Música Hodie | ISSN: 2317-6776 DOI: 10.5216/mh.v25.81517

Non-Polarization on the Alto Saxophone: Daniel Kientzy's Reforms in Music for the Saxophone Family

Não-Polarização no Saxofone Alto: As Reformas de Daniel Kientzy na Música para a Família do Saxofone

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Abstract: This research examines Daniel Kientzy's transformative contributions to saxophone music through his innovative integration of the entire saxophone family. Employing qualitative research methods, the study investigates Kientzy's artistic activities from 1968 to the present through three chronologically arranged sections. The first section traces his early musical career, analyzing the historical process by which he mastered all seven saxophones. The second section, through case studies of Roy's and de Pablo's works, examines how Kientzy innovatively integrated these seven saxophones into a single solo work. The final section, through analysis of Brizzi's and Mabry's works, examines how Kientzy achieved the ultimate form of "The Saxophone Total" concept through recording, editing, and restructuring the sounds of seven saxophones. The findings reveal a clear evolutionary trajectory in Kientzy's treatment of the saxophone family members, demonstrating a progression from scattered to seamlessly integrated applications. These innovative approaches have not only transcended the traditional limitations of saxophone music in terms of performance techniques, expressive forms, and

compositional thinking but also, in the broader historical context of saxophone, have provided a path to revitalize Adolphe Sax's grand vision of the saxophone family from the 1840s.

Keywords: Daniel Kientzy; Saxophone Total; Contemporary saxophone performance; instrumental innovation

Resumo: Esta pesquisa examina as contribuições transformadoras de Daniel Kientzy para a música de saxofone através de sua integração inovadora de toda a família do saxofone. Utilizando métodos de pesquisa qualitativa, o estudo investiga as atividades artísticas de Kientzy de 1968 até o presente através de três seções cronologicamente organizadas: A primeira seção traça sua carreira musical inicial, investigando o processo histórico de como ele dominou todos os sete saxofones. A segunda seção, através de estudos de caso das obras de Roy e de Pablo, explora como Kientzy integrou inovadoramente estes sete saxofones em obras solo únicas. A seção final, através da análise das obras de Brizzi e Mabry, examina como Kientzy alcançou a forma definitiva do conceito "The Saxophone Total" através da gravação, edição e reestruturação dos sons dos sete saxofones. Os resultados traçam uma clara trajetória evolutiva no tratamento dos membros da família do saxofone por Kientzy, mostrando um desenvolvimento de aplicações dispersas até aplicações perfeitamente integradas. Essas abordagens inovadoras não apenas transcenderam as limitações tradicionais da música para saxofone em termos de técnicas de performance, formas expressivas e pensamento composicional, mas também, no contexto histórico mais amplo do saxofone, forneceram um caminho para revitalizar a grandiosa visão de Adolphe Sax sobre a família do saxofone dos anos 1840.

Palavras-chave: Daniel Kientzy; Saxophone Total; performance contemporânea de saxofone; inovação instrumental

Submitted on: January 22, 2025
Accepted on: May 25, 2025
Published on: July, 2025

1. Introduction

When Belgian instrument maker Adolphe Sax first created the saxophone in the early 1840s, he envisioned it as a family of eight instruments rather than a single design. This vision was solidified in his patent granted on June 28, 1846, which included eight different types of saxophones (Cottrell, 2013, pp. 48-62). As the saxophone gradually gained widespread use around the world, instrument manufacturers have refined Sax's original designs, leading to the modern saxophone family, which includes the sopranino, soprano, alto, tenor, baritone, bass, and contrabass saxophones (Cottrell, 2013, p. 1). Among these, the alto saxophone stands out as the most popular for solo performances, owing to its relatively more straightforward breath control and embouchure control compared to other saxophones, as well as its relatively affordable price. According to Londeix and Ronkin (2003, pp. 414-462), based on the statistical analysis of various saxophone works from 1844 (when the first saxophone work appeared) to 2012, the usage rate of the alto saxophone is as high as 60.81%, while the usage rates for the sopranino, bass saxophone, and contrabass saxophone are 2%, 2.5%, and 1.3% respectively. The dominant position of the alto saxophone also reflects neglect of other members of the saxophone family and their potential artistic capabilities.

In contrast, Daniel Kientzy (born in 1951 in France) has made groundbreaking contributions to expanding the performance realm of the saxophone family. He is not only the first performer to master all seven types of saxophones (Portuondo, 2017). More importantly, according to Kientzy's repertoire list, over 800 works have been specifically composed for him, covering all seven types of saxophones. Among these, the number of works using sopranino, bass, and contrabass saxophones reached an impressive 154, 130, and 113 pieces, respectively (Repertory, 2017). According to Kientzy's published discography, the majority

of these works are documented in his extensive collection of 112 albums (Discography, 2017). Kientzy's innovative concept of "The Saxophone Total," which incorporates the comprehensive use of the saxophone family in solo works, continues to evolve through diverse compositional methods and forms of expression.

2. The Early Years (1968-1983): Acquiring and Mastering the Saxophone Family

Daniel Kientzy initially started learning the saxophone because, at the age of 17, he was preparing to join the military band for service. Although he eventually gave up the idea of serving in the military, he did not stop learning the saxophone. Approximately 2 to 3 years later, Kientzy enrolled in the Limoges Conservatory of Music, where he underwent a year and a half of rigorous classical saxophone training (Chouraki and Matheron, 2016, p. 3). According to the interview with Kientzy[1], Subsequently, when he joined the National Superior Conservatory of Music and Dance of Paris, he already owned five different types of saxophones: sopranino, soprano, alto, tenor, and baritone. Shortly after, he acquired the bass saxophone as well.

Although Kientzy originally ordered the contrabass saxophone for Witold Gombrowicz's play *Marriage* scheduled for spring 1984, where the director required it as a stage prop, Milan-based manufacturer Orsi (the only company capable of producing such instruments at the time) delivered the custom-built instrument four months ahead of schedule (Chouraki and Matheron, 2016, pp. 9-10). This early delivery enabled Kientzy to premiere Gyorgy Kurtag's *Interrogation* with this contrabass saxophone at IRCAM in Paris on November 30, 1983 (IRCAM)[2], thus completing his collection of all seven types of saxophones.

1 This material is based on the author's two-week interview and exchange with Daniel Kientzy, conducted at his residence in Paris, France in Dec 2024.

2 A printed program from Saxophones Instrumental Research Workshop organized by IRCAM on November 30, 1983, currently preserved at the Maison Résidence Studio Musée du Musicien Contemporain Kientzy (Kientzy Contemporary Musician's House-Studio-Museum) located at 15 Rue du Vieux Château, 77230, Montgé-en-Goële, France.

While saxophonists can easily apply the same standard fingerings across different types of saxophones, it was Daniel Kientzy's extensive research and practice in saxophone multiphonics that enabled him to achieve mastery of all seven kinds of saxophones with consistent, high-quality tones. During the late 1970s to early 1980s, Kientzy immersed himself in studying multiphonics—a technique that allows monophonic wind instruments to produce multiple simultaneous notes (Kientzy). Through systematic exploration of all possible fingering combinations for multiphonics on various saxophones, culminating in his 1982 Paris publication *Les sons multiples aux saxophones* (Kientzy, 1982), Kientzy developed a deep understanding of saxophone acoustics and control. Successfully performing multiphonics requires more than just special fingerings - it demands precise control of embouchure, oral cavity, and throat positions to achieve proper resonance with the instrument's bore. This intensive experimentation with multiphonics techniques across different saxophones provided Kientzy with unprecedented insight into the subtle adjustments required for each instrument, ultimately enabling him to seamlessly adapt and maintain consistent, high-quality tones across any type of saxophone (Kientzy). Nowadays, in contemporary saxophone performance, multiphonics has emerged as a crucial extended technique. According to the Association Internationale Adolphe Sax (2022), at the recent 8th Adolphe International Saxophone Competition, which represents the pinnacle of global saxophone artistry, 5 out of the 20 officially selected competition pieces employed multiphonics techniques, all of which were composed after 2010.

