the contemporary performer?

As articulated by numerous composers and music theorists, and conceptually pivotal to this research, the paramount objective of notation is to eternize the composer's sonic ideas. However, the simultaneous interaction between composer, performer, score, instrument, electronic device, software, etc. is a complex intertwined web where all these entities are agents interacting with – and thus depending on – one another. While still acknowledging these inherent complexities, more agreement on how a particular sonic action should be notated could still be sought. Paulo de Assis elaborates on this in his essay on musical editing, the concept of an 'Urtext,' and the dichotomous roles and temporal positions of composers and performers:

> On the one hand, there is the composer, who engenders a structure, which he encodes according to the codes of his own time/space; on the other hand, there is the performer, who decodes the message of the composer, rendering the structure that was given to him. (Assis 2009: 7)

A performer must not only comprehend the composer's intentions but also actualize that delicate concept in future performances. The notation serves a seminal role in how the performer interacts with, interprets, and executes the music. Erhard Karkoschka, in

Notation in New Music, references historical pedagogy and the musician's experiential knowledge as the primary drivers for clear and visually representable notation. His perspective underscores that, regardless of the notation, the sonic result remains the essential element to be conveyed (Karkoschka 1972: 1). While not entirely contradictory nor affirming, experimental musician Cornelius Cardew, in his notes *Notation - Interpretation, Etc.* (1961), states that a composer must approach notation as both a creative and logical activity: "You have both aspects in your hand, but when you come to open your hand you find only one thing and it is not divisible" (Cardew 1961: 21). From this viewpoint, the composer faces the unenviable task of balancing logical and artistic perspectives, which may be in opposition; in many cases, one of these contending forces prevails. Ultimately, despite the notation being fixed for perpetuity and the composer ensuring their sonic vision is as clearly inscribed as possible, the performer must still make judicious decisions. This involves interpreting the notation accurately, stylistically, artistically, and convincingly, in order to bring the composition to life. Nevertheless, each notation leads (or can lead) to many different performances. In that sense, notation always fails. Or, on the contrary, it always succeeds in that there will never be a "final" (perfect) performance.

In the boundless creative domain of composers' language, and their myriad iterations of signs and symbols to notate their language, performers are often left to continually interpret and reinterpret these evolving signs and symbols. Each score encompasses its own microcosm of signs, symbols, explanatory notes, and textual additions, frequently resulting in an intentional or unintentional overload of information for the performer. When engaging with composers, I often encounter sentiments such as, "why should I limit my artistic expression through notation?" "Why should I sacrifice my style?" "A performer will inevitably need to learn the signs and symbols for each score regardless, so why should I conform to any standard practice?" Or "this is how I notate this particular sonic phenomenon; the performer will just have to deal with it," and similar remarks. In general, I comprehend and tend to sympathize with these perspectives. A performer bears the responsibility to interpret the score and its notations to the best of their abilities, perceiving it as the physical manifestation of a *meta*-physical phenomenon that they must engage with through rigorous daily practice. In this process, the performer will make interpretative decisions based on previously learned and embodied experiences. In "The Death of the Author" (1967), Roland Barthes argues that the traditional notion of the author as the central figure who bestows meaning upon a text is obsolete. Instead, the focus shifts to the language itself and the reader's role in interpreting the text. Barthes contends that

> a text is made of multiple writings, drawn from many cultures and entering into mutual relations of dialogue, parody, contestation, but there is one place where this multiplicity is focused and that place is the reader, not…the author. The reader is the space on which all the quotations that make up a writing are inscribed without any of

> them being lost; a text's unity lies not in its origin but in its destination. (Barthes 1967: 148)

The meaning of a text is ultimately determined by the reader rather than the author. This shift turns the reader into the primary agent of meaning-making, ultimately liberating the text from the constraints of authorial intent and emphasizing the dynamic interaction between reader and text. In this sense, a text (a score) is completed by the reader (performer). The reader (performer) therefore becomes a co-author of that text (score). However, does this idea exclude a more standardized notation? Shouldn't there be at least some agreement between author (composer) and reader (performer) regarding the sign system being used? Not so much to limit the freedom of the reader (performer), but to save them from all too obvious misunderstandings.

While the freedom to create works that challenge performers to push them out of their comfort zones, and to demand informed decisions is understandable, this must be balanced with a certain amount of clarity. Composers creating complex and novel compositions often produce highly dense, innovative scores with unique symbols and graphics that confront the performer with significant interpretative difficulties. Performers anticipate such challenges when agreeing to play such works. While a composers' notation should be intended to avoid complete misunderstandings, it should also foster a situation where performers can engage deeply with the work despite its complexity. An inherent element of any text, any score, is that it can be interpreted in more than one way. In other words, any notation will, by definition, be open to multiple interpretations. This idea, put forth by Barthes, also "explains" why it is interesting to listen to various performances of "the same" piece (which simultaneously becomes "another" piece with each performance).

The myriad notational choices available to composers serve both artistic and practical functions, deeply influencing how performers interpret and create music. As explored, the role of notation is to make future musical interpretations possible, as underscored by theorists like Assis and Karkoschka. This delicate balance between the logical and artistic facets of notation, highlighted by musicians like Cornelius Cardew, illustrates the inherent tension in the compositional process. Performers, tasked with decoding and bringing these encoded musical ideas to life, face the challenge of navigating diverse notational languages. Despite the frustrations that complex and non-standardized notations might cause, the pursuit of artistic expression through notation remains paramount. While composers should not be denied the freedom to innovate, they must also consider the practicalities of notation to ensure the possibility to create, through notation, a productive dialogue with performers, thus fostering a shared environment where both compositional vision and performance artistry thrive.

6.4 - Notation for SWMP Techniques

The notation for SWMP techniques is characterized by considerable variation and uniqueness, exhibiting few common traits across different compositions. This diversity has resulted in often disparate and innovative trends in notation. This multitude of notational choices renders it challenging for performers to fluidly transition from one piece to another without having to internalize an entirely new system each time. A significant portion of this confusion can be traced back to the early notational practices for these SWMP techniques. Furthermore, there exists an inherent cognitive dissonance in engaging with them, as the foundational rules established in traditional saxophone practice are almost entirely disregarded. Pre-existing notions such as the capabilities of the saxophone, the expected outcomes of opening or closing specific keys, and the logic of melodic lines following keywork patterns must all be fundamentally re-learned in the practice of SWMP.

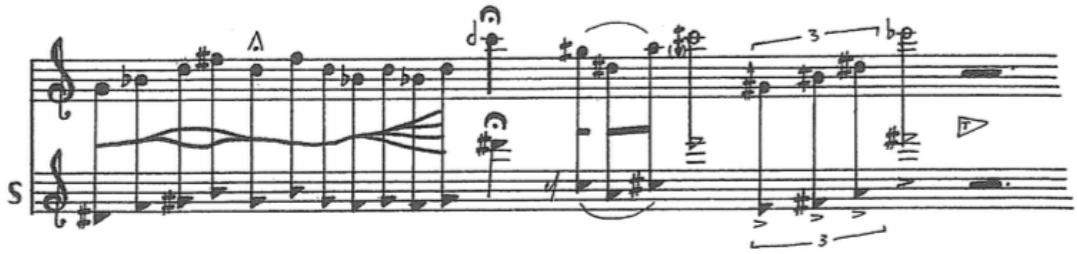
As a general trend, the notation for SWMP techniques is left entirely to the discretion of the composer. In the foreword to his *Saxologie*, Daniel Kientzy acknowledges that his notations are merely suggestions: "Only some of the possible ways of playing on the saxophone have been exploited in the written compositions to this day, and under signs that are rarely identical" (Kientzy 2007: 8). Moreover, Kientzy asserts that not all music must adhere to a uniform notational standard and expresses his preference for notation that is clear and "intelligent." In his saxophone technique guide, *Hello! Mr. Sax*, Jean-Marie Londeix observes that for trumpet sounds there is "no specific notation […]. It suffices to mark above the notes 'trumpet-like sounds'" (Londeix 1989: 68). This statement is overly simplistic when considering the wide range of sonic possibilities that can be categorized as trumpet sounds. Given the variety of pitches and octaves possible with the same fingering, it is imperative to envision a notation system that incorporates this variety. Lastly, Marcus Weiss and Giorgio Netti have compiled a comprehensive guide to numerous saxophone techniques utilized in the 21st century. They refrain from proposing their own notational system, opting instead to include "excerpts from scores of recent works for saxophone […] at the end of each chapter [which] should, among other things, demonstrate the variety of notational possibilities" (Weiss and Netti 2010: 10). In doing so, they simply illustrate the diversity of notational options, providing only subtle guidance toward the creation of new notational practices.

The innovations introduced by Kientzy represent a significant turning point in the classical saxophone's treatment. Due to the novelty and distinctiveness of the techniques he developed in collaboration with composers, he was tasked with creating notations that would facilitate the transition of these techniques from abstract sonic ideas to integral components of compositional works. Kientzy devised this notation primarily for his own use and for the composers with whom he closely collaborated. In partnership with these composers, Kientzy established a workable notation that served both him and his contemporaries.

I will now analyze, explain, and comment on his recommendations, examine alternative notational practices proposed in other technique guides, and subsequently reflect on several examples from the repertoire of each of the SWMP techniques.

6.4.1 - Notational Practices of Air Pitch

Kientzy suggests a two-staved solution for the notation of the air pitch technique. This is the image he introduces at the beginning of the chapter on air pitch:



Daniel Kientzy's *Saxologie* (2007), p. 453
Notational suggestion of air pitch

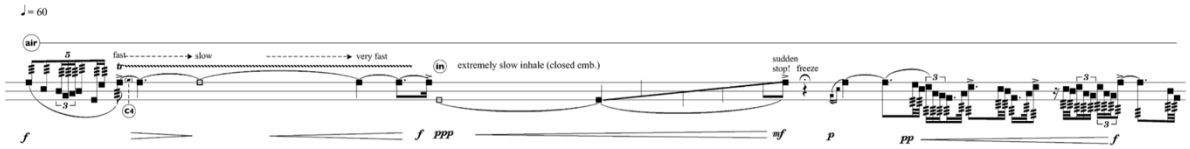
The fingerings are displayed in the bottom staff and the ensuing sounds are on the top staff. No indication of the vowel or consonant to color the sound is given; saxophonists would need to make that decision on their own. The notehead is a right triangle.

I do not think that a two staff solution is necessary for air pitch. With the limited range of the technique, displaying the real pitches that result from the technique only creates a cluttered and potentially confusing score. The notehead suggestion is quite acceptable: the saxophonist will still be able to read the difference between rhythmic structures via open or darkened right triangle noteheads.

Weiss and Netti do not overtly speak on the notation of air pitches but mention them more generally. Particularly relevant is their emphasis on the importance of detailing color changes in the air sound: "Depending upon the context, it may be useful to indicate a differentiation of various air noises (e.g., high—middle—low) or a certain amount of colors that may be indicated with numbers and leave the fingering choice up to the interpreter" (Weiss and Netti 2001: 158). These color changes shade and give texture to the sound; notating their relative tessitura allows a composer to add artistic depth to this technique.

