



# Exploring Selected Twelve-Tone Serial Piano Works by Schoenberg and Dallapiccola

**Ming Zhao**

The Chinese University of Hong Kong, Shenzhen, Shenzhen 518172, Guangdong, China

DOI: 10.32629/asc.v4i2.1456

---

**Abstract:** This paper delves into the comparison of following compositions — Schoenberg’s Piano Suite, Op.25 and Dallapiccola’s *Quaderno Musicale di Annalibera*. The objective of this paper is to examine and provide answers to the following three enquiries: 1. What are the similarities between Piano Suite, Op.25 and *Quaderno Musicale di Annalibera*? 2. In what ways do these two compositional works, both utilising the same serial technique, exhibit differences? 3. Following the analysis, what advantages may be derived for the teaching process and performance? This study aims to enhance the larger comprehension of serial piano compositions and their contextual significance within the realm of serial technique by conducting a thorough examination of Piano Suite, Op.25 and *Quaderno Musicale di Annalibera*. By unraveling their similarities, differences, and educational implications, this research endeavors to provide valuable insight for performers, educators, and enthusiasts passionate about exploring the rich world of contemporary classical music.

**Keywords:** twelve-tone serial, Schoenberg, Dallapiccola, contemporary classical music

---

## 1. Introduction

Within the field of music analysis, examining the parallels and distinctions between two compositions crafted using the same creative process can yield significant insights into the artistic comprehension and expressive capacities for musicians. This paper delves into the comparison of following compositions — Schoenberg’s Piano Suite, Op.25 and Dallapiccola’s *Quaderno Musicale di Annalibera*. The objective of this paper is to examine and provide answers to the following three enquiries: 1. What are the similarities between Piano Suite, Op.25 and *Quaderno Musicale di Annalibera*? 2. In what ways do these two compositional works, both utilising the same serial technique, exhibit differences? 3. Following the analysis, what advantages may be derived for the teaching process and performance?

This study aims to enhance the larger comprehension of serial piano compositions and their contextual significance within the realm of serial technique by conducting a thorough examination of Piano Suite, Op.25 and *Quaderno Musicale di Annalibera*. By unraveling their similarities, differences, and educational implications, this research endeavors to provide valuable insight for performers, educators, and enthusiasts passionate about exploring the rich world of contemporary classical music.

## 2. Before Twelve-tone Serialism

Throughout the history of Western music, from the inception of keyboard music to the culmination of the Romantic period, tonal music has consistently served as a prevailing harmonic framework. During the 20th century, Arnold Schoenberg introduced a groundbreaking departure from traditional musical practices through the development of twelve-tone serialism. The transition away from tonality in music’s history represented a pivotal moment in the shift from the Romantic period to the 20th century era in music. The aforementioned composing technique had significant influence as numerous prominent composers of the 20th century embraced the principles of twelve-tone serialism, notable figures who pursued this road include Alban Berg, Anton Webern, Igor Stravinsky, Pierre Boulez, Samuel Barber, and Luigi Dallapiccola.

## 3. Schoenberg’s Twelve-tone Serialism

The inception of twelve-tone serialism can be attributed to Arnold Schoenberg during the early 1920s.[1] This technique is a method of musical composition where all 12 notes of the chromatic scale have equal harmonic importance. Arnold Schoenberg, in his capacity as the leader of the Second Viennese School, assumed the principal role in advocating for the technique. The methodology described refers to a method of organizing the 12 notes of the chromatic scale based on tone rows. The 12 chromatic pitches, namely C, C sharp, D, D sharp, E, F, F sharp, G, G sharp, A, A sharp, and B, exhibit identical

functional significance within tone rows. To streamline the process of tone identification, Schoenberg employed a numerical system rather than conventional note names wherein the pitch C is represented by the number 0, C sharp by 1, and so forth. Consequently, it is possible to designate all twelve tones, commencing from C, with numerical values ranging from 0 to 11. (PPT) (Figure 1)



Figure 1. Numerical notation of notes

The tone row exhibits a range of transformations — it may appear as an inversion (I), (PPT) retrograde (R), or retrograde-inversion (RI), in addition to its prime form (P). In each of its four changes, the row can commence on any degree of the chromatic scale (12 notes), thus every row has a total of 48 different forms.

