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Saxophone without mouthpiece

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Citation

Kahl, D. P. (2025, January 28). *Saxophone without mouthpiece*. Retrieved from <https://hdl.handle.net/1887/4177913>

Version: Publisher's Version

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Note: To cite this publication please use the final published version (if applicable).

Chapter 1

Contextualization of Saxophone Without Mouthpiece

Saxophone without mouthpiece (SWMP), as a bespoke technique of playing used in notated, published music, can be traced back to the early 1980s with the work by Costin Mioreanu¹ entitled *Do-Mi-Si-La-Do-Ré*.² This work was commissioned and premiered by the French saxophone virtuoso Daniel Kientzy.³ Subsequently, Kientzy's massive efforts to expand the literature for contemporary saxophone resulted in many standard works in this genre, with a significant number employing SWMP techniques.

SWMP techniques have survived into the modern day in large part due to Kientzy's technical prowess, his immense desire to promote the contemporary saxophone, and his support network to commission and perform new works. The techniques have since evolved with the changing perspectives of musical ideology and aesthetics, the innovations and methods of other saxophonists, and the ever-expanding repertoire and sonic exploration developed by composers. They have seen a veritable renaissance in the last decade at least; however, they had more humble beginnings.

Providing a context is necessary due to a general lack of understanding of the practice and performance of these techniques. This chapter aims to offer various contexts within which SWMP can be positioned. I have selected some markers that have contributed to the genesis and development of SWMP. I will present a timeline of its evolution from the 1920s to the present day, delving into the influence of Vaudeville and dance band musicians. I will highlight significant saxophonists along with their methods and manuals, and examine the contribution of improvisers, composers, and performers to the ongoing history of SWMP. Furthermore, I will contextualize these techniques within the shifting ideological perspectives in music during the pre- and postwar eras. I will also provide an overview of what knowledge has been available already, discuss the various misconceptions or knowledge gaps that pervade in previous texts, and review the literature and practice of these techniques in general. The contributions by my predecessors have paved the way for younger generations of saxophonists, composers, and researchers to become more curious to understand SWMP techniques. This curiosity has also led to a desire to be more precise and to reexamine preconceived notions. This is where my research will add to the already existing body of knowledge: filling in missing or unclear gaps, providing accurate and transparent sonic results, presenting suggestions for notational practices where no convention exists, and examining the techniques through the lens of current aesthetic practices.

¹ Costin Mioreanu is a French composer of Romanian birth. His primary composition teachers were Karl-Heinz Stockhausen, György Ligeti, and Erhard Karkoschka. Taking musical inspiration from many different sources, his compositions have been praised for exhibiting a mix of traditional Romanian music, elements of aleatoric music, music theater, and musique concrète. He was the recipient of many prestigious composition prizes including the *Prix Enescu* in 1974.

² *Do-Mi-Si-La-Do-Ré* is a work dating from 1980-1981. It is written for one saxophonist performing on multiple saxophones. In very true fashion to his virtuoso and complex works, the work is accompanied by electronics and a bespoke film. The work was first performed by Daniel Kientzy in October 1981 as part of the *Concerts Manifestes* of the G.E.R.M. in Paris.

³ For more information, please see Daniel Kientzy's website: www.kientzy.pro

1.1 - 1920s-1930s Novelty Techniques

The act of removing the mouthpiece and performing techniques on the neckpiece or by the addition of a trumpet mouthpiece was employed much earlier than the 1980s. Vaudeville and dance band musicians of the 1920s and 1930s took advantage of such techniques in their performances. As outlined in Gail B. Levinsky's dissertation, "An Analysis and Comparison of Early Saxophone Methods Published Between 1846-1946," several method books from this time explain in broad terms how to perform "tricks" on the saxophone. One of these tricks includes the "bugle-effect," which is similar in scope to the modern "trumpet sounds technique."⁴

The pedagogy outlined in the methods of the time regarding these "tricks" or "stunts" emphasized the novelty of the techniques. One or two-sentence summaries are given, indicating that performers were intended to learn more on their own or by devising strategies based on listening to others. In Henri Weber's method *Sax Acrobatix* from 1926, he instructs the reader to have patience when working on these novelties and to do their best to imitate the sounds described.⁵

Don't imagine that you or anyone else can acquire these tricks at the first or second, or even third trial. It takes patience and practice to finally 'get the knack.' But it CAN BE DONE and the effort IS WORTH WHILE [sic]. Bear in mind, when attempting to produce any of the tricks, that you must try to articulate the sound imitated, as nearly as it is possible to do so into the instrument, just as you would imitate [them] without the instrument. (Weber 1926: 4)

Imitation no doubt played a role in early explorations of these techniques. It is important not to overlook the natural influence from other instrumental practices when examining the historical context of these techniques and others like them. SWMP techniques can be seen as being directly inspired and derived from other wind player performance techniques. For example, when exploring the common or extended practice techniques of flute players, one immediately encounters tongue rams, air sounds, and, of course, typical flute sounds. Trumpet sounds are inspired by performance techniques of brass instruments. However, not all pedagogues were so eager to participate in such novel imitation.

It is well-documented by Levinsky that much of the saxophone and pedagogical community at this time was torn between the exploration of new sounds and techniques and the development of proper saxophone technique (Levinsky 1997: 184).⁶ Many

⁴ The bugle-effect was used with the addition of a trumpet mouthpiece inserted into the saxophone neckpiece. For more discussion on this topic, please see Chapter 4 on trumpet sounds.

⁵ Henri Weber was a saxophonist and author of many early saxophone method books. Without too much generalization, he mostly focused on the publication of early jazz methods.

⁶ I have been unsuccessful in finding the relevant method books that Levinsky lists in her dissertation that mention the "bugle-effect" technique. In speaking with her directly, she does not remember the exact technique but states that she would not have listed it had

authors point out that these new techniques were often dismissed as nothing more than raucous noise designed to distract diligent saxophonists from honing their craft.⁷ Despite this, they persevered to some extent. While some of the novel “tricks” outlined in these early methods and performed by 1920-1930s saxophonists have since become standard saxophone techniques (i.e., glissandi, double tonguing, vibrato, etc.), many others have been forgotten to obscurity or have been absorbed into other similar techniques (the “meow” or the “sneeze,” for example).⁸ While it was likely the intention of Weber and similar authors to inform the practice of Vaudeville and dance band enthusiasts with their methods, it is conceivable to imagine that classically-trained saxophonists were also interested in such techniques.

As the music of dance bands and Vaudeville musicians started to fade out of popularity, so too did the novelty sounds and effects of this era. While there is little literature to support the existence of SWMP techniques between this waning popularity of the dance band eras and the innovations of Daniel Kientzy, we can only assume that saxophonists remained curious and explored these techniques in their own time; that is exactly what Daniel Kientzy did in his early career.

1.2 - A Turn to the Sonic

Situating the SWMP techniques and practices within broader musical trends provides a more expansive contextual framework in which they can thrive. This broader perspective not only deepens our comprehension of these techniques but also adds aesthetic and philosophical dimensions to the historical context. This section positions SWMP within a more encompassing context to illuminate and highlight the influence of these aesthetic and philosophical theories on the SWMP practice as it exists today. While there might not be a direct connection between the stated theories and theorists and the SWMP practice, there is the mutual understanding of exploring new possibilities during an ever-evolving history of Western art music.