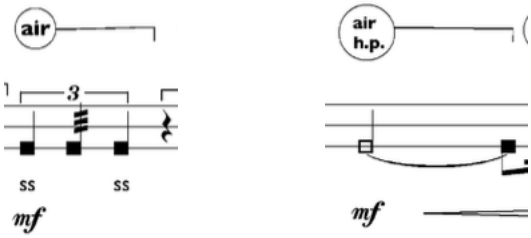
In Malin Bång's *delta waves* (2007), air pitch notation is treated on a three-line staff. Here the precise fingerings are not indicated or desired. The three lines indicate the range and the specific keys that should be opened or closed. This allows the saxophonist to use their own imagination and gives them some artistic freedom to interpret the rhythm and contour of the musical phrase. In her performance notes, included before the score, she

details that "the lines indicate the number of closed holes: bottom line = all main keys closed [,] middle line = the top half of the register closed [, and] top line = all main keys open" (Bång 2007: 2). Bång sometimes indicates vowel/consonant production but, in general, she only indicates if the air should be inhaled or exhaled through the saxophone. Below is an excerpt of *delta waves*:



Malin Bång's *delta waves* for saxophone (2007), p. 1
In this excerpt, it is most interesting to note the use of tessitura lines instead of the conventional five-line staff. The saxophonist will have to choose an appropriate fingering based on this limiting restriction.

The excerpt above is clear due to its inherent simplicity. The saxophonist need only follow a general contour and be rhythmically accurate. The fingerings used to create the desired textures are secondary to the importance of the sonic outcome and color change that Bång desires. The only uncertainty with Bång's usage of air pitch is the lack of consonants and vowels. Saxophonists must choose for themselves how they would like to color the sound here. This is confusing as later in the work she indicates precisely which consonants she demands of the performer:

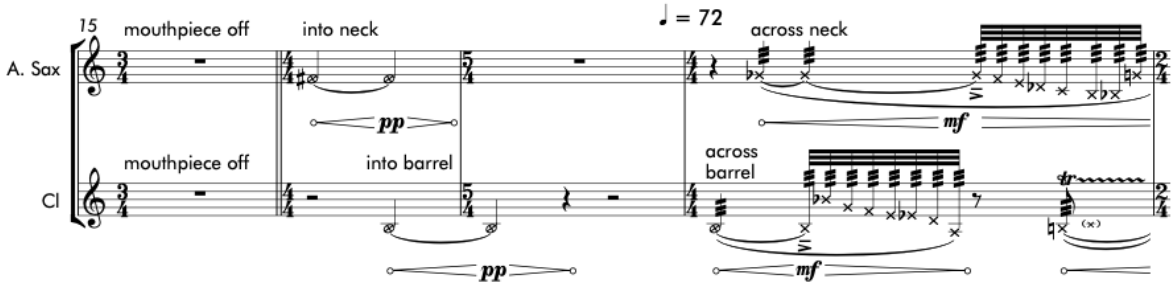


Malin Bång's *delta waves* for saxophone (2007), p. 1
In these two excerpts, Bång asks the saxophonist to produce different types of air pitches by indicating the "ss" underneath the staff, in the first excerpt, and by asking them to create "air with high pressure" in the second.

In the first example above, which curiously does not reappear elsewhere in the piece before the mouthpiece is reattached to the neck, the saxophonist is required to play a low B♭ while speaking the "ss" consonant sound followed by a flutter tongue and finished off with the "ss" consonant again. In the second example, the saxophonist is required to create a "high pressure" air pitch. With this technique, Bång asks the performer to make a sound that is "a combination of air and 'white noise'" (Bång 2007: 2). To create such a sound that differs enough from the exhaled air pitches and the consonant "ss" sounds, the performer should adjust the dynamic scaling desired.

From a performer's perspective on clear notation, these three examples from Bång's score lack consistency. While performers have the flexibility to make artistic decisions, the notation needs clarity regarding the specific actions or techniques required. Bång could have included her own vowel/consonant designations for all air pitch sounds, which would have made the desired color changes clearer and more consistent.

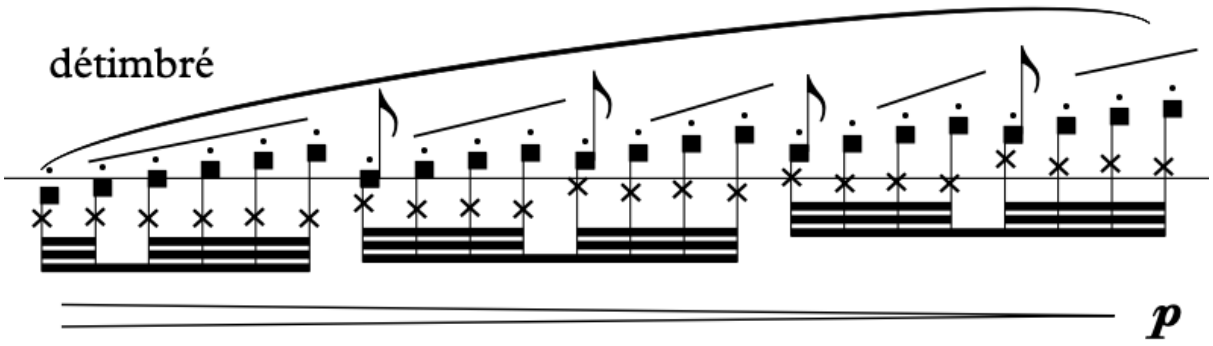
Max Grafe takes a more traditional and precise approach to notating air pitch sounds in his *Anemoi Dances* (2020). Grafe specifies more exactly which pitch the saxophonist must finger and he gives clear guidance of the direction in which they must blow. He has opted to use an "x" shape notehead for all air pitches. Grafe allows the performers enough time to remove and replace their mouthpieces and indicates this clearly, as can be seen in the figure below. The vowel or consonant shape and color is still left up to the performers to find what works best for them to create the texture indicated by the dynamics. This work was written for me, and I worked with Grafe on how I preferred to see the notation for air pitch. The clarinetist in my duo, Jackie Glazier, could also easily interpret the notation used for her clarinet without mouthpiece. If I were given the chance to work with Grafe again on this work, I would ask him to put phonemes underneath each gesture in order to shade the sound and texture to his exact liking.



Max Grafe's *Anemoi Dances* for saxophone and clarinet (2020), p. 6
In this figure, Grafe notates air pitches for both saxophonist and clarinetist. What is notable in this excerpt is that he dictates from where the performers must blow (into neck or across neck).

In her saxophone quartet, Ariadna Alsina Tarrés explores several SWMP techniques. Her usage and notation of air pitch is initially deceiving because she indicates the technique as a type of tongue ram. Though confusing at first, the saxophonist must read her instructions in the text that precedes the score where she explains that this particular notation indicates her wish for a tongue ram sound that is very dry and unpitched, obtained by articulating the tongue against the upper lip and the interior part of the mouth. After reading the instructions, the saxophonist will quickly understand that a proper tongue ram is not demanded but rather a double-tongued air pitch is required. The misnomer would be confusing for any performer; however, in working with Tarrés it became clear that she wants it to sound somewhat like a helicopter. This solidified my understanding of this notation as an air pitch. The parameter of fingerings is left up to the performer, as can be seen in the figure below. Tarrés removes the five lines of the staff opting for just one. In a quasi-aleatoric way, the saxophonist is given the freedom to

choose their fingerings following the notated sequence. The choice of the notehead is not important due to the desired lack of pitch precision. A simple way to make this notation much clearer would be to indicate the desired articulation syllables, such as "TOH KOH," "TU KU," or similar, underneath the notes.

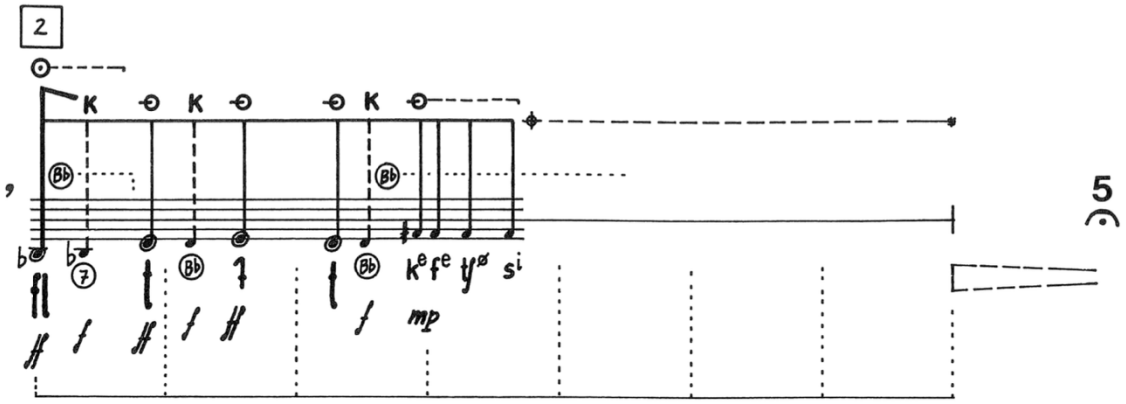


Ariadna Alsina Tarrés' *Flickering sparks in connecting tunnels* for saxophone quartet (2007), p. 2
Upon first inspection, one would think that Tarrés is asking the saxophonist to perform tongue rams, as this notation is usually reserved for slap tongue or tongue rams. However, a saxophonist will notice that at the speed indicated (quarter note = 60), it would be nearly impossible to do so. Instead, she is asking the saxophonist to perform air pitch.

Conceived in a distinctly maximalist approach, *Solo* (1988) for bass saxophone - part of Klas Torstensson's triptych *Licks & Brains* featuring various ensembles with saxophone - delves into the physicality of diverse sound gestures. The piece explores the transitions between disparate and similar sonic clusters and emphasizes the inherent theatricality and physicality in its demanding virtuosity. The notation requires the memorization of many new symbols alongside the occasional proportional time notation. Torstensson includes a very detailed notation guide that precedes the score which is needed for a performer to consider any attempt at realization.