Significantly, his piano suite serves as a prominent example of the composer's initial significant endeavor in employing twelve-tone serialism. This composition not only anticipated future developments but also marked as a crucial milestone that heralded the emergence of serialism as a prevailing trend in music.

## 4. Similarities Between Piano Suite, Op.25 and *Quaderno Musicale di Annalibera*

### 4.1 Same composing technique

Both works embraced twelve-tone technique. The conventional structure of a suite traditionally encompassed a sequence of instrumental movements that were organized in a coherent tonal framework. In contrast, serial music adopts a different approach. In the context of serial music, it is imperative for composers to employ a consistent tone row, as opposed to relying on comparable tonalities, in order to establish a cohesive connection between particular movements. This characteristic of serial composition highlights a departure from the traditional tonal framework and emphasizes the systematic organization and manipulation of pitch relationships as the primary compositional structure which allows for precise design over the melodic, harmonic, and rhythmic elements, enabling composers to convey their expressive intentions with precision. This technique introduces new opportunities for expanding the limits of conventional tonality and exploring novel methods of shaping and conveying musical concepts.

### 4.2 Same Instrumentation

Both works, Schoenberg's Piano Suite and Dallapiccola's *Quaderno Musicale di Annalibera*, stand out as large-scale compositions specifically written for solo piano. While the majority of serial works were often composed for chamber ensembles or concertos, such as Schoenberg's String Quartet No. 3, Op. 30, and Concerto, Op. 36, as well as Webern's Quartet, Op. 22, and Concerto, Op. 24, these two pieces focus solely on the solo piano. This instrumental setting presents composers with a distinct challenge and opportunity to delve deeper into their tone row design while exploring the full potential of the piano as a solo instrument. By primarily focusing on solo piano, Schoenberg's Piano Suite and Dallapiccola's *Quaderno Musicale di Annalibera* exploit the expressive potential of this singular instrument. The diverse range of pianistic approaches and the intimate context of the solo piano performance provide an ideal platform for a concentrated examination of tone row structures and distinctive musical interpretations.

### 4.3 Same Duration

Both works were written in multiple movements. Schoenberg's Piano Suite has six movements while Dallapiccola's *Quaderno Musicale di Annalibera* has eleven movements. Both works have a similar duration of approximately 14 minutes and 10 seconds. In comparison to other serial solo piano compositions, such as Barber's Nocturne for piano solo, Op.33 (a single movement with a duration of 4 minutes and 20 seconds) and Webern's Variation for piano solo, Op. 27 (consisting of three movements with a duration of 6 minutes and 50 seconds), these two works stand out as unique due to their large-scale nature in serial repertoire written for solo piano.

### 4.4 Baroque influences

In form and style, Schoenberg's Piano Suite echoes many features of the Baroque suite, evident in the movement titles:

Präludium, Gavotte, Musette, Intermezzo, Menuett-Trio, Gigue. Just as Schoenberg's Suite for Piano was constructed based on Baroque dance forms, Dallapiccola's *Quaderno Musicale di Annalibera* also shows the influence of Baroque Era practices. A movement titled "Symbol" opens the work. The 10 short movements that follow alternate between freely expressive movements ("Accents", "Shadows", and "Colors") and various species of canon titled with a term J.S. Bach used in the Art of Fugue, "Contrapunctus".(Table 1)

**Table 1. Titles of Each Movement (*Quaderno Musicale di Annalibera*)**

Movements
I. Simbolo
II. Accenti—III. Contrapunctus 1
IV. Linee—V. Contrapunctus 2
VI. Fregi—VII. Contrapunctus 3
VIII. Ritmi—IX. Colore—X. Ombre
XI. Quartina