Moreover, the composers collaborating with Kientzy played a crucial role in his ability to perform all seven types of saxophones. He never interfered with composers' choices of saxophone types, which naturally led him to play various saxophones (Kientzy). According to Repertory (2017), by 1983, before Kientzy's complete acquisition of all seven saxophones, there were already 25 pieces composed explicitly for him. Among these works, compositions for

multiple saxophones dominated (14 pieces, accounting for 56%), while traditional alto saxophone solo pieces constituted only a small portion (6 pieces, accounting for 24%). This demonstrates that his early musical career already exhibited diversity in the utilization of the saxophone.

Kientzy's early career period (1968-1983) played a crucial role in developing his diverse approach to saxophone performance. This development was shaped by three key factors: his rigorous conservatory training in saxophone, his mastery of unified control over all saxophones through research and experimentation with multiphonics, and his open-minded approach to using multiple saxophones when collaborating with composers. These experiences eliminated any reason for Kientzy to limit himself to a single saxophone, laying a solid foundation for his future musical innovations within the saxophone family.

3. Incorporating multiple saxophones in a single solo composition

The use of multiple saxophones in solo works undoubtedly enables soloists to achieve diverse timbres and broader pitch ranges. Edison Denisov's *Concerto Piccolo* (1977) is one of the few precedents of this kind that can be found (Martínez García, 2011, p. 420), a concerto requiring the performer to play soprano, alto, tenor, and baritone saxophones in succession. However, this approach has several limitations: performers need higher skill levels to master multiple instruments, frequent instrument changes may affect performance fluidity, and composers must consider the coordination and combination of various instruments during composition.

According to Kientzy's Repertory, Daniel Kientzy began experimenting with multiple saxophones in single works in 1981. That year marked the first intensive emergence of such works composed for Kientzy, including Michaël Levinsa's adapted work

Les rires du Gilles, Francis Luc's *Cocentor*, Costin Miereanu's *Do-Mi-Si-La-Do-Ré*, and Etienne Rolin's *Maschera*, all utilizing more than one saxophone.

Shortly thereafter, two milestone works emerged that showcased the comprehensive use of the saxophone family in solo performances. In 1988, Luis de Pablo's concerto *Une couleur*, composed for Kientzy, became the first orchestral work to include the contrabass saxophone and the first solo piece to employ five different saxophones (Londeix; Ronkin, 2003, p. 462; Martínez García, 2011, p. 412). In 1991, Camille Roy composed *Concerto* for Daniel Kientzy, which stands as the world's first solo work to incorporate all seven types of saxophones (Roy, 2009). The creation of Camille Roy's *Concerto* marked the first realization of The Saxophone Total concept in a single work. According to Kientzy's repertoire list, to date, Kientzy has collaborated with composers to contribute 35 works using all seven saxophones to the saxophone repertoire, encompassing various genres and forms.

3.1 Radical Innovation in Camille Roy's *Concerto*

Camille Roy's *Concerto* premiered in October 1991 at the Havana Contemporary Music Festival, performed by Kientzy with the Cuban Philharmonic Orchestra under the direction of Joël Tom. Daniel Kientzy recorded this work with the Orchestra of the Romanian Radio Broadcasting conducted by Horia Andreescu, and it was released in 2009 on a CD album titled *7 saxophones 3 concertos* (Nova Musica, 2009). According to Roy (2009), During a meeting with Kientzy, inspired by the innovative performance modes for all seven saxophones in *Saxologie*, Camille Roy decided to compose a concerto using all seven instruments of the saxophone family as solo instruments.

As shown in Table 1, the work is divided into four sections: Alternant I Thyrse, Jardin, Variation, and Marcato. The performer must play all 7 saxophones and change to a new one 9 times throughout these four sections. Apart from normal pauses between movements, each movement allows an average of only two bars for

saxophone transitions. The composer needed to design instrument transitions carefully to avoid impossible switching movements, while the performer must balance both speed and stability in executing these instrument changes during performance.

Table 1 - Structure Chart of Camille Roy's Concerto

Movement	Bars	Saxophone	Bars
1st movement "Alternant I Thyrse"	1 to 73	Soprano	1 to 48
		Baritone	50 to 73
2nd movement "Jardin"	1 to 80	Alto	1 to 23
		Contrabass	26 to 55
		Alto	57 to 80
3rd movement "Variation"	1 to 29	Bass	1 to 20
		Sopranino	21 to 29
4th movement "Marcato"	1 to 37	Tenor	1 to 33
		Contrabass	37

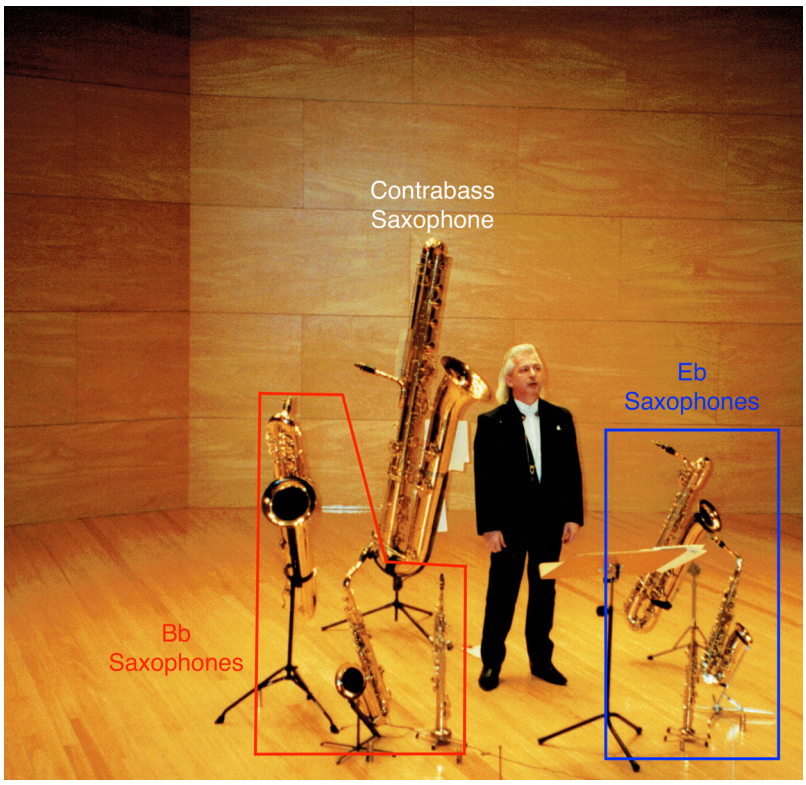
Source: Created by the author.
Image description: Table supporting the text's analysis.

In Kientzy's *Saxologie*, he provides a detailed analysis of the time required to switch between different saxophones in various performance modes, offering composers a valuable reference for more flexible compositions involving the saxophone family instruments. The time needed for instrument switching depends on both the saxophone currently being played and the one to be played next. For example, at the end of Camille Roy's *Concerto*, the performer must switch from a tenor saxophone to a contrabass saxophone. In this case, almost no transition time is needed because while the tenor (or alto saxophone in the same case) is worn on the performer's body, the contrabass saxophone is typically fixed on a stand on the floor, allowing the performer to play the contrabass saxophone while still holding their current instrument. Another example occurs in the Variation section, where the performer can prepare by wearing the tenor saxophone while playing the sopranino saxophone, enabling an immediate transition from

sopranino to tenor saxophone - which is indeed necessary at this point in the work, where continuous playing between sopranino and tenor saxophones is required.