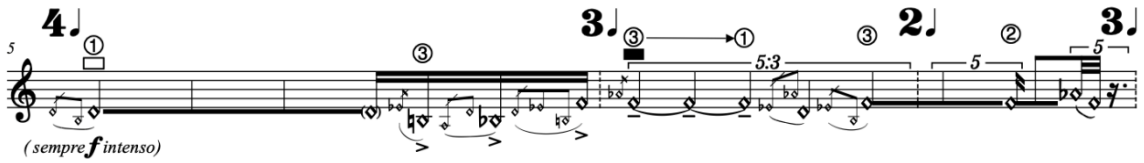
Despite this notation guide, the number of parameters that are asked to be interpreted at once is daunting at first. A saxophonist will need to memorize the physical movement and gesture between each technique. In the figure below, these parameters are clearly illustrated. Notice the multitude of symbols and signs that the saxophonist must engage with simultaneously. With regard to the notation of air pitch, Torstensson is quite clear in the fingerings, syllables, and distance from the mouthpiece. Within the staff, the notehead used for both air pitch and tongue ram sounds is a regular one with a circle around it. The difference is understood by the phonetic symbol below the staff. The "fl" phonetic spelling indicates a tongue ram. The "t" represents a "tongue-flap," or in the contemporary vernacular, a flutter tongue sound. The upside down "t" represents a hard "'t" sound produced from an attack against the hard palate. The other air pitches (see the image below, above the *mp* indication) are marked without a circle around the notehead. These are, however, still air pitched sounds. Torstensson uses phonetic symbols directly below the staff and provides English, French, Italian, and German language examples on how to

pronounce them properly. This is helpful for saxophonists who might not be familiar with proper diction and phonetic spellings. Above the staff, Torstensson includes parameters of how far away the mouth should be from the neckpiece, when the saxophonist must perform an unpitched or a pitched key click, and if the sound should be vocalized directly to the microphone. From a notation standpoint this work is extremely detailed and a strong showing of how to write down these techniques. However, there are clearer ways to notate these SWMP techniques; for example, clearly showing a notehead difference between an air pitch and a tongue ram might avoid unnecessary confusion.



Klas Torstensson's *Solo* for saxophone (1988), p. 1
Important to take notice in this excerpt is the demanded precision of vocal elements through the saxophone. Various phonetic syllables must be perfectly pronounced while performing these in conjunction with other SWMP techniques.

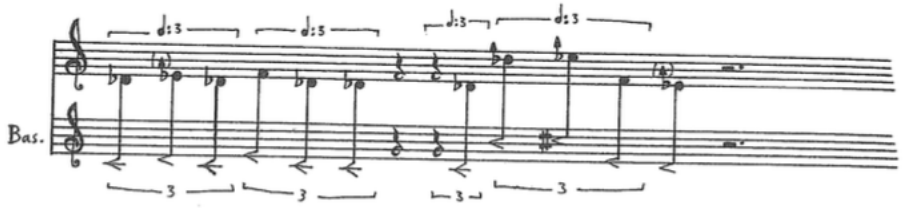
In Stratis Minakakis' massive solo piece for baritone saxophone, *For Felipe M.* (2021), the final movement is set for SWMP. In this movement he paints a shadow sound world that comments on the traditional playing that precedes it. His notehead choice for air pitch follows a similar usage of notation for air sounds throughout the rest of the work. I appreciate the similarity and connection with common practice playing. The only confusing part of this choice is that since the notehead is open, precision of traditional rhythm is lost. As can be seen below, there are two other parameters that he has included. The squares (either open, half open, or filled in) determine the amount of saturation of the air pitch - the open square indicating a slight saturation of sound and the filled in square meaning the sound should be completely saturated with air. The numbers, ranging from 1 to 3, indicate the distance the saxophonist should position their mouth from the neckpiece – with 1 indicating a few centimeters and 3 very close to the neckpiece. In my own performance of this work, I opted, with Minakakis' permission, to add my own syllables below the staff which would take the saturation levels into direct account. In this way, I can avoid reading the square altogether while performing. This allows me to focus on the direction of the gesture.



Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 13
Minakakis clearly asks for different densities of sound and for the saxophonist to quickly modulate between them, creating an evolution of the air pitch in both distance from the neckpiece and how much air is actually blown into the neckpiece.

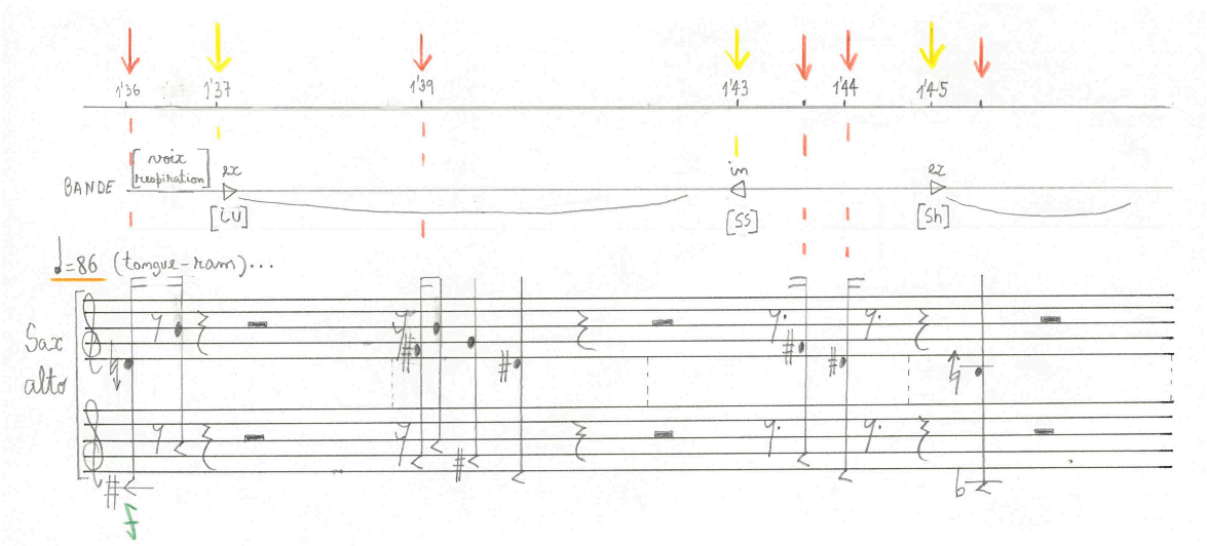
6.4.2 - Notational Practices of Tongue Ram

Tongue rams are notated similarly to the conventional slap tongue technique. Because tongue rams involve a quick, stopped attack with a short duration, the notational conventions are typically clear and precise. Many composers adopt a similar notation when incorporating tongue ram technique. Among notating SWMP techniques, this is the least contentious. Despite its inherent simplicity, Kientzy suggests an overly complicated notation. As can be seen below, he uses two staves where the bottom staff indicates the fingering, and the top staff the sonic result in C. However, I argue that the top staff is superfluous in this case: since the range of the tongue ram techniques is inherently limited and the sounds are fixed, based on one singular fingering per sound, there is no real need for the saxophonist to see the sonic result on their part or score.



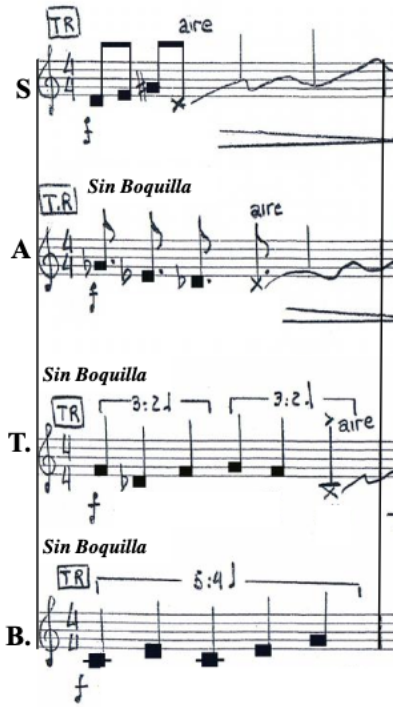
Daniel Kientzy's *Saxologie* (2007), p. 475
Notation suggestion of tongue rams.

Following this notational outline, Vitor Rua opens his work, *Saxopera II* (2001) for solo alto saxophone and electronics dedicated to Kientzy, by using tongue rams. As can be seen in the figure below, it is written in both proportional and traditional notation. Specifically interesting is that Rua uses two staves for the saxophone part, as per the suggestion of Kientzy. However, there are no indications as to which staff saxophonists should read for fingerings and which is the sonic result. Of course, they would quickly understand that the bottom staff is to be read for the fingerings, but this is not overtly stated in the score.



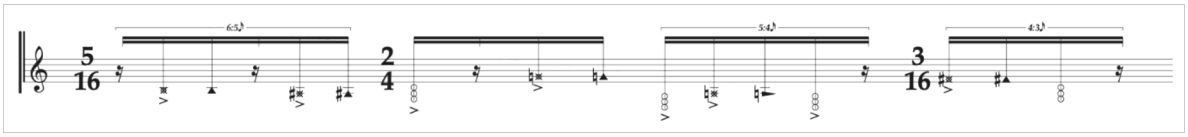
Vitor Rua's *Saxopera II* for saxophone and tape (2001), p. 2
Rua follows the same notational guidelines that are suggested by Kientzy. There is ambiguity with the two staves in that the saxophonist does not immediately know which staff is for fingerings and which contains the transposed notes.

In María Eugenia Luc's first saxophone quartet *YUN* (2012), SWMP techniques are only used at the beginning. Simply and effectively notated, Luc utilizes a square notehead for the notation of tongue rams and indicates precise pitches. As can be viewed in the score excerpt below, she also indicates that the technique is to be a tongue ram with the "TR" indication to avoid any confusion.



María Eugenia Luc's *YUN* for saxophone quartet (2012), p. 1
Square noteheads are used to indicate the tongue ram technique.

In *~drops~* (2017) by Stylianos Dimou, the saxophone quartet is asked to perform without mouthpiece for the entirety of the work, creating complex and rich textures that imitate different water droplet sounds. Despite the rhythmic and notational complexity of this work, the sonic result is often very simple. However, the patchwork of non-traditional symbols can be daunting and a limiting factor for saxophonists to choose to perform this work.

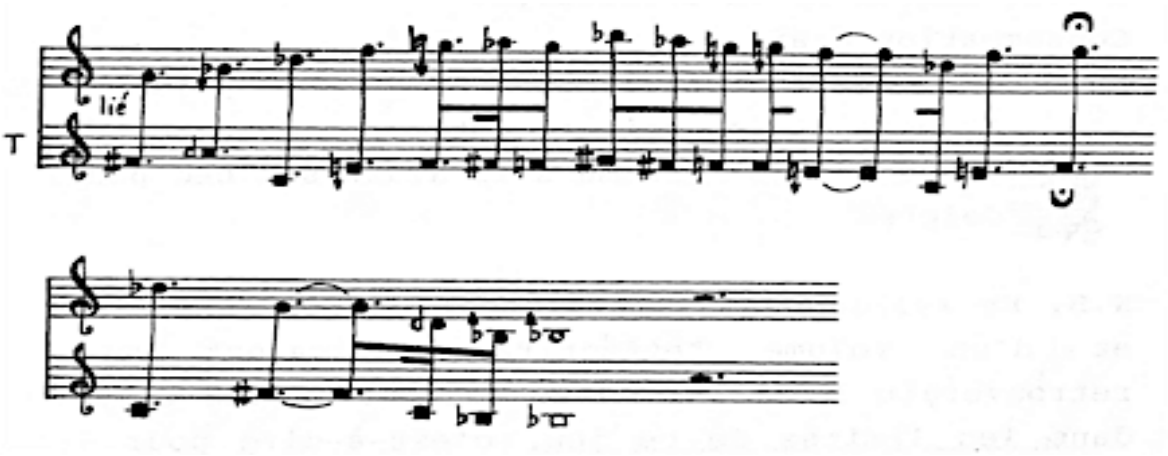


Stylianos Dimou's *~drops~* for saxophone quartet (2017), p. 12
Combining many different techniques, each in quick succession, this score excerpt shows how a saxophonist will need to get comfortable with the many different noteheads indicating the execution of highly specialized techniques – SWMP and otherwise.