#### 4.5 Use of BACH motives

Schoenberg's Piano Suite employs a basic tone row composed of the following pitches in succession: E-F-G-D  $\flat$ -G  $\flat$ -E  $\flat$ -A  $\flat$ -D-B-C-A-B  $\flat$ . Notably, the final four pitches of the row form the retrograde of Bach's name. In certain movements, such as the fifth movement, Schoenberg incorporates the retrograde form of this tone row, which begins with the thematic motif "BACH" (consisting of the notes B  $\flat$ -A-C-B).

In *Quaderno Musicale di Annalibera*, the fundamental tone row is constructed as A $\sharp$ -B-E  $\flat$ -G  $\flat$ -A  $\flat$ -D-D  $\flat$ -F-G-C-A-E. Notably, within the Prime Form of this tone row, the third, sixth, eighth, and twelfth notes comprise transposed versions of the BACH motif. This deliberate incorporation of Bach's name adds a fascinating layer of musical symbolism and allusion to both suites. This connection serves to establish a poignant link between the contemporary work and the rich legacy of Baroque music, offering listeners an additional dimension to explore and appreciate.

These Baroque influences: reflect a deliberate nod to the characteristic movements found in traditional Baroque suites, showcasing Schoenberg's engagement with the historical musical tradition. Through the incorporation of these well-known movement designations, Schoenberg demonstrates his reverence for historical traditions while simultaneously integrating his distinctive creative style, thereby creating a synthesis of modern serial techniques with aspects evocative of the Baroque period.

### 5. Differences Between Piano Suite, Op.25 and *Quaderno Musicale di Annalibera*

#### 5.1 Atonality and Tonal Atonality

Schoenberg described his Suite for Piano, Op. 25 as his first larger work in the style of twelve-tone serialism.[2] This composition exhibits a forward-thinking nature and serves as a significant milestone in the emergence of serialism as a prevailing musical trend. Although the twelve-tone approach of serialism has exerted a significant influence and has been seen as a revolutionary development in music, it has not been immune to critical scrutiny. The primary source of controversy surrounding this musical style lies in its melodic constraints and intrinsic absence of tonal structure, which posed challenges in gaining acceptance among audiences. Subsequently, several composers began to integrate the atonal characteristics of twelve-tone serialism with conventional tonal elements. Luigi Dallapiccola was exposed to the concepts of the Second Viennese School throughout the 1930s, an experience that had a tremendous impact on his artistic development.[3] The artist's compositions extensively employ the methodology of serialism, which was invented and accepted by his esteemed influences. Notably, he holds the distinction of being the inaugural Italian composer to adopt this particular style. Moreover, he made significant advancements in serialist methodologies, enabling the integration of a more melodious and tonal approach. Despite the use of serialism, the composer managed to retain a sense of melodic continuity that critics of the Second Viennese School often argued was lacking in contemporary dodecaphonic compositions.

**МЕЛУЭТ**

**Moderato (♩ = ca 88)**

Figure 2. Schoenberg's Piano Suite, Movement 5

**N. 1 - SIMBOLO**

**Quasi lento (♩ = 84) *mf; sost.***

Figure 3. *Quaderno Musicale di Annalibera*, Movement 1

**N. 2 - ACCENTI**

**Allegro; con fuoco (♩ = 112)**

Figure 4. *Quaderno Musicale di Annalibera*, Movement 2

When comparing Schoenberg's composition (Figure 2) to the previously given examples, it becomes evident that he utilizes a larger quantity of distinct single notes in order to maintain the atonal concept. This selection enables the utilization of a musical language that is characterized by dissonance and fragmentation, wherein individual pitches exist autonomously

without any harmonic associations. In contrast, Dallapiccola utilizes a larger amount of chordal structures to maintain tonal references within his composition. Triads and seventh chords can be found, such as in measure 5 of movement 1 (Figure 3) and measure 4 of movement 2 (Figure 4). By incorporating chords, he establishes tonal centers and points of reference that provide a sense of stability amidst the serial framework. The divergent methodologies employed by these composers add to the unique attributes and communicative aspects present in their respective serial compositions.