During performances, Kientzy follows specific instrument placement rules. As shown in Photograph 1, he typically positions Eb saxophones on his left side, Bb saxophones on his right side, and the contrabass saxophone behind him. This arrangement ensures that when Kientzy stands at the music stand, no saxophone is more than 1 meter away from him, allowing for the fastest possible instrument transitions during the performance. Additionally, Kientzy utilizes a special neck strap with open hooks to facilitate quick saxophone changes, allowing for one-handed switching without requiring the other hand to unfasten the hooks. The saxophones placed around him must not use mouthpiece caps, as these caps help keep reeds moist; however, using them would add extra steps to the switching process, which is disadvantageous when performing solo works that require multiple saxophones (Kientzy).

Photograph 1 - Daniel Kientzy with Seven Saxophones on Stage



Source: Photography (c2017)
Image description: An example of the manuscript.

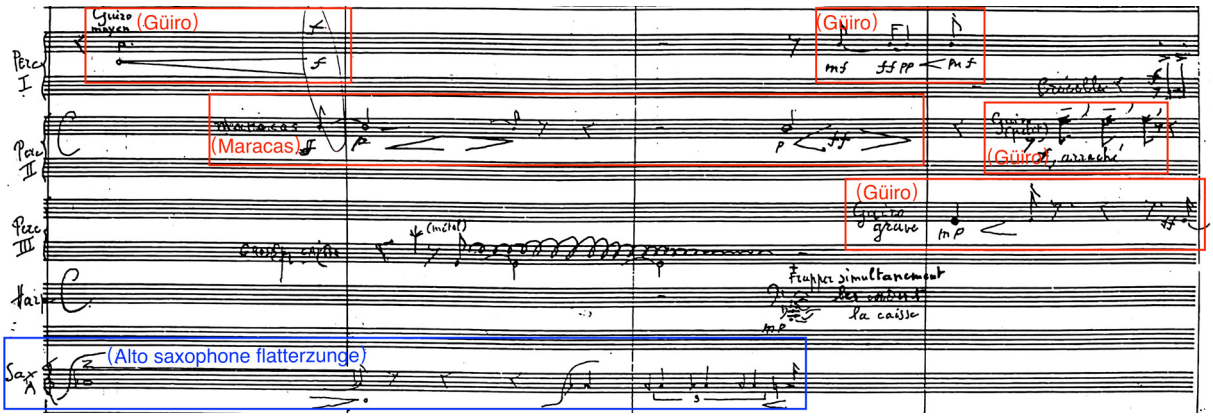
Supported by the comprehensive theoretical foundation of 122 innovative performance modes detailed in Daniel Kientzy's *Saxologie*, Roy pioneered the application of these performance modes across 7 saxophones in *Concerto*. Since these performance modes are most effective only on specific saxophones, Roy made corresponding arrangements in matching performance modes, saxophone types, and specific orchestral instruments, striving to incorporate them into the work in a natural rather than abrupt manner.

For example, at the beginning of the Jardin section, Roy applied "Flatterzunge" on the alto saxophone. "The Flatterzunge is a very rapid breaking up of the airflow, created by the back of the tongue 'rolling' or 'bouncing' about twenty to thirty times per second against the soft palate" (Kientzy, 1991, p. 289). Kientzy provides an optimistic description of Flatterzunge's performance on alto saxophone in *Saxologie*:

> On the sopranino and soprano, it's "fresh" and excellent across its entire range; the same goes for the alto and tenor, although there's a slight deficiency in the extreme low range where the sound tends to become very grainy. On the baritone, bass, and contrabass, the lowest fifth becomes excessively grainy and "dirty," with the sound appearing "perforated" (Kientzy, 1991, p. 289, our translation).

As shown in Figure 1, Roy used two percussion instruments here, Güiro and Maracas, to complement the alto saxophone's Flatterzunge. The distinctive scraping buzz of the Güiro and the rustling sound of the Maracas perfectly complement the saxophone's Flatterzunge.

Figure 1 - Percussion in Coordination with Alto Saxophone, Camille Roy's Concerto, 2nd movement, mm. 1-5.



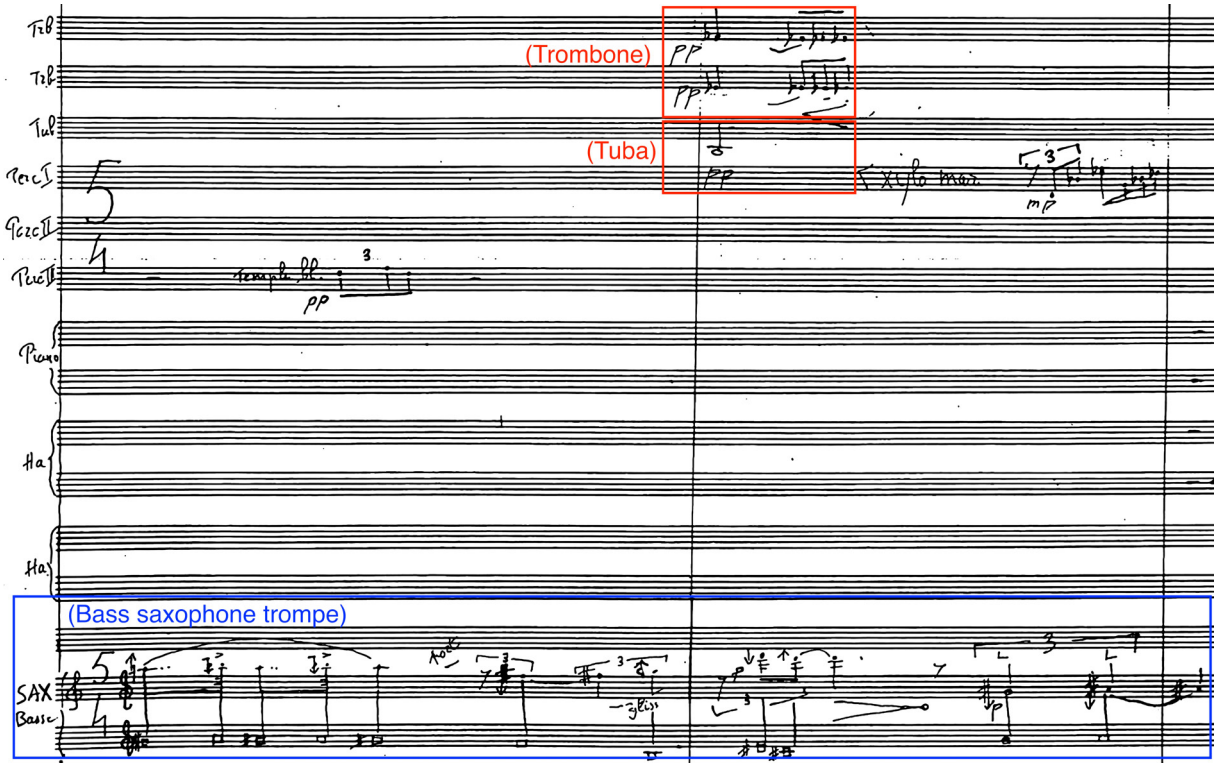
Source: Roy (1991)
Image description: Manuscript excerpt to exemplify the above description.

At the beginning of the Variation section, Roy chose to apply "Trompe" on the lower-ranged Bass Saxophone, creating a dialogue with the orchestra's Trombone and Tuba.