Dimou weaves various parameters together. In the figure above, one can see just some of the various symbols he uses. In this particular example, the tongue ram is indicated by the equilateral triangle notehead. Key clicks are indicated by the circle with an x through it. Slap tongue is notated with an obtuse triangle notehead. The notehead with three open circles indicates the release of depressed keys. The two triangle signs (tongue ram and slap tongue) are confusing because, technically, one cannot slap tongue without the mouthpiece. After speaking with Dimou directly about this work and its notation, we agreed that the slap tongue technique should be a tongue crack sound articulated into the instrument where the tongue violently releases itself from the top of the soft palate. This type of attack is similar to the motion used to create an open slap sound with the mouthpiece. Therefore, this slap tongue technique is a derivative of the air pitch technique. Despite the novelty of the notation, the composer's intention with each symbol is clearly dictated in the legend that precedes the score.

6.4.3 - Notational Practices of Trumpet Sounds

Kientzy advocates for a double-staff notation system to represent trumpet sounds on the saxophone. The upper staff indicates the sounding pitches, while the lower staff denotes the required fingering. This approach, and its inverse, where the upper staff signifies fingerings and the lower staff shows the sounding pitches, is employed in various compositions. A significant advantage of this notation is that it allows the saxophonist to clearly discern the melodic contour that must be maintained, despite the cognitive dissonance caused by changing fingerings. Additionally, this notation employs square noteheads, enhancing clarity.



Daniel Kientzy's *Saxologie* (2007), p. 428
Notation suggestion of trumpet sounds.

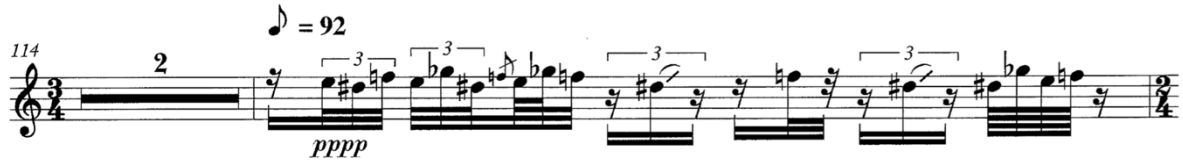
While the use of a double-staff system in notation is justified to a certain extent, it is not universally applicable and uncommon for saxophonists. It may serve as a pedagogical tool to help them familiarize with the trumpet sounds technique. Providing a guide for both the sound and the fingerings is not inherently detrimental. However, understanding the relationship between fingerings and the resultant pitches should be a practice-based endeavor for any saxophonist. Moreover, alternative fingerings may yield equivalent or even superior sonic results. Composers, using updated guides and methods, will understand that two different fingerings may produce either similar or completely unexpected sonic results. Both performer and composer bear the responsibility of understanding how this technique can produce the most optimal artistic result.

While the double-staffed notation may be beneficial as a practice aid or pedagogical reference, composers should avoid incorporating it into their scores unless other parameters, such as simultaneous singing while playing, necessitate its use. Practice aids would be better suited to the foreword of a score, where all technical aspects can be detailed. This would prevent the unnecessary complication of an already dense score with a double staff when prescore performance notes alone would suffice.

Weiss and Netti recommend a different notation. They suggest that "since this performance technique cannot be employed in fast alternation with normal playing, it is easiest to indicate the respective section with the phrase 'alla tromba' or 'trumpet embouchure' and notate it normally" (Weiss and Netti 2010: 148). This justification is simple and puts the responsibility on the saxophonist to find relevant and usable solutions to perform the technique. Their suggestion to notate the musical passage using normal rounded noteheads, is cogent as the sonic aural possibilities for trumpet sounds are more extensive than the other SWMP techniques up to this point.

The next excerpt is from Georges Aperghis' work *Crosswind* (1997) for solo viola and saxophone quartet. A significant issue arises with his treatment of SWMP in this work. It is entirely unclear whether the pitches indicated represent the actual sound or the

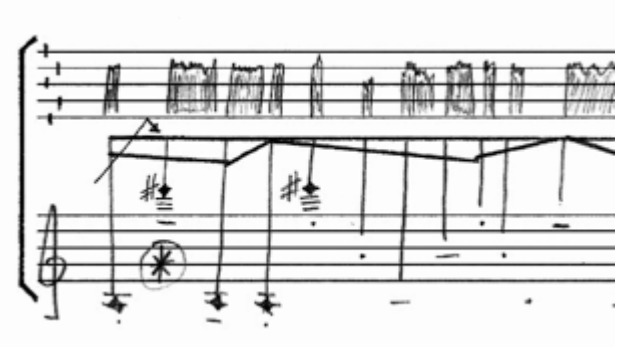
fingerings the performer should use. Additionally, Aperghis does not provide any pre-score performance notes or an explanation of the various techniques in the score, other than a simple directive to "take off the mouthpiece" before the section begins (Aperghis 1997: 11). This lack of clarity has led to various imaginative interpretations of this work. For example, some ensembles play this section with brass mouthpieces or plastic tubes inserted into the saxophone neck, despite the absence of such instructions.



Georges Aperghis' *Crosswind* for solo viola and saxophone quartet (1997), excerpt from the tenor saxophone part, p. 9
This excerpt shows an example of trumpet sounds notation by Aperghis for which he uses standard noteheads. He avoids indicating that the saxophonist should perform these sounds as trumpet sounds although the established performance practice is to perform them as such.

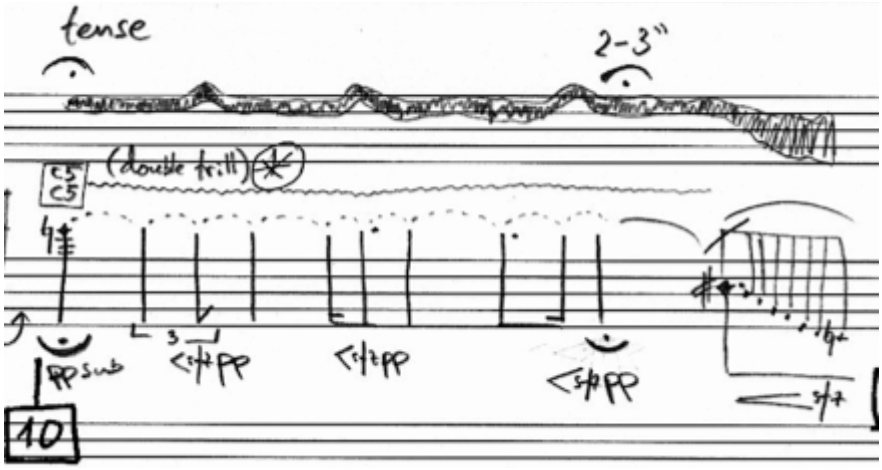
German Alonso addresses the notation of trumpet sounds differently in his work *el gran cabrón* (2012). He focuses more on the density of the sound rather than pitch precision. In sections written for SWMP, Alonso employs two staves: the top stave typically indicates density (and sometimes articulated rhythm), while the lower stave depicts fingerings, articulations on specific pitches, and relative rhythms. A particular challenge with Alonso's notation lies in interpreting the appropriate density for each note. In his foreword, he explains the requirements for performing the trumpet sounds technique and the meaning of the density factor:

> A drawing filling the whole vertical space...represents a dense, compact[,] 'low' sound [...], while a thinner drawing represents a greater lips [sic] tension, i.e. a more focused sound in terms of pitch, but still noisy. (Alonso 2013: vi)



Germán Alonso's *el gran cabrón* for baritone saxophone and electronics (2012), p. 1
Notation of barrissement technique. In several instances the choice of fingering is left up to the performer who must only respect the relative tessitura. However, in other instances, Alonso desires precise fingerings indicated by diamond noteheads. The staff above the standard staff indicates the relative density of the desired sounds.

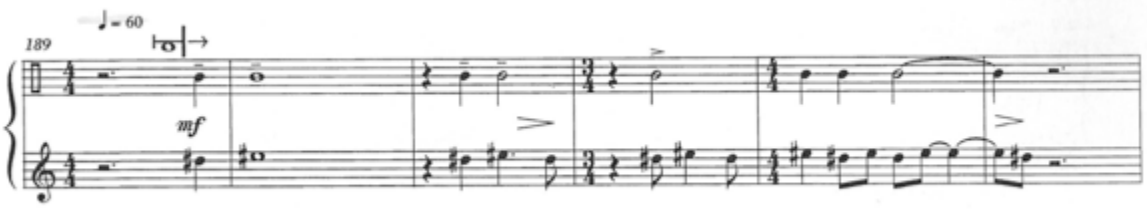
In the above figure, one would interpret the markings with a dense, compact, and low sound. This is opposed to the figure below where the marking is much thinner; therefore, one should interpret this to be a more precise and focused sound. At the end of this excerpt, the density returns to the former dense, compact, and low sound with the downward progression of notes starting from C# to the lower octave C♮.



Germán Alonso's *el gran cabrón* for baritone saxophone and electronics (2012), p. 4
Notation of barrissement technique with a thinner density marking indicate a focus on producing a more precise and compact sound.

In these excerpts, it is apparent that there are differences in the quality of the barrissement sound. Alonso's notation, however, leaves many parameters open. This is largely due to his disinterest in specifying, or hearing, which exact pitches come from the saxophone. He explains that "this key is used to indicate the relative range and density for barrissement [...] displaying the spectro-morphology of sound [...] It is especially important to avoid the production of a precise pitch as standard brass instrument embouchure would produce" (Alonso 2013: vi). Alonso is interested in the sound mass application of trumpet sounds as well as the density in terms of a quantifiable sound output. Conversely, he is not interested in creating melodic structures using this technique. Unlike the previous two excerpts, the technique is being used in much less precise ways to achieve a completely different sound concept – richer and more complex.

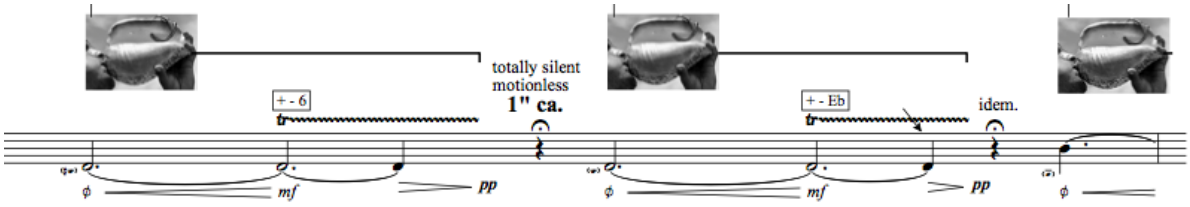
Robin Hoffmann created yet another system. The entire middle section of his quartet, *Der blutige Schaffner* (1996), is devoted to an exploration of SWMP techniques. Throughout this middle section he notates every technique using a consistent two stave system while utilizing a set of different signs and symbols to represent each disparate technique.