## 5.2 Vertical and Horizontal Approach of Using BACH Motif

Both works, Schoenberg's Piano Suite and Dallapiccola's *Quaderno Musicale di Annalibera*, feature the incorporation of the BACH motif. However, they take different approaches to manipulate this motif. In Schoenberg's composition, the last four pitches of the basic tone row (E-F-G-D  $\flat$ -G  $\flat$ -E  $\flat$ -A  $\flat$ -D-B-C-A-B  $\flat$ ) form the retrograde version of the BACH motif. Schoenberg utilizes this motif in a successive and horizontal manner with octave displacement, as showcased in Figure 5. For further inconspicuous statements of the BACH motive, Schoenberg used retrograde-inversion form in measure 42 to state the BACH theme in yet another figuration in Figure 6 (HCAB). These creative manipulations allow for inconspicuous and varied statements of the BACH motif, adding depth and logic to Schoenberg's composition.



Figure 5. Schoenberg's Piano Suite, Movement 5



Figure 6. Schoenberg's Piano Suite, Movement 5

In contrast, Dallapiccola takes a different approach to the manipulation of the BACH motif in his composition. Within his tone row (A $\sharp$ -B-E  $\flat$ -G  $\flat$ -A  $\flat$ -D-D  $\flat$ -F-G-C-A-E), he conceals the BACH motif within the 3rd, 6th, 8th, and 12th notes of the tone row. This necessitates a vertical manipulation of the motif. Rather than emphasizing as the single melody with octave displacement, Dallapiccola focuses on its melodic implications in its natural intervallic relationship within chordal structures and vertical relationships (Figure 7). This unique treatment creates a distinct texture and character within Dallapiccola's composition.



Figure 7. *Quaderno Musicale di Annalibera*, Movement 1

### 5.3 Intervallic Relationship and Symmetry (Fugal Movements)

The trio of Schoenberg's Piano Suite is structured in the form of a mirror canon (a type of canon in which the leading voice is played with its own inversion).[4] The permutation of entrances can be shown by Figure 8. The first statement starts with P4 in the bass clef. Then, the next statement answers a tritone higher in the treble clef three beats late in an inverted form. Throughout the duration, the initial statement effectively sustains the subsequent six notes in a manner that generates a stretto effect. Every subsequent statement is six half-steps higher than the previous one (P4-I10), emphasizing a tritone relationship.

Measure	34	35	36	37	38
Treble Clef		I10-----	I10	P10-----	P10
Bass Clef	P4-----	P4	I4-----	I4	

Figure 8. Schoenberg's Piano Suite, Movement 5

Instead of emphasizing the intervallic relationship, Dallapiccola adopts a different approach in his fugal movements by designing symmetries which structures musical balance.

#### 5.3.1 Rhythmic Symmetry

The third movement of *Quaderno Musicale di Annalibera* is the first contrapunctus of the whole set. The *dux* (Latin for "leader", means the first entering, or leading part) starts with P11 form in the left hand, and the *comes* (Latin word for "companion", means the second entering, or following part) follows as a canon in unison two and a half beats later in the right hand. The rhythm is short-short-long in the first two measures and its retrograde version (long-short-short) in the next two measures. Additionally, notes in the long value can form a chromatic scale. The rhythmic symmetry is shown in Figure 9.

