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Rhythmic Architecture of Munalu in Gayo Becanang: Ostinato, Interlocking Patterns, and Ensemble Structure in a Traditional Music Practice

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Abstract: *Becanang* is a traditional Gayo musical practice with both musical and social functions in communal life. Although *Becanang* has been addressed in previous studies, musicological documentation of the rhythmic structure of the "Munalu" repertoire remains limited, particularly in relation to notation transcription and inter-instrumental analysis. This article examines the rhythmic structure of Munalu as performed by Sanggar Gayo Nusantara Etnik, Bener Meriah. The study employs a qualitative-descriptive approach with musicological and ethnomusicological perspectives. Data were obtained through field observation, video documentation conducted on 22 August 2025 in Bener Meriah, field notes, and observation of ensemble performance. The analysis involved repeated listening, measure segmentation, instrumental pattern identification, and transcription into staff notation. The findings show that Munalu is constructed through layered rhythmic patterns involving three Suling Gayo, three *Canang*, one *Momong*, one Gong, and two *Gegedem*. Its structure is organized through ostinato repetition, rhythmic-timbral markers, and interlocking patterns. This article contributes to the documentation of Gayo traditional music through rhythmic transcription and analysis.

Keywords: *Becanang*, *Munalu*, rhythmic patterns, interlocking, ostinato

1. INTRODUCTION

The Gayo people are one of the ethnic groups in Aceh Province with a strong artistic tradition, encompassing oral literature, music, dance, and communal performance practices. The Gayo cultural region spans several areas in the highlands of Aceh, including Central Aceh, Bener Meriah, Gayo Lues, and parts of Southeast Aceh. In Gayo society, art is understood not only as entertainment but also as a means of communication, education, expression of identity, and strengthening of social bonds. Some of the art forms recognized in Gayo society include *Saman*, *Didong*, *Kerawang* crafts, the traditional *Pitu Ruang* house, and *Becanang*.

In the context of Gayo art, *Didong* is often regarded as one of the most important musical practices that embodies the community's values of education, identity, and togetherness. Afriadi explains that *Didong* plays a role in character building and fostering multicultural understanding among the Gayo people. Meanwhile, Mistortoify (2025) demonstrates that the musical form of *Didong* represents the cultural identity of the Gayo community through the interplay of instruments, melodies, rhythms, and lyrics. This study shows that Gayo music should be understood not only as a performance practice but also as a musical and social system that preserves cultural knowledge.

Studies on Gayo art also show that any discussion of Gayo music cannot be separated from the relationship between musical



knowledge. Erlinda et al., (2024) explains that *Didong* is one of the core elements of Gayo vocal art that plays a vital role in strengthening the cultural heritage and identity of the Gayo people. These findings demonstrate that Gayo art serves not only as entertainment but also as a space for expression, the documentation of local knowledge, and the preservation of cultural identity. In the context of this article, *Becanang* can be placed within a similar framework namely, as a Gayo musical practice that embodies musical structures and social values warranting more specific study.

Becanang is a traditional Gayo musical art form performed as an ensemble dominated by percussion and wind instruments. In its performance, *Becanang* uses instruments such as the Gayo flute, *Canang*, *Momong*, *gong*, and *Gegedem*. These instruments create a layered rhythmic texture through repetitive striking patterns, accents, and the complementary interplay between sections. In a social context, *Becanang* is often featured in traditional ceremonies and community celebrations, primarily as a form of entertainment, a means of gathering people, a way to set the mood, and a symbol of communal togetherness (Wirandi & Sukman, 2022). This indicates that, in the context of Bener Meriah, *Becanang* is also linked to women's participation and the practice of mutual aid in community life.

One of the key pieces in the *Becanang* repertoire is "Munalu." In the practice of the Sanggar Gayo Nusantara Etnik, Munalu is understood as an opening piece that means "to call." This piece is performed to mark the beginning of a performance and to invite the audience to gather at the event venue. Thus, "Munalu" serves two functions simultaneously: a musical function as the ensemble's opening piece and a social function as a signal of communication to the audience. Given "Munalu's" role as the opening piece, its rhythmic structure is crucial to examine, as the initial patterns that emerge within it form the foundation for establishing the atmosphere, coordination, and musical energy in a *Becanang* performance.

Previous studies on *Becanang* have focused primarily on aspects such as performance style, social function, cultural context, and musical reinterpretation. Arigustika. AZ, (2020) discusses *Becanang* music in the context of the Beguru traditional ceremony among the Gayo people in Bebesen Subdistrict, Central Aceh. Meanwhile, Sari (2023) discusses the reinterpretation of *Becanang* in musical compositions. These studies are important because they provide insight into the cultural context and performance practices of *Becanang*. However, studies that specifically examine the rhythmic patterns of the Munalu repertoire through musical notation transcriptions and analysis of the relationships between instruments remain limited.

This research gap highlights the need for a musicological study that not only explains *Becanang* as a cultural practice but also unpacks how its musical system functions. In this context, an analysis of the rhythmic patterns in Munalu is crucial because this repertoire demonstrates a sound organization shaped by ostinato repetitions, rhythmic markers, timbral layers, and interlocking between instruments. Such an analysis can demonstrate that traditional music passed down orally possesses a systematic musical structure, even though it is not always documented in the form of written notation.