Despite the inevitability of classically trained saxophonists taking interest in the novelty techniques of the 1920s and 1930s, there is no mention of saxophonists or composers using SWMP techniques until the 1980s.⁹ However, music was evolving. SWMP techniques did not occur in just a vacuum. The rise and dominance of experimentation in music and the tools used to create music – instruments, computers, playing techniques, etc. – have been in constant renewal and evolution since the early 20th century. Marked by an

the “bugle-effect” not been mentioned. Due to the extreme difficulty or absolute impossibility of purchasing or even perusing every single method that she discusses, I am taking the secondary source material as relevant to my research.

⁷ For example, method authors such as Giuseppe Pettine, Rudy Wiedoeft, and J. Beach Cragun cautioned against the concentrated practice of special tricks and Vaudeville performance techniques without first developing proper saxophone technique and embouchure.

⁸ See Weber (1926): 16-17. Both the “meow” or the “sneeze” can nowadays be considered a part of the standard practice of saxophone playing. Their appearance in written music has however waned since the 1920s and 1930s.

⁹ Despite many attempts to find works that employ SWMP techniques in the 1950s, 60s, and 70s, I have been unable to identify any that use them. While the repertoire is vast and this formative period of saxophone repertoire and technique development could be the discussion of another research project, the focus of my study will start from the 1980s onward.

ubiquitous push against tradition and convention, contemporary composers, artists, and theorists have made distinct aesthetic movements, for example, the significant move towards understanding noise as a musical sound. Following Christoph Cox in “Beyond Representation and Signification: Toward a Sonic Materialism” (2011), Michael Eng in *The Sonic Turn and Theory’s Affective Call* (2017), and the philosophy of Marcus Weiss, I call this “the sonic turn”: The emphasis on melody, harmony, and rhythm shifted towards an increased attention for “sounds in themselves” (Cage 1961), timbre, frequencies, and noise, that is, sounds previously not considered as music. Furthermore, Eng and Cox relate music and sound to shifting paradigms in philosophy more broadly. Cox specifically introduces sound within a materialist framework: inspired by Nietzsche and Deleuze, he grounds sound in its material and dynamic qualities. He proposes a rigorous critique of visual culture, as well as the connected concepts of representation and signification, in favor of a new ontology of change, becoming, and temporality based on sound (Cox 2011: 157). He suggests that shifting focus from representation to material forces fundamentally alters how one perceives art. Cox states that instead of thinking in terms of representation and signification,

we might begin to treat artistic productions not as complexes of signs or representations but complexes of forces materially inflected by other forces and force-complexes [...] Thinking about sound in this way provokes us to conceive difference beyond the domain of ‘culture’, signification, and representation, and to see these as particular manifestations of a broader differential field: the field of nature and matter themselves. (Cox 2011: 157)

Cox and Eng posit that a turn towards sound and the sonic engages with the idea that sound, as a material phenomenon, can disrupt established concepts and categories, potentially offering a more direct and immediate form of engagement with reality. Eng argues that “sound is to be valued because it upends all existing epistemological paradigms” (Eng 2017: 317). The sonic turn thus reflects a desire to break free from representational thought, which often prioritizes visual and linguistic forms of understanding, in favor of appreciating the inherent materiality of sound and its impact on perception and knowledge.

In the early 20th century, Futurist artist Luigi Russolo pens his *The Art of Noises* (1913) where he argues that noises emerging with the advent of machinery in the 19th century, now would dominate human life, contrasting with the relative silence of the pre-industrial era. Russolo asserts that traditional music, bound by historical conventions and limited in its range of sounds, has become insufficient for modern sensibilities. He argues for an increased interest of composers and artists to use noise in their works.

This revolution of music is paralleled by the increasing proliferation of machinery sharing in human labor. In the pounding atmosphere

of great cities as well as in the formerly silent countryside, machines create today such a large number of varied noises that pure sound, with its monotony, now fails to arouse any emotion. (Russolo 1913: 5)

He traces the evolution of music from the sacred, pure sounds of antiquity through the Middle Ages and Renaissance, leading to the complex dissonances of contemporary music. This progression, he believes, prepares the ground for integrating noise into music. Modern life, filled with the sounds of machinery and urban environments, has attuned human ears to appreciate more varied and intense auditory experiences.

Music, according to Russolo, calls for “a greater variety of instrumental tones and coloring” from which the typical instrumental practitioner “vainly tries to create a new variety of tones” (Russolo 1913: 5-6). To create this richer variety, Russolo envisions a venerable mechanical noise orchestra that can “conquer the infinite variety of noise-sounds” – categorized into six groups including roars, claps, and whispers – produced by specially designed instruments (Russolo 1913: 6). This combination of built and found instruments would, Russolo argues, create richer and more dynamic sonic experiences than traditional orchestras. He goes on to describe how, in the hands of the right musician, “the art of noises will extract its main emotive power from the special acoustic pleasure that the inspired artist will obtain in combining noises” (Russolo 1913: 9-10). In doing so, Russolo calls for musicians to embrace noise, analyze its rhythms and pitches, and explore new ways to combine these sounds artistically. Inspired by the soundscape of modern life, he presented in his music a blend of industrial, natural, and musical sounds.

Despite the intention of Russolo to create this Futurist orchestra used to produce noises that more reflect daily city life, Russolo’s six categories bear a surprising number of sounds that can be easily reflected through the saxophone and particularly through SWMP.

1	2
roars	whistles
claps	snores
noises of falling water	snorts
driving noises	
bellows	
3	4
whispers	shrill sounds
mutterings	cracks
rustlings	buzzings
grumbles	jingles
grunts	shuffles
gurgles	
5	6
percussive noises using metal, wood, skin, stone, baked earth, etc.	animal and human voices: shouts, moans, screams, laughter, rattlings, sobs

Luigi Russolo: *The Art of Noises* (1913)

Here are many sound categories that can easily be produced through the saxophone with or without mouthpiece. For example, one can easily relate Russolo's roars to the barrissement technique inherent in trumpet sounds technique (see also Chapter 4) or to many aggressive multiphonics of conventional saxophone with mouthpiece playing. The whistles that Russolo asks for in his second category can be heard easily through the implementation of saxo-flute hybridity. Whispers, mutterings, and rustlings can all be produced through the lens of the saxophone as a megaphone. To implement the types of percussive noises that Russolo imagines, modern tongue rams, slap tongues, key clicks, and various techniques that have the saxophonist hitting the instrument can all be imagined. This is not only true for the saxophone or the SWMP, but for any modern instrument. Already in 1913, Russolo imagined a world where "the variety of noises is infinite" where the public would "be able to distinguish among ten, twenty or thirty thousand different noises" (Russolo 1913: 12). Saxophone culture benefitted from this development and opened itself towards less conventional sounds and ways of playing. In his ire of the "weak" sounds gained from conventional orchestral instruments, and his call in building mechanical instruments to produce these various sounds, perhaps unintentionally, Russolo was prescient in realizing how contemporary art and music would respond in the following decades.