P11	B	C	E	G	A	E $\flat$	D	F $\sharp$	A $\flat$	D $\flat$	B $\flat$	F
Rhythm	short-short-long			short-short-long			long-short-short			long-short-short		

Figure 9. *Quaderno Musicale di Annalibera*, Movement 3

### 5.3.2 Formal Symmetry

In the fifth movement of *Quaderno Musicale di Annalibera* is the second contrapunctus of the whole set. This movement has a subtitle: “Canon in Contrary Motion”. This inverted canon has a mirror effect. The left-hand starts as a dux in I5, and then the right-hand enters a half-beat later in P7 in a contrary direction. (Figure 10)

**Poco allegretto; “alla Serenata”** (♩ = 69-72)

Figure 10. *Quaderno Musicale di Annalibera*, Movement 5

The entrances can be showed as Figure 11 which forms a symmetrical form in whole movement.

Right hand		P7		R3	P10		R6	
Left Hand	I5		RI9		I8		RI0	
Relationship	Whole Tone Above		Tritone		Tritone		Whole Tone Below	

Figure 11. *Quaderno Musicale di Annalibera*, Movement 5

Moreover, in the second movement, the BACH motives are hidden in the chords rather than appearing in the melody in the first movement. Every time the notes, which represent the CH, are combined as an interval, the notes for BA of the BACH motives appear separately and successively. Moreover, there are two possible arrangements to combine the CH of BACH motive (with C on top marked as X and H on top marked as Y) (Figure 12).

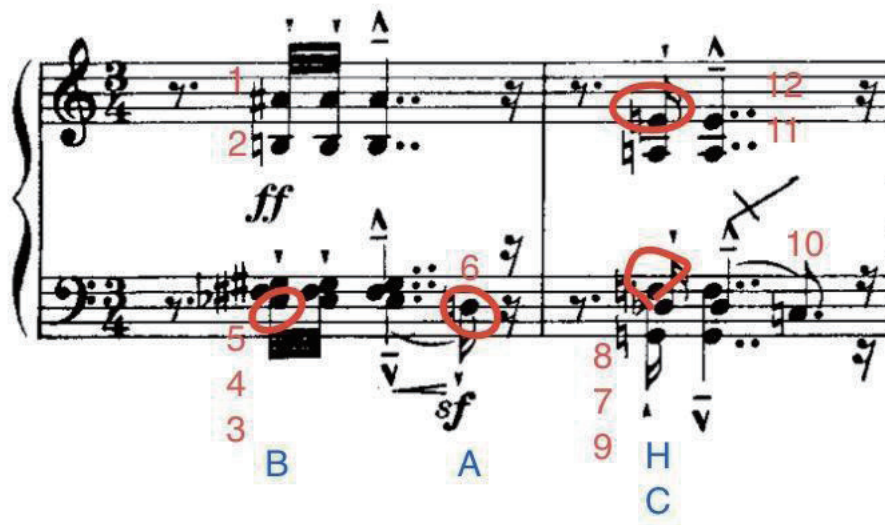


Figure 12. *Quaderno Musicale di Annalibera*, Movement 2

Table 2. *Quaderno Musicale di Annalibera*, Movement 2

X	BA H BA C	Measure 1-2; 3-4; 13-14; 15-16	4 times
Y	BA C BA H	Measure 5-6; 7-8; 9-10; 11-12	4 times
Ratio			1:1

The balance is not only shown with numbers (ratio: 1:1) (Table 2), but also shown in the mirrored formal structure (Figure 13).

