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Order or Chaos? Examining the Expression of Aesthetic Value of the Harmonic Materials in Razak Abdul Aziz's *Etude No. 5 for Piano Solo*

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ABSTRACT

This study begins by providing an overview of music aesthetics across historical periods, from the philosophies of Plato to the perspectives of contemporary scholars. It presents a range of views on aesthetics in relation to both tonal and post-tonal music. The discussion then explores various theoretical frameworks proposed to examine aesthetic value in music and the arts. Among these, Deni Junaedi's framework is selected to analyse the harmonic materials in Etude No. 5 for Piano Solo by Razak Abdul Aziz—a pioneering figure among Malaysian contemporary composers. This etude is part of his collection 5 Piano Etudes for Piano Solo. Using pitch-class set theory and prime form analysis, the study reveals that the harmonic materials are derived through a Sudoku-like manipulation of pitch-class sets—a compositional technique involving systematic permutations that resemble the logic of Sudoku puzzles. Although the piece exhibits a post-tonal language that may initially appear unstructured, the analysis uncovers an underlying canon structure, suggesting that the aesthetic expression of the harmonic material is rooted in the concept of "order." As academic engagement with the works of Malaysian contemporary composers remains limited, this study contributes to the growing body of scholarship aimed at elevating such works within both local and global music canons.

Keywords: *post-tonal analysis, expression of aesthetic value, Deni Junaedi, Razak Abdul Aziz, Malaysian contemporary composers*

AN OVERVIEW OF MUSIC AESTHETICS

Music aesthetics has been a subject of discussion throughout the ancient and modern times. Plato, an ancient Greek philosopher, was probably the earliest scholar recorded to adopt music aesthetics as a topic of debate. In his writing *The Republic* (375 BCE), he described the esthesis of music listening experience—from the bolstering of one's spirit to melting it and ultimately turning it into a feeble warrior (Plato 2003, 267). During the Baroque era, *Affektenlehre* (doctrine of affection) became a leading theory in the aesthetics of arts including music, although the term was only coined in the twentieth century by German musicologists Hermann Kretzschmar, Harry Goldschmidt, and Arnold Schering to describe this theory (Nagley and Bujić 2002).

René Descartes is probably the most prominent authority of this aesthetic movement. Descartes proposed six basic affects, which could be combined into various forms. They are (1) admiration, (2) love, (3) hatred, (4) desire, (5) joy, and (6) sorrow (Descartes 1649, 94).

Possibly the most prolific scholar of music aesthetics in the twentieth century is Theodor Adorno, as his writings on this matter are arguably the most studied by modern-day scholars of music aesthetics. His *Aesthetic Theory* (first published in 1970) is still an important text in the field of aesthetics, including music. Adorno's other writings involve commentary on his music contemporaries, whom he had personally met and had conversations with. The notable ones are Arnold Schoenberg, Igor Stravinsky, and Paul Hindemith. His writings had a great influence on modern-day scholars such as Max Paddison, Roger Scruton, and Marcus Zagorski. Though Adorno was often seen as favouring one composer over the others—in this case, sanctifying Schoenberg and, to some extent, Hindemith, and demonising Stravinsky—his contributions towards the understanding and development of modern-day music aesthetics are undeniably significant (Paddison 1997).

Critiques on the Aesthetics of Post-tonal Music

Recent discussions on music aesthetics often surround post-tonal music with great attention towards atonal and twelve-tone music. Contemporary scholars advocating the aesthetics of post-tonal music include Max Paddison, Roger Scruton, Célestin Deliège, and Hugues Dufourt. Some recent scholars opposed the aesthetic values of post-tonal music, such as Diana Raffman, Robert Jourdain, Fred Lerdahl, and Ray Jackendoff, although they are the minority of the two. The article intends to begin discussing this subject from the viewpoint of the advocates, presenting their arguments for post-tonal music, before examining the opposing side with their opinions and arguments. The discussion aims to provide a general overview on the subject of post-tonal music aesthetics in recent years.

Paddison had based many of his critical writings on Adorno's works. His *Adorno's Aesthetics of Music* contextualised Adorno's essays, texts, and commentaries, including *Philosophie der neuen Musik* (1949), *Neue Musik*, *Interpretation*, *Publikum* (1959), and *Aesthetic Theory* (1970). Paddison (2003) criticises Adorno for sanctifying Arnold Schoenberg, who was known for his twelve-tone technique and serialism, while demonising Stravinsky, a neo-Classicist. Taking *Soldier's Tale* (1918) as his subject of criticism, Adorno's (2003, 202) conclusion on Stravinsky's music is that, in its identification with the object and subject, Stravinsky insists negativity appears as the truth while claiming that "the false consciousness of Stravinsky's music is the truth." On the aesthetics of post-tonal music, Paddison (2010, 3) further states that it "cannot be identified as one thing, consistent, and recognised by all." Post-tonal musical works might appear unorthodox, but these works are "systematic in their structure and constitute relationships between parts and whole which have a coherence and logic of their own and which can be analysed, theorised, and philosophically interpreted" (Paddison 2010, 7).

According to Dufourt (2010, 45), "serial aesthetics is the aesthetics of the mobilisation of cognition and celebration of functionality." Serialism accepts that creation is always a synthetic activity, as a musical composition is fundamentally a synthesis that is not the result of a combination of parts, but a product that unites the parts (Dufort 2010, 44). This agrees with Scruton, stating that much of serial music relies on the listener's ability to recognise a single motif in a musical composition. It means to be able to hear the relationship between horizontal and vertical forms of a single pitch-class set and to recognise the set in its other arrangements (transposed, inverted, and retrograded) (Scruton 1999, 282–283). Scruton adds "a person with good ears" may hear that a serial piece of music is organised (or the least he could hear is

the intentional relations between the organised tones) (Scruton 1999, 285). This implies that the aesthetics of serial music is the mobilisation of cognition and celebration of functionality from both the composer and the listener. Scruton (2009) further enriches his argument for serial aesthetics, stating that serialism (specifically by Schoenberg) is an intellectual device of systematising compositional methods with pitch organisation, though it is not necessarily viewed similarly by the audience.

Although atonality and serialism give each pitch equal status and abolish concepts of consonance and dissonance, creating "a state of non-gravity," Deliège (2010) argues that these systems could be rationalised. Deliège states that atonality is a logical development of the evolution of music, considering the extreme tonal chromaticism that took place in the late nineteenth and early twentieth centuries. She observed selected atonal and serial works by Pierre Boulez, Luciano Berio, and György Ligeti and found that atonal and serial structures contain musical hierarchy while retaining the power of atonal harmony. Deliège further argues that it is necessary to restore the inherent fundamentals for atonal harmony and provide similar treatment to this type of harmony with its tonal counterpart. This will allow its audience to obtain a perspective on composition if the composer wishes to create polarised processes while maintaining harmonic structure in an atonal composition.

Perhaps the most vocal opponent against the aesthetics of post-tonal music, specifically on 12-tone serial music, is Raffman. She expressed her concern regarding the artistic integrity of 12-tone music, claiming this concern is not new (Raffman 2003, 69). She continued by saying that music written with this system is not perceptually real and cannot carry the pitch-related meaning it purports to carry. Therefore, it cannot be a vehicle for the communication of such meaning, hence claiming "a composer cannot intend to communicate pitch-related musical meaning by writing twelve-tone music" (Raffman 2003, 86). Raffman ultimately declares that twelve-tone music is fraudulent and not art (or at least art to a lesser degree than tonal music).

Jourdain describes music written using the 12-tone system (referred to as serialism) as "lacking tonal centres, the listeners lose the anchor points for hierarchies of intervals," and "it (the music) hurts their (concert audiences) ears" (2016, 100). He cited the outcome of laboratory studies (which Jourdain did not mention the specifics of these studies) that have consistently shown that even professional musicians do poorly on tests of any kind that employ serial music, as the test subjects were unable to aurally recognise the musical materials and structures used in the said music. Jourdain concluded that a serial composer's intellect is not necessarily something that a listener's auditory system can perceive.

Lerdahl and Jackendoff (1996, 281–283), while did not explicitly state their distaste towards atonal and 12-tone music, claimed the existence of a universal musical grammar is within the framework of tonal music across cultures and idioms insofar as they include the concept of tonal centre. However, they only examined the Western classical tonal music to demonstrate the claim. This implies that Lerdahl and Jackendoff exclude and disregard the post-tonal music that is chiefly atonal as part of the so-called "universal musical grammar." Jackendoff further adds that "both language and music involve a sequence of discrete sounds" and that "the organisation of sound is built around a tonic pitch" (2011, 106), which is similar to language by having "intonation in language might be fundamentally a two-pitch tonal system" (2011, 107). This bolsters Lerdahl and Jackendoff's claim on the existence of a universal musical grammar within the tonal system and discarding its post-tonal counterpart.

DISCUSSION ON AESTHETIC VALUE

In recent years, scholars have presented various frameworks on quantifying the aesthetic value of music and arts. These frameworks vary in their emphasis on subjectivity, structure, emotion, and cultural context. The article will explore some of these ideas, from Alan H. Goldman's proposal on ascribing aesthetic value to artwork to Eleonora Rocconi's modern take on Plato's idea on *kalon* to more recent attempts to establish a working framework for measuring aesthetic value. Rather than treating each scholar's view in isolation, this discussion groups their contributions into thematic clusters to highlight both complementary and contrasting perspectives.