> Trompe is a playing technique that involves playing the saxophone (without the mouthpiece) by making the lips vibrate, turning them into lip reeds, directly on the top opening of the instrument (the neck, except for the Soprano and Sopranino). This technique produces a tone similar to a primitive and simple brass instrument while maintaining saxophone characteristics (Kientzy, 1991, p. 428, our translation).

Kientzy (1991, p. 428) affirms the effectiveness of Trompe on Bass Saxophone in *Saxologie*: "This technique is possible on all saxophones, but it works better on the lower ones due to the length of their tube (and their lesser degree of conicity)." As shown in Figure 2, Roy creates a dialogue between this performance mode, which combines characteristics of saxophone and brass instruments, with the Trombone and Tuba.

Figure 2 - Brass in Coordination with Bass Saxophone, Camille Roy's Concerto, 3rd movement, mm. 1-3.



Source: Roy (1991)
Image description: Manuscript excerpt to exemplify the above description.

3.2 Conservative Innovation in Luis de Pablo's *Une couleur,*

Une couleur was commissioned by Daniel Kientzy and the Music festival "Future Music" and premiered on January 20, 1989, in Fontenay, northern France, performed by Daniel Kientzy with the Orchestre national d'Île-de-France conducted by Arthuro Tamayo (L'ORCHESTRE NATIONAL D'ILE-DE-FRANCE)[3]. Daniel Kientzy recorded this work with the Orchestre National de Roumanie conducted by Remus Georgescu, and it was released as a single CD album (Nova Musica, 2000).

Une couleur consists of five movements, each distinct in timbre and character. According to Martínez García (2011, p. 294), the titles are drawn from Juan Larrea's poem "*Une couleur l'appelait Juan*,"

3 A printed program from 1989 of the National Orchestra of Ile-de-France, currently preserved at the Maison Résidence Studio Musée du Musicien Contemporain Kientzy located at 15 Rue du Vieux Château, 77230, Montgé-en-Goële, France.

written in memory of Juan Gris's death - this poem also being the source of the work's title. The movements are directly connected through interludes that the composer refers to as "Transitions." As shown in Table 2, Luis de Pablo employs five different saxophones, requiring the performer to change instruments seven times during the performance. However, unlike Camille Roy's *Concerto*, in *Une couleur* the saxophone performer has ample time averaging 28 bars between changes to switch instruments. In *Une couleur*, except for the first transition, where the tenor saxophone leads into the second movement, during each transitional passage, specific orchestral instruments reinterpret the thematic material that the saxophone has just played or is about to play.

Table 2 - Structure Chart of Une couleur

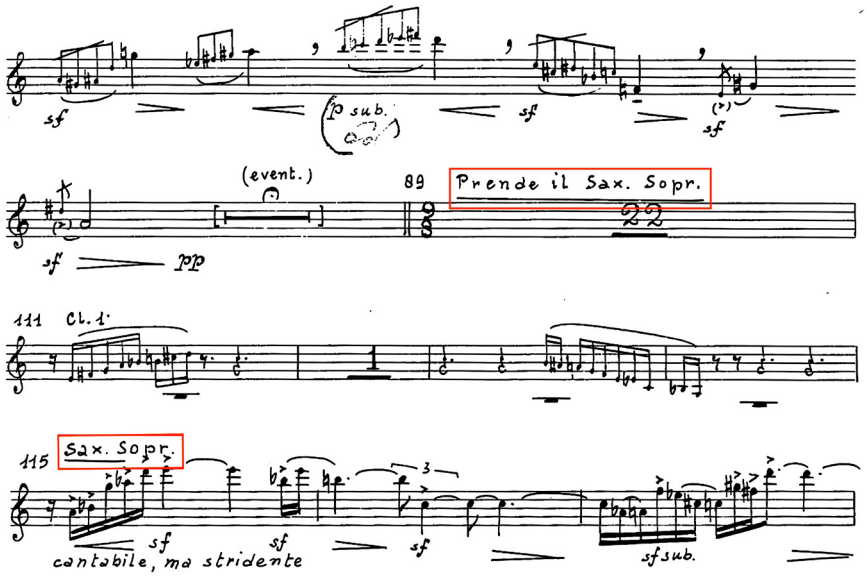
movement	Label	Saxophone	Bars
1st movement "La nuit encore plus triste que le papier buvard"	Letter A bars 1 to 90	Contrabass	3 to 81
1st transition	Letter B bars 1 to 22	Tenor	8 to 22
2nd movement "...le silence devi-ent doucement le festin d'oiseau"	Letter C bars 1 to 152	Tenor	1 to 88
		Soprano	115 to 151
2nd transition	Letter D bars 1 to 23		
3rd movement "Les fourmis traî-nent nos larmes de l'est a l'ouest"	Letter E bars 1 to 85	Baritone	1 to 80
3rd transition	Letter F no sig-nature		
4th movement "Il s'en alla par transparence"	Letter G bars 1 to 143	Sopranino	1 to 75
		Baritone	83 to 143

4th transition	Letter H bars 1 to 35		
5th movement "...sa tristesse assise au bord du ciel, comme un ange obèse"	Letter I bars 1 to 140	Tenor	13 to 140

Source: Created by the author.
Image description: Table supporting the text's analysis.

For example, in the 2nd movement, there is an interval of 27 bars (approximately 30 seconds) for the saxophone soloist to switch from Tenor to Soprano Saxophone. As shown in Figure 3, this interval connects two equally fast and energetic sections. The Tenor Saxophone transitions through a cadenza at bar 72 into an interval section primarily performed by flute, clarinet, and piano, maintaining the speed and energy of both surrounding sections. The Soprano Saxophone then introduces a brighter melody at bar 115. In the saxophone score, bar 89 contains the written instruction "Prende il Sax. Sopr." indicating that the performer should change to and pick up the Soprano Saxophone at this point.

Figure 3 - Saxophone Solo Part, Une couleur, 2nd movement, Letter C, mm. 87-117.



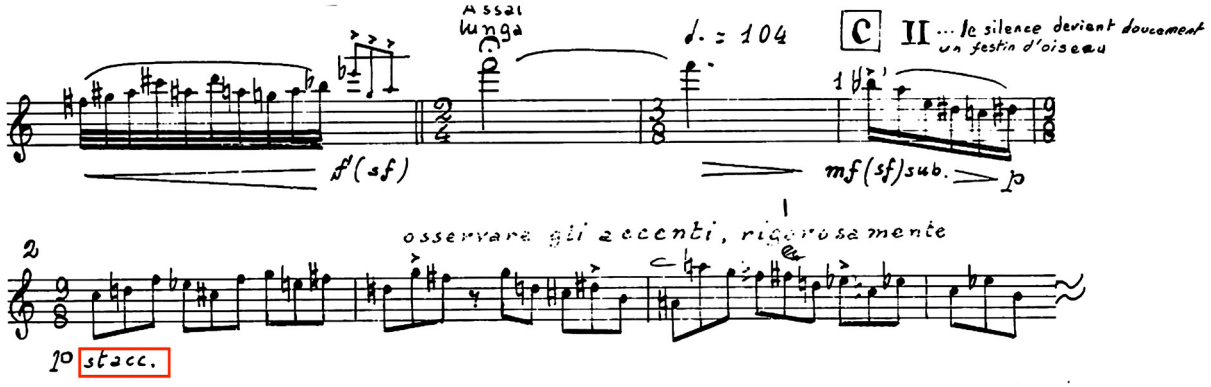
Source: De Pablo (1988)
Image description: Manuscript excerpt to exemplify the above description.