The need to expand musical research on the Gayo tradition is also reinforced by (Erlinda et al., 2024), which confirms that research on Gayo vocals has so far focused primarily on literary aspects, while discussions specifically addressing musical aspects remain relatively limited. This aligns with the approach of this study, which views *Becanang* not only as a cultural event but also as a musical system that can be analyzed through rhythmic structure, instrumental functions, transcription, and the relationships between layers of sound. Thus, the study of Munalu forms part of an effort to expand the musicological documentation of Gayo musical practices.

This article focuses on the rhythmic patterns of Munalu in the art form of *Becanang*, as performed by the Gayo Nusantara Etnik Art Group in Bener Meriah. The primary focus of this study is to identify, transcribe, and analyze the rhythmic patterns of each instrument as well as the inter-instrumental relationships that shape the ensemble's structure. Thus, this article does not discuss the entire *Becanang* repertoire broadly but rather limits its analysis to Munalu as an opening piece that serves specific musical and social functions.

Based on this focus, this study addresses two main questions. First, what is the structure of the Munalu rhythmic pattern in the *Becanang* art form of the Gayo Nusantara Etnik Studio? Second, how do the relationships between instruments shape the ostinato, interlocking, and musical functions within the *Becanang* ensemble? Through these questions, this article is expected to contribute to the musicological documentation of Gayo *Becanang*, the development of Indonesian ethnomusicological literature, and the creation of educational materials for traditional music based on local culture.

2. METHODS

2.1 Research Design

This study employs a qualitative-descriptive method from musicological and ethnomusicological perspectives. A qualitative approach was used because the primary data consisted of musical practices, performance recordings, field observations, and contextual information from the artists. A descriptive approach was used to systematically analyze the structure of Munalu's rhythmic patterns based on observations and transcriptions.

The subject of this study is the *Becanang* performance from the Munalu repertoire, presented by the Gayo Nusantara Etnik Art Group in Bener Meriah. The formal object of this study is the structure of rhythmic patterns, including meter, rhythmic values, accentuation, ostinato, interlocking, instrumental functions, and the relationships between sound layers within the ensemble. Thus, this study not only describes the instruments used but also analyzes how each instrument contributes to the musical structure of Munalu.

2.2 Research Site and Participants

The research was conducted in Bener Meriah, Aceh, with the Sanggar Gayo Nusantara Etnik serving as the site for data collection. This arts center is led by Mr. Juhari and actively presents *Becanang* performances at various community events. In the documentation of the Munalu repertoire which serves as the

primary data source for this study the ensemble consists of seven performers playing ten instruments or musical parts.

The instruments used consist of three Gayo flutes, three *canangs*, one *Momong*, one gong, and two *Gegedems*. The three Gayo flutes play the same musical part, so in the transcription they are presented as a single main staff. The three *Canang* serve to build layered rhythmic patterns; the *Momong* and Gong function as rhythmic markers and reinforce the temporal structure; while the two *Gegedem* form a layer of membranophone rhythms that enrich the ensemble's texture.

2.3 Data Collection

Research data were collected through field observations, video documentation, field notes, and observations of ensemble performance practices. Video documentation of the Munalu repertoire was conducted on August 22, 2025, in Bener Meriah Regency, Aceh. These video recordings served as the primary data for the transcription and analysis of rhythmic patterns.

In addition to audiovisual data, this study also utilizes contextual information obtained through fieldwork with members of the Sanggar Gayo Nusantara Etnik, particularly regarding the function of the Munalu, the instrumentation, and performance practices. This field data was used to help the researcher understand the relationship between musical structure and performance context.

2.4 Transcription and Analysis Procedure

The analysis was conducted in several stages. First, the video recordings were listened to repeatedly to identify the general structure of the Munalu repertoire. Second, the researcher divided the musical passages into measures to facilitate the analysis of the rhythmic structure. Third, each instrument was identified based on its entry point, rhythmic value, accents, and relationship to the downbeat. Fourth, these patterns were transcribed into staff notation so they could be visually interpreted and analyzed in a more structured manner.

In ethnomusicology, transcription serves not only as a means of converting sound into visual symbols, but also as an analytical act that involves the researcher's choices, limitations, and objectives. Holzapfel et al., (2022a) explains that musical transcription is the process of creating notation from musical sounds and has been used as the basis for musical analysis across various cultures. In the context of traditional music, transcription should be understood as a representation that aids analysis but does not entirely replace the experience of a live performance. Schuiling (2019) also emphasizes that notation can be understood as a cultural practice that mediates the relationship between sound, musicians, and musical knowledge.

In the transcription process, primary attention is given to the relationships between instruments, particularly repetitive patterns or *ostinatos*, interlocking patterns, and the functional differences between brass instruments and membranophones. On the *Gegedem*, the distinct sound characteristics of “*bum*” and “*peng*” are indicated by different notation symbols. Low-pitched strikes, or “*bum*,” are represented by a cross-shaped notehead, while louder strikes, or “*peng*”, are represented by a diamond-shaped

notehead. This distinction in symbols is used to clarify the dimension of tone color in the transcription.