Philosophical and Theoretical Perspectives of Aesthetic Value

Perhaps the discussion on present-day aesthetic value could begin with Goldman's *Aesthetic Value*. He stated that "the evaluations of artworks are likely to prompt more disagreement from others than straightforward judgement of facts," as one's judgement addresses the value of an artwork and expresses one's taste (Goldman 1995, 1). Goldman also added that throughout most of its history, aesthetics has been concerned with personal judgements and the values that can be derived from the appreciation of works of art. He demonstrated this by analysing Leonora's famous opening aria from the second scene of the final act of Verdi's opera *La Forza del Destino* (Goldman 1995, 155–156). In his view, three significant relations must be understood in ascribing value to this aria. First, the internal relations among motifs and harmonic movements that constitute its musical structure and how these motifs and harmonies express emotions and what they represent. Second, the relations between the melodic vocal line, the text, and the accompaniment (which occasionally carries its own melodic lines). Third, the relation of all the above to the ongoing action and the ongoing action to the preceding and succeeding actions. Goldman also discussed three ways of ascribing aesthetic value to a work of art. They are (1) the strategies that satisfied the ideals and limitations of the style, (2) the significance of the work from a historical context, and (3) the overall effects of the artwork regarding its ability to engage and integrate with one's mental capacities in appreciating it (Goldman 1995, 170).

In contrast, Rocconi (2012) examined the most relevant passages in Plato's discussions on the element of pleasure that was aroused by music and its performance and tried to recognise the aesthetic value Plato attributed to it. Though Plato's writings were written in ancient times, Rocconi's view on these writings, focusing on the relevant passages is refreshing. She argued that Plato's view on musical aesthetic values relies on his perspective on *kalon* (which can be translated as "good") in music. According to Plato, there are three criteria of musical judgement to determine *kalon* in music. They are (1) the understanding of a work and its essence, meaning, and representation; (2) accuracy and precision in reproducing (performing) a musical work; and (3) how well the representation has been made (in other words, the performance itself) (Rocconi 2012, 122). While Goldman foregrounds subjective experience, Rocconi's take on Plate leans toward objective standards rooted in philosophical ideals.

Horn (2015), on aesthetic value, discusses various takes on the aesthetic values concerning music, with an inclination towards serial and atonal music. While Horn talks about the correlation between local structure and the music aesthetics of tonal versus atonal works, he points out Raffman's distaste towards atonal music. Horn pointed out that Raffman's attempts to justify her distaste towards atonal music using science and reason are a fallacy as "the science is junk and the reasoning is bad" (2015, 25). Raffman's syllogism seems to break when it comes to understanding the aesthetic of atonal music. Horn intends to end this absurdity in the obsession of theorising against atonal music and encourage the audience to "just listen" (2015, 25). Horn's position aligns with Goldman's emphasis on personal experience but challenges the over-intellectualisation of aesthetic judgement.

Juslin et al. (2016) proposed idiographic models of aesthetic judgement in music. In this model, there are seven aesthetic criteria for determining one's aesthetic judgement. They are (1) beauty, (2) skill, (3) originality, (4) typicality, (5) message, (6) expression, and (7) emotion (2016, 159). In this similar study, the researchers found that (among other things) most listeners appeared to use only a small number of criteria in their aesthetic judgements. They also noticed that there were wide individual differences between the listeners concerning what criteria they used and how these were weighted. The findings also confirmed that preference, aesthetic judgement, and emotion intensity are partly independent (2016, 162), reinforcing the idea that aesthetic value is both personal and context-dependent.

Contemporary Framework and Authors' Reflection

Junaedi (2021) introduces a semiotic model of aesthetic experience grounded in the concept of *esthesis*—a heightened awareness of sensory stimulation. His framework consists of three core elements: (1) object, (2) subject, and (3) value. Aesthetic expression is categorised into modes such as order, chaos, sublime, and deception, and positioned as either dependent or independent. Junaedi's model complements earlier frameworks by integrating structural, emotional, and symbolic dimensions across various art forms.

Taken together, these perspectives reveal that aesthetic value is a layered construct encompassing subjective taste, structural coherence, emotional resonance, and philosophical ideals. While some frameworks prioritise internal musical logic (Rocconi 2012; Goldman 1995), others emphasise personal engagement and emotional response (Horn 2015; Juslin et al. 2016; Junaedi 2021). Rather than opposing one another, these models offer complementary lenses through which aesthetic value can be understood. The authors acknowledge the validity of each approach but adopt Junaedi's framework for its holistic applicability to post-tonal music analysis. His emphasis on expressive categories and symbolic positioning aligns well with the analytical goals of this research, particularly in examining the harmonic materials of Razak Abdul Aziz's *Etude No. 5 for Piano Solo*.

BRIEF BIOGRAPHY OF RAZAK ABDUL AZIZ

Razak Abdul Aziz (1959–) is among the first (if not, the first) Malaysian contemporary composer(s) (Mohd Fairuz, Mohd Muzhafar, and Goh 2019, 76). Among his notable compositions include *10 Pantun Settings*, *Maria Zaitun*, *For Violin and Piano*, *Etudes for Piano Solo*, and *5 Early Songs*. His works have been performed on local and international platforms. Interest towards his works surfaced in recent years, with scholars such as Mohd Fairuz, Abdul Fattah, Junita, and Mohd Muzhafar (among others) expounding his musical compositions from various aspects. For example, Mohd Fairuz and Abdul Fattah analysed the imageries from the composer's song-cycle, *10 Pantun Settings*, and found that the imageries used in this work derived from his childhood memories, growing up in the 1960s and 1970s in the Northern Peninsula of Malaysia (Mohd Fairuz and Abdul Fattah 2020, 989). Mohd Fairuz and Mohd Muzhafar further expounded the same musical work from the view of musico-literary and found that the trauma caused by an arranged marriage experienced by one of his close relatives is the connector between all the songs in this cycle, which, from a cursory examination, seem unrelated to one another (Mohd Fairuz and Mohd Muzhafar 2022). Other works by the composer that were the subjects of study include the opera *Maria Zaitun*, where the researchers analysed the transformation process from the novel to the opera (Batubara, Rustiyanti, and Prasetya 2021), *Pepatah Episodes*, where the work was scrutinised using the framework of programme music (Mohd Fairuz 2023), and *5 Early Songs*, where the metric elements of these songs were expounded using the standard music theory and David Locke's metric matrix (Mohd Fairuz, Nur Fardilla Nadia, and Tan 2023).

METHODOLOGY

From the discussion on aesthetic value, I have decided to choose Junaedi's framework of aesthetic value to determine the expression of Razak Abdul Aziz's *Etude No. 5 for Piano Solo*. As other frameworks are also valid, I chose this framework due to its suitability to quantify and arbitrate the building blocks (harmonic materials) used in expressing the aesthetic value of this music composition. The chosen framework will be supported by utilising prime form from the pitch-class set theory to justify this decision further, as we shall see later.

Junaedi's Framework of Aesthetic Value

Junaedi proposed a three-part model of aesthetics in art (2021, 50). In this model, Junaedi proposed that the goal of the aesthetic experience is to achieve esthesis—a state where one achieves elemental awareness of sensory stimulation. To attain this, a work of art must consist of three elements: (1) object, (2) subject, and (3) value. An adaptation of the semiotic model by Charles Sanders Pierce (1839–1914), Junaedi's model of aesthetics in comparison to Pierce's semiotic model is demonstrated in Figure 1.

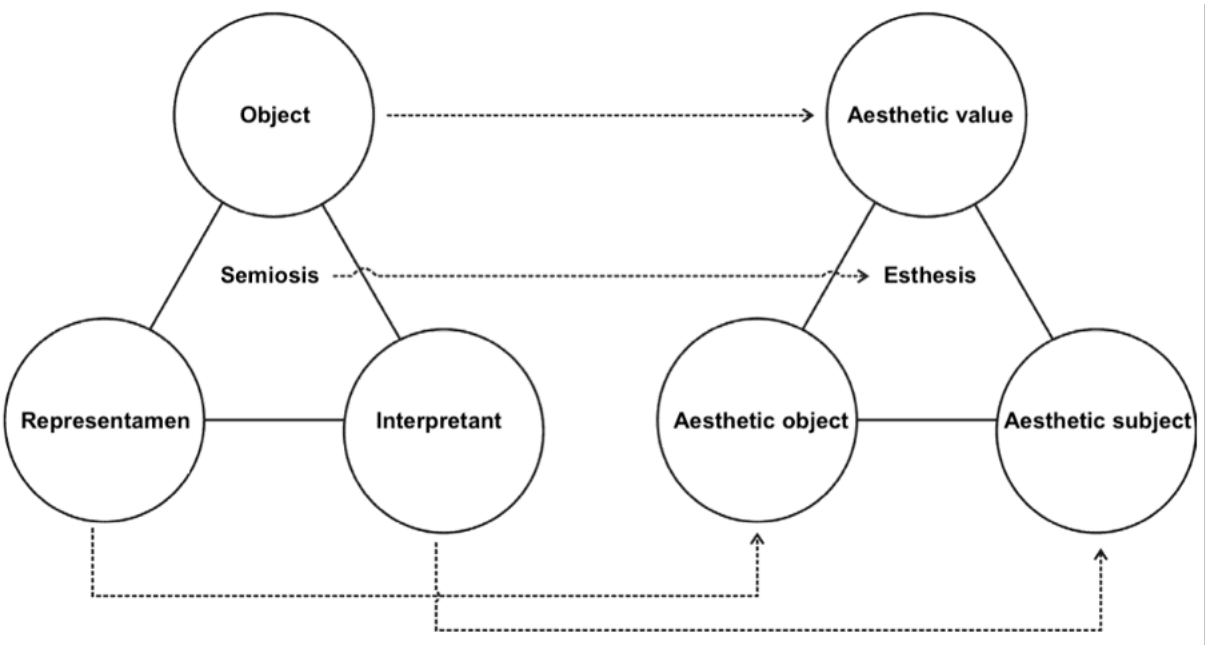


Figure 1 Pierce's three-part semiotic model (left) and Junaedi's three-part esthesis model (right)

Aesthetic subject refers to the creator who undergoes artistic experience and the spectator who undergoes aesthetic experience. The aesthetic object is the object that could incite the aesthetic experience, which comes in the form of existence (natural and cultural) and shape (artefact, activity, language). Aesthetic value is the measurement used to evaluate the (un)attractiveness of an object. This depends on the expression ("order," "chaos," "sublime," or "deception") and position ("dependent" or "independent"), as illustrated in Figure 2.