The 2nd transition, consisting of 23 bars and lasting approximately 60 seconds, serves as a bridge connecting two movements with different tempos and different solo instruments, transitioning from the second movement's fast tempo of 104 beats per minute with Soprano Saxophone solo to the third movement's 52 beats per minute with Baritone Saxophone solo. The 2nd transition itself gradually progresses from 80 beats per minute to 60 beats per minute at its conclusion. An oboe solo engages in dialogue with flute, clarinet, and bassoon, presenting a melodic theme that gradually decelerates to the new tempo. This interlude's thematic material more closely resembles the musical language that the Baritone Saxophone will show in the following movement.

Unlike Camille Roy's *Concerto,* with its diverse application of playing techniques, although Luis de Pablo innovatively used multiple saxophones in his work, he preferred to maintain a more traditional approach in other musical aspects. During their meeting before composition, Daniel Kientzy detailed his research findings on innovative playing modes from *Saxologie* to Luis de Pablo. However, Luis de Pablo indicated that he would not incorporate these new playing modes, instead choosing to create a work where five saxophones would play in their inherent traditional manner (Martínez García, 2011, pp. 293-294).

The only instance of a special playing technique appears in the tenor saxophone part from measures 2-33 of the 2nd movement, where slap tongue is used in the album recording (Nova Musica, 2000). This is a saxophone technique where the player creates a popping sound by quickly releasing the tongue from the reed, producing a vacuum effect. However, the saxophone score contains no slap tongue notation, only staccato markings (Figure 4). Daniel Kientzy believed that since the entire orchestra was performing pizzicato at this point, using a slap tongue on the saxophone would better integrate with the ensemble (Kientzy). This modification was added following Daniel Kientzy's suggestion after the work's composition and was not part of Luis de Pablo's original arrangement.

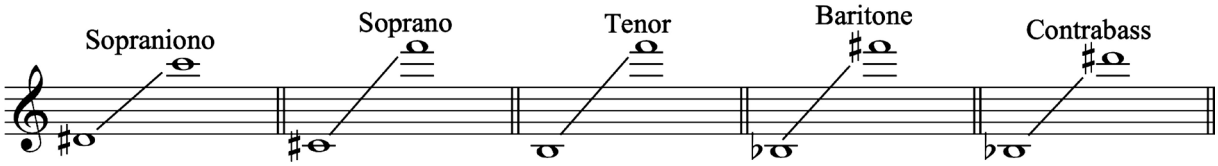
Figure 4 - Saxophone Solo Part of the 2nd movement, Une couleur, Letter C, mm. 1-4.



Source: De Pablo (1988)
Image description: Manuscript excerpt to exemplify the above description.

As shown in Scheme 1, Luis de Pablo did not extend any saxophone beyond its normal range in *Une couleur*, given that the saxophone family has considerable overlapping ranges. When using multiple saxophones in a composition, there is no reason to employ altissimo technique (higher notes achieved beyond the standard fingering range) while forgoing another saxophone's normal range; this allows performers to focus more on musicality rather than precise oral airflow control. It's worth noting that Sigurd Rascher began advocating for saxophone Altissimo in the 1940s. After more than 40 years of development and refinement by performers, by 1988, when "*Une couleur*" was composed, this had already become a standard performance technique in contemporary saxophone music (Londeix, 2019, p. 189).

Scheme 1 - Register of the saxophones used



Source: Created by the author.
Image description: Score excerpt to exemplify the above description.

Beginning in 1981, through Kientzy's close collaboration with composers, a surge of solo works emerged that incorporated multiple saxophones. Two landmark compositions in particular—Luis de Pablo's *Une couleur* (1988) and Camille Roy's *Concerto* (1991)—stand as milestones in the comprehensive use of the saxophone family in solo performance. While these two works demonstrate significantly different compositional approaches, analysis of these pieces reveals that incorporating multiple saxophones within a single solo work effectively expands the saxophone's expressive capabilities. Moreover, the contrasting nature of these two compositions further validates the positive impact of Kientzy's theoretical innovations, such as *Saxologie*, on the development of multiple saxophone solo works and the concept of The Saxophone Total.

4. From "Phonostück" to "Archisax" (2008-Present)

Before delving into the innovative musical form of Archisax, it is essential first to examine Daniel Kientzy's related early explorations. As a crucial component of his musical practice, the concept of Phonostück, which Kientzy previously created, accumulated rich practical experience and a significant body of work in sound recording, laying a solid foundation for his subsequent musical innovations. Building upon these preliminary explorations, Kientzy began developing the new musical form of Archisax in 2008. The developmental trajectory from Phonostück to Archisax demonstrates the evolution of his musical ideas. To fully comprehend the artistic essence of Archisax, it is necessary first thoroughly to examine Phonostück as its important precursor concept.

4.1 Phonostück

Phonostück is a new musical concept created by Daniel Kientzy. Here, "stück" is a German suffix typically translated as piece or work, and in musical terminology, it refers to a musical composition or piece. For example, Concertstück, composed of "Concert" and

"stück," means concert piece and typically refers to an independent piece specifically composed for a concert performance, which could be a solo, ensemble, or orchestral work. According to Kientzy, Phonostück, combining "Phono" (sound, audio) and "stück" means an audio piece. It is a work intended for recorded playback, and while it can sometimes be played at concerts or combined with live performances, in most cases, Phonostück cannot be presented in a live concert setting. Another way to understand Phonostück is through the relationship between film and theater. Compared to theater, film allows for the expression of duplicate content with greater detail. For instance, in films, you can see cars driving everywhere, collapsing mountains, swimmers in pools, or people on mountains - elements that cannot be portrayed in theater.

The earliest explorations similar to Phonostück can be traced back to a series of musical innovations triggered by Thomas Alva Edison's improvement and refinement of the phonograph in 1877. According to Morgan (2016, pt. 3, chap. 10), as early as 1907, Ferruccio Busoni discussed in his *Sketch of a New Aesthetic of Music* that the "exhaustion" of old traditions would soon lead composers towards "absolute sound, unbound technique, and unlimited sonic materials." Against this background, various musical forms and concepts similar to Phonostück emerged, such as "Musique Concrète," proposed by Pierre Schaeffer in 1948 (Morgan, 2016, pt. 3, chap. 10), who used recorded sound materials as compositional elements, processing and editing actual sounds through recording technology. Additionally, "Electronic Music" was developed in Cologne during the 1950s by composers such as Karlheinz Stockhausen (Morgan, 2016, pt. 3, chap. 10), who utilized electronically synthesized sounds as compositional material. Both Musique Concrète and Electronic Music emphasized the importance of acoustical engineering and sound sources. Daniel Kientzy's Phonostück, on the other hand, emphasizes the relativity of this musical form to works performed in concerts. Phonostück can be seen as a continuation and development of these historical practices, inheriting previous explorations of sound media while maintaining its unique artistic expression.

Mi ha sefer is a typical Phonostück work, "Commissioned by the French Ministry of Culture and Communication" (Centre Européen pour la Recherche Musicale)[4] and composed by Italian composer Aldo Brizzi in 1986 for Daniel Kientzy, and was later published in 1996 on the CD *PUR-SAX* (Nova Musica, 1996).

This is a Phonostück composition consisting of 153 saxophone parts. Since Phonostück was not designed for live performance, no score for the 153 saxophone parts exists; However, a detailed written description of Brizzi (1986) has been preserved: "The original consists of 153 tracks where 153 real parts are recorded by Daniel Kientzy using various saxophones across 6 different octaves. Each voice (part) of every section has a precise microtonal interval relationship with the starting G# (1/4, 1/5, 1/6, 1/7, or 1/8)." According to line notes of Nova Musica (1996), *Mi ha sefer's* 153 saxophone parts comprise 34 bass saxophones, 37 tenor saxophones, 36 soprano saxophones, and 46 sopranino saxophones. If this piece were to be performed live, it would require 153 saxophone players, and they would need to perform precise microtonal intervals in relation to each other.