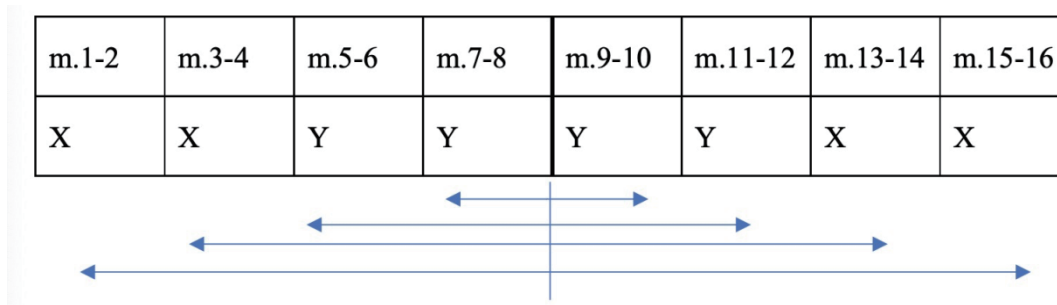


Figure 13. *Quaderno Musicale di Annalibera*, Movement 2

#### 5.4 Different Approach of Designing Numbers

Compare both fugal movements with Schoenberg and Dallapiccola, Schoenberg's using of tone row focus on P4; I4; P10 and I10 to emphasis the intervallic relationship of the tritone.

In contrast, Dallapiccola employs a diverse range of tone rows. In the second contrapunctus, he incorporates all four types of tone rows: prime form (P), inversion (I), retrograde (R), and retrograde-inversion (RI). This choice allows for a rich and varied musical sorority as each type of tone row brings its own unique character and melodic contour to the piece. Furthermore, Dallapiccola adds further design elements to the composition. He selects all odd numbers in measures 1-4 and all even numbers in measures 5-8, creating an arithmetic sequence (a mathematic terms refers to an ordered set of numbers that have a common difference between each consecutive term) with a common difference of  $d = 2$ , which corresponds to the number of this second contrapunctus. This deliberate mathematical structure adds an additional layer of organization and meaning to the composition, showcasing Dallapiccola's meticulous attention to detail and inventive approach of serial compositional works (Table 3).



**Table 3. *Quaderno Musicale di Annalibera*, Movement 5**

Section A (m.1-4)	R3 I5 P7 R19	All odd number
Section B (m.5-8)	R6 I8 P10 R10	All even number

## 6. Conclusion

Both suites are vital repertoires of piano works in large scale. The composers exhibit certain commonalities, including the utilization of similar serial techniques, the incorporation of the BACH motif, and the incorporation of Baroque idioms. However, they also express their own distinct emphases. The twelve-tone serialism, regarded as one of Schoenberg's most notable ideas, brought about a revolutionary transformation in Western art music. This approach departed from conventional tonal systems and instead relied on the utilization of a single tone row to establish coherence and structure within a composition. Subsequently, Dallapiccola incorporated tonal elements alongside atonal structures and techniques in his compositions. By employing tonal atonality, he crafted a distinctive musical language that achieved a delicate equilibrium between conventional tonal elements and the liberating aspects of atonality. This approach not only influenced later composers exploring the interplay of tonality and atonality in their own serial compositions, but also struck a commendable balance by inheriting the serial techniques while enhancing accessibility and appeal for audiences.

The ultimate objective of music analysis is to establish a meaningful link between the performer and the composer, so boosting the overall quality of the musical performance. This type of music has been called "intellectual music" due to its complexity and the need for prior study to truly appreciate it.[5] Performing a serial work demands a deep understanding of this technique and careful planning and attention to detail. The analysis in this paper provides an enhanced foundation for performance and pedagogical study of these two important gems of serial compositions for solo piano. It is hoped that it will be helpful and enlightening for pianists to perform solo serial piano works with the same compositional techniques and comparable musical genres.

## References

- [1] Burkholder, James Peter. *A History of Western Music*. New York: W.W. Norton & Company, 2010: 811.
- [2] Arnold Schoenberg. *Composition with Twelve Tone (1941)*. In *Style and Idea*. 1984: 232.
- [3] Ben Earle. *Twelve-Note Music as Music: an Essay in Two Parts*. *Music Analysis*. 2015; 34(1): 126.
- [4] Don Michael Randel. *The Harvard Dictionary of Music*. 2003: 516.
- [5] James Kinney. *Twelve-tone Serialism: Exploring the Works of Anton Webern*. Undergraduate Honors Theses, University of San Diego, 2015: 18.