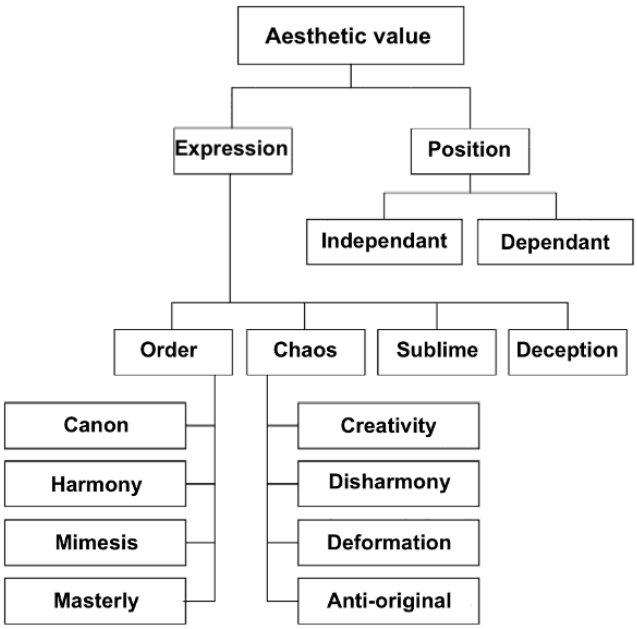


Figure 2 The framework of aesthetic value

In determining whether the expression of the aesthetic value of *Etude No. 5 for Piano Solo* is either "order" or "chaos," the discussion continues with briefly explaining every category in both expressions according to Junaedi. Order can be defined as obedience to an object or a work towards certain rules and norms. These are brief descriptions for each category in "order":

1. Canon—standard guidelines to ascribe aesthetic values. From the perspective of the artist, this refers to the methods used in creating an artwork (2021, 219).

2. Harmony—harmony/conformity between various elements in a work of art/composition. In music, harmony refers to the simultaneity of various pitches. The harmony could be a stand-alone chord or in a series (chord progression) (2021, 224).

3. Mimesis—the process of imitation or mimicry through which artists portray and interpret the world. It is made with different materials than the imitated object, and the audience could (eventually) tell that the work is "not real" (2021, 228).

4. Masterly—aesthetic value that is reflected in the artist's mastery through the artwork. Masterly exists in an aesthetic object that is "the work of art" (2021, 234).

"Chaos," on the other hand, is about disobedience. It triggers and surprises to catch the attention of the unsuspecting audience. However, the shape of chaos could immediately become order once it has been analysed/theorised and copied. The categories in this expression are:

1. Creativity—to overcome overwhelming familiarity, searching for "the new." Interwoven with canon (while one follows the standard, creativity slips in, or in each creative aspect, there is canon in existence) (2021, 237).

2. Disharmony—anti-harmony, promotes misalignment, dissonance, messiness, and ugliness. Disharmony is used to provoke spectators (2021, 245).

3. Deformation—the opposite of mimesis. Types of deformation are destruction (change of form by the process of destruction), simplification (simplifying without losing the

character), stylisation (changing of form using ornamentations), distortion (distorting the proportion), transformation (shifting one form to another with a point of transition), and idealisation (altering the form to achieve ideal perfection) (2021, 248-50).

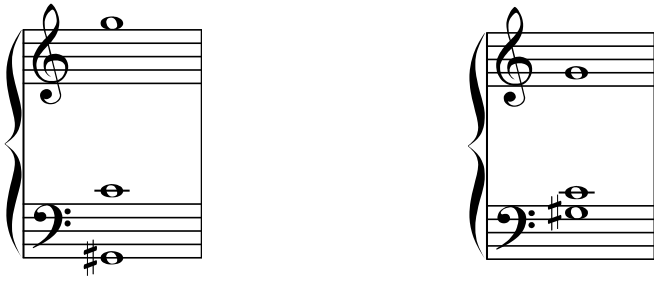
4. Anti-original—a rejection towards masterly (2021, 257).

Prime Form of Pitch-class Set

As preparation to better comprehend the upcoming analysis section, the authors would like to provide an essential guide in determining the prime form of a set. There are four steps involved:

Step 1

Gather all members of a cardinality (the number of pitch classes) and transpose the pitches in octaves wherever necessary into a range within an octave at any preferred register, as demonstrated by the following examples in Figure 3, where (a) is to be transposed into (b).



(a) Original trichord structure (b) Transposed into one-octave range

Figure 3 Example of the transposition process

Step 2

Identify the reference pitch class by finding the biggest interval gap between any two nearest members in a given cardinality. The higher pitch of the biggest gap in that cardinality is the reference pitch class. Using a similar trichord as above (G#, C, G), the biggest interval is from C to G (seven steps). Hence, the reference pitch class is G (G = 0).

Step 3

Arrange the set so that it has the most compact interval size starting from the reference pitch class. Transpose the pitches accordingly so that the arrangement is within an octave. Hence, the set is to be arranged as (G, G#, C). With G = 0, G# = 1, and C = 5, the prime form is (015).

Step 4

In the case of a tie, choose the set that has the most compact interval size. For example, take this tetrachord (C, D#, G, G#). The set has two instances of the biggest interval, D# to G and G# to C, both being four steps apart; meaning the reference pitch class could either be G or C. Say, the reference pitch class is G, following Steps 1 and 2, the set is (G, G#, C, D#) or (0, 1, 5, 8). Repeat the process with C now as the reference pitch class, the set is (C, D#, G, G#) or (0, 3, 7, 8). Comparing both options, it could be observed that (G, G#, C, D#) has the most compact interval size, hence G is the reference pitch class and the prime form is (G, G#, C, D#) or (0158).

Rationale for Selection

There are two prevailing methods in determining the prime form of a pitch-class set. The first method is proposed by Forte (1973), and the second method is proposed by Rahn (1980) and mentioned by Straus (2005). For this article, the authors chose the latter, that is, as proposed and mentioned by Rahn and Straus, respectively. As the method proposed by Rahn (mentioned by Straus) for analysing and "integerising" prime forms is selected for this study, awareness is also maintained of Forte's method, which is not adopted. Forte's approach seeks to produce the most compact integer representation for any given prime form, regardless of its directional orientation (ascending or descending), a feature that may lead to confusion among readers less familiar with pitch-class set theory. For instance, Forte's prime form (037) is ambiguous, as it could represent either a minor or major triad, whereas the Rahn prime form (037) specifically denotes a minor triad and prime form (047) denotes a major triad, as illustrated in Table 1, using C major and C minor chords as examples.

Table 1 Forte's and Rahn's prime forms of C major and C minor chords

Pitch class set	Prime form (Forte)	Prime form (Rahn)
(C, E♭, G)	(037)	(037)
(C, E, G)	(037)	(047)

The discussions have adequately expounded on "order" and "chaos" in Junaedi's framework of aesthetic value and the pitch-class set theory, as mentioned by Rahn and Straus. As this article intends to determine whether the expression of aesthetic value is order or chaos, it is not necessary to expound on the other two categories in the expression framework, which are "sublime" and "deception." Though it is tempting to delve further into these two categories, such discussion is beyond the intended scope of this article. This is to avoid going into unwanted territories that would only beg for more questions than answers, which is what the authors do not aim to achieve.

ANALYSIS

The analysis begins with an overview of *Etude* No. 5 *for Piano Solo*, highlighting the compositional techniques employed in crafting the piece. This naturally transitions into an examination of the harmonic materials, which provides deeper insight into the structural and expressive elements of the work. Such analytical exploration is crucial for positioning both the composer and the selected composition within a broader framework of aesthetic value and music theory—concepts that will be further elaborated upon in the following sections.

Building on this foundation, the study proceeds with an analysis of the first two phrases of *Etude* No. 5, applying the prime form methodology as proposed by Rahn and mentioned by Straus. Through this lens, we begin to uncover the set of compositional rules Razak Abdul Aziz employed, which ultimately reveal the underlying aesthetic expression embedded in the music.

Etude No. 5 for Piano Solo

This etude comes from a collection of piano etudes for piano solo written in 2002 and published in 2009 (Razak 2009). *Etude* No. 5 *for Piano Solo* is the final etude of this collection. Its writing is heavily chordal and nuances the sonority of gong ensemble in gamelan music as it was "inspired by gong colotomic structure" (Mohd Fairuz 2021).