When Daniel Kientzy recorded the original material for the tape part, the precise microtonal intervals required him to first guide his intonation by observing a stroboscope behind the recording studio's glass window. Each microtone had to be numerically represented, and appropriate saxophone fingerings had to be found before recording. It's evident that this would be impossible to achieve in a live concert setting. However, abandoning such innovative ideas, such as microtonal intervals and 153 saxophone parts, for the sake of live performance would clearly be regrettable (Kientzy).

Phonostück, a new musical concept established by Daniel Kientzy, fully demonstrates his pioneering exploration of sound media and modes of expression. Phonostück inherits from earlier musical practices, such as Musique Concrète and Electronic Music, while expanding the expressive possibilities of saxophone music.

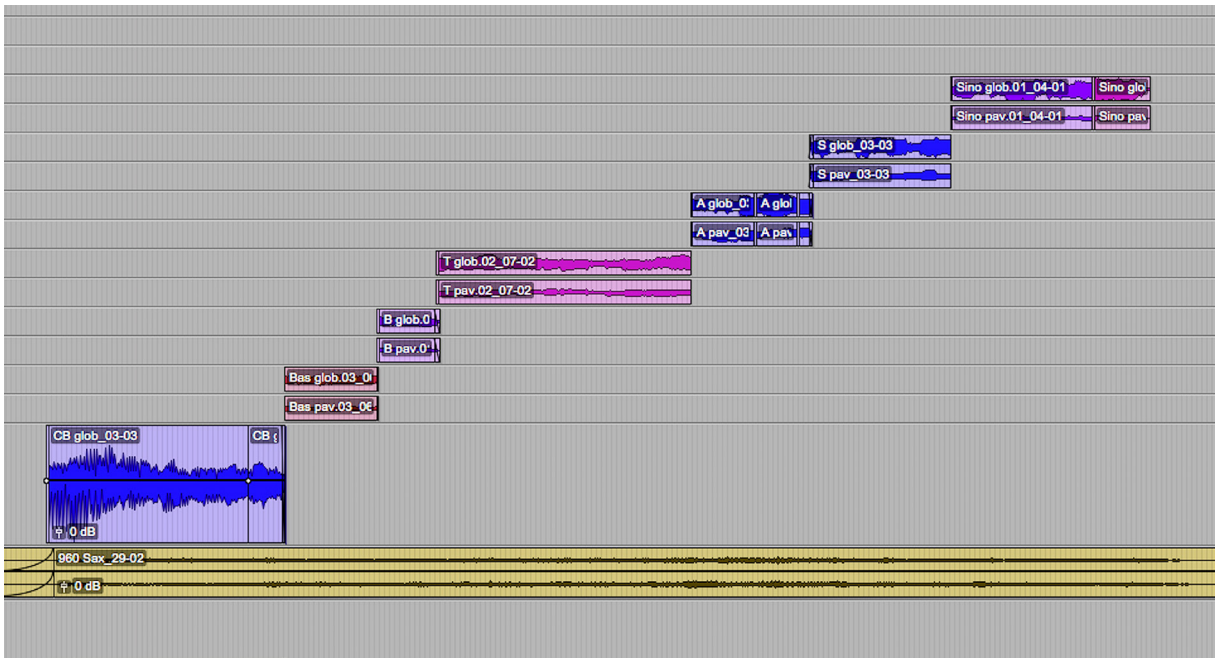
4 A printed program from the European Center for Musical Research - Metz dated November 20, 1986, currently preserved at the Maison Résidence Studio Musée du Musicien Contemporain Kientzy located at 15 Rue du Vieux Château, 77230, Montgé-en-Goële, France.

4.2 Archisax

Archisax evolved from the foundation of Phonostück, consisting of musical works created through the recording, editing, and restructuring of saxophone sounds presented in recorded form. Archisax treats the saxophone family as a unified super saxophone, representing an artistic form of single-voice composition that encompasses all notes from the lowest pitch of the Contrabass Saxophone to the highest pitch of the Sopranino Saxophone. Archisax represents the ultimate manifestation of Daniel Kientzy's The Saxophone Total concept as it has evolved to the present.

Figure 6 presents a track image of a complete ascending chromatic scale in Archisax, created by Daniel Kientzy using Pro Tools, serving as a visual explanation of the Archisax concept. First, Kientzy eliminated unnecessary transition intervals between different types of saxophones. Second, he selectively removed overlapping ranges among the seven saxophones, with only two fixed requirements: the Contrabass Saxophone must start from its lowest note, and the Sopranino Saxophone must include its highest note. For all other saxophones, he selected the optimal ranges for interconnection. For instance, we can observe that Kientzy chose to use more notes from the Tenor saxophone and fewer from the Baritone saxophone. Through these methods, he seamlessly and evenly connected the notes from all seven saxophones.

Figure 5 - Track image of Archisax Chromatic based on Pro Tools.



Source: Created by Daniel Kientzy.
Image description: Figure used as an example of the manuscript.

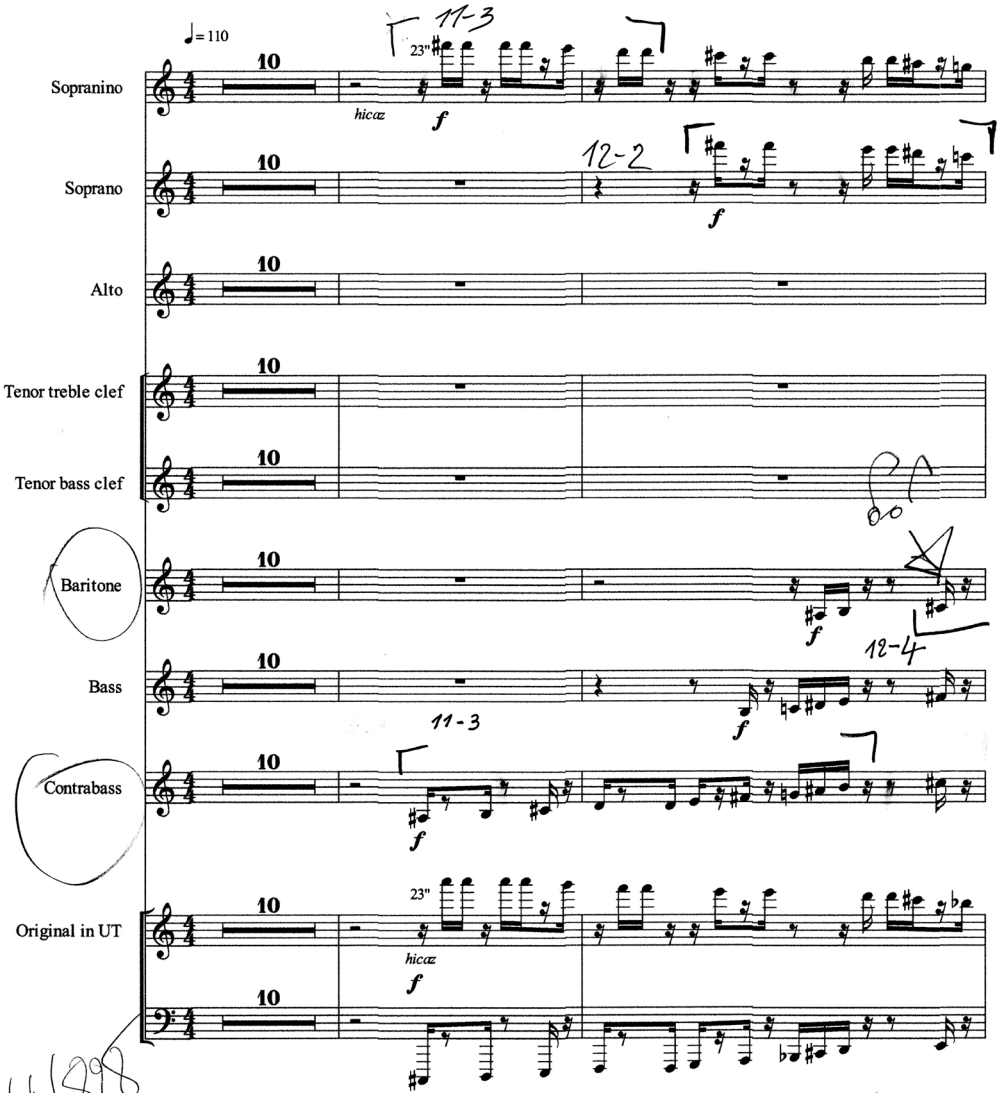
Daniel Kientzy began his exploration of Archisax in 2008 with *Silent durations XXVI* composed by Drake Mabry marking the pioneering work in this form. In his catalog, Drake Mabry labeled this novel musical form as "Maxi-Sax" (Mabry, 2015), a term similar in meaning to Archisax, both indicating an expansion and integration of traditional saxophone concepts. According to Kientzy, over the course of more than a decade of exploration, Daniel Kientzy has collaborated with five composers to create 24 works based on the Archisax concept.