2.5 Data Validation

Data validation was conducted through triangulation of field observations, video documentation, field notes, and the researchers' internal analysis of the transcriptions. Video recordings were used as the primary source for verifying the accuracy of rhythmic patterns, instrument entry points, and inter-part relationships. Verification was also conducted through repeated listening sessions to ensure that the transcribed patterns were not merely based on impressions but on consistent auditory observations.

However, the transcriptions have not yet been directly validated through member checking with the performers or artists of the Sanggar Gayo Nusantara Etnik. Therefore, the transcriptions in this article are presented as preliminary descriptive transcriptions that can still be refined through further confirmation with the performers. This limitation serves as both a methodological note and an opportunity for future research to collaboratively refine the musical documentation of *Becanang*.

3. RESULTS AND DISCUSSION

3.1 Results

3.1.1 General Structure of Munalu Repertoire

Munalu is the opening piece in the *Becanang* art form, serving as a call-to-action signal. In the practice of the Sanggar Gayo Nusantara Etnik, Munalu begins with a free-form performance on the Gayo flute, followed by the entry of the gong to signal the start of the ensemble. After that, the rhythmic layers are gradually built up by *Canang 1*, *Canang 2*, *Canang 3*, *Momong*, *Gegedem 1*, and *Gegedem 2*.

The general structure of Munalu follows a gradual progression. The opening section is dominated by the Gayo flute, which serves as the melodic introduction. The gong then serves as a cue to enter the ensemble section. The *canang* establishes a rhythmic foundation through repetitive patterns, the *Momong* reinforces the temporal markers, while the *Gegedem* adds a layer of membranophones that creates a denser rhythmic dynamic. With this arrangement, Munalu is built not only through a single main pattern, but through the accumulation of several complementary layers of rhythm.

Notation 1. Full Score of Munalu's Repertoire in the *Becanang* Art Form

3.1.2 The Gayo Flute as an Opening Act

The opening section of Munalu is performed by the Gayo flutes. In actual performance, three Gayo flutes play the same musical part. Therefore, in the transcription, the Gayo flutes are presented as a single main staff representing the musical pattern of all three flutes.

Notation 2. Gayo Flute in the Munalu Repertoire of the *Becanang* Art Form
(Transcript by the ISBI Aceh Gamelan Arts Study Program team)

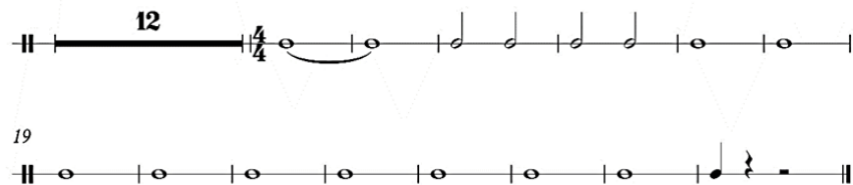
The opening section of the Gayo flute piece is improvisational. This characteristic indicates that Munalu does not begin entirely with a rigid rhythmic structure, but rather through a space for

melodic expression that signals the start to the other players. The Gayo flute improvisation serves to set the mood, signal the ensemble's readiness, and act as a bridge to the main rhythmic section. Thus, the Gayo flute functions not only as a melodic instrument but also as the initial leader in the musical flow of Munalu.

3.1.3 The Function of the Gong as a Cue for the Ensemble to Begin

Following the opening section of the Gayo flute, the gong signals the ensemble's entry. The strike of the gong indicates that the improvisational section has ended, and the main rhythmic structure is about to begin. In this context, the gong serves an important temporal function, marking the transition from the melodic opening to the collective rhythmic organization.

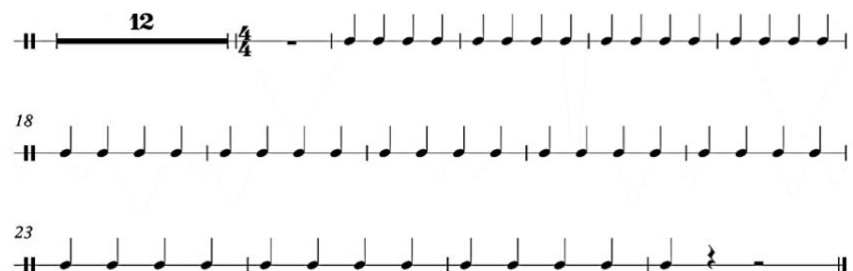
Musically, the gong serves as the primary time marker. Although the patterns played are not dense, the presence of the gong reinforces the rhythmic orientation and provides a foundation for the entry of other instruments. The gong's function in Munalu is more prominent as a rhythmic and timbral marker than as an instrument with a fixed pitch. This aligns with the nature of metal instruments in *Becanang* practice, whose pitch can vary depending on weather and humidity conditions; thus, its role is best understood as enhancing the timbre and temporal structure.