Robin Hoffmann's *Der blutige Schaffner* for saxophone quartet (1996), p. 14
In this example Hoffmann indicates all air sounds on the top staff and finger actions on the bottom staff.

The top stave indicates all air parameters (*Blasaktionen*) while the bottom stave is designated for the keys or fingerings (*Griffe/Klappen*) (Hoffmann 2001: v). Whereas his general method of notating extended techniques is laudable, the notation used for trumpet sounds is problematic. As seen in the above figure, especially in measures 192-193, the saxophonist would simply need to slur through most of this passage. In this way, Hoffmann has divorced articulation from pitch/fingering by separating these two parameters into two staves. It would be simpler to just notate this section with slurs and add the tenuto, accents, and dynamics in their normal places and then entirely remove the top staff. Nevertheless, despite the double-staff system separating parameters, his intentions are clear and easily interpretable.

A final example of notational practice for the trumpet sounds technique comes from Juan Arroyo's *Sikuri I* (2012). Arroyo makes a distinction between notes that need definition of pitch and notes that are not necessarily tied to any specific pitch. The former are labeled as "Inca's trumpet sound," the latter as "half Inca's trumpet sound" (Arroyo 2012: vi).

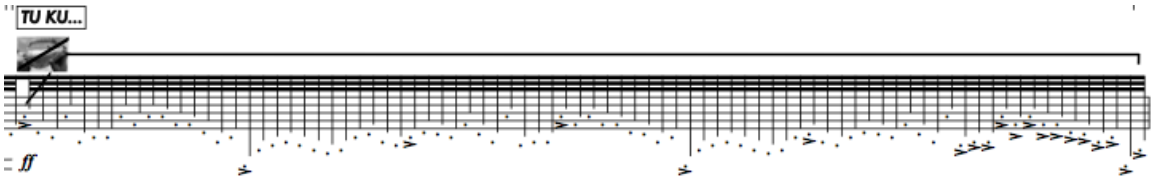


Juan Arroyo's *Sikuri I* for saxophone and electronics (2012), p. 6
Arroyo likened the sonic result to resemble that of a Peruvian instrument, the Incan trumpet.

What is particularly effective in this example is that Arroyo indicates the transposed note produced by the specific fingering used in the trumpet sound technique. This notation is both clear and unobtrusive, remaining small enough to avoid cluttering the score unnecessarily. Additionally, Arroyo did not use two staves to show the real pitch that will come out of the saxophone. However, while unique, using the "Inca's trumpet sound" as a symbol to infer a "pitched trumpet sound" is unpractical and misleading. The positive side is that the symbol is so large that it cannot be confused with any other technique.

The "half Inca's trumpet sound" is slightly more problematic. Since precise pitches are not important, Arroyo marks this parameter as open and to be chosen by the performer at random. Instead of distinct pitches, he indicates a relative guide to the tessitura in which he wishes the saxophonist to perform. However, Arroyo also indicates the syllable that he would like the performer to use. This can be seen above the half Inca's trumpet sound symbol in the figure below. This is effective when the relative pitch stays the same, but it becomes impossible to execute large leaps without changing the phonetic syllables that he suggests. The higher the leap the more closed the vowel will become; and, inversely,

the lower the leap the more open the vowel will become. So, when an upward leap is necessary, "TU KU" turns into "TEE KEE." With the leaps going into a lower range, the performer will need to change the vowel sound from "TU KU" to "TOH KOH" to have a noticeable change in pitch.

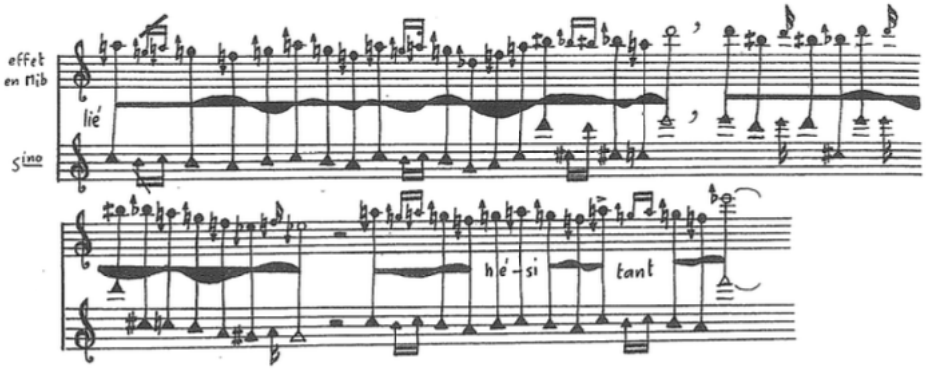


Juan Arroyo's *Sikuri I* for saxophone and electronics (2012), p. 5
Arroyo notates the barrissement technique with a graphic image of an Incan trumpet with a slash through it. He also indicates the phonetic syllables that a saxophonist should produce while performing this technique.

In *Sikuri I*, the first work in which Arroyo employed SWMP, he invented all new symbols. Much like Hoffmann, he did not seek out the advice of the Kientzy or Weiss/Netti saxophone guides; instead, he worked with the instrument himself and developed his own ideas on notation.

6.4.4 - Notational Practices of Saxo-Flute Hybridity

Since so few works have explored saxo-flute hybridity as of today, there are limited examples to gauge the notational practice used for this technique. Despite this, I will examine several works that give an overview of what has been used in the past.

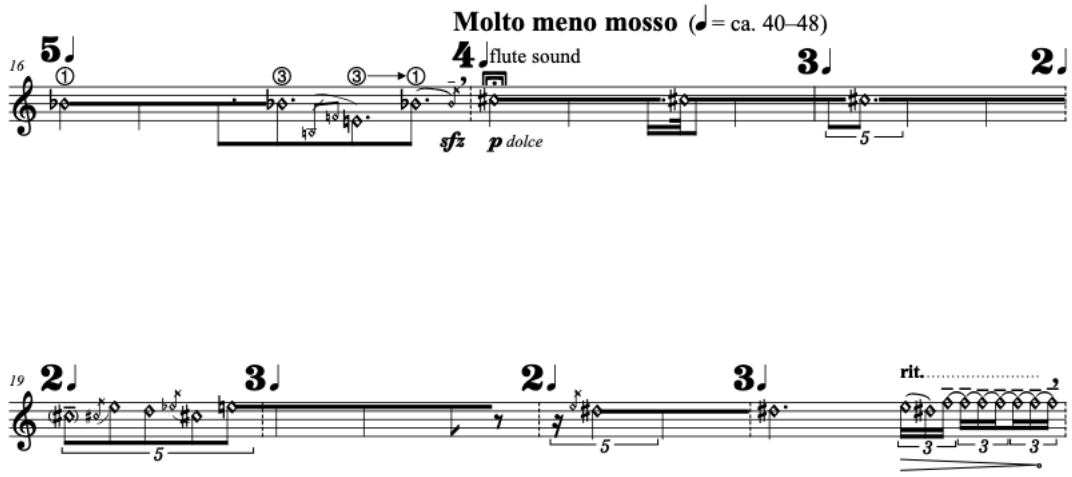


Daniel Kientzy's *Saxologie* (2007), p. 511
Notation suggestion of saxo-flute hybridity.

In *Saxologie*, Kientzy suggests notating these sounds with two staves. The top staff indicates the resulting sound, transposed to match the key of the saxophone being used. The bottom staff indicates the fingerings used to produce the pitches. There is a graphic element to Kientzy's notation in between the two staves. The meaning of this contoured line is not explained in his text nor is it understood as part of the notation itself. The only explanation that makes sense is that it is supposed to represent a slur to connect the

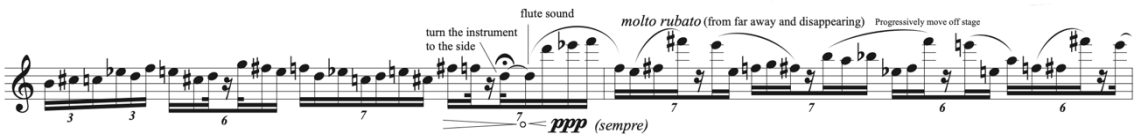
various gestures. The indication “lié” at the beginning indicates that all notes should be connected or slurred anyway, therefore, I am not certain this was the intention. In other techniques, trumpet sounds, for example, Kientzy does not use this odd graphic representation for a slur; he just marks that the notes should be connected. For the purposes of the discussion here, I will disregard this graphic element. The choice of an equilateral triangle is clear and allows a composer to be precise with rhythmic variations that hold duration by having open and closed triangles. The usage of two staves, one marking the fingering and the other showing the sonic result, is important for this technique, given the number of octaves or harmonics that can be performed, especially on the lower saxophones. I propose that the notation for the saxo-flute hybridity technique be approached similarly to the notation for trumpet sounds, given the wide range of octaves achievable with identical fingerings. This approach ensures clarity for performers.

The next excerpt is from Stratis Minakakis’ *For Felipe M.* (2021). The work ends with saxo-flute hybridity sounds. As can be seen in the figure below, Minakakis does not indicate any noticeable difference between the air pitch and saxo-flute hybridity; he uses the same notehead for both sounds. The only indication for the saxophonist to differentiate is the marking of “flute sound” above the note at measure 17. In 2020, when I worked with Minakakis on the conception of these sounds, I was not as proficient in these sounds and my research was still ongoing. I was unsure if a second or third octave was even possible. However, after his piece was completed, I realized my naiveté because I discovered the possibility of several other tessituras with saxo-flute hybridity on the baritone saxophone. Now, I would suggest to Minakakis to notate these sounds differently. He could achieve further clarity by using a modified notation that I will explain in a subsequent section (see Section 6.7.4) which follows the melodic contour without using two staves, employing a second staff to indicate both the sonic result and fingering, or specifying the tessitura where he prefers the flute sounds to be realized. This would enhance clarity and precision for performers.



Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 14
Minakakis uses the same notehead for saxo-flute hybridity as he does for the air pitch that comes before it. He simply mentions that the technique changes to flute sounds.

In the final part of Eleni Ralli's work for SWMP entitled, *Go Within* (2020), the saxophonist is asked to produce flute sounds. Here, as can be seen in the figure below, she chose to notate all non-air pitched or articulation sounds with normal noteheads. Trumpet sounds and saxo-flute hybridity sounds are represented with the same traditional notehead. To differentiate between these two, she simply indicates "trumpet sounds" or "flute sound." This is a simple solution that does not overly complicate a score that contains many techniques. To indicate a change in tessitura she simply changes the octave. Saxophonists will have to assume that the fingerings for most of the notes are performed using the side keys, as is customary for this technique. For the notated pitches G5, A5, B♭5, and B♮5, they will use standard fingerings; these pitches are challenging to produce but achievable. Like Minakakis' piece, this work was written for me, and I had a direct connection with Ralli while she was composing it. I asked her if she wanted to utilize two staves to indicate the resultant pitch and the fingering. She chose to keep things simpler, since the resultant pitches were not as important as the texture and untampered melodies.