Motet is a highly representative Archisax work, both in terms of its compositional approach and expressive form, composed by Drake Mabry for Daniel Kientzy in 2019. Its duet version, titled *Motet-Mello*, featuring Archisax and Mellotron, was published in Kientzy's 2023 CD *12 duos pour saxophones divers et instruments variés* (Nova Musica, 2023).

Due to the extensive overlapping ranges among the seven saxophones, from the Contrabass Saxophone to the Sopranino Saxophone, choices must be made regarding "which saxophone should play which notes." According to Kientzy, In the initial exploration of the Archisax form, Daniel Kientzy had asked composers to write separate parts for different saxophones, but the results were not satisfactory. For composers who had not actually played all seven saxophones they could not always find suitable allocation schemes for instrument choice in Archisax. Therefore, in all subsequent Archisax compositions, Daniel Kientzy became responsible for determining the note distribution. Composers would first create a part containing all notes without distinguishing between saxophone types, and then Daniel Kientzy would make the selections and adjustments.

For example, Figure 6 shows a page of the *Motet* Archisax score used by Daniel Kientzy for selection and adjustment, with all handwritten content marked by him. This score includes both the actual pitch score (Original in UT) at the bottom and transposed scores for all seven saxophones listed separately. The score indicates possible notes in all seven saxophone parts for comparison and selection, excluding altissimo notes. According to Daniel Kientzy's handwritten annotations, he chose Contrabass, Baritone, Soprano, and Sopranino Saxophones to play the corresponding notes in measures 11-12.

Figure 6 - Archisax Score, Motet, mm. 1-12.



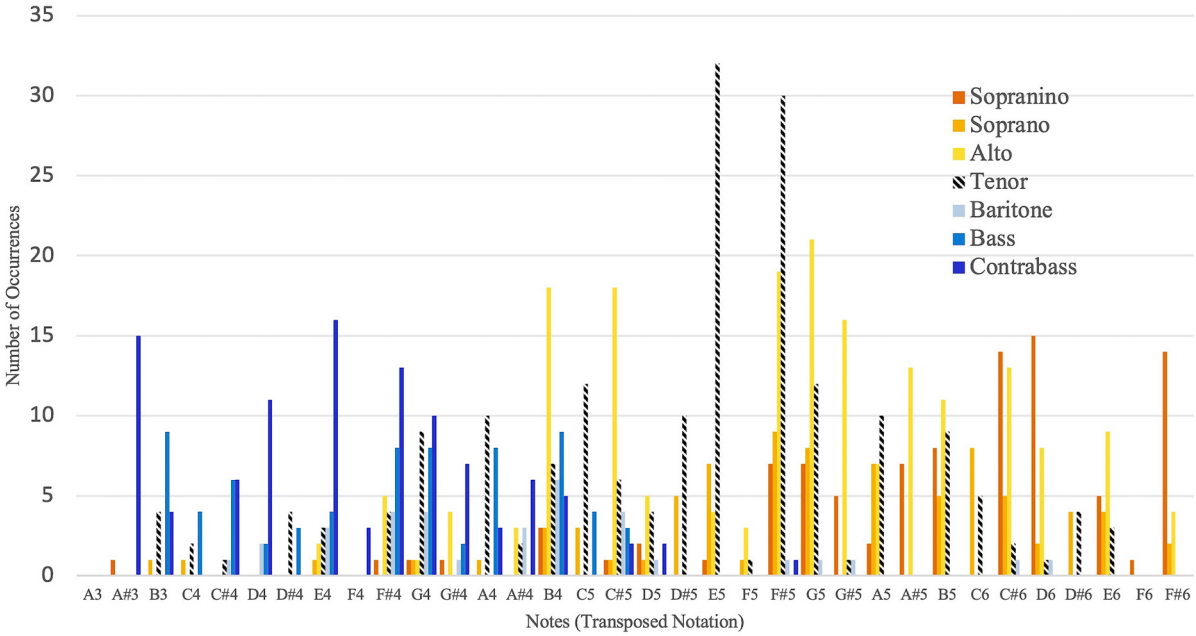
Source: Mabry (2019)
Image description: Score and markings that exemplify the above description.

According to Kientzy, In selection and adjustment, Daniel Kientzy grants the Tenor Saxophone full range access. Based on considerations of superior tonal production ranges for each saxophone, Lower Saxophones (contrabass, bass, and baritone) are restricted to playing only in the lower register. At the same time, Higher Saxophones (alto, soprano, and sopranino) are limited to the higher register. Additionally, due to the saxophone's octave key system design, melodic passages crossing C#5 and D5 can cause variations in timbre and intonation. Therefore, under transposed

notation rules, Daniel Kientzy consistently arranges for Lower Saxophones to play notes C#5 or below and Higher Saxophones to play D5 or above when melodic passages occur. Furthermore, to maintain overall uniformity, altissimo notes are prohibited across all seven saxophones. While there are occasional exceptions to these guidelines, overall, Kientzy has achieved effective results using this method to connect all seven saxophones seamlessly.

Chart 1 shows an analysis of note distribution among the seven saxophones in *Motet.* The horizontal axis displays the Scientific Note Notation for transposed saxophones, ranging from the lowest to highest notes in the saxophone's complete range. The vertical axis indicates the frequency of each note's appearance after Daniel Kientzy's selection and adjustment; multiple notes of the same pitch connected by ties are counted as a single note. It's evident that the cool-colored Lower Saxophones and warm-colored Higher Saxophones are clearly distributed in their respective low and high registers, roughly divided at C#5 or D5, while the Tenor Saxophone shows a more uniform distribution across its entire range. This demonstrates that in *Motet*, the contrabass, bass, and baritone saxophones primarily play in their lower registers, while the alto, soprano, and sopranino saxophones mainly perform in their higher registers. The Tenor Saxophone plays across its entire range, including both high and low registers, serving as a bridge between the Lower and Higher Saxophone groups, thereby unifying all seven saxophones into a cohesive whole.