Notation 3. The Munalu Gong Repertoire in *Becanang* Art (Transcript by the ISBI Aceh Gamelan Arts Study Program team)

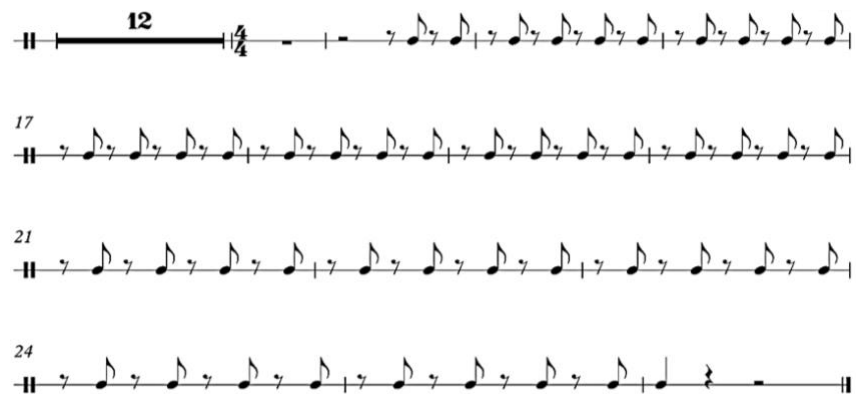
3.1.4 Canang 1, Canang 2, and Canang 3 Patterns

The three *Canang* play a crucial role in establishing the rhythmic structure of Munalu. *Canang 1* plays a steady pattern with quarter-note values. This pattern creates a sense of stability because it is closely aligned with the main beat. The function of *Canang 1* is to form the basic rhythmic framework that serves as a reference for the other instruments.



Notation 4. *Canang 1* from the Munalu repertoire in the *Becanang* Art Form (Transcript by the ISBI Aceh Gamelan Arts Study Program team)

Canang 2 enters with a tighter pattern, using eighth notes. The *Canang 2* pattern fills the spaces between the beats of *Canang 1*, creating a sense of mutual complementarity. The relationship between *Canang 1* and *Canang 2* exemplifies the principle of interlocking, as the two instruments not only play simultaneously but also form a single rhythmic unit through the division of the beat.



Notation 5. *Canang 2* Munalu's Repertoire in the *Becanang* Art Form (Transcript by the ISBI Aceh Gamelan Arts Study Program team)

Canang 3 reinforces the density of the rhythmic texture with an eighth-note pattern that moves more closely in step with the *Canang* framework. The role of *Canang 3* is to thicken the sound layer and increase the musical intensity. If *Canang 1* serves as the foundation and *Canang 2* as the rhythmic filler, then *Canang 3* functions as a textural enhancer that makes the ensemble's structure sound fuller.



Notation 6. Munalu's Repertoire in the *Becanang* Art Form (Transcript by the ISBI Aceh Gamelan Arts Study Program team)

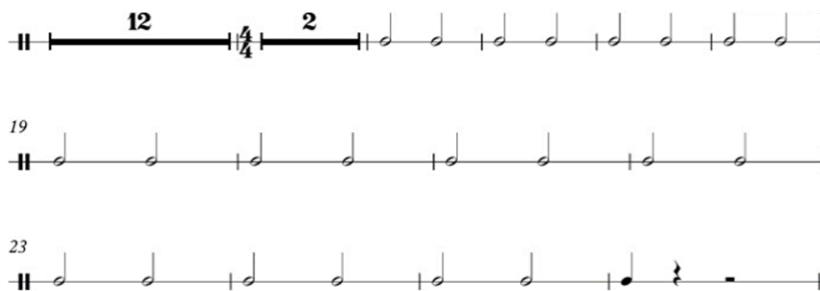
Overall, the relationship between *Canang 1*, *Canang 2*, and *Canang 3* forms a layered ostinato pattern. The repetition is not static, as each *Canang* has a different rhythmic position and musical function. Through this division of roles, the three *Canang* create an interwoven rhythm that forms the core of the Munalu structure.

3.1.5 Momong Patterns

The *Momong* is a metal instrument that resembles the *Canang* in shape and tone, but differs in size and timbre. In the Munalu repertoire, the *Momong* enters after the *Canang*'s structure has been established. According to the transcription, the *Momong* enters on the 15th beat with a pattern that is more spaced out than that of the *Canang*.

The *Momong* pattern serves to emphasize the temporal structure. With a rhythm that is not as dense as that of the *Canang*, the *Momong* provides a broader sonic space and reinforces the sense of weight in the ensemble's structure. Because of this function, the *Momong* is not positioned as a melodic instrument, but rather

as a rhythmic and timbral marker that deepens the ensemble's timbre.



Notation 7. Preserving Munalu's Repertoire in the Art of Becanang (Transcript by the ISBI Aceh Gamelan Arts Study Program team)

3.1.6 Gegedem 1 dan Gegedem 2 Patterns

The Gegedem is a membranophone that plays a key role in enhancing the rhythmic dynamics of Munalu. In this ensemble, there are two Gegedems: Gegedem 1 and Gegedem 2. Both enter after the Canang and Momong patterns have been established, and their presence adds musical density and energy.

Gegedem 1 begins its rhythmic pattern on the upbeat with an eighth note. This pattern provides a rhythmic impulse distinct from that of the brass instruments. In the transcription, low-pitched sounds or "bum" are marked with a cross-shaped notehead, while high-pitched sounds or "peng" are marked with a diamond-shaped notehead. This distinction in symbols indicates that Gegedem's analysis focuses not only on rhythmic duration but also on timbre.



Notation 8. Gegedem 1 a piece from Munalu's Repertoire in the Becanang Art Form (Transcript by the ISBI Aceh Gamelan Arts Study Program team)

Gegedem 1 is part of the Munalu repertoire in the art of Becanang. Gegedem 2 functions as a counterpoint or counter-rhythm to Gegedem 1. The pattern of Gegedem 2 does not stand alone but operates in a responsive relationship with Gegedem 1. The "peng" beat in Gegedem 2 serves as a key accent that fills the gaps in the rhythmic structure. Thus, the two Gegedem create an interweaving of membranophones that reinforces the interlocking character of Munalu.



Notation 9. *Gegendem 2* Munalu's repertoire in the *Becanang* Art Form (Transcript by the ISBI Aceh Gamelan Arts Study Program team)

3.1.7 Ostinato and Interlocking in a Ensemble

The Interplay of Ostinato and Interlocking in the Ensemble based on the transcription, the structure of Munalu is built on the principles of repetition and interplay. The repetitive patterns on the *Canang*, *Momong*, *Gong*, and *Gegendem* form an ostinato that serves as the foundation for the continuity of the repertoire. However, the ostinato in Munalu is not merely a mechanical repetition. Each instrument plays a distinct role in shaping the ensemble's texture.

The *canang* establishes the primary rhythmic layer, the *gong* and *Momong* define the temporal structure, while the *Gegendem* provides accentual energy through the timbre of its membranophone. The relationship between these instruments exemplifies the principle of interlocking—that is, different patterns that complement one another within the rhythmic space, creating a unified musical whole. Thus, the strength of Munalu lies in its collective precision, not in the dominance of any single instrument.

These findings suggest that the structure of the Munalu ensemble operates through an interdependent division of instrumental roles. In the context of a rhythmic ensemble, musical precision is not always determined by a single lead player, but rather by the distribution of functions, interactions among players, and the stability of temporal relationships (Jacoby et al., 2021). This indicates that precision in West African drum ensembles is heavily influenced by the division of musical roles and the patterns of interaction among the players. Thus, the interplay of the *Canang*, *Momong*, *Gong*, and *Gegendem* in Munalu can be understood as a collective structure that establishes order through the relationships between the parts, rather than through the dominance of a single instrument.

Table 1. The Musical Functions of Instruments in the Munalu Repertoire

INSTRUMENTS	TOTAL	MUSICAL FUNCTIONS	RHYTHMIC CHARACTER
GAYO FLUTE	3	Opening, setting the mood, and initial cues	Melodic and improvisational; three flutes play the same part
CANANG	3	Formers of the main rhythmic layer	Ostinato, repetitive, complementary
MOMONG	1	Emphasizers of temporal structure and timbre	The rhythm is more spread out; timbral markers
GONG	1	Ensemble entry cues and time signatures	Marker beats; temporal function

GEGEDEM	2	Dynamic enhancers and counter-rhythms	Interlocking membranophones; the “bum” and “peng” accents
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3.2 Discussion

3.2.1 Munalu as a Musical Summoning System

Munalu holds an important position in *Becanang* art because it serves as the opening piece of the repertoire. The meaning of “calling” relates not only to its social function of inviting the audience to gather, but also to the way music organizes attention. The Gayo flute melodically opens the soundscape, the gong signals the entrance, and then the other instruments gradually build rhythmic density. This process demonstrates that Munalu functions as a musical summoning system that connects the performers, the performance space, and the community.

The function of the munalu as a calling signal demonstrates that musical structures in traditional music often operate in tandem with social and symbolic functions (Nelson et al., 2025). This demonstrates that changes in the function of the traditional Gondrang Sipitu-pitu music have not diminished the important role of rhythm, melody, and ensemble structure as elements that preserve musical identity within Simalungun society. In the context of Munalu, the function of summoning the audience also cannot be separated from the sonic structure that fosters collective attention. Music exists not only as a series of rhythmic patterns but also as a social sign that connects the performers, the space, and the community.

Pembacaan tersebut sejalan dengan pandangan bahwa musik tradisi dapat menjadi narasi budaya yang menyimpan identitas, ingatan, dan nilai sosial komunitas. This interpretation is consistent with the view that traditional music can serve as a cultural narrative that preserves a community's identity, memories, and social values. Jing et al., (2025) explains that the musical characteristics of Pingxian folk songs function as a cultural narrative through the interplay of rhythmic structure, language, symbolism, and performance context. In Munalu, repetitive and easily recognizable rhythmic patterns also form a sonic narrative that signals the beginning of communal events. Thus, the meaning of “calling” in Munalu is not merely verbal but also musical, manifested through the arrangement of rhythm, timbre, and the intensity of the ensemble.

In this context, the rhythmic structure of Munalu cannot be understood merely as a sequence of repetitive sounds. The repetitions serve a communicative function. Stable rhythmic patterns signal the start of the performance, while the gradually increasing layers of sound build intensity and capture the listeners' attention. Thus, the musical and social functions of Munalu are intertwined.

3.2.2 Ostinato and Interlocking as Principles of Rhythmic Organization

The transcription reveals that Munalu is constructed using ostinato and interlocking patterns. The ostinato is evident in the repetition of rhythmic patterns played by the *Canang*, *Momong*, *Gong*, and *Gegedem*. This repetition forms the foundation of the ensemble's stability. Gutama, (2020) explains that repetition is one

of the key elements in the formation of musical patterns. In the context of *Munalu*, repetition not only creates regularity but also generates a musical momentum that maintains the continuity of the repertoire.

In contemporary studies of rhythm, repetition is understood not only as the recurrence of a pattern, but also as a means of shaping the experience of time, movement, and musical energy. Danielsen et al., (2023) emphasizes that the creation of a groove involves the interplay between timing, attack, timbre, and sound intensity at the micro level (Coulon et al., 2026). It also shows that the repetition of rhythmic patterns can reinforce the perception of the beat, although beat perception does not depend entirely on repetition. In the context of *Munalu*, the repetitive patterns in the *Canang*, *Momong*, *Gong*, and *Gegedem* not only create stability but also establish a sense of time that allows performers and listeners to collectively experience the rhythmic pulse.

The complementary relationship between instruments in *Munalu* can also be understood through the concept of entrainment, which is the process by which two or more rhythmic activities synchronize with one another and form temporal coordination. Clayton et al., (2004) explains that entrainment is important in ethnomusicology because it can explain musical synchronization as a process that is auditory, bodily, social, and interactive. According to *Munalu*, coordination among performers not only produces temporal precision but also fosters social cohesion through collective rhythmic practice.

Studies on entrainment in musical performances show that ensemble coordination involves not only the synchronization of beats, but also the division of roles, anticipation, and responses among the musicians. Clayton distinguishes between sensorimotor synchronization and musical coordination, which operate at a broader structural level (Clayton et al., 2020). It also shows that entrainment stability in a percussion ensemble does not necessarily depend on fully isochronous temporal patterns (Polak et al., 2016). In *Munalu*, the relationship between the *Canang*, *Momong*, *Gong*, and *Gegedem* demonstrates that rhythmic regularity can be established through mutually adaptive patterns, even though each instrument has a different function and rhythmic density.

In the context of *Munalu*, the ostinato cannot be understood merely as a mechanical repetition of a pattern, but as a principle of temporal organization that shapes the ensemble's stability. Boyle, (2021) explains that ostinatos can create a sense of groove, cyclicity, and temporal orientation through flexible repetition. Thus, the repetitive patterns in the *Canang*, *Momong*, *Gong*, and *Gegedem* in **Munalu** can be interpreted as structural devices that maintain the continuity of sound while opening up space for interaction among the instruments.

Interlocking is evident in the complementary relationship between *Canang 1*, *Canang 2*, and *Canang 3*, as well as between *Gegedem 1* and *Gegedem 2*. The pattern of *Canang 1* provides the beat, *Canang 2* fills the rhythmic gaps, and *Canang 3* thickens the texture. In *Gegedem*, the relationship between the "bum" and "peng" sounds creates accents that enrich the rhythmic layers. This structure demonstrates that the complexity of *Munalu* does not arise from a single melodic line or a single primary instrument, but rather from the interplay of several distinct patterns within a single timeframe.

Interlocking in Munalu can be compared to certain traditional Southeast Asian musical practices that build rhythmic texture through interlocking patterns. Azizan et al., (2022) explains that an interlocking rhythm occurs when two different patterns are played simultaneously and form a single rhythmic unit. Najamudin et al. (2026), in a study of Kurung-Kurung Hentak, demonstrate that interlocking patterns between idiophones can form a composite rhythm that functions as a musical pattern, a ritual sign, and an expression of embodied knowledge (Ardiansyah et al., n.d.). it also positions the *kotekan* technique as a source of creative ideas rooted in the principle of interlocking. Thus, the *Canang* and *Gegedem* patterns in Munalu can be interpreted as a local interlocking system that shapes the texture of the ensemble through the division of rhythmic space.

3.2.3 Musical Functions of Metal Instruments and Membranophones

One important point to note in the analysis of *Becanang* is the classification of instruments. In Western organology, the term "definite-pitch percussion" is used for percussion instruments that have a specific pitch, while "indefinite-pitch percussion" is used for percussion instruments that do not have a specific pitch. However, in the practice of *Becanang*, this classification must be applied with caution.

An organological analysis of the *Becanang* instrument must be conducted within its contextual framework, as the instrument's musical function does not always align strictly with Western organological categories (Maulana et al., 2022). A study of the *Canang Ceureukeh* in Aceh shows that the *canang* can be understood through textual aspects such as materials, form, and playing techniques, as well as contextual aspects such as its musical and social functions. Thus, the *canang*, *Momong*, and *gong* in the *Becanang* ensemble are best understood through the relationship between their sound sources, timbre, rhythmic functions, and the context of their use within the ensemble.

Canang, *Momong*, and *Gong* do tend to produce pitched sounds, but their pitch is not always stable. According to field observations, changes in weather and humidity can affect the pitch of these instruments. During the rainy season or in humid conditions, the sound of the instruments tends to be lower or undergo changes. Therefore, in this article, the *Canang*, *Momong*, and *Gong* are not classified as instruments with a fixed pitch in the sense of the Western tempered scale. These instruments are more accurately understood as metal instruments that serve as markers of rhythm and timbre.

Any interpretation of the functions of the instruments in Munalu must take into account local terminology, musical functions, and the relationships between sounds, rather than relying solely on general organological classifications. Tenzer, (2024) shows that a theory of traditional music can be constructed based on local terminology, the functions of instruments, playing patterns, and the way communities understand their own musical practices. (Rizki Harmono Sejati et al., n.d.) It also shows that in rhythm- and percussion-based music groups, musical power often lies in the exploration of timbre, tempo, the body, and performance form. Therefore, the *Canang*, *Momong*, *Gong*, and *Gegedem* in Munalu

are best understood as part of a system of musical functions that govern the ensemble's rhythm, timbre, accents, and energy.

Meanwhile, the *Gegedem* is a membranophone that functions as an indefinite-pitch percussion instrument. The “*bum*” and “*peng*” sounds produced by the *Gegedem* do not form a fixed-pitch melody, but rather create contrasts in timbre and rhythmic accents. These differences in sound character are an important part of the structure of *Munalu*, as they enrich the texture and emphasize the ensemble's dynamics.

3.2.4 The Relationship Between Rhythmic Structure and the Social Practices of the Gayo People

The rhythmic structure of *Munalu* reflects the principle of collectivity in *Becanang* musical practice. No single instrument completely dominates the overall structure. Each instrument has a specific role, and musical success depends on the precision of the interactions among the players. The patterns of the *Canang*, *Momong*, *Gong*, and *Gegedem* are only heard in their entirety when played with good coordination. This demonstrates that the musical structure of *Munalu* represents the value of togetherness in the social practices of the Gayo people.

From a broader musicological perspective, traditional musical practices can be understood as collective systems that operate not only through sound but also through social relationships, cultural knowledge, and shared experiences. Firas Trabelsi (2024) emphasizes that a renewal of thought in the field of Arab-Eastern music requires an understanding of musical events as collective social systems that involve psychological, educational, historical, social, and cultural factors. This perspective aligns with the interpretation of *Munalu* as a musical practice that is not only composed of ostinatos and interlocking patterns, but also represents cooperation, musical memory, and social bonds within Gayo society.

The collective structure of *Munalu* demonstrates that musical practices can serve as a representation of how communities build cooperation. Najamudin et al., (2026) explains that rhythmic coordination in *Kurung-Kurung Hantak* does not depend on written notation or verbal counting, but rather on bodily memory, gestural cues, and collective hearing. This bears a resemblance to *Munalu*, as the inter-instrumental relationships in *Becanang* also require auditory sensitivity, bodily response, and awareness of each player's sound placement. Thus, the rhythmic structure of *Munalu* can be viewed as a social practice realized through collective musical performance.

In many traditional musical traditions, musical continuity is achieved not through static preservation, but through a process of adaptation, transmission, and community participation (Srisakon et al., 2025). This shows that the transmission of traditional songs can occur through the preservation of their core structure while adapting to the needs of contemporary communities (Argyriou & Lici, 2026). It also emphasizes that folk music can serve as a repository of cultural memory, a means of affirming identity, and a space for creative participation. Thus, *Munalu* can be understood as part of Gayo musical heritage that remains alive because it is practiced, listened to, and interpreted within the social life of the community.

This finding is consistent with the view that *Becanang* serves not only as entertainment but also as a medium that strengthens communal solidarity. Wirandi & Sukman, (2022) This shows that *Becanang* in Bener Meriah is related to social practices, mutual cooperation, and opportunities for participation in the community. In the context of Munalu, the role of the caller is not merely to invite people to the event venue, but also to foster a sense of community through rhythmic, repetitive, and easily recognizable sounds.

Thus, an analysis of the rhythms in Munalu reveals that musical and social structures are interconnected. Repetition creates stability, interlocking reflects cooperation, and the layering of sounds illustrates the interconnectedness of roles within the ensemble. Munalu serves as an example of how traditional Gayo music preserves a system of local knowledge that operates through sound, the body, memory, and collective practice.

3.2.5 The Role of Transcription in the Documentation and Study of Traditional Music

One of the main contributions of this research is the creation of a notational transcription of Munalu. In an orally transmitted musical tradition, transcription is not intended to replace oral practice, but rather to provide a means of documentation that can aid learning, research, and cultural archiving. Transcription allows patterns that were previously understood only through direct practice to be read, compared, and analyzed more systematically.

In the context of ethnomusicology, transcription serves not only as a final product in the form of musical notation, but also as an analytical process that helps researchers understand the organization of sound. Holzapfel et al., (2022b) explains that transcription is the process of creating a notation of musical sounds and has long been used to support the analysis of music from various cultures (Schuiling, 2019). He added that notation should be understood as a cultural practice related to how musical knowledge is formed, preserved, and negotiated. Therefore, the transcription of Munalu in this article is not intended to freeze the oral tradition, but to provide an analytical tool that helps interpret the relationships between instruments in the *Becanang* ensemble.

However, transcriptions of traditional music should be understood as limited representations. Certain elements such as musical feel, tempo flexibility, bodily interaction, the quality of the beats, and the interplay among performers cannot always be fully captured through staff notation. Therefore, the transcription of Munalu in this article should be viewed as a preliminary documentation that can be further developed through ongoing validation with the artists, more detailed recordings, and comparisons with the *Becanang* versions from other groups or regions.

The limitations of musical notation in representing traditional music also highlight the importance of reading transcriptions as an aid, rather than as a substitute for direct musical experience. Holzapfel et al., (2022) emphasizes that the use of Western notation in cross-cultural music transcription requires adaptation to the purpose of the analysis and the stylistic characteristics of the music being studied (Schuiling, 2019). It also reminds us that musical notation does not exist outside of musical social practice, but is rather an integral part of musical culture itself. In Munalu, the

symbolization of the sounds “bum” and “peng” in the *Gegedem*, as well as the interpretation of the rhythmic and timbral functions of the *Canang*, *Momong*, and *Gong*, demonstrate that transcriptions must be adapted to the logic of local sounds.

Munalu’s contributions to transcription can also be linked to the need for documentation, education, and the preservation of traditional music. Karsono, (2024) shows that traditional musicians can take on a new role as teachers in formal education to ensure the sustainability of local knowledge. Suharto et al., (2025) explains that musical enculturation in the Banyumasan tradition takes place through family, community, and performance contexts that shape musical identity. Wang, (2021) emphasizes that digital media can open up new opportunities for the preservation and promotion of traditional musical heritage. In the context of *Becanang*, the transcription of Munalu can serve as a bridge between oral traditions, academic documentation, digital archives, and educational materials on Gayo traditional music.

Efforts to document traditional music should also be understood as part of a strategy to maintain cultural relevance in the context of changing times, demonstrating that the development of traditional Acehnese music can be achieved through the exploration of techniques, artistic innovation, and contemporary approaches without losing local cultural values. Although that study focused on Acehnese vocals and the integration of electronic music, its main idea is relevant to this research: namely, that local musical traditions need to be documented, analyzed, and developed so that they can continue to be understood by future generations. In the context of Munalu, transcribing rhythms and analyzing the relationships between instruments are the first steps toward preserving the musical knowledge of *Becanang* as part of the Gayo musical heritage.

Through the transcription and analysis of rhythmic structures, this study can serve as a foundation for the development of teaching materials on Gayo traditional music, the archiving of local arts, and further research on other *Becanang* repertoires such as *Dencong*, *Canang Runcang*, and *Cincah Nangka* (Erlinda et al., 2024). This documentation is also important for broadening academic interest in Gayo instrumental music, which has not yet been extensively discussed from a musicological perspective.



Figure 1. The *Becanang* Arts Troupe of Sanggar Gayo Nusantara Etnik

4. CONCLUSION

This study shows that the Munalu repertoire in the *Becanang* art form of the Gayo Nusantara Etnik Studio features a systematic and layered rhythmic structure. Munalu is performed using three Gayo flutes playing the same musical part, three *Canang*, one *Momong*, one Gong, and two *Gegedem*. The Gayo flutes serve as the melodic opener, the Gong signals the ensemble's entry, the *Canang* form the primary rhythmic layer, the *Momong* reinforces the temporal structure, and the *Gegedem* provide the membranophone accents.

From a musicological perspective, the strength of Munalu lies in the relationship between ostinato and interlocking. The repetition of rhythmic patterns creates stability, while the interplay between instruments forms a dense and organized rhythmic texture. Although some brass instruments tend to produce pitched sounds, in *Becanang* practice these instruments function more as rhythmic and timbral markers than as instruments with fixed pitches.

The transcription of Munalu into musical notation makes an important contribution to the documentation of traditional Gayo music. This documentation can serve as a foundation for education, cultural archiving, and further research. However, since the transcription has not yet been validated directly with the performers, future research should involve a peer-review process with the artists to ensure the accuracy of the notation and musical interpretation. Further studies should also be conducted on other *Becanang* repertoires, such as *Dencong*, *Canang Runcang*, and *Cincah Nangka*, to develop a more comprehensive understanding of the musical structure of *Becanang*.

AUTHOR CONTRIBUTION

Berlian Denada served as the lead author, principal investigator, and compiler of the initial research data. Erlinda was responsible for coordinating field research, assisting with the music transcription process, and strengthening the musicological analysis. Firas Trabelsi contributed to strengthening the analytical perspective and the literature review. The collaboration among the authors resulted in a contextually relevant study that contributes to the documentation of traditional Gayo music.

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DECLARATIONS

Use of Artificial Intelligence (AI) in Manuscript Preparation

The authors affirm that the generative AI tool ChatGPT was employed exclusively for the purpose of language editing and grammatical refinement. Such use did not contribute to or influence

the scientific content, including but not limited to the study conception, research design, data acquisition, analysis, interpretation, or the formulation of results and conclusions. The authors reviewed, verified, and edited all AI-assisted outputs and retain full responsibility for all aspects of the manuscript.

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