The Gamelan Music Influenced Debussy: Analysing the First Movement of *La Mer*

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Abstract. This article analyses the elements of Gamelan music in the first movement of *La Mer*, focusing mainly on its rhythmic structure, rich timbral variations and harmonic features. By comparing the similarities between the expressions of Gamelan traditional music and Debussy's works, the article ultimately summarises the profound influence of Gamelan music on Debussy's musical style, and investigates the feasibility of cross-cultural exchange on musical development. Through music analysis, it is found that the rhythmic structure in *De l'aube à midi sur la mer* is obviously influenced by the complex and varied rhythms of Gamelan music, the timbral variations draw on the unique tonal combinations of Gamelan instruments, and the harmonic features fuse the modal characteristics of Gamelan music with Debussy's personal style. To sum up, through an in-depth analysis of *De l'aube à midi sur la mer*, this paper not only reveals the important influence of Gamelan music on Debussy's musical creation, but also explores the revelation and significance of this cross-cultural fusion on the development of music.

Keywords: Gamelan music, Debussy, Symphony, De l'aube à midi sur la mer

1 Introduction

Debussy's work *La Mer* is particularly representative, which not only shows his delicate portrayal of natural scenery, but also demonstrates his profound absorption and integration of the Orient, especially Gamelan music. Currently, scholars have mainly explored how Debussy was influenced by Gamelan music, especially in the use of acoustic sound and rhythms. For example, Parker analysed in depth how Gamelan music influenced Debussy's harmonic and melodic construction [1]. Tamagawa examined systematically the origins of Debussy's connection to the Gamelan with a dedicated discussion on the manifestations of Gamelan elements in *La Mer* and other works [2]. Chinese scholars mainly studied the "oriental elements" in Debussy's works. However, there is a lack of research on the musical elements of Gamelan, and most of them stay in the macroscopic description of the musical style of Debussy's works, with few specific examples of scores analysed. Among them, Long focuses on the "oriental musical elements" as well as the musical performance [3].

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This paper will analyse specific elements of Gamelan music such as rhythm, timbre and intervals, and explore how composers draw on the characteristics of Gamelan music to break the boundaries of traditional harmony and tonality. Debussy's works are of high research value as a representative of cross-cultural communication, and therefore, this thesis has a certain academic value.

2 Gamelan Music and Debussy

2.1 Characteristics of Gamelan Music

According to Rao, "the so-called Gamelan is a form of orchestra playing with a variety of fixed-pitch metal melodic percussive instruments" [4]. The word "Gamelan" originally meant a percussive fade, like a tool used by a craftsman, but also encompassed a percussive style of playing, just as the entirety of gamelan instruments are almost exclusively percussive. However, as other scholar mentioned: "Traditional dance is heavily associated with its instrumental accompaniment. Across the Indonesian archipelago, which contains over three hundred ethnic groups, there are a large number of musical instruments specific to different cultures, making it logically impossible to list them all." [5]. Therefore, only some representative musical instruments are listed below.

Instrumental Combinations. The Gamelan Band consists of a variety of percussion, string and wind instruments. The metal percussion instruments includes gongs, sarongs, genders, and bonangs. The wooden percussion instruments includes different types of xylophones. Other instruments such as drums (kendang), bamboo flutes (suling), and plucked strings (rebab). The combination of these instruments can create layers of rich tone and resonance.

Scales and Modes. Gamelan music uses two main scales. The Slendro is a pentatonic scale with more even intervals. The Pelog: is a seven-tone scale with irregular intervals and greater expressiveness, each with its own mood and cultural connotations. "A mysterious oriental beauty and color were added to the work using the pentatonic scale, which has a more compact and natural tone than the Western seventone scale." [6]

Rhythm and Structure. Gamelan music is based on complex cyclic rhythms, often centred around a core melody, namely a "nucleus melody". The musical structure is usually cyclical, with the striking of a gong signaling the cycle. The various instruments play rhythms and melodies at different levels, building up an intertwined soundscape.

Improvisation and Collaboration. According to Rao, "the Gamelan is an ensemble art, and in its music, solo forms are largely absent. It has its own structural principles and performance norms, with a specific repertoire, core tunes and variations unfolding in a form that is no less complex than the weave of a Western orchestra." [4]

Gamelan music emphasises collaboration between musicians, and some instruments (such as drums and gongs) allow for improvisation. A high degree of tacit understanding and a deep understanding of the structure of the music is required for performance. As Song argued, "the musical attitudes of the Javanese musicians and the playing style of the Gamelan orchestra played a positive role in the development of Oriental musical culture in Debussy's impressionistic music." [7]

2.2 Debussy's Acceptance of Gamelan Music

In the late 19th and early 20th centuries, with the colonial expansion and the organisation of world's fairs, especially the Paris World's Fair of 1889, Debussy was impressed by the traditional folk music of the East, the music of the Javanese Gamelan of Indonesia, presented for the first time to a Western audience in a centralised display.

As Debussy wrote in 1913 in an article: "Javanese music is as natural to the people as breathing, and produces a richly coloured sound in tacit ensemble. Javanese music embodies a great mastery of counterpoint. In its presence, Palestrina's counterpoint becomes a child's game. If we listen to Javanese music without any European prejudice, we are forced to admit that in comparison with its fascinating percussion sounds our European percussion instruments sound like the crude cries of a circus at a fair" [8]. As scholars tried to find connections between the Indonesian Music and Debussy′s works. It gives an idea of Debussy's high regard for Gamelan music and his detailed theoretical enquiry into it: "Debussy notes the similarities between the counterpoint of the gamelan and Western polyphony, emphasizing the complexity of Javanese music: gamelan music is polyphonic, containing a nuclear theme (which will be elaborated by the instruments) and a countermelody. Related to these observations is the composer′s use in his works of a nuclear theme (a primary melody similar to a cantus firmus) and countermelody, employed in a manner that resembles the gamelan." [9]

3 Musical Analysis

The first movement of *La Mer* embodies elements of Gamelan's music through multi-layered rhythms and polyrhythmic design, the use of intervals, pentatonic modulation, and percussion timbre imitation. It successfully creates a Gamelan-like "sense of timelessness in flow", As Shan stated: "Debussy integrated these elements into his uniquely distinctive music, with the sonorities faintly revealing a hazy sense of Eastern mystique, reflecting the abstract absorption of exotic colours in Impressionist music." [10]

Gamelan music is known for its multi-layered rhythmic structure. At the beginning of the first movement of *La Mer*, Debussy employs similar rhythmic elements, particularly in the opening passages from bar 1 to bar 5. (See Figure 1.) Here, Debussy creates a multi-layered rhythmic sense through the use of strings, such as sixteenth and dotted eighth notes, contrasting with the woodwinds and the low base sound of the percussion, and uses pentatonic modes in successive upward octaves interspersed with the woodwinds to mimic the Szlendör-like tonal character of Gamelan music.

In Figure 1, the fast and light movement of the string section through gradually increasing rhythmic layers of sixteenth notes contrasts with the slow tempo of the bass section, creating a flowing and gradual rhythmic sense. Similar to Gamelan's multi-layered rhythmic structure, the