Razak Abdul Aziz, through interviews (2023a; 2023b), revealed that *Etude No. 5 for Piano Solo* uses various pitch-class sets as its harmonic materials and each phrase is governed by a regional octachord (a set of eight distinct pitch classes) that determines the pitch used in smaller cardinalities (monad, dyad, trichord, tetrachord, etc.). The composer also mentioned that the compositional materials and procedures used are consistent throughout the piece. Hence, the prime forms of the first two phrases of this piece were analysed using methods proposed by Rahn and mentioned by Straus.

Relating back to the four steps mentioned earlier, to obtain the prime form of a regional octachord, combine the prime form of both cardinalities (e.g., tetrachord + tetrachord, trichord + pentachord) and repeat Steps 2 through 4. The regional octachord is manipulated to produce a few octachord structures in each phrase. Each octachord structure contains one to four octachords. The complete octachord always involves the interaction of cardinalities between the outer voices and inner voices playing interchangeable roles; one being a long, sustaining chord like a pedal point while the other is moving, though certain octachords do not require this interaction. In this context, outer voices refer to the two outer staves in the score, while inner voices refer to the two inner staves. The prime form is to be read from the smallest integer to the largest. Reference pitch class (0) begins after the biggest intervallic gap. It is also important to understand that the interaction that produces the smallest integer (the most compact) is the prime form. For example:

Table 2 Set of (01235789)

Pitch	**C**	**C#/D♭**	**D**	**D#/E♭**	**E**	**F**	**F#/G♭**	**G**	**G#/A♭**	**A**	**A#/B♭**	**B**
Outer voices	5			8				0	1			
Inner voices		0	1			4				8		
Prime form	0	1	2	3		5		7	8	9		

In Table 2, the outer voices form the set (0158), while the inner voices form the set (0148). When these sets are combined (as shown in Table 2), the pitch following the largest intervallic gap is C, which serves as the reference pitch-class. Consequently, the prime form is (01235789).

Standard music notation and integer tables were used to illustrate the prime form for each octachord. The pitches involved would be transposed accordingly within the range of an octave on a single staff using treble clef. Integer tables, which are to be read together with the music notations, are to provide the analysis using integers. These methods of illustrating the analysis are to aid the readers in understanding the analysis better by comparing both ways presented.

The following is the analysis for Phrase 1 and Phrase 2 of this piece. Phrase 1 contains eight octachords, as illustrated in red and blue boxes in Figure 4. The distinctive colours for the boxes were chosen to mark the overlapping octachords. Note that OC is short for octachord structure.

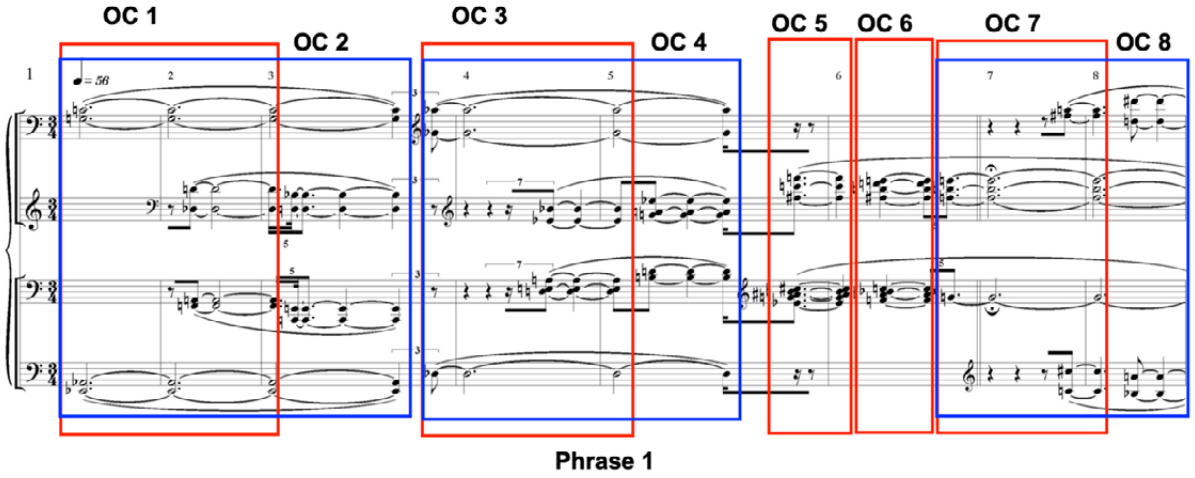
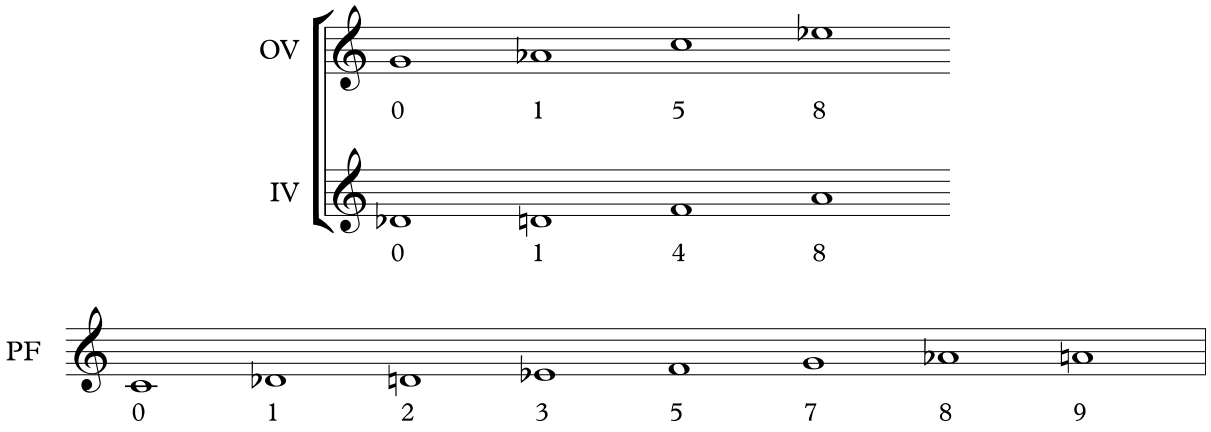


Figure 4 Phrase 1 of *Etude* No. 5

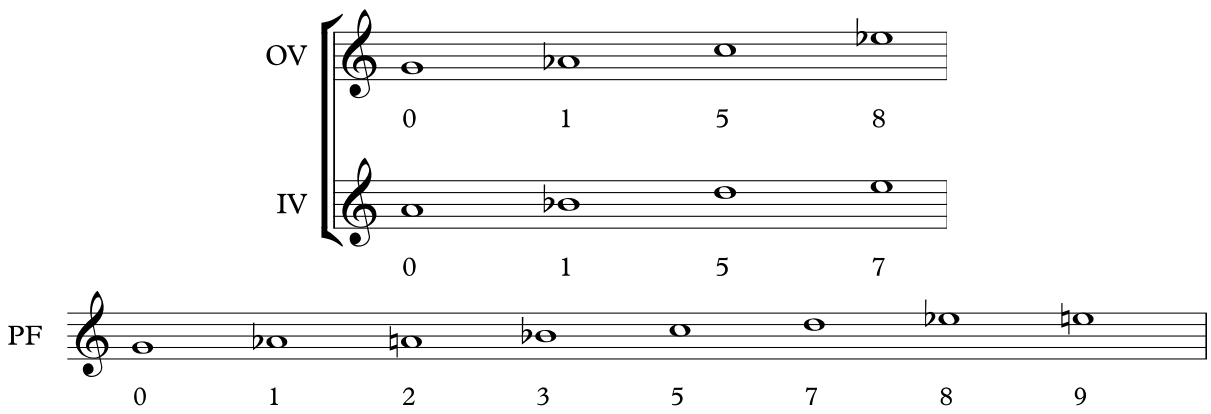
Figures 5–12 show the analysis of prime form for the eight octachord structures (OC) in Phrase 1. Figure 5 analyses the outer voices, inner voices, and prime form of OC 1 of Phrase 1. It could be observed that the reference pitch class for this octachord is C, making the prime form as (01235789).