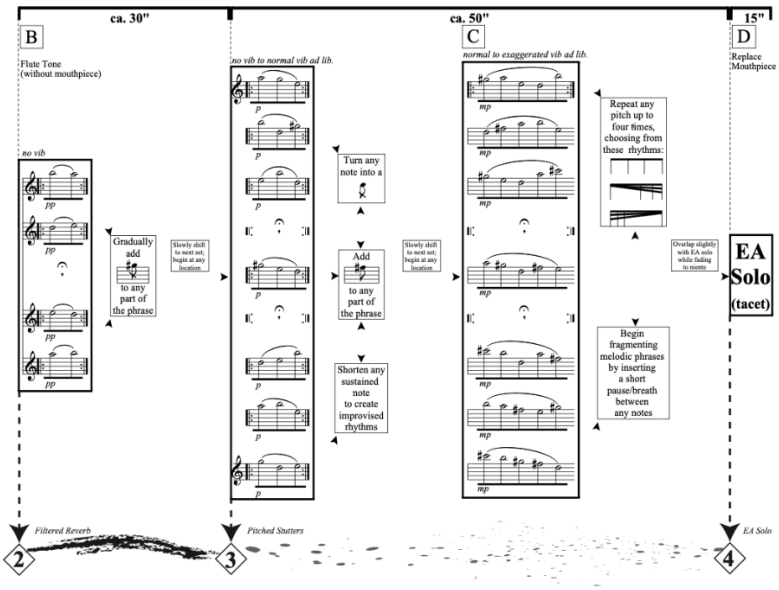
Eleni Ralli's *Go Within* for SWMP and saxophone with mouthpiece (2020), p. 8
Ralli does not distinguish a notehead difference between the flute sounds and the trumpet sounds. The performer is never asked to quickly switch between these two techniques except for the fermata moment where the trumpet sounds must, seamlessly, evolve into the flute sounds.

In her composition *Veiled Resonance* (2008), Elainie Lillios employs a mixture of traditional and non-traditional notation, directing the performer to utilize flute sounds in guided improvisations on soprano saxophone. The performer is instructed to play repeated material of their choosing from various sets of notated boxes, within a flexible time frame. As depicted in the figure below, Lillios specifies "'flute tone (without mouthpiece)" but leaves many parameters for the saxophonist to determine. All dictated note sets are technically feasible. However, the written G5, G#5, A5, and B5 will pose challenges as side keys cannot be utilized. This notation is precise in the sense that Lillios specifies which pitches she desires; however, it instructs the saxophonist to interpret these as fingerings rather than resulting pitches. In her performance instructions preceding the score, Lillios explains for the first movement:

> Play flute tones on the saxophone by removing the mouthpiece and blowing across the neck of the instrument. Move gradually from longer periods of silence to longer moments of sustained tones. As you progress, sustain tones as long as possible, and follow instructions that allow you to gradually improvise sustained

> melodic ideas and phrases. This movement should sound blended, sustained, and ethereal. (Lillios 2008: v)

I interpret the accuracy of the pitches as secondary to the sound texture Lillios aims to create through the integration of live saxophone and electronics. The flute sounds are integral to the opening, exploring improvisational air pitch sounds, where the focus lies more on the sonic qualities rather than on exact pitch precision. Therefore, this type of notation effectively communicates the composer's intentions.



Elainie Lillios's *Veiled Resonance* for saxophone and electronics (2008), p. 2
Allowing the saxophonist to improvise with just a few parameters, Lillios gives simple melodic gestures that they must perform for a specified amount of time. These pitch cells give them a great deal of freedom. The notehead is a conventional standard round notehead.

6.5 - Reinvention and Reexamination of Notation

Following an extensive examination of much of the SWMP repertoire, I have concluded that no particular notational practice can be deemed a priori superior or inferior to another. Many of the notational choices made by composers are inherently intuitive; some have left me confused and inclined to re-edit or re-notate the scores myself. Historically, composers have often done the same: when new signs and symbols allowed them to notate their works in clearer ways, they would often edit, re-notate, and republish new versions. György Ligeti revised his *Études for Piano* (1985-2001), making changes to the notation, dynamics, and articulation to achieve greater clarity and expressiveness. Many of these revisions were based on the feedback of performers. One such glaring example is his *Étude 14 Coloana infinită* for piano*;* it was deemed too demanding and he made a second version reducing the number of notes in each hand (Steinitz 2003: 310).

For “New Complexity” composers, it is common to invent novel notations, especially while working with extended techniques. Brian Ferneyhough pushed the concept of extended techniques and the density of competing parameters to an extreme in two of his works for solo flute: *Cassandra's Dream Song* (1970) and *Unity Capsule* (1976). These works feature layers upon layers of intricate instructions. Ferneyhough acknowledged that the conception of *Cassandra’s Dream Song* was partly inspired by emerging questions and possibilities in musical notation. In his pre-score performance remarks, he states:

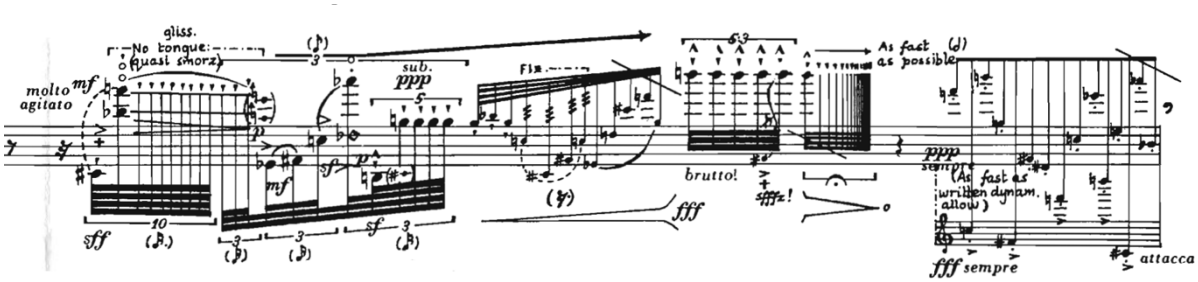
> The choice of notation in this instance was principally dictated by a desire to define the quality of the final sound by relating it consciously to the degree of complexity present in the score. The piece as it stands is, therefore, not intended to be the plan of an ‘ideal’ performance. The notation does not represent the result required: it is the attempt to realize the written specifications in practice which is designed to produce the desired (but unnotatable) sound-quality. (Ferneyhough 1970: i)

Often, the notational choices made by composers writing for SWMP adhere to this same conceptual framework; the scores are meant, with varying degrees of success, to represent the desired sonic outcomes.

This insightful recognition that notation alone is insufficient allows the performer to take risks while emphasizing the significance of the difficulty any dense set of actions should convey. Ferneyhough further articulates that “the audible (and visual) degree of difficulty is to be drawn as an integral structural element into the fabric of the composition itself” (Ferneyhough 1970: i). I would add that its performance should reflect this degree of difficulty.

In *Cassandra's Dream Song*, and other similar works, the notation serves not merely as a guide for producing specific sounds but as a framework within which the performer's engagement with the complexity of the score generates the intended sonic and expressive outcomes.[42] This approach underscores an emphasis on the interplay between performer and score, where the act of negotiating the intricacies of the notation becomes a crucial aspect of the artistic experience.

[42] The inclusion of *Cassandra’s Dream Song* (1970) as an example highlights not just the specific notational choices used to represent contemporary playing techniques; I have used it to highlight Ferneyhough’s thought processes on the use of a highly dense and complex notation to represent a final sonic output. There are other works from Brian Ferneyhough’s oeuvre, such as *Unity Capsule* (1976) for solo flute, that present a broader undertaking of contemporary techniques.



Brian Ferneyhough's *Casandra's Dream Song* for solo flute (1970), p. 2, system A
In this iconic example of "New Complexity," Ferneyhough challenges the flutist to seamlessly and swiftly transition between traditional and unconventional techniques. Here, multiphonics, flutter tongue, and slap tongue are employed in rapid succession. The notation used exemplifies a maximalist approach found throughout the repertoire, requiring performers to dedicate considerable time to comprehend how these techniques function sequentially, and then to develop speed and proficiency in executing these nearly overlapping techniques. The intent behind this maximalist notation is integral to both the composition and performance of the score. It serves to intricately weave together diverse timbral and textural elements, demanding a high level of technical mastery and interpretative skill from the performer. By requiring such rapid shifts between techniques, Ferneyhough's notation not only challenges traditional boundaries of flute performance but also amplifies the expressive and aesthetic dimensions of the music. This deliberate complexity invites performers and audiences alike to engage deeply with the interplay of technique, interpretation, and artistic expression within the framework of the composition.

Despite such interplay between composer, performer, and score, Ferneyhough is yet another example of someone who reexamined his earlier works. He revised and refined the notation of his complex work for solo cello and electronics, *Time and Motion Study II* (1973-1976), many times. The revisions often aimed to clarify the intricate performance instructions and elaborated on the detailed rhythmic structures. Furthermore, performers have taken their own liberties in adjusting, editing, and recreating parts of the score and the original tape. For example, in performances by cellist Neil Heyde and sound engineer Paul Archbold, the analogue tape has been digitally remade through MaxMSP tools.

6.6 - Practice-led Possibilities for Notation of SWMP Techniques

For the purposes of my own practice, I have re-notated selected passages to facilitate precision and clarity in performance. If a notation does not work for me, I am quick to find one that will better aid in achieving a desired musical outcome. However, due perhaps to the esoteric nature of SWMP, many other performers have not sought out similar solutions. I often ponder if this is caused, in some part, by the lack of experience-based tools concerning a performers familiarity with the notation of these techniques.

It is with this ethos in mind, that I have come to provide my own solutions and guidelines for notating these techniques. These are, first and foremost, suggestions to composers and a place to start. With this notation being put into practice more and more, performers will slowly gain proficiency and familiarity with them, while composers do not have to reinvent new notations and be confident that performers will know what their notations

mean. Some composers will perhaps want to pursue notational choices that are very different from my suggestions and guidelines. However, my proposal is meant to support the compositional process and find a middle ground between performer confusion, score clarity, and composer inspiration. The notational suggestions which I will further elucidate in the forthcoming sections, will undoubtedly aid in the broader reception and performance of SWMP techniques, raise awareness of a repertoire often relegated to the margins of contemporary performance even among saxophonists, and enhance the transparency of techniques across disparate works by different composers. These suggestions can therefore be regarded as an informed addition (and correction) to the many different ways composers worldwide notate SWMP techniques.