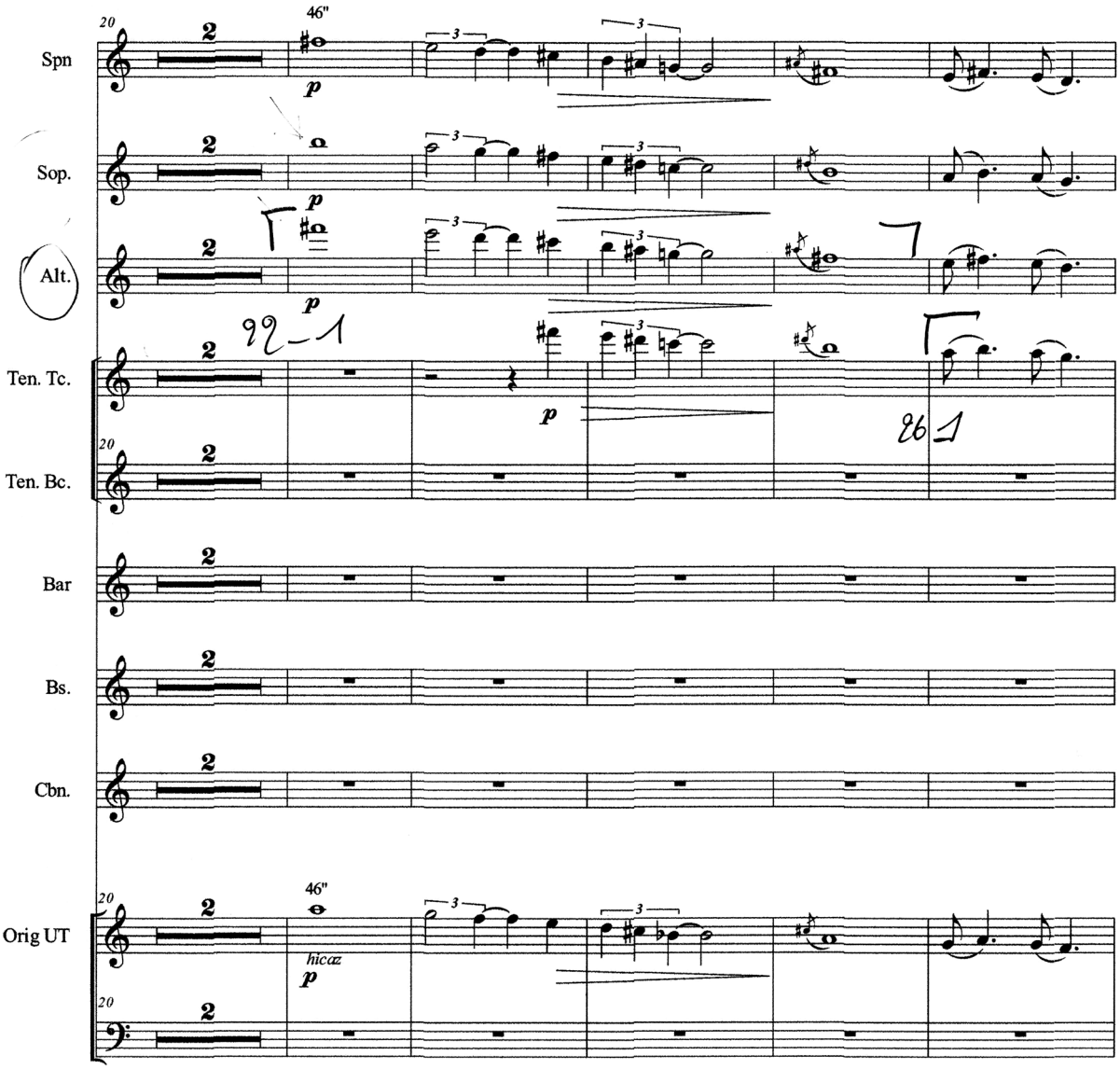
Chart 1 - Note Distribution Analysis in *Motet* for Seven Saxophones (Transposed Notation)



Source: Created by the author.
Image description: Chart supporting the text's analysis.

The melody in measures 23-26 of Figure 7 falls within the range of Alto, Soprano, and Sopranino saxophones. According to Daniel Kientzy's markings in the score, he ultimately chose to use the Alto saxophone. We can observe that both Soprano and Sopranino saxophones would need to cross from their high register to the middle register using the octave key in this melody, which would create a certain disruption affecting the melodic fluidity. By choosing the Alto saxophone instead, this issue could be avoided.

Figure 7 - Archisax Score, Motet, mm. 20-26.



Source: Mabry (2019)
Image description: Score and markings that exemplify the above description.

Building upon his earlier experiences with Phonostück, which explored new concepts in sound media and expression, Kientzy began his exploration of Archisax in 2008. Archisax represents a single-voice compositional art form that treats the entire saxophone family as a unified whole, embodying the ultimate manifestation of Kientzy's The Saxophone Total concept as it has evolved to the present. Case studies have demonstrated that Archisax achieves

a seamless integration of all members of the saxophone family through Kientzy's deep involvement in the creative process, which includes the rational distribution of seven saxophones and their playing registers, combined with electroacoustic production techniques involving recording, editing, and sound restructuring.

5. Conclusions

While Kientzy continues to explore saxophone music to this day actively, this research reveals that his exploratory activities, centered on the saxophone family, spanning from 1968 to the present, have already achieved a substantial scale and systematic structure connected through distinct temporal nodes and their corresponding significant activities. These include Kientzy's initial contact with the saxophone in 1968; his experimental research on multiphonics from the 1970s to early 1980s; his acquisition of a complete set of seven saxophones in 1983; the surge of multi-saxophone solo works composed explicitly for Kientzy beginning in 1981; the emergence of two milestone works that exemplify the comprehensive use of the saxophone family in solo performance - Luis de Pablo's 'Une couleur' (1988) and Camille Roy's 'Concerto' (1991); and his ongoing exploration of Archisax since 2008. These developments trace a clear progression of Kientzy's approach to the saxophone family members, evolving from scattered to seamlessly integrated applications.

Furthermore, Kientzy's comprehensive application system for the saxophone family, including timing calculation methods for switching between multiple saxophones, applicability assessment of different performance techniques across seven saxophones, principles for pitch range distribution among seven saxophones in Archisax, and a compositional model with deep performer involvement in Archisax, has established new theoretical frameworks for modern saxophone music. These innovations have transcended the traditional limitations of saxophone music in terms of performance techniques, expressive forms, and compositional thinking. In the broader historical context of the

saxophone, Kientzy's reform of the saxophone family has provided a path to revitalize Adolphe Sax's grand vision for the saxophone family, dating back to the 1840s.

In the current era of accelerating global cultural integration and rapid technological development, based on Daniel Kientzy's mature experience, how to conduct more profound model innovations with other families of instruments and how to organically integrate these new models with world music cultures are directions more worthy of future research and exploration.

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Zhaoxiang Jiang - Conceptualization, methodology, investigation, data collection and analysis, writing, as part of his doctoral dissertation.

Wisuwat Pruksavanich - Supervision, validation, review and editing, doctoral dissertation advisor.

Research ethics committee approval

The research was conducted in accordance with International Guidelines for Human Research Protection, including the Declaration of Helsinki, The Belmont Report, CIOMS Guidelines, and the International Conference on Harmonization in Good Clinical Practice (ICH-GCP). The study was approved by the Ethics Committee of Mahidol University (Protocol No. MU-CIRB 2024/430.3010) on November 15, 2024.

Publisher

Federal University of Goiás. School of Music and Performing Arts. Graduate Program in Music. Publication in the Portal of Periodicals UFG.