Pitch	**C**	**C#/D♭**	**D**	**D#/E♭**	**E**	**F**	**F#/G♭**	**G**	**G#/A♭**	**A**	**A#/B♭**	**B**
Outer voices	5			8				0	1			
Inner voices		0	1			4				8		
Prime form	0	1	2	3		5		7	8	9		

Figure 5 Prime form for OC 1 of Phrase 1

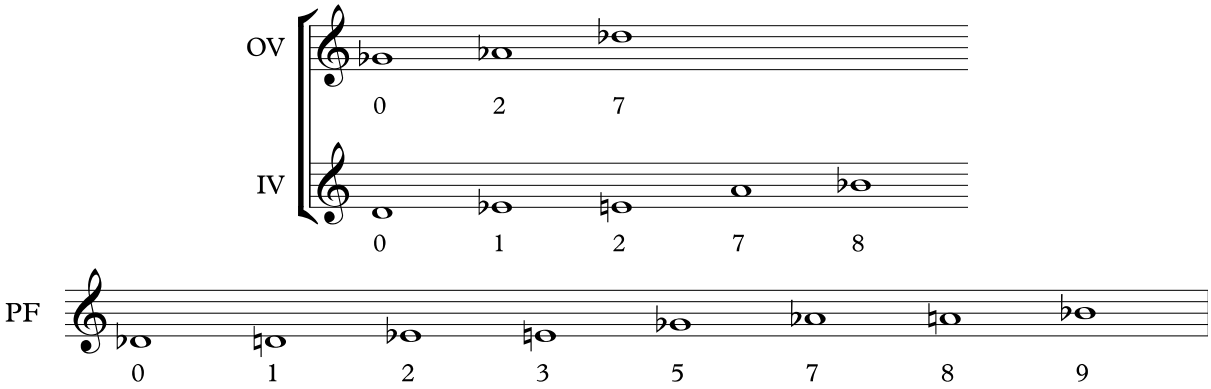
Figure 6 analyses the outer voices, inner voices, and prime form of OC 2 of Phrase 1. It is evident that the reference pitch class for this octachord is G, making the prime form as (01235789).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices	5			8				0	1			
Inner voices			5		7					0	1	
Prime form	5		7	8	9			0	1	2	3	

Figure 6 Prime form for OC 2 of Phrase 1

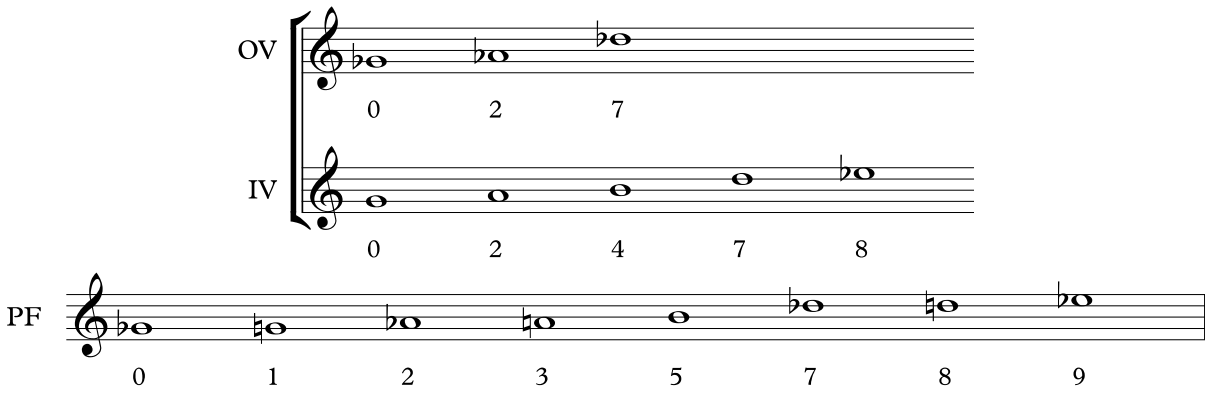
Figure 7 analyses the outer voices, inner voices, and prime form of OC 3 of Phrase 1. It could be observed that the reference pitch class for this octachord is D♭, making the prime form as (01235789).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices		7					0		2			
Inner voices			0	1	2					7	8	
Prime form		0	1	2	3		5		7	8	9	

Figure 7 Prime form for OC 3 of Phrase 1

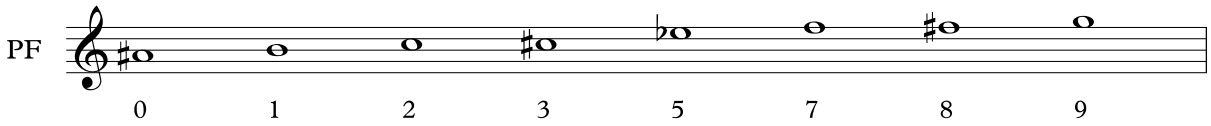
Figure 8 analyses the outer voices, inner voices, and prime form of OC 4 of Phrase 1. It could be observed that the reference pitch class for this octachord is G♭, making the prime form as (01235789).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices		7					0		2			
Inner voices			7	8				0		2		4
Prime form		7	8	9			0	1	2	3		5

Figure 8 Prime form for OC 4 of Phrase 1

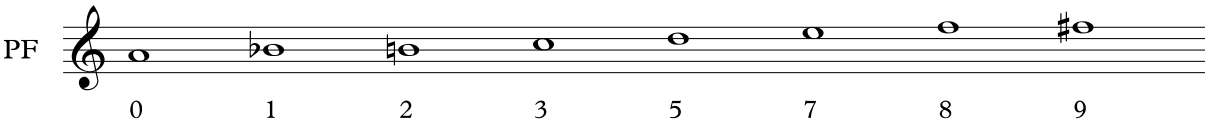
Figure 9 analyses the prime form of OC 5 of Phrase 1. OC 5 does not require any interaction between inner voices and outer voices to present itself as a complete octachord. Hence, the reference pitch class for this octachord is A#, making the prime form as (01235789).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Prime form	2	3		5		7	8	9			0	1

Figure 9 Prime form for OC 5 of Phrase 1

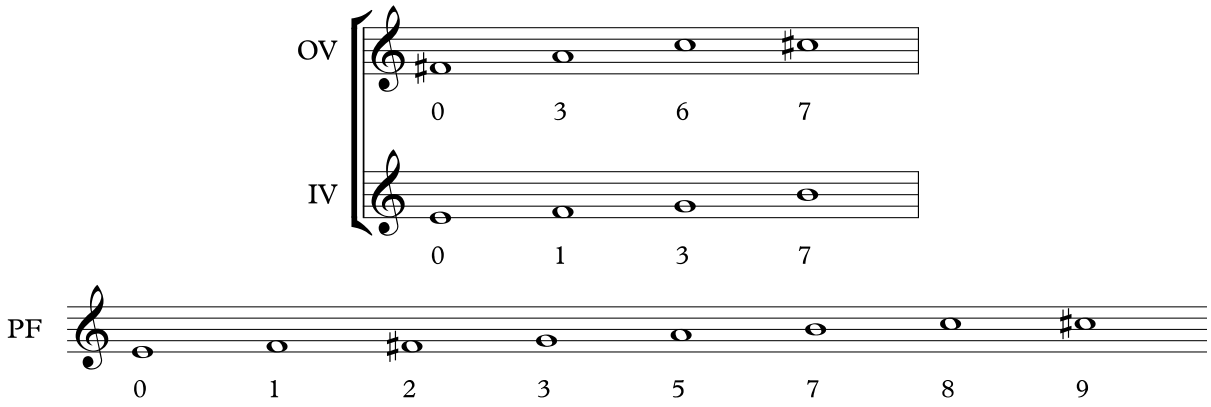
Figure 10 analyses the prime form of OC 6 of Phrase 1. Similar to OC 5, OC 6 does not require any interaction between inner voices and outer voices to present itself as a complete octachord. Hence, the reference pitch class for this octachord is A, making the prime form as (01235789).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Prime form	3		5		7	8	9			0	1	2

Figure 10 Prime form for OC 6 of Phrase 1

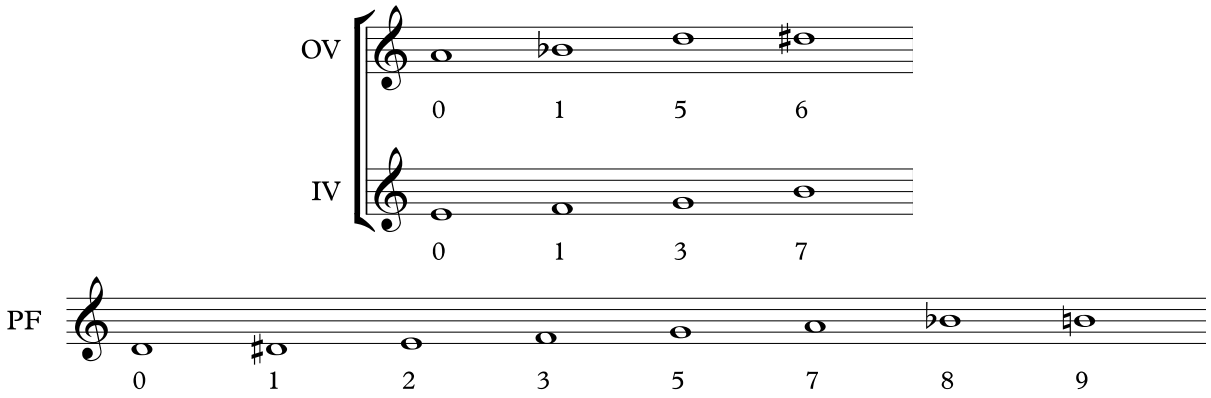
Figure 11 analyses the outer voices, inner voices, and prime form of OC 7 of Phrase 1. It could be observed that the reference pitch class for this octachord is E, making the prime form as (01235789).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices	6	7					0			3		
Inner voices					0	1		3				7
Prime form	8	9			0	1	2	3		5		7

Figure 11 Prime form for OC 7 of Phrase 1

Figure 12 analyses the outer voices, inner voices, and prime form of OC 8 of Phrase 1. It is evident that the reference pitch class for this octachord is D, making the prime form as (01235789).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices			5	6						0	1	
Inner voices					0	1		3				7
Prime form			0	1	2	3		5		7	8	9

Figure 12 Prime form for OC 8 of Phrase 1

Based on the analysis of Phrase 1, the reference pitch class for all eight octachord structures are as follows: OC 1: C, OC 2: G, OC 3: D♭, OC 4: G♭, OC 5: A♯, OC 6: A, OC 7: E, and OC 8: D. Although these reference pitch classes do not exhibit an immediately discernible pattern—such as movement by thirds or fifths—all eight octachord structures in the first phrase share a common prime form of (01235789).