Not wholly unlike Russolo, French-American composer Edgard Varèse emphasized the importance of electronic instruments in achieving new sounds and timbres previously unattainable with traditional instruments. In his own manifesto, which compiles lectures given from 1936 to 1962, entitled *The Liberation of Sound* (1966), Varèse would dream of "instruments obedient to [his] thought" that can produce "a whole new world of unsuspected sounds" to meet the "exigencies of inner rhythm" (Varèse 1966: 11). He

acknowledges the revolutionary impact of electronic music on the state of sound, noting that “the electronic medium is also adding an unbelievable variety of new timbres to our musical store,” and he celebrates its ability to free music from the tempered system, aesthetic codification, and rules which had previously limited musical evolution (Varèse 1966: 18). Despite this, and unlike Russolo, he maintains that traditional instruments will continue to have their place: “Our new liberating medium – the electronic – is not meant to replace the old musical instruments which composers, including myself, will continue to use. Electronics is an additive, not a destructive factor in the art and science of music” (Varèse 1966: 15). Varèse concludes his manifesto by stating that composers will create both good and bad music, just as they have done before with conventional instruments. He states that “the computing machine is a marvelous invention and seems almost superhuman. But, in reality, it is as limited as the mind of the individual who feeds it material” (Varèse 1966: 18). Varèse and Russolo both look to the future when technological means will be able to better facilitate and realize the complex ideas that composers can create: “Considering the fact that our electronic devices were never meant for making music [...] it is remarkable that what has already been achieved is musically valid. [Computers] are still somewhat unwieldy and time consuming and not entirely satisfactory as an art-medium” (Varèse 1966: 18). It is hardly difficult to imagine that Varèse would be a proponent of the incredibly diverse playgrounds in which his electronic medium exists today.

In the post-war period new musical perspectives and ideas were circulating, also affecting interest in new ways of performing and playing. This period is marked by a general turning to the sonic, referring to how music turned away from traditional forms and compositional techniques. Previous rules for compositional success were no longer strict guidelines for musical thought; instead, sound itself received more and more focus. Through the exploration of sound, performers sought new ways of engaging with their instruments, and composers, eager to exploit these new practices, began creating works using new playing techniques. This resulted in an outpouring of new compositions that featured extended techniques of playing. A continued boom in creativity spread across the Western world, also affecting music. The period between the end of WW II and the 1980s witnessed two major shifts in music: total serialism and experimental electronics (Ingham 1998: 161). Within this timeframe, composers and performers were continually turning their practices towards imagining new landscapes of sound disembodied from melody, traditional Western understandings of pitch, functional harmonies, and classical structures. This combined interest led to many budding and close composer-performer relationships. No longer were their practices divorced from each other; instead, they became partnerships that fostered countless practice-led innovations, for example, John Cage and the pianist David Tudor, Luciano Berio and the singer Cathy Berberian, Milton Babbitt and singer Bethany Beardslee, or Costin Miereanu and Daniel Kientzy. In many cases, these relationships resulted in compositions that reflect the personality and identity of the performer for whom they were written (Ingham 1998: 162). For example, the *Sequenza III* (1965) by Luciano Berio for soprano vocalist featured exigent vocal

techniques that Cathy Berberian was prominently displaying at the time. Similarly, Mioreanu would implement techniques in his works (*Do-Mi-Si-La-Do-Ré* (1980/1981), *Aksax* (1984), or *Concerto pour saxophone et orchestre* (2006)) that were advocated by Daniel Kientzy. These relationships would become important and lead to new and challenging works allowing for the continued development of pedagogy on and performance of works utilizing extended techniques. Daniel Kientzy, in his pursuit to advocate for a modern and progressive saxophone, was one of many who became interested in novelties co-developed with composers.

Saxophonists and pedagogues, Claude Delangle and Jean-Denis Michat remark on the dissonance between the saxophone's origin story and its current grounding in modern music:

As it frees itself from jazz and popular influences, and asserts its independence, the modern saxophone, far from disowning its roots, will increasingly exploit its unique duality: aggressive or tender, refined or vulgar. Ever since composers learned how to quantify and exploit the uncertainties of 'real-time' creation, the modern classical saxophone school has produced artists able to master even the most transcendent of works. (Ingham 1998: 169)

The dual nature of the saxophone as “aggressive or tender, refined or vulgar” serves as both a creative force and a compelling attraction for performers and composers. At the intersection of melding distinctive styles into one, the entire saxophone community discovers the development and prominence of new techniques and their ambassadors. Many of the aforementioned novel techniques have since the mid-20th century become commonplace for any classical saxophonist to thoughtfully develop, train, and flawlessly execute. For instance, multiphonics, slap tongue, key clicks, and microtonal playing are now standard techniques in classical saxophone curriculums worldwide. The ongoing process of exploration and growth is such that the saxophone and composer communities can also consider these techniques, along with numerous others, as integral components of an entirely different concept, being that of *musique concrète instrumentale*.

SWMP techniques are philosophically and aesthetically aligned with the principles of *musique concrète instrumentale*, a term coined by Helmut Lachenmann that blends elements of *musique concrète* with traditional instrumental music. *Musique concrète*, pioneered by composers such as Pierre Schaeffer and Pierre Henry in the mid-20th century, involves the manipulation of recorded sounds – often drawn from everyday or environmental sources – to create new and abstract auditory experiences. Lachenmann's *musique concrète instrumentale* extends this concept by incorporating traditional musical instruments, often utilizing novel playing techniques. Describing his own music, Lachenmann explains that *musique concrète instrumentale* is “sound as a message conveyed from its own mechanical origin, and so sound as experience of energy” (Lachenmann as quoted in Ryan and Lachenmann 1999: 20-21). He goes on to say that it

signifies an extensive defamiliarization of instrumental technique: the musical sound may be bowed, pressed, beaten, torn, maybe choked, rubbed, perforated and so on. At the same time the new sound must satisfy the requirements of the old familiar concert-hall sound which, in this context, loses any familiarity and becomes (once again) freshly illuminated, even 'unknown'. Such a perspective demands changes in compositional technique so that the classical base-parameters, such as pitch, duration, timbre, volume, and their derivatives retain their significance only as subordinate aspects of the compositional category which deals with the manifestation of energy. (Lachenmann as quoted in Ryan and Lachenmann 1999: 21)

And using the words of artistic researcher Paulo de Assis, Lachenmann's work can be described as follows:

[T]he sound events are chosen and organized so that the manner in which they are generated is at least as important as the resultant acoustic qualities themselves. In such a music those qualities, such as timbre, volume, dynamics or duration, do not produce sounds for their own sake, but describe or denote the concrete situation: listening, you hear the conditions under which a sound- or noise-action is carried out, you hear what materials and energies are involved and what resistance is encountered. (Assis 2011: 68)

The philosophy underlying this musical language emphasizes that the physical action of sound production is as important, if not more so, than the resulting sonic outcome. This basic principle is relevant to the contextualization of SWMP as well. For example, saxo-flute hybridity requires the saxophonist to find the precise angle for air projection, with the outcome sometimes differing from what is expected. These unpredictable results can lead to surprising and artistically valuable moments in performance, where the attempt at creating the sound itself becomes an integral part of the musical experience.

In *musique concrète instrumentale*, physicality often plays a crucial role in shaping the sonic outcome. Scores may demand multiple layers of techniques from a performer simultaneously. Often, it is physically impossible to execute all these demands perfectly; however, the endeavor to do so creates a valuable artistic situation. The process is considered more important than strict adherence to the score. In SWMP, this might occur when transitioning from trumpet sounds to tongue rams to air pitches in rapid succession. At such a demanding tempo, the precision of these techniques may begin to falter, yet the performer still honors the composer's intention by maintaining the action-based sound creating a texture that could almost never be reproduced in another performance situation. In a way, this resembles the aesthetic of *musique concrète instrumentale*, where the performative action and the resulting sound exploration from those actions are both vital to the overall artistic expression demanded.