While examining conventionally accepted notational practices for wind instruments, it becomes apparent that many different symbols have historically been used to represent the same sonic phenomena. This fact complicates the relationship between performer, composer, and score. For example, long-established practices in the flute world use diamonds to represent air-specific sounds or triangles to represent tongue rams. This is the case for Salvatore Sciarrino's *Como Vengono Prodotti Gli Incantesimi?* (1985), Brian Ferneyhough's *Unity Capsule* (1976), or more recently Helmut Lachenmann's *My Melodies* (2016-2018) for 8 horns and orchestra.[43] Typical trumpet playing is notated with regular round noteheads. In the following sections, I preserve these long-practiced traditions by modelling my preferred notation for air pitch, tongue rams, and trumpet sounds from these notational practices borrowed from flute and trumpet playing. However, how to notate saxo-flute hybridity? A standard round notehead or a diamond notehead, accompanied by a textual designation above the stave indicating saxo-flute hybridity would perhaps suffice. However, I find this solution unsatisfactory, as it is less elegant and can potentially cause confusion when a mixture of techniques is employed in rapid succession. Instead, I choose to notate saxo-flute hybridity by using boxes. In traditionally accepted string and wind writing, boxes are used to represent airy sounds. As saxo-flute hybridity is an evolved form of the air pitch technique it makes sense to notate this technique with square boxes too.[44]

When homonymous techniques are used with and without the mouthpiece integrated within the same piece, I encourage composers to adapt their notational language in order to be as clear and transparent as possible. For example, one can use a triangle to notate tongue rams and the traditionally accepted "X" to notate slap tongue. Many possibilities

[43] In Lachenmann's work air sounds are represented by diamond noteheads. However, the tongue ram does not conform to traditionally accepted notational practices. Therefore, he chose to notate them with a square box notehead with a line extending from the bottom right-side corner of the box.

[44] The choice of notation software and their respective positive and negative benefits to notational practices is outside the immediate scope of this thesis since it pertains little to SWMP generally. The multitudes of software that can be employed show how rich the possibilities are. However, limitations are inherent, especially when a very specific, unprogrammed or nonexistent design is required. Software usage in general also brings up concerns about access as it is often expensive and it usually involves years of experimentation to become useful and convenient. Nonetheless, at the time of publication of this thesis there are several options available: Dorico, Sibelius, LilyPond, MuseScore, Finale (despite the recent dissolvement of the Finale business), etc. Furthermore, many composers are using InDesign and other graphic design programs to elaborate their notation. For my own notehead preferences, outlined in subsequent sections of this thesis, I have used Finale.

are conceivable; however, it is essential to notate these techniques logically and include clear explanations of all notational symbols in the foreword of the score.

For each technique, I will list basic guidelines to follow when notating them. Then, I will show the basic symbol and notation used and follow up with a few practical examples.

6.7 - General Notational Guidelines for SWMP Techniques

1. The selection of noteheads must be clear, particularly in contexts where both saxophone with and without mouthpiece are employed within the same composition. It is crucial that rhythmic durations are readily discernible through appropriate notehead choices. For instance, a simplistic "X" shape fails to convey duration effectively, thus proving unsuitable for techniques such as air pitch, trumpet sounds, or saxo-flute hybridity, all of which may require extended durations.
2. Specify instances where the saxophonist is required to remove or replace the mouthpiece.
3. Upon the initial introduction of a technique within the score, provide textual descriptions or abbreviations (e.g., AP for air pitch, TS for trumpet sounds, SFH for saxo-flute hybridity, and TR for tongue rams).
4. Minimize the utilization of multiple staves, employing them only when indispensable, such as for simultaneous playing and singing or intricate and densely layered trumpet sounds or saxo-flute hybridity techniques.
5. Avoid transcribing techniques in concert pitch; all notated pitches should indicate the specific saxophone fingering, thereby ensuring proper transposition.
6. Include a comprehensive index of symbols denoting all instrumental techniques utilized throughout the composition.
7. When working with electronics, include a staff with relevant auditory cues. If the sounds are more rhythmically free or action-based, include textual descriptions of what the saxophonist will hear. Clearly mark where pedal changes must be executed above the notated saxophone staff.

6.7.1 - Air Pitch

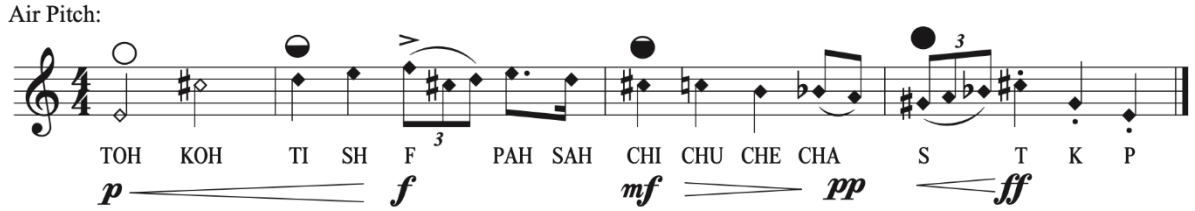
From a performer’s perspective, the notation of air pitch techniques can pose inadvertent challenges, often stemming from ambiguities in producing phonetic syllables through the instrument. Saxophonists must make compositional decisions when these instructions are not explicitly defined by the composer; the performer thereby becomes a co-composer of the piece. When there is insufficient information, the performer is compelled to make their own artistic decisions, thereby shaping both their performance and the work itself. The following guidelines are proposed to ensure clarity in notating the air pitch technique:

1. Employ a diamond notehead.

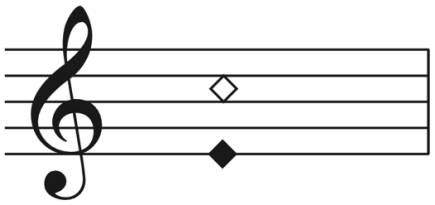
2. Specify the phonetic syllables or vowels intended to shape the sound below the staff. In the performance notes section of the score, provide examples of phonetic spellings along with sample words, and denote their linguistic origins when necessary.
3. In cases where no specific syllable or vowel is designated, indicate that the saxophonist can select a neutral vowel at their discretion.
4. Since the sound of the air pitch is influenced by mouthpiece placement on the neck, detail how much of the mouthpiece should be covered by the mouth. This can be visually represented by an open circle gradually filled to indicate coverage levels (e.g., 0%, 25%, 50%, 75%, and 100%), specifying the direction from which the saxophonist should approach the neckpiece (left or right, top, or bottom).
5. If no particular mouth placement is specified, note that the saxophonist can determine this based on the contour of the musical line and dynamics.
6. For transitions between phonetic syllables, denote the desired evolution using an arrow connecting the two phonemes.

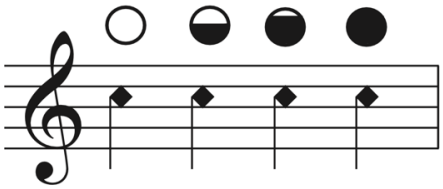
These guidelines aim to mitigate potential confusion in air pitch notation, ensuring a clearer and more consistent interpretation.

Notation example using air pitch technique:



Click the link below to listen and watch my demonstration of this excerpt:
https://youtu.be/SqLUFsjgeRA

Notehead preference:		The diamond notehead serves as a precise and clear indicator of rhythmic duration.

<table>
<tr>
<td>Mouth placement symbol preference:</td>
<td>

<table>
<tr><td></td><td>Tube is 100% open.</td></tr>
<tr><td></td><td>Tube is 50% open and 50% closed.</td></tr>
<tr><td></td><td>Tube is 75% closed and 25% open.</td></tr>
<tr><td></td><td>Tube is 100% closed.</td></tr>
</table>
</td>
<td>Symbols such as these enable composers to impart diverse tonal qualities to the sound. These symbols are clear, visually representing the positioning of the mouthpiece, and facilitating rapid sequential use. While additional gradations like 10%/90% or 30%/70% are feasible, the perceptible auditory effect diminishes, and achieving precise accuracy at these specific percentages proves challenging. Consequently, the potential for notational ambiguity between these symbols can swiftly lead to confusion.</td>
</tr>
</table>

6.7.2 - Tongue Ram

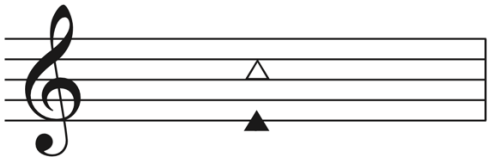
Although straightforward, the notation of the tongue ram technique can be mistakenly associated with both traditional tongue ram and slap tongue techniques used in playing with a mouthpiece. Therefore, it is crucial to differentiate between these techniques in musical scores, for example by adding text that states when the mouthpiece is intended to be removed and when the mouthpiece is supposed to be added again. This simple solution avoids confusion when homonym techniques are employed in compositions. The following guideline aims to clarify the notation of the tongue ram technique:

1. Employ a triangle notehead to signify the tongue ram technique. It is common for composers to use an “X”-shaped notehead to denote slap tongue, but this can lead to confusion, particularly in compositions that incorporate both mouthpiece and SWMP playing.

Notation example using the tongue ram technique:

Click the link below to listen and watch my demonstration of this excerpt:
https://youtu.be/KtNSFSf2qTY

Example of notehead preference for the tongue ram technique:

Notehead preference:		The triangle notehead is a precise and effective choice for notating tongue rams. Because this technique involves a quick articulation rather than sustaining a note for a long duration, using this notehead ensures rhythmic clarity. This is particularly important in distinguishing the silence between articulations, which can be accurately executed with the triangle shape compared to an “X” notehead, typically associated with slap tongue techniques.

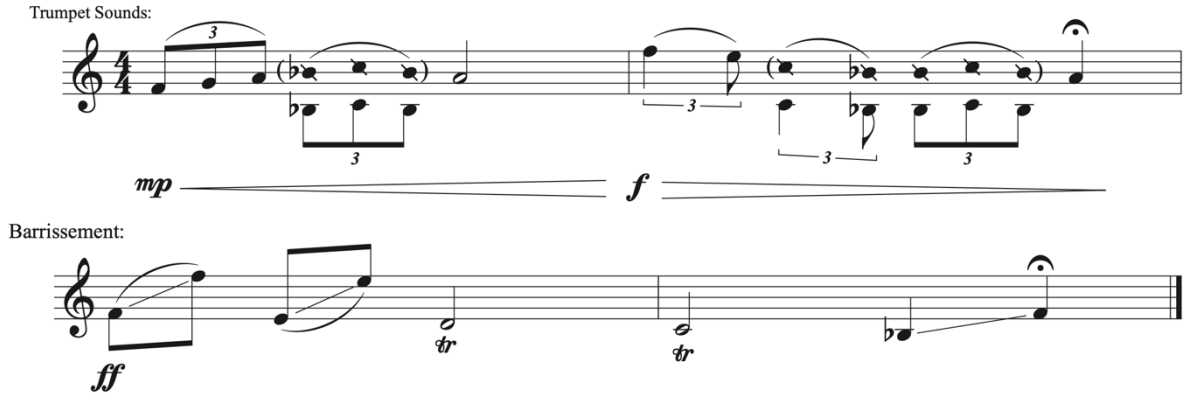
6.7.3 - Trumpet Sounds

Here are several guidelines for composers from a performer's perspective when composing for the trumpet sounds technique:

1. Employ the standard round notehead.
2. When a passage necessitates the saxophonist to execute an unconventional leap within a fingering pattern, clarify the transposed desired notes with a round notehead containing a slash. Additionally, enclosing these notes in parentheses can further differentiate which notations correspond to the intended fingering and which represent the desired sonic outcome of that fingering.
3. Utilize double staves sparingly, reserving them for instances where the saxophonist is required to sing exact pitches while playing simultaneously.
4. When incorporating the barrissement technique, clearly delineate the starting and ending points of both normal trumpet sounds and barrissement sounds.

These guidelines aim to enhance clarity and facilitate the performance of trumpet sounds, ensuring both the accuracy of fingering transitions and the distinct articulation of desired sonic effects.

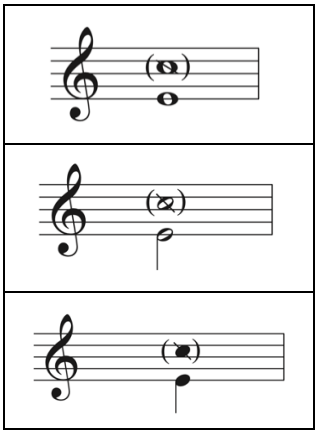
Notation example using trumpet sounds and barrissement techniques:



Click the link below to listen and watch my demonstration of this excerpt:
https://youtu.be/NRNPo13XHvA

In the provided excerpt, fingering indications are represented by notes with standard round noteheads. When a fingering does not produce the expected sound, notes with a round notehead slashed through and enclosed in parentheses guide the performer in executing the melodic phrase as intended. The second line of the figure prominently displays instructions for employing the barrissement technique. Given its inherently ambiguous pitch center and its primary role in textural creation rather than precise pitch control, parentheses are not essential for indicating this technique. However, composers seeking greater control over the barrissement effect may specify such preferences in the performance notes.

Example of notehead preference for trumpet sounds technique:

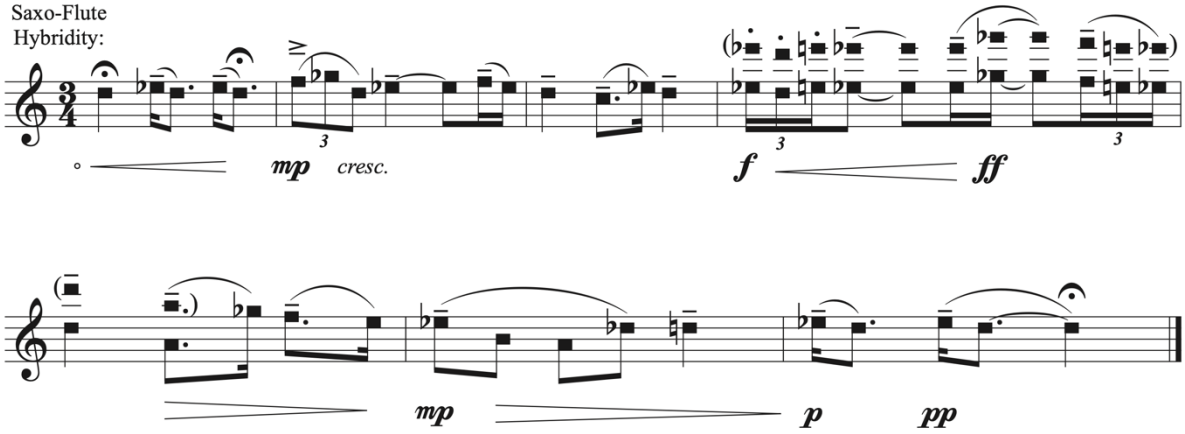
Notehead preference:		The standard round notehead is the preferred choice for notating trumpet sounds. This offers the broadest range of sonic possibilities among the various techniques used to notate trumpet sounds. The round noteheads with a slash through them indicate that saxophonists should finger the lower note but aim for the other octave indicated by the slashed notehead.

6.7.4 - Saxo-Flute Hybridity

Especially when juxtaposed with other SWMP techniques the following guidelines aim to clarify the notation of these sounds:

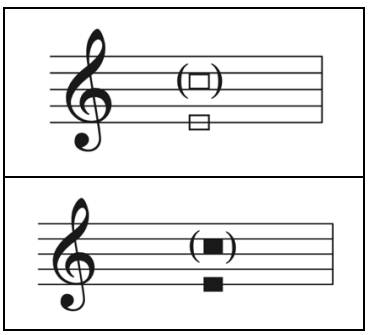
1. Use a square box notehead to denote saxo-flute hybridity.
2. In passages where the saxophonist must navigate an unconventional leap in fingering patterns, indicate the transposed desired notes with an additional square notehead but consider enclosing these notes in parentheses to clearly differentiate which notations correspond to the intended fingering and which represent the desired sonic outcome. Regarding the use of parentheses, the opposite approach could also be effective, where the parentheses enclose the fingering, and the desired pitches remain unenclosed. Both are clear notational solutions; however, it is crucial to provide a detailed explanation of these notations in the foreword of the score.

Notation example using the saxo-flute hybridity technique:



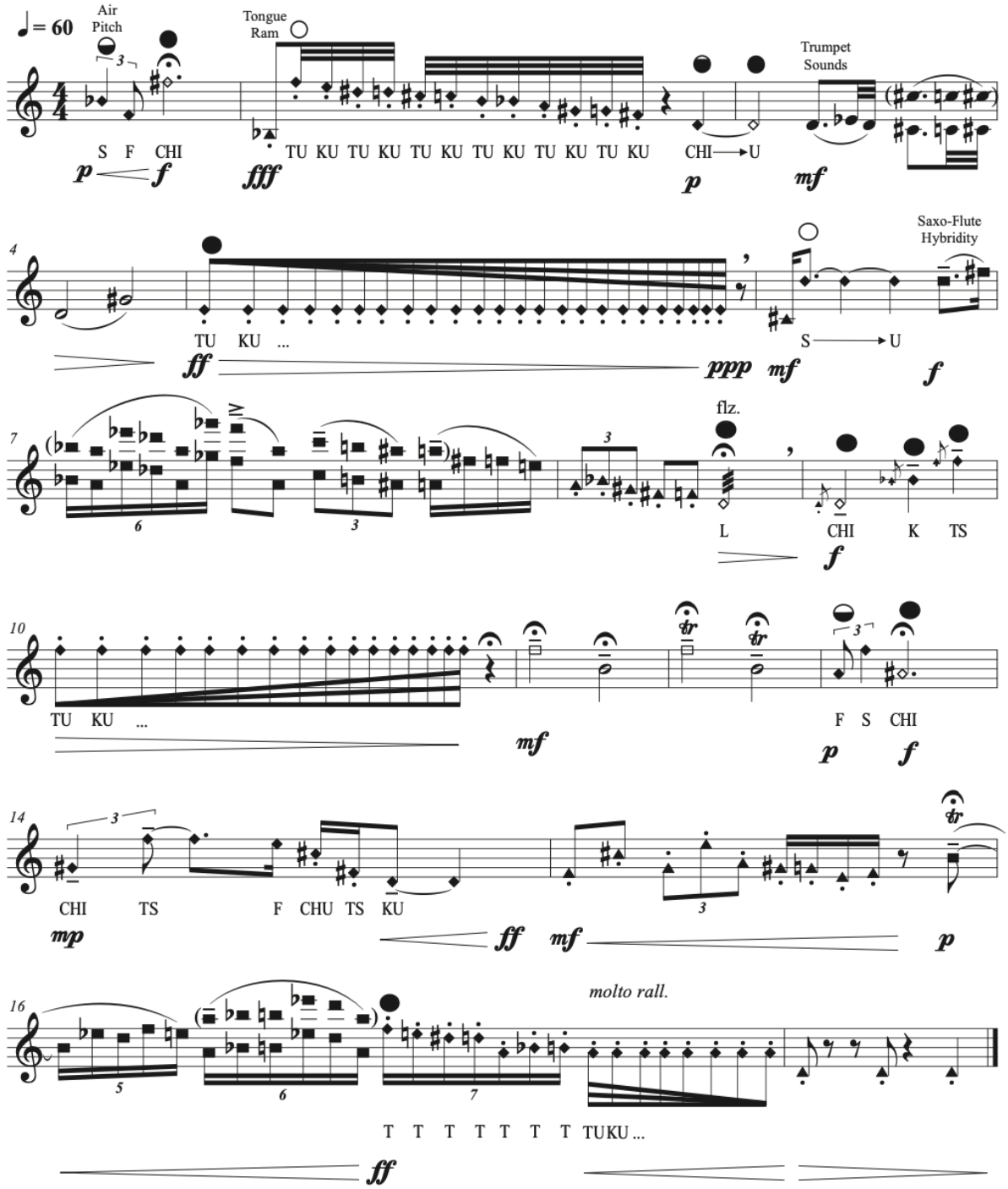
Click the link below to listen and watch my demonstration of this excerpt:
https://youtu.be/CxDjHK1wyP4

Example of notehead preference for saxo-flute hybridity technique:

Notehead preference:		The square box notehead is the recommended choice for notating saxo-flute hybridity due to its distinct visual representation. This notehead is also more conventionally used to represent airy sonic material in string and wind writing and is therefore a good replacement of the round or diamond noteheads.

6.8 - Notational Synthesis

The following excerpt, a simple composition that I created myself, combines all four techniques together using my notational suggestions and guidelines.



Click the link below to listen and watch my demonstration of this excerpt:
https://youtu.be/mvpcxO_zjJ0

As explored in this chapter, the possibilities of musical notation appear boundless. This extensively discussed and debated topic will persist as a focal point of scholarly and musical discourse, driven by the composers urge to innovate and the performers' desire to experiment and to expand the capabilities of their instruments and the range of sounds they produce. These advancements are (more and more) supported by technological progress. As software becomes more user-friendly, widely adopted, and refined, it will increasingly be integrated into the processes of music creation and notation. The evolution of symbols and signs used to represent sonic ideas is therefore inevitable. Guidelines and systems of standardization normalize new techniques, enhance artistic depth, and reduce confusion among performers and composers alike.

For the SWMP practice, a deliberately suggested format accompanied by various guidelines for notating these techniques can serve as a foundation for new compositions, auxiliary techniques, deeper comprehension of these techniques, and the dissemination of this contemporary saxophone repertoire. Composers will observe their works being performed with greater accuracy and fidelity, increasing the likelihood of these pieces being featured in festivals and programmed by cultural centers. Performers will become acclimated to these specific notations, developing proficiency that fosters better performances. Although no single notation system can be deemed superior to another, possessing an understanding and knowledge of notational possibilities – alongside those preferred from a practice-led approach – enables more precise execution of these techniques, allowing performers to better express themselves.

Additionally, I advocate for a more direct interaction between composer and performer in the creation of new works. Notation functions not simply as a directive for the creation of particular sounds; it is an element in a network of agents that make music making possible. This perspective, again, highlights a focus on the dynamic relationship between performer and score, where the endeavor to navigate the complexities of the notation constitutes a fundamental element of music making. This approach emphasizes a middle ground between strict standardization and interaction between performer and score.

A more standardized notational system will enable performers to swiftly transition from basic comprehension of techniques to achieving more control, granting them the freedom to deliver convincing interpretations. Although composers may never attain complete satisfaction in what Taruskin describes as their quest for "infinite musical evolution" (Taruskin 2010: 476), I have tried to establish a foundational basis, along with clearer guidelines, for notating SWMP techniques. These guidelines, coupled with a closer relationship between composer and performer, might offer a valuable framework for composers willing to incorporate these techniques into their works.