Phrase 2 is evidently more complex than Phrase 1. As depicted in three different colours of boxes (red, blue, and green), Phrase 2 has more overlapping octachords than Phrase 1. Figure 13 is the illustration for the 10 octachord structures within Phrase 2 of this piece.

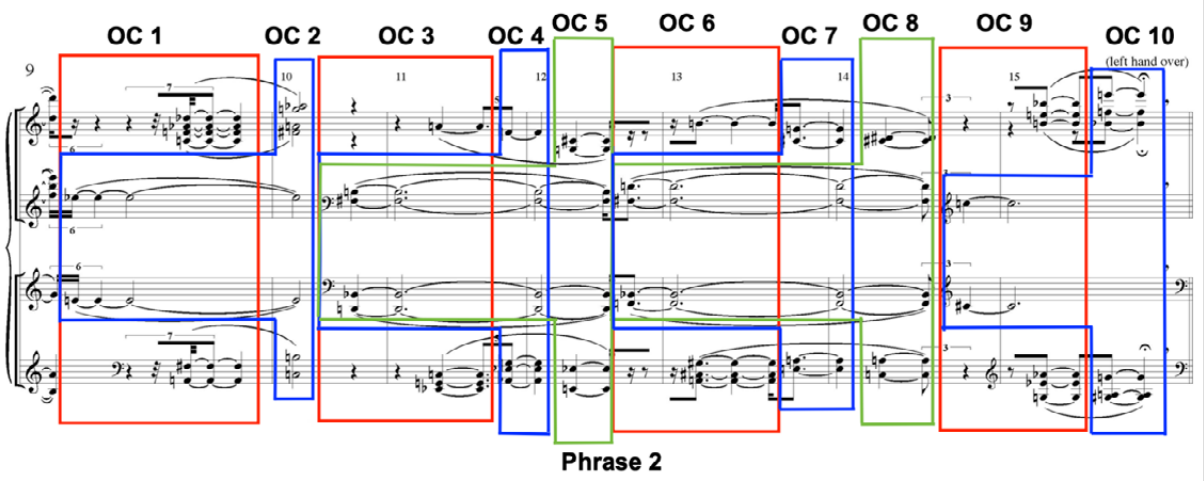
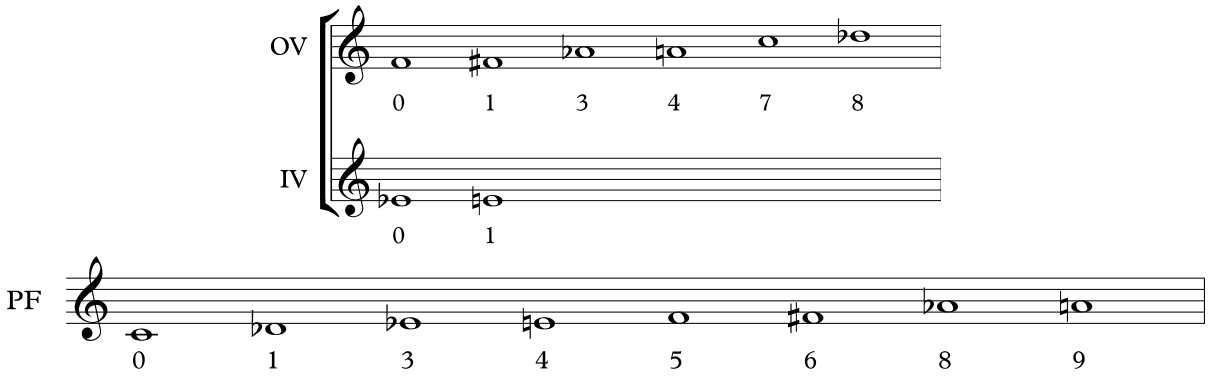


Figure 13 Phrase 2 of *Etude No. 5*

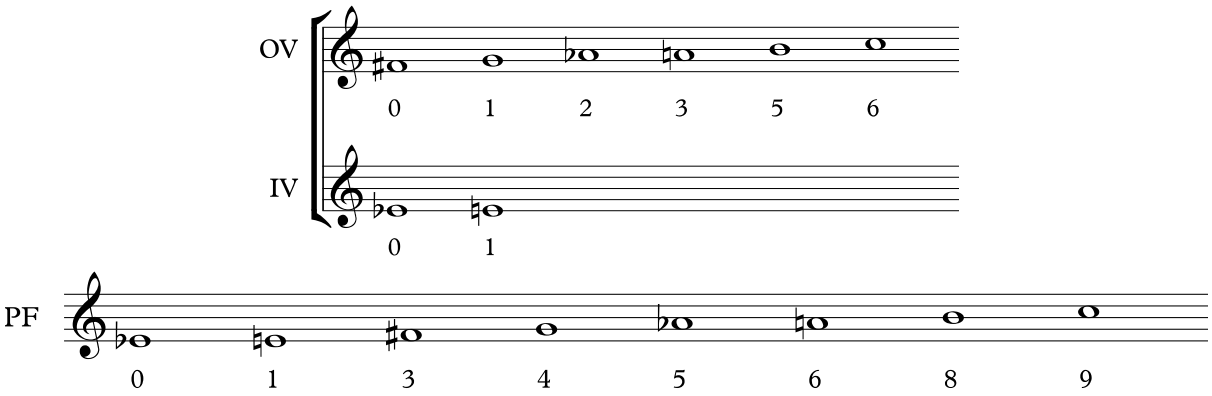
Figures 14–23 are the analysis of the prime form of the said octachord structures. Figure 14 analyses the outer voices, inner voices, and prime form of OC 1 of Phrase 2. It is evident that the reference pitch class for this octachord is C, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices	7	8				0	1		3	4		
Inner voices				0	1							
Prime form	0	1		3	4	5	6		8	9		

Figure 14 Prime form for OC 1 of Phrase 2

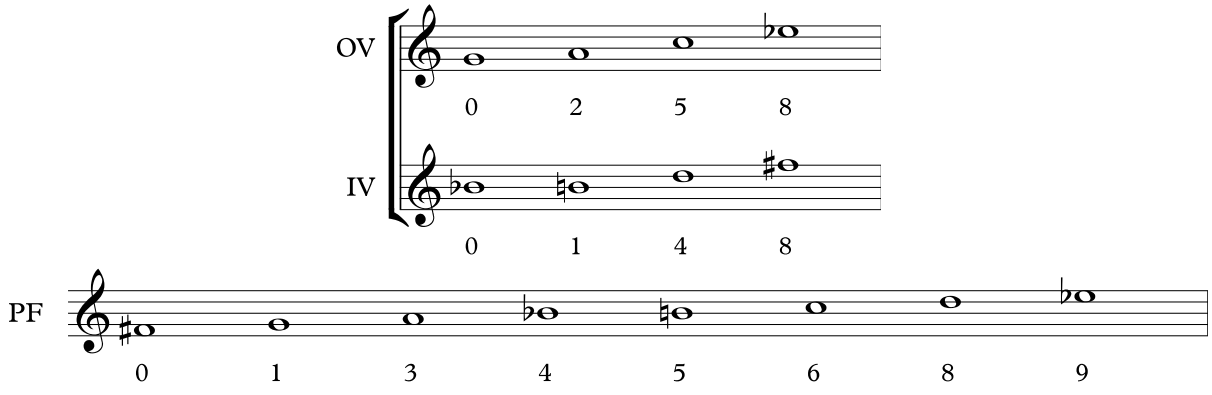
Figure 15 analyses the outer voices, inner voices, and prime form of OC 2 of Phrase 2. It could be observed that the reference pitch class for this octachord is E♭, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices	6						0	1	2	3		5
Inner voices				0	1							
Prime form	9			0	1		3	4	5	6		8

Figure 15 Prime form for OC 2 of Phrase 2

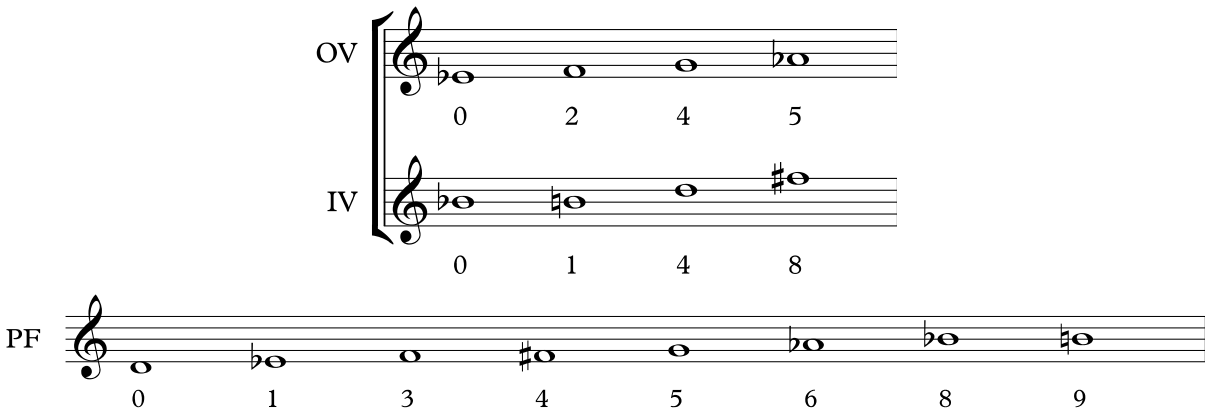
As illustrated in Figure 13, OCs 3–5 exhibit overlapping structures, contributing to an increased complexity in the musical material. Despite this intensification, the composer consistently maintains a similar prime form throughout, as demonstrated in the subsequent analyses (Figures 16–18). Figure 16 analyses the outer voices, inner voices, and prime form of OC 3 of Phrase 2. It is evident that the reference pitch class for this octachord is F#, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices	5			8				0		2		
Inner voices			4				8				0	1
Prime form	6		8	9			0	1		3	4	5