Through the ideas developed by Russolo, Varèse, Lachenmann and many others, SWMP could establish its own aesthetic space within the broader musical landscape from the early 1900s to the present day. By contextualizing SWMP techniques in such a manner, we gain a richer and more comprehensive understanding of its basic structures, as well as its cultural and theoretical backgrounds. SWMP can thus be understood to be part of a general, organic, and ever-evolving continuum of sonic expansion and discoveries.

The following section will examine some of the leading figures in modern saxophone practice and their contributions to the development of SWMP.

1.3 - Daniel Kientzy and his *Saxologie*

During the experimentally fertile period of the 1980s, many sonic experimentations, commissions, and developments were initiated by Daniel Kientzy. The impact of Kientzy on the modern saxophone and the evolution of new playing techniques cannot be overstated, particularly in the context of SWMP techniques. In an endeavor to highlight the versatile and artistically powerful nature of the saxophone, he commissioned, premiered, and promoted numerous new pieces. This resulted in the creation of many new works using SWMP techniques.¹⁰

His dedication to new techniques of playing led him to write and publish a saxophone treatise entitled *Saxologie* (2007 [1990]). Written in the early 1990s, but only published much later, in this work, Kientzy details over 100 different saxophone playing techniques. Within this number, he designates 30 techniques as “special effect” modes of playing (Kientzy 2007: 4). Each technique is accompanied by a short text explaining how to produce it, along with the pitched sonic realization of each note for saxophones, ranging from soprano to bass instruments. Included in *Saxologie* are also several pages dedicated to different SWMP techniques.

However, upon closer inspection, I found some discrepancies between my experience with and observations of these techniques and what Kientzy writes about them. Two distinctions must be considered when discussing these discrepancies. First, from what Kientzy writes, it is unclear what formal sonic analyses, if any, he used to come up with the sonic outcomes for the various techniques. The only hints that are given, is a short paragraph explaining that errors in research happen and are possible due to the

ruthless yet ultimately respectful exploration of dormant ‘genetic faculties’ [of the saxophone]. [This research] broadens the field of means of expression by acquiring the resources and perfecting traditional techniques. We must not, however, measure the interest of a playing mode by the dimensions of its sound sample, its definition or its applications. (Kientzy 2007: 7)

¹⁰ According to his website, Kientzy is responsible for over 700 new works for saxophones.

When examining another important resource by Daniel Kientzy, *Les sons multiples aux saxophones* (1982), there is a similar lack of transparency concerning the analyses used in his methodology. Even though these two major resources (*Saxologie* and *Les sons multiples aux saxophones*) have become a “must” in saxophonist’s libraries, a general trend has emerged of experimenting with the fingerings used and taking Kientzy’s sonic outcomes “with a grain of salt” so to speak.

Second, two major developments have occurred since Kientzy wrote his *Saxologie*: technology and instrumental-performer evolution. Technological advances in audio analysis have come quite a long way since the 1980s and 1990s. Powerful software such as Sonic Visualizer or OpenMusic, which allow composers and performers to analyze sound in extraordinary detail, were only conceptual ideas in the minds of audio engineers at the time.¹¹ Software, such as the aforementioned, allow the user to input audio files and receive sound data compiled in hertz and in spectrograms. The user can then analyze this data against their aural perception to come to a final sonic analysis of the initial audio file. For example, for this research project I have used Sonic Visualizer to examine recorded material and to provide me with data on each individual note and on all techniques. I then took this data and compared it to what I experience aurally (see Chapters 2 through 5 and the Pitch Manual). The implications of these powerful new technologies are that all past sonic analyses must be called into question and scrutinized. This reexamining of sonic results has led to newer manuals of techniques with more accuracy than their predecessors. Additionally, the modern saxophonist and the saxophone itself are continually evolving. With each new generation of performers being taught and encouraged to master new skills, what once was considered a major innovation now has become a standard practice. While Kientzy’s contributions to saxophone practice have been integral to its evolution, there remains room for further research and development in this area.

1.4 - Jean-Marie Londeix’s *Hello! Mr. Sax*, Marcus Weiss and Giorgio Netti’s *The Techniques of Saxophone Playing*, and Others

Kientzy was not alone in his pursuit to understand and codify saxophone techniques. Many other voices entered into the discussion, and among them certain authors are of particular interest for the purposes of this thesis. Notable contributors include Jean-Marie Londeix, Marie-Bernadette Charrier, Marcus Weiss, Giorgio Netti, Claude Delangle, and Jean-Denis Michat. Like many others, these authors have conducted in-depth research and added their own manuals on saxophone techniques. Two major textual resources stand out when discussing extended techniques of saxophone playing. The first is *Hello! Mr. Sax* (1989) by Jean-Marie Londeix, with chapters contributed and written by Marie-

¹¹ “The Spectral School” of composition was already performing their own sonic analyses using technology of the time. These types of advancements were already in motion in the late 1970s. For example, the work *Partiels* (1975) by Gérard Grisey was composed using technology from this period. My remarks about “conceptual ideas” refer to the power with which modern software can analyze sonic material in fine detail – much more so than in previous decades.

Bernadette Charrier. The other is *The Techniques of Saxophone Playing* by Marcus Weiss and Giorgio Netti.

In *Hello! Mr. Sax*, Londeix details his viewpoint on the parameters of saxophone playing, similar to Kientzy's approach in *Saxologie*.¹² This book includes references and pedagogical methodologies to develop one's understanding of saxophone pitch, timbre, articulations, dynamics, and attacks. Contemporary techniques of playing are also covered, with a specific chapter dedicated to trumpet sounds falling under the timbre category. The information on sonic results, performance tips, suggested notational practice, and methodology on trumpet sounds spans several pages and was written by Charrier.¹³

Among the texts examined in this research that include trumpet sounds, *Hello! Mr. Sax* provides the most succinct and pedagogically helpful information; however, the content is dated (1989) and misses, for example, parameters for the soprano saxophone. Additionally, while *Hello! Mr. Sax* is an invaluable resource for a basic understanding of standard and contemporary saxophone techniques in general, it does not explore air pitch, tongue rams, or saxo-flute hybridity.

The book by Marcus Weiss¹⁴ and Giorgio Netti¹⁵, *The Techniques of Saxophone Playing* (2010), functions similarly to the aforementioned books with the authors providing practical, technical, and artistic knowledge on the performance and composition of extended techniques. Several pages are dedicated to SWMP practice and techniques, covering short synoptic information on air pitch, tongue rams, and trumpet sounds. Although the authors extensively studied and analyzed multiphonics and eighth-tones, the chapters mentioning SWMP are somewhat neglected in this regard. During my discussion with Weiss about this choice, it became evident that there was a deliberate emphasis on providing a comprehensive understanding of saxophone multiphonics; more thorough exploration of the derivations of extended techniques was envisioned for future examination by other authors and researchers. Nevertheless, the text has become a standard reference within the saxophone and composer communities who aim to adeptly execute and compose using contemporary techniques, particularly in the realm of multiphonic and microtonal playing.

¹² Jean-Marie Londeix is a French saxophonist and an early student of Marcel Mule. He has contributed a breadth of knowledge on saxophone repertoire, pedagogy, methodology, and playing techniques that has inspired over a generation of saxophonists. As the former saxophone professor at the Conservatoire de Bordeaux, he taught many students from all over the world. Londeix is known to be a champion of the contemporary saxophone repertoire. Many standard works have been composed for him, for example, *Sonate* by Edison Denisov and *Neuf Études* by Christian Lauba, among countless others.