Figure 16 Prime form for OC 3 of Phrase 2

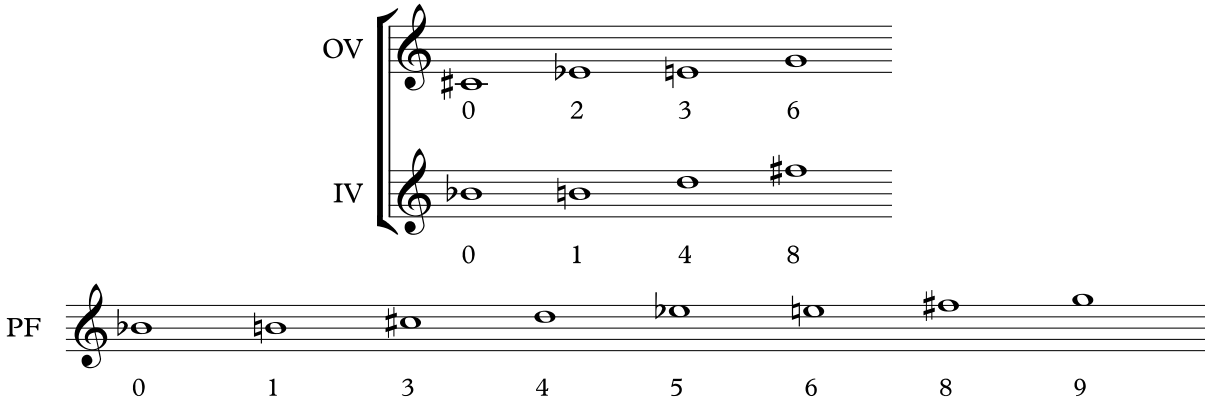
Figure 17 analyses the outer voices, inner voices, and prime form of OC 4 of Phrase 2. It could be observed that the reference pitch class for this octachord is D, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices				0		2		4	5			
Inner voices			4				8				0	1
Prime form			0	1		3	4	5	6		8	9

Figure 17 Prime form for OC 4 of Phrase 2

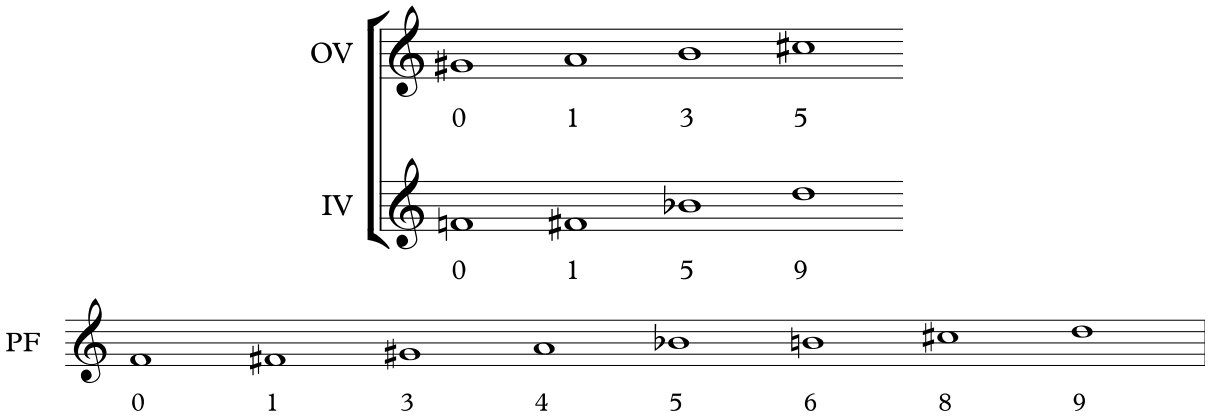
Figure 18 analyses the outer voices, inner voices, and prime form of OC 5 of Phrase 2. It is evident that the reference pitch class for this octachord is B♭, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices		0		2	3			6				
Inner voices			4				8				0	1
Prime form		3	4	5	6		8	9			0	1

Figure 18 Prime form for OC 5 of Phrase 2

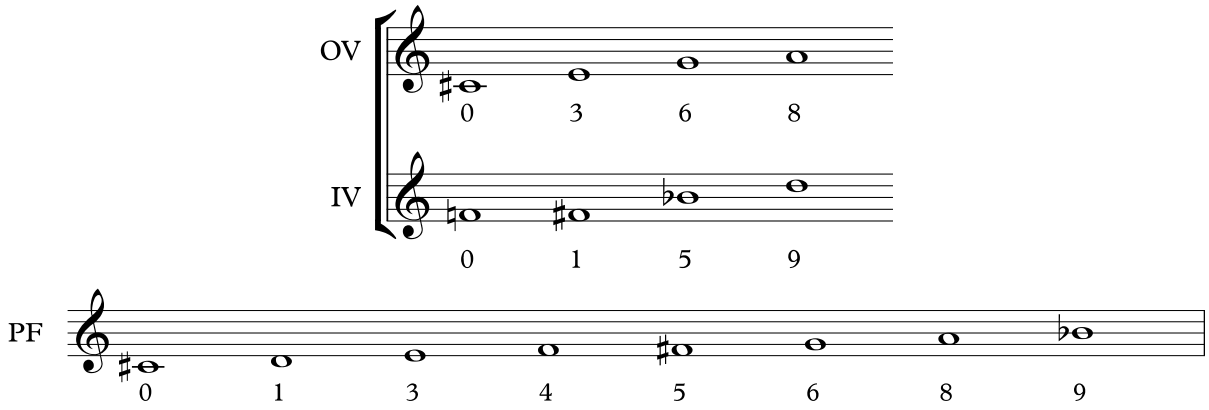
As with OCs 5–8, OCs 6–8 also display overlapping structures, as illustrated in Figure 13, which contributes to the increasing complexity of the musical material. Nevertheless, the composer maintains a consistent prime form throughout this complexity, as evidenced in the analyses presented in Figures 19–21. Figure 19 analyses the outer voices, inner voices, and prime form of OC 4 of Phrase 2. It could be observed that the reference pitch class for this octachord is F, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices		5							0	1		3
Inner voices			9			0	1				5	
Prime form		8	9			0	1		3	4	5	6

Figure 19 Prime form for OC 6 of Phrase 2

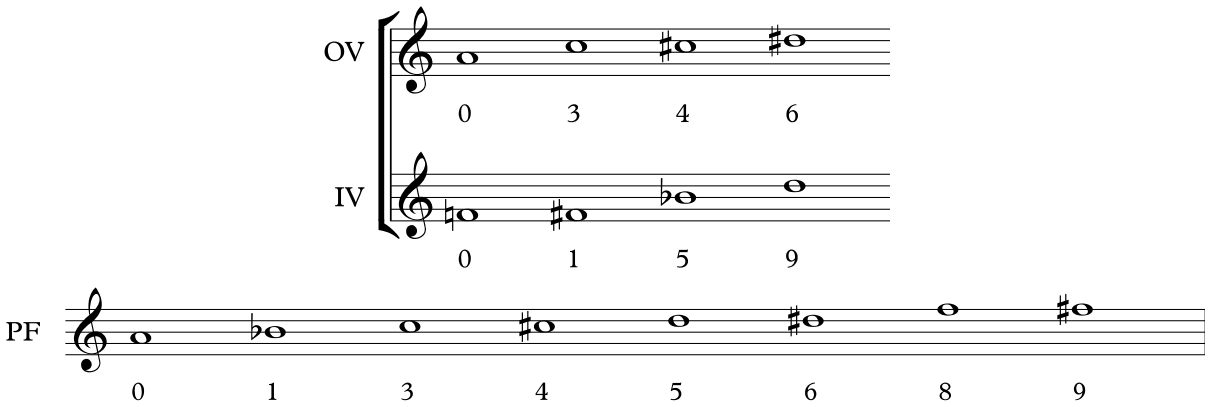
Figure 20 analyses the outer voices, inner voices, and prime form of OC 7 of Phrase 2. It is evident that the reference pitch class for this octachord is C#, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices		0			3			6		8		
Inner voices			9			0	1				5	
Prime form		0	1		3	4	5	6		8	9	

Figure 20 Prime form for OC 7 of Phrase 2

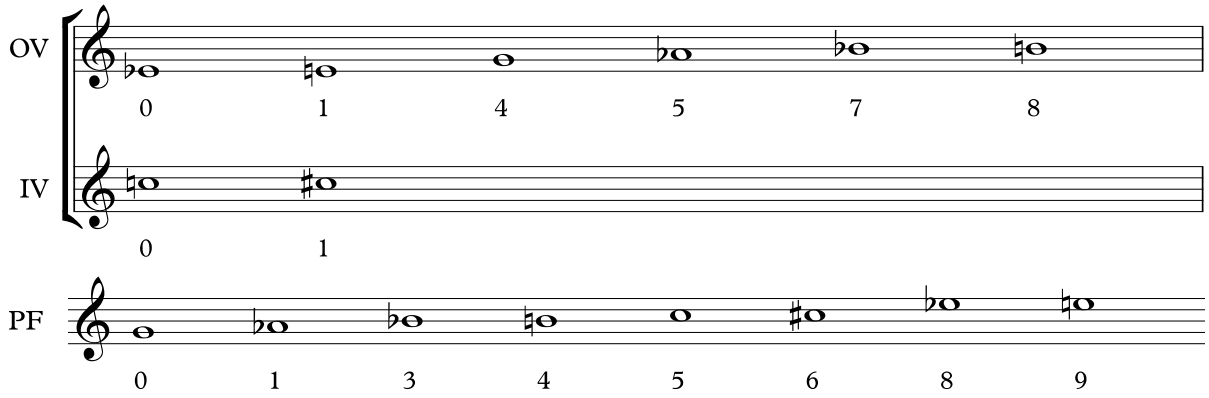
Figure 21 analyses the outer voices, inner voices, and prime form of OC 8 of Phrase 2. It could be observed that the reference pitch class for this octachord is A, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices	3	4		6						0		
Inner voices			9			0	1				5	
Prime form	3	4	5	6		8	9			0	1	

Figure 21 Prime form for OC 8 of Phrase 2

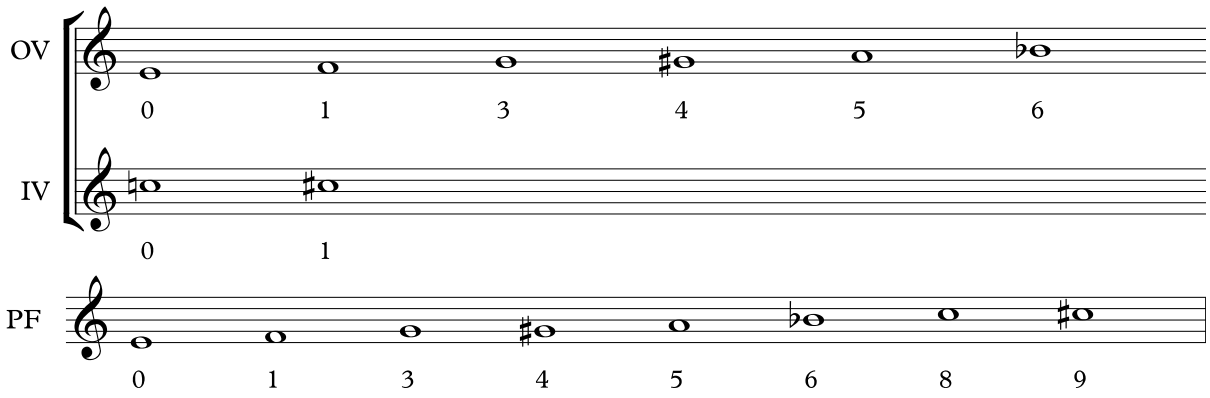
Figure 22 analyses the outer voices, inner voices, and prime form of OC 9 of Phrase 2. It is evident that the reference pitch class for this octachord is G, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices				0	1			4	5		7	8
Inner voices	0	1										
Prime form	5	6		8	9			0	1		3	4

Figure 22 Prime form for OC 9 of Phrase 2

Figure 23 analyses the outer voices, inner voices, and prime form of OC 10 of Phrase 2. It could be observed that the reference pitch class for this octachord is E, making the prime form as (01345689).



Pitch	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
Outer voices					0	1		3	4	5	6	
Inner voices	0	1										
Prime form	8	9			0	1		3	4	5	6	

Figure 23 Prime form for OC 10 of Phrase 2

Analysis of Phrase 2 reveals the reference pitch class for each of the 10 octachord structures (OC 1: C, OC 2: E♭, OC 3: F#, OC 4: D, OC 5: B♭, OC 6: F, OC 7: C#, OC 8: A, OC 9: G, and OC 10: E). While these reference pitch classes do not follow an immediately recognisable pattern, all 10 octachord structures share a common prime form, namely (01345689).

FINDINGS

From the analysis, a number of findings were identified. First, the piece is composed using principles of post-tonal music theory, placing it within the category of post-tonal music. Second, its harmonic material is derived from pitch-class set theory, a core analytical tool in post-tonal theory. Third, each phrase is governed by a distinct octachord, which is systematically permutated in a manner reminiscent of a Sudoku grid. This analogy refers to the way pitch classes are distributed across phrases—each note appears to be placed randomly, yet upon closer inspection, every pitch adheres to the structural constraints of the governing octachord. Thus, while the surface may suggest chaos, the underlying organisation reveals a deliberate and consistent order, as demonstrated in the analyses.

Before a decision is made regarding the expression of the aesthetic value of this musical piece, a brief recap of the categories within "order" and "chaos" is warranted. "Order" consists of "canon," "harmony," "mimesis," and "masterly," while categories in "chaos" are "creativity," "disharmony," "deformation," and "anti-original." Definitions of these categories given in the previous section, while brief and simple, are adequate for us to perceive the overall picture in general and probably proceed in attempting to understand the expression of the aesthetic value of Razak Abdul Aziz's *Etude No. 5 for Piano Solo*.

After the findings were summarised, it was concluded that although the harmonic materials in this piece were derived through pitch manipulations based on post-tonal pitch-class set theory, a clear procedural logic and compositional intent were evident in its construction. On cursory examination, this could fit into one category in "order" and one in "chaos." However, after closer inspection, would fit perfectly into only one of these categories. We situate the harmonic materials within the framework of "order." As the findings earlier suggest, the construction of

this work follows a set of rules set by the composer, which is derived from the manipulation of the pitch-class set. This perfectly describes a canon—a standard guideline to ascribe aesthetic values through the methods and procedures used in creating an artwork (Junaedi 2021, 219). Hence, the expression of the aesthetic value of the harmonic materials of this piece is "order."

"Chaos," on the other hand, promotes disobedience. "Creativity" may offer a good fit for the post-tonal harmonic materials of the work in question, as the purpose of creativity is to overcome the sense of overwhelming familiarity, somehow in agreement with Deliège's take on this kind of harmonic materials, creating "a state of non-gravity," abolishing the concept of consonance and dissonance. However, in each aspect of creativity, there is canon in existence (Junaedi 2021, 237). As the analysis and findings had proven that the composer followed a certain set of rules in establishing and utilising the harmonic materials for this musical composition, the creativity intertwined with the canonical rules, hence placing the expression of the aesthetic value of harmonic materials of *Etude* No. 5 firmly as canon.

Though other expressions of aesthetic value from either "order" or "chaos" could be somewhat justified for the harmonic materials used in this piece, they do not sit too well. For instance, "harmony," in a musical context, refers to the simultaneity of various pitches, usually in the form of chord progression, which may or may not imply the use of tonal harmony. "Mimesis" could also somewhat fit into this as the outcome tries to imitate the nuance of a gong ensemble in gamelan music in an abstract way, though it is not translated through its harmonic materials. As for the other end of the spectrum, "disharmony" could also appear to sit well on the surface level. However, it is not the composer's intention to provoke the audience with this composition. If anything, it is the opposite. Razak Abdul Aziz wants the audience to understand that the chosen harmonic materials are a vehicle for his musicality. "Deformation" as the nemesis of "mimesis" does not justify the expression of the aesthetic value of the harmonic materials of this piano piece.

CONCLUSION

The expression of aesthetic value in the harmonic materials of *Etude No. 5 for Piano Solo* by Razak Abdul Aziz has been investigated in this study. A general overview of scholarly perspectives on music aesthetics was provided, with particular attention given to post-tonal music and its aesthetic implications. Several frameworks for evaluating aesthetic value—those proposed by Goldman, Plato (as interpreted by Rocconi), Juslin et al., and Junaedi–were briefly outlined. Among these, Junaedi's framework was identified as the most suitable for the subject matter. Accordingly, the harmonic materials were analysed using pitch-class set theory from post-tonal music, as proposed by Rahn and reiterated by Straus, and subsequently reframed within Junaedi's aesthetic model.

Through this analytical approach, it was revealed that the harmonic materials adhere to a set of compositional rules established by the composer, forming a personalised canon. The analytical framework—pitch-class set theory and prime form analysis—not only uncovered the structural logic of the composition but also clarified its aesthetic orientation. Consistent patterns of pitch organisation across phrases were identified, demonstrating alignment with Junaedi's category of "canon" under the expression of "order." Despite the surface-level complexity, the structural coherence observed supports an aesthetic evaluation grounded in intentionality, compositional mastery, and adherence to internal logic. Thus, the findings of the analysis directly inform the aesthetic value, revealing that what may initially appear chaotic is, in fact, a deliberate and ordered musical expression.

The study of music aesthetics focusing on Malaysian composers is an unexplored territory. Pioneering Malaysian composers such as Razak Abdul Aziz, Adeline Wong, and Sonny Chua (among others) offer various spectrum of musicality and musical expressions, yet they could not grasp adequate attention from scholars to conduct critical studies on their musical works, be it from aesthetic perspective or other musicological angles. Should this trend continue, local composers and their works will perhaps suffer from a lack of exposure in academia, hence causing these treasures to be forgotten with time and eventually fall into the pit of oblivion. The authors hope that this article could somewhat contribute to enriching this dry land and interest more scholars and academics to begin exploring this mostly uncharted water.

ACKNOWLEDGEMENT

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