¹³ For further information about Marie-Bernadette Charrier please refer to her dedicated website: <https://proximacentauri.fr/presentation/ensemble/marie-bernadette-charrier/>.

¹⁴ For more information on Marcus Weiss, please visit his website at <https://marcusweiss.net>.

¹⁵ For more information on Giorgio Netti, please refer to his website at <https://www.giorgionetti.com/>.

Another noteworthy text has been provided by saxophonists Claude Delangle¹⁶ and Jean-Denis Michat.¹⁷ In their chapter on the contemporary saxophone, part of the larger *The Cambridge Companion to the Saxophone* (1998), Delangle and Michat present a historical overview for the contemporary saxophonist and explain diverse playing techniques. They specifically discuss two SWMP techniques, trumpet sounds and tongue rams. However, they did not aim for exhaustiveness in detailing other contemporary techniques; instead, they provide an overview of possibilities and describe a few works that employ such techniques. Although their relevance for my research is rather limited, it holds value by adding artistic weight to these techniques. This is largely attributed to the audience for whom the book was written. As a contribution to the Cambridge Companion series, which delves into the historical backgrounds of various instruments, the book caters to a broad audience. It provides insights into the historical significance, key performers, general parameters, technological advances, etc. of the saxophone since its inception.

Many other saxophonists have authored texts, manuals, treatises, and videos covering an ever-growing number of saxophone techniques, contributing their voices to discourse, pedagogy, practice, and understanding. Despite this, few if any other resources cover SWMP techniques. Kientzy, Londeix/Charrier, Weiss/Netti, and Delangle/Michat, have, in their own way, given prominence to SWMP techniques. Regardless of giving SWMP techniques historical significance by including them in their manuals and texts, the knowledge to hone and establish these techniques has yet to be given more thorough analysis and examination.

1.5 - An Historical Outlier: Saxo-Flute Hybridity

In the contextualization of SWMP techniques, saxo-flute hybridity stands out as the most novel, with limited resources available from other authors. This particular technique is almost entirely absent from the historical repertoire overview; however, it has gained legitimacy through the advocacy of both performers and composers. While it has a brief mention in *Saxologie*, it does not appear elsewhere in the literature. Nonetheless, it has found its way into newer works and improvisatory performance by several notable saxophonists, primarily Philippe Geiss¹⁸, Rolf Erik-Nystrøm¹⁹, and Ola Asdahl Rokkones.²⁰

I first witnessed and heard this technique at the 2012 World Saxophone Congress in St. Andrews, Scotland, where Geiss performed one of his compositions featuring an improvised saxo-flute hybridity solo. Geiss is now recognized for incorporating this technique into his works as freely improvised solos over pre-composed material. While

¹⁶ For more information on Claude Delangle, please visit his website at <https://www.sax-delangle.com/>.

¹⁷ For more information on the work of Jean-Denis Michat, please refer to his website at <https://www.jdmichat.com/>.

¹⁸ For more information on Philippe Geiss, please see his website at <https://philippegeiss.com/>.

¹⁹ Rolf-Erik Nystrøm is a Norwegian saxophonist and composer specialized in the field of contemporary music. To hear an example of an improvisation by Nystrøm where he is exploiting saxo-flute hybridity please see the following link: https://youtu.be/eaHlMY_ZiwQ?si=pjCm7jnc8qX8hdHZ&t=173.

²⁰ Ola Asdahl Rokkones is a Norwegian saxophonist who actively bridges his artistic career between classical and jazz idioms. For more information, please visit Ola's personal website at <https://www.olarokkones.no>.

this technique echoes the parlor trick virtuoso stunts from the 1920s, this time by imitating a flute, several composers in recent years have now used it in their works. Examples include Stratis Minakakis' *For Felipe M.* (2021) and Eleni Ralli's *Go Within* (2020), among others.

1.6 - Innovation through Improvisation

Jazz and free improvising musicians have significantly contributed to the development of new techniques and sounds on the saxophone. Often, improvisers pioneer new techniques or playing styles that only become known and adopted by composers and classical saxophonists later on.²¹ Weiss and Netti acknowledge improvisation as one of the two main contributions to the development of sound for modern saxophonists, with the other being the postwar avant-garde: "The desire on the part of the composer as well as the interpreter to expand the sound of the instrument can be [...] found in free jazz [in the] revival of sonic experimentation as an integral component of performance" (Weiss and Netti 2010: 152).

SWMP techniques have also been present in the world of free improvisation for decades. It is here that highly differentiated, complex, and mixed techniques and many different forms of playing intersect. In other words, in free improvised music contemporary techniques are not used in complete separation. What makes this music so compelling is the level to which sonic and physical actions intersect and show the connections and condensed mixture between air pitch, tongue ram, saxo-flute hybridity, and trumpet sounds, next to other (extended) techniques.

Several well-known improvisers use SWMP in their performances; notable figures include Philippe Geiss, Marc Vilanova²², Christine Abdelnour²³, Rolf Erik-Nystrøm, Joan Jordi Oliver²⁴, PedroSaxo²⁵, and Ben Eidson.²⁶ All of them, with the distinct exception of Abdelnour, have educational foundations in both classical and jazz saxophone playing. Through cross-disciplinary interest, these artists have embraced various SWMP techniques in their performance practice. Each of them integrates these techniques with common practice saxophone playing. PedroSaxo, known for his rhythmic driving improvisations, effectively utilizes trumpet sounds and air pitch. Geiss thoughtfully explores saxo-flute hybridity. Erik-Nystrøm most commonly exploits saxo-flute hybridity and trumpet sounds integrated in his solo and collaborative improvisations. Marc

²¹ While I have been trained in experimental free improvisation, it is not my field of direct expertise. Instead, I have much more experience working with composers on interpreting their fixed works and notational signs. Therefore, this thesis explores the more conventional relationships between composers and performers as well as notated music. To do a complete and broad analysis of the advancements that have been made by my colleagues in the world of (free) improvisation would turn out to be a dissertation on its own.

²² Discover more about Marc Vilanova and his use of SWMP at the following website: <https://marcvilanova.com/Saxophone-Miniatures>.

²³ Further information about Christine Abdelnour can be found at her website: <https://christineabdelnoursehnaoui.com>.

²⁴ For more information on Joan Jordi please visit his website at <https://joanjordiolyver.com/>.

²⁵ PedroSaxo is a classically trained saxophonist who, after becoming a finalist in Spain's Got Talent, became an internet sensation. However, due to financial difficulty he has since retired from public performance. To hear some of his improvisations using SWMP, please refer to his YouTube channel. For example: https://youtu.be/8BxD_GMKLqY?si=bx5plliw8Iz2Hcer&t=20.

²⁶ To hear more of Ben Eidson's improvisations please visit his Linktree: <https://linktr.ee/beneidson>.

Vilanova and Joan Jordi Oliver tend to utilize air pitch and tongue ram techniques. Christine Abdelnour, coming from a more exploratory generative improvisational music culture, investigates air sounds, trumpet sounds, and saxo-flute hybridity usually with the addition of electronics or distortion patches. Composer and improviser, Ben Eidson, the youngest of these artists, uses air pitch, tongue rams, and trumpet sounds often in tandem with MaxMSP patches that he himself creates to distort and augment the listening experience for audiences.

Vilanova's *Saxophone Miniature II* (2015)²⁷ is a visually striking work presented with a closely microphoned soprano saxophone, lighting placed inside of the instrument, and a combination of key clicks and air pitch technique. The left stack of keys is completely closed by the left hand. The viewer can only see the right stack. The work begins with a quick key click opening the saxophone completely, followed immediately by a loud air sound. Each time Vilanova opens or closes the keys a different light source is seen accompanied by a different air pitch sound. This continually speeds up until Vilanova uses double tonguing and increases the pressure with which he is producing the air pitch sounds. This work evokes a distinct sense of distance from what is traditional thought of as the saxophone.

The intersection of my practice with that of Christine Abdelnour is rather close despite coming from different musical backgrounds. This is especially true in the innovative way we approach the instrument—as a tool for expressive sound potential. The similarity is most evident in how we both explore saxo-flute hybridity: a technique far removed from typical saxophone pedagogy, challenging to produce, and requiring immense effort to master. Abdelnour, especially in some of her solo improvisations, explores the evolution of sound through the gradual transformation of a specific SWMP technique. In her solo set recorded live in Paris in March 2023²⁸, she begins by using two different air pitch transformations. The neck position where she focuses her air creates a dramatic result especially when amplified. This is explored for two minutes before she starts to integrate flutter tongue with air pitch and trumpet sounds techniques. Around 4'11", she overblows the air pitches heard at the beginning of the improvisation creating saxo-flute hybridity sounds in a very high octave which are therefore difficult to control. While her embouchure position does not necessarily yield the best results when trying to create controlled pitches, it is interesting to try and reproduce. However, exploring the more pitched realm of SWMP allows her to transition to playing with the mouthpiece.

In Ben Eidson's *Solo Saxophone I* (2022)²⁹ both saxophone and SWMP are used to create a 57 minute improvisation. Starting around 4'45", Eidson takes off the mouthpiece and uses a series of air pitch, trumpet sounds, and vocal sounds to create a tapestry of

²⁷ Please click the following link to listen to Marc Vilanova's *Saxophone Miniature II* (2015): <https://vimeo.com/142648120>.

²⁸ Please click the following link to listen to Christine Abdelnour's solo set from 2023: <https://youtu.be/zwxXfRkxiGE?si=vxkDi5jQMkqvQOP3>.

²⁹ Please click the following link to listen to Ben Eidson's *Solo Saxophone I* (2022): <https://on.soundcloud.com/iHNuXVRuWwUipNc69>.

interweaved sonic complexity. Of particular interest is his use of harmonic sweeps with trumpet sounds, sometimes incorporating the barrissement technique and at other times allowing the trumpet sound to resonate with a full-bodied quality. Many times, the exhaling air pitch becomes a pseudo-trumpet sound by the position of Eidson's mouth being in the right place for a "shadowed" sound to escape. Eidson is also incorporating kissing sounds into the saxophone neck. Despite his use of SWMP for only about two minutes, his exploration of the techniques is incredibly rich.

1.7 - Composers and their Contributions

Throughout my research, I have identified over one-hundred pieces that incorporate SWMP techniques, and new works with these techniques are being composed continually. Some notable composers in this realm include Costin Miereanu, Robin Hoffmann, Helga Arias, Jean-Claude Risset, Vitor Rua, Ramon Lazkano, Robert Lemay, and Juan Arroyo. In my own research, commission, and performance endeavors, I have had the pleasure of working with Stratis Minakakis, Chaya Czernowin, Max Grafe, María Eugenia Luc, Nicolas Tzortzis, and Eleni Ralli, among others, on new works that incorporate these techniques. The fact that numerous composers wish to use them can count as proof that they enrich the musical world, have their legitimate place in contemporary music, and their importance in the saxophone world. While my survey may always be incomplete due to unknown or newly emerging works, the discovery of this many works utilizing these techniques stands as a testament to composers' curiosity in exploring new sonic landscapes.³⁰

For a complete list of repertoire, please see the appendix entitled Repertoire.

1.8 - Performers and their Contributions

If composers and improvisers have contributed to the development and history of these techniques, so too have the many performers that take on these techniques. Besides the foundational figures in contemporary saxophone music (i.e. Kientzy, Londeix, Charrier, Jean-Michel Goury, Weiss, XASAX Quartet, etc.), there are other important saxophonists who commission and present new music using SWMP.

The first set of performers who have been prolific with their commissioning of new music is the Sigma Project Saxophone Quartet (Andrés Gomis, Josetxo Silguero, Ángel Soria, and Alberto Chaves). Sigma Project have taken a very keen interest in the development of repertoire from Spanish contemporary composers. Often the works that they commission and perform have integrated SWMP techniques in them. Uniquely, many of the commissions are high profile with financial backing from the Spanish Ministry of Culture, Ernst Von Siemens Music Foundation, and BBVA Foundation, among others.

³⁰ Whereas some composers use contemporary playing techniques like SWMP in a "shopping-list-like approach" where the artistic work is little more than the sum of the disparate techniques, I find it a part of my personal mission to see through any temptation to program or perform such works.

Other performers that should be mentioned and acknowledged for their contribution to SWMP techniques and development of the repertoire is the Canadian quartet, Quasar (Marie-Chantal Leclair, Matthieu Leclair, André Leroux, and Jean-Marc Bouchard), Philippe Geiss, Patrick Stadler, Claude Delangle, Kyle Hutchins, Ola Asdahl Rokkones, and Noa Even. Among a plethora of influences and cultural-historical backgrounds, it is their openness to try new things, the perseverance to never say no to a composer, or the eagerness to explore the boundaries of sound that have led these musicians to use SWMP techniques in their practice.

1.9 - Analyses of Two Major Works using Saxophone Without Mouthpiece

This section will focus on the analyses of key structural elements and motives of two works written for me using SWMP. I like to underscore the significance of such compositional elements in understanding and crafting the SWMP techniques. Furthermore, I provide concrete examples of the artistic application of these techniques, thereby offering a more relatable context for saxophonists and composers. While it is valuable to discuss these techniques within historical and theoretical contexts, it is equally crucial to understand them through a primarily musical and practical lens.

First, I will analyze the works and the SWMP techniques employed within them, highlighting their overall artistic depth. This will be achieved by integrating theoretical concepts discussed in previous sections and drawing parallels between these works and the ideas presented before. Secondly, from a more pragmatic perspective, I will demonstrate how the techniques function within these works and how they are intended to be interpreted by saxophonists. This part of the analysis will focus on exploring the use of notation. Finally, I will critically evaluate each composer's utilization of SWMP techniques, assessing what aspects were successful and identifying areas for potential improvement. Within each of the two analyses, I have provided examples from the score to further elaborate my points. Within the caption text of these excerpts, one will also find timestamps which refer to exactly when these specific moments can be heard. The videos that should be referenced for these excerpts can be found at the following links:

- *For Felipe M.* (2021) – Stratis Minakakis: <https://youtu.be/LFIH1ay-Ds>
- *Go Within* (2020) – Eleni Ralli: <https://youtu.be/GwaisJoHlbo>

1.9.1 - *For Felipe M.* (2021) – Stratis Minakakis

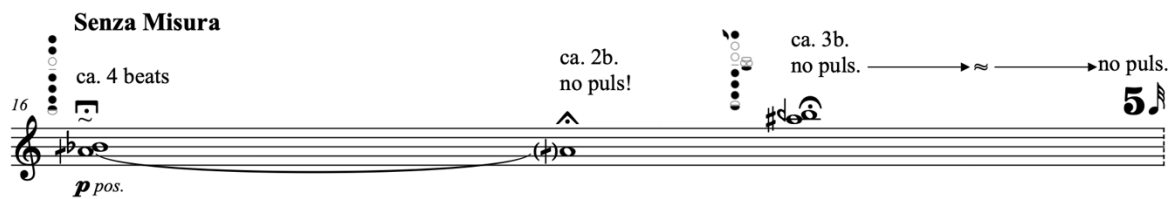
For Felipe M. by Stratis Minakakis is a virtuosic and physically demanding composition for solo baritone saxophone. The complex and intricately notated piece is sectioned into nine movements, comprised of seven short verses and two longer stanzas, all of which flow uninterrupted from one movement to the next. The piece is written for both saxophone with and without mouthpiece; SWMP techniques only make their appearance in the final movement of this work. Minakakis is acutely aware of the dramatic and theatrical

The backbone of *For Felipe M.*'s musical content is based around Minakakis' metaphorical formulation of four disparate sound gestures: "islands," "disappearing signals," "strings," and "negative space." These four terms serve to provide a striking mental image in which an audience is able to picture the sound world he is trying to convey. These four gestures constitute the core of the compositional world in which this piece resides. They are stated simply at the beginning of the work, each having their own space to be (subconsciously) remembered and evolving over the course of the nineteen-minute piece. Sometimes they collide and interact, evolve and influence each other. The work opens in silence offering the listener a moment to enter the listening space. Then the first gesture – "islands" – emerges from an "ocean of silence and end[s] in mist" (Minakakis 2021: 1).

Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 1, 0:32-0:59

26

This gesture is deliberately imperfect, resembling tunes sung by an untrained individual, perhaps muttered softly while engaged in fieldwork. Despite their melodic simplicity—comprising a basic sequence of notes, C#-A/G#-C#-G#-A/G#-C#-A-C#—the required nano-microtonal fingerings infuse the music with an energetic pulse and a sense of unease, as the pitch center is in a state of near-constant flux. “Strings,” repeated thrice, leads to the final gesture, “negative space.” Minakakis describes this fourth gesture as “like a ‘colored silence;’ a place of stasis to create enough space for memory to be evoked” (Minakakis 2021: 2).



Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 2, 1:31-1:55

The richly harmonic sounds of the multiphonics that occupy the fourth gesture create a sonic texture which provide an almost ancillary world as compared to the three preceding gestures. In these multiphonics disparate breath oscillations provide a sense, or lack thereof, of movement.

Having established the formal structural components of *For Felipe M.*, the final movement, Stanza II, can be understood through the lens of these four gestures. It is a shadow world of the music that had come before it, and comments on and fleshes out the musical discourse that was set by Minakakis in the preceding eight movements. Whereas the first stanza ends with a moment of intense drama – with the final thunderous roar of the baritone saxophone performing in its lowest range and asked to shade the sound with “max distortion” by overblowing with the addition of growl (Minakakis 2021: 12) – the second stanza exists in a wholly different yet entirely dramatic sound universe.

max. distortion

molto marcato

43

fff

10

Senza Misura
ca. 4 beats

44

Remain frozen in position!

ca. 3 beats

Remove mouthpiece and set aside quietly, in a solemn and deliberate motion. Consider using a padded music stand (in the flat position) or a padded table, placed closely to the main stand.

Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 12-13, 13:50-14:20

Immediately after the end of Stanza I, Minakakis has composed a silence of around four beats where he demands the performer to “remain frozen in position” (Minakakis 2021: 13). The treatment of this silence should act as an integral element of the dramaturgy of the work. This silence is broken by the sudden movement of the removal of the mouthpiece. Minakakis writes in his score: “Remove mouthpiece and set aside quietly, in a solemn and deliberate motion” (Minakakis 2021: 13). This moment is vital as the silence in the hall will be deafening after the wash of sound that came before, all eyes are on the saxophonist as they do something rather strange. In performances that I have given, many audience members comment that it is as if they experience a strange but alluring ritual. With the mouthpiece set aside, the final stanza opens and cuts the deafening silence with an explosive air pitch, marked *f intenso*.

Andante Fluente (♩ = ca. 54–62)

3 (mouthpiece off) **4**

③ —————> ①

f intenso

Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 13, 14:20-14:25

The first air pitch is characteristic of the “negative space” gesture. It is stagnant and intense, a shadow of the harmonically rich multiphonics that characterized this gesture in the earlier movements. It eventually oscillates through the change in distance from the

neckpiece. The memory of the subtle energy created by this texture shift is reminiscent of the fourth gesture. Almost by an energetic propulsion the next gesture is introduced in the shadow world of this stanza, the third gesture – “strings” – exists in the melodic air pitch sounds starting from the third measure.

(sempre **f** intenso)

Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 13, 14:26-14:38

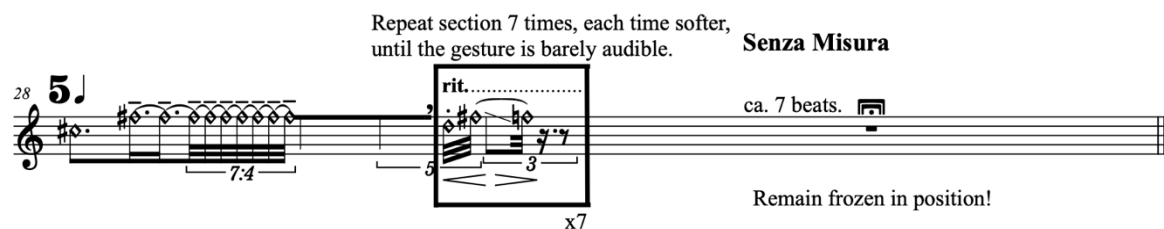
While Minakakis does ask the saxophonist to change the density of the sound, indicated by the shaded rectangles in the score, producing some interesting sonic effects, the “strings” gesture exists in the melody. The need for nano-microtonal fingerings has diminished, as the air pitch technique produces a muffled, subdued sound compared to conventional playing. These two gestures – “strings” and “negative space” – weave themselves into the interplay that make up the entire first part of Stanza II.

The second part of Stanza II introduces itself with a new sonic world made up of saxo-flute hybridity. The air pitches of the first part of the movement have now become fully-fledged. They have replaced the texture of density and shading by way of a distance to the neckpiece with a more conventional sound. The flute sounds reiterate the fourth and third gesture, “negative space” and “strings,” respectively, in the first phrase. Only at the end of this first phrase is the second gesture, “disappearing signals,” reiterated through the SWMP portion of the work. The “disappearing signals” can be heard in the repeated notes marked with *tenuti* over the top of them.



Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 14, 15:09-15:38

Minakakis does not need the nano-microtonal variations in the shadow version due to the otherness of the sound achieved through SWMP techniques. Each of the three phrases end with the “disappearing signals” gesture leading to the final coda. This coda reiterates the first gesture, “islands.”



Stratis Minakakis' *For Felipe M.* for saxophone (2021), p. 14, 16:07-17:07

Minakakis asks the saxophonist to repeat this “section 7 times, each time softer, until the gesture is barely audible” (Minakakis 2021: 14). After the seventh repetition, the saxophonist is instructed to again freeze in place and reimagine the silence that opened the work.

Minakakis' use of SWMP techniques is intuitive and serious. Without these techniques the work would lose a crucial dramatic element. Often these techniques can take on an aesthetic position of being a gimmick or a fun trick incorporated into a much more interesting fabric of conventional techniques. However, in Minakakis' work, SWMP techniques are given artistically serious consideration and function to mirror the compositional and structural elements heard in the piece just before. In working with Minakakis on techniques for an earlier collaboration resulting in the work, *Thalassografia A* (2019), written for my saxophone quartet, he was already keen on exploiting the artistic nuances achievable through SWMP techniques. Using the collaboration we initiated through this first work, Minakakis expanded his sonic ideas in the solo piece composed a few years later. I worked closely with him, sending him recordings of what was possible

and expanding on the limits of the techniques at the time. Minakakis was particularly eager to use the saxo-flute hybridity and integrate it in an altogether surprising way in the piece. At the time, I was only beginning to understand the full possibilities of the saxo-flute hybridity technique on baritone saxophone. This is why the range Minakakis took advantage of is so limited. Back then, I was only able to produce the primary octave with this technique.

In terms of the notation practices utilized, Minakakis is consistent and relatively clear throughout the work. He uses similar signs and symbols to express air sounds regardless of whether the mouthpiece is attached. This consistency between similar sound groups makes learning the score easier. However, the noteheads that Minakakis uses for the three SWMP techniques in this work could be better distinguished from one another, especially when comparing air pitch and saxo-flute hybridity. I will elaborate on notation of SWMP techniques in Chapter 6.

1.9.2 - *Go Within* (2020) – Eleni Ralli

The next work that I will examine is by Greek-born and Swiss-based composer, Eleni Ralli. Ralli's recent compositional and research work explores the idea of embedded, yet removable, hardware within instruments. *Go Within* is a work that was written on my request and explores several themes that surround the work of poet Rainer Maria Rilke. Taking the concept and text of his *Letters to a Young Poet* (1929)³¹, Ralli composed a work that acts as a duo within a solo piece. Composed for tenor SWMP and embedded speaker, the score demands the saxophonist first to record the saxophone with mouthpiece part. The speaker itself is placed in the bell of the saxophone.

A portable, removable loudspeaker should be securely embedded in the bell of the saxophone. It should not be noticeably visible to the audience to create the illusion that the pre-recorded sounds are coming from the live saxophone. It should be easy enough to remove so that a dramaturgy is created with its removal at the final section of the work. (Ralli 2020: 1)

The pre-recorded part mirrors the live part, creating the illusion that the saxophonist is performing with themselves on stage. The live part is composed of only SWMP techniques. Innovative in their usage and very demanding of the player, Ralli exploits all SWMP techniques and even aims at exploring some auxiliary techniques such as megaphone properties when demanding the saxophonist speak or intone through the instrument.³²

³¹ The original was published in 1929 under its original German title *Briefe an einen jungen Dichter*. The translation that Ralli used was made by Joan M. Burnham. This translation was published in 2000.

³² The audience may find themselves questioning the source of the sound and how the saxophonist executes such techniques, as they hear both the pre-recorded common practice saxophone sound and the live performance. This contrast creates an opportunity for the saxophonist to engage directly with the audience on the fundamental concept of the work.

In the second and third section, Ralli adds more and more unison figures between the recorded and the live parts, creating a sense of mimicry between the two voices. For example, in the second section, measures 21 to 23 (see below), if performed correctly, the audience should not know which voice is which.

(20) is too far beau - ti - ful too mys - te - ri - ous (whisper and disappear) (Right back side)

The musical score for Example 20 consists of two systems. The first system has a vocal line at the top and a piano line below it. The vocal line begins with the lyrics "is too far beau - ti - ful too mys - te - ri - ous". It features a triplet of eighth notes followed by a quarter note, then another triplet of eighth notes followed by a quarter note. Dynamic markings include *pp*, *pp*, and *ppp*. A bracket labeled "(whisper and disappear)" spans the final part of the phrase. The piano line starts with a half note G4, followed by a quarter rest, then a series of sixteenth notes. The second system continues the piano line with more sixteenth notes. Above the piano line, there are labels "air sound and key clicks" and "air and key clicks" pointing to specific parts of the texture. The score ends with a double bar line.

Similarly, in the third section, measures 34 to 46 (see below), the almost complete rhythmic unison (with one disparity on the second beat of measure 35) should give the audience the sense that there is only one person/entity creating these sounds.

Eleni Ralli's *Go Within* for saxophone (2020), p. 6-7, 2:29-3:28

The second section ends with the introduction of trumpet sounds which creates a bridge to the third section. Ralli introduces a quasi-cadenza (which must be timed perfectly with the pre-recorded part) to start the third section. The jagged and precise articulations of the trumpet sounds demanded here contrast with the almost lyrical melodies Ralli created in the first two sections.

In the final section the saxophonist must remove the loudspeaker, disillusioning the audience to the shadow voice that has been performing with them throughout the first three sections. This section begins with the succession of four different statements played on the SWMP. The first starts with megaphone properties connected with tongue rams; then air pitches; the next features trumpet sounds; and, finally, the saxo-flute hybridity technique. This final statement is extremely difficult to perform but also hauntingly effective. The connection between the two voices, sometimes at odds and sometimes in perfect unison, has now evolved into melodic figures without the purposefully garbled

sounds of the megaphone properties, the airy and ghostly sound of the air pitch, or the rough and coarse sound of trumpet sounds. The saxo-flute hybridity sounds continue for a long while in a quasi-cadenza and marked *molto rubato* section. Metaphorically, it could be stated that the saxophonist no longer needs the aid of the common practice saxophone and has fully accepted the SWMP techniques. The work ends as the saxophonist walks off the stage performing three last and final tongue rams.

Ralli is very clear concerning notation. Slight confusion can be possible between the key click and air pitch parts since they are similar; however, Ralli wanted to show that while the saxophonist is performing the air pitch techniques, they need to press harder on the keys to create audible key clicks as well. For this reason, she chose similar markings. For trumpet sounds and saxo-flute hybridity, Ralli decided to notate these normally but advises the saxophonist to the technique in text above the notes. This notational choice would be clear to any performer.

1.10 - Summary

SWMP practice and techniques can be connected to various contexts. Historically, numerous indicators suggest the emergence of extended techniques to enhance the sonic capabilities of the saxophone. Vaudeville and dance band musicians significantly contributed to pioneering innovations that are now integral to contemporary repertoires. Examining SWMP within aesthetic contexts and movements, such as those presented by Russolo and Varèse, elucidates the origins of musical and instrumental advancements. These movements ultimately laid the groundwork for virtuosic performers to continually push the boundaries, as evidenced by the development of technique guides for extended practices on the saxophone.

Expanding the aesthetic framework further, the physicality of SWMP can be related to *musique concrète instrumentale*, where the process of creating an action is paramount to the sounding results. The innovations from composers who strive to explore new sonic territories and challenge the limitations of performers are crucial in this context. Performers and improvisers, motivated by a desire to deepen their understanding of the saxophone's potential, also advocate for these novel sounds and techniques. In short, a dynamic interaction between composer and performer proved essential for the evolution and future of these techniques.

The subsequent chapters will scrutinize the four SWMP techniques in detail. A comprehensive review of the literature on each technique will be provided, along with thorough explanations of their performance methods. By analyzing recordings of each possible note, these chapters will offer a fresh and detailed perspective on SWMP techniques and their sonic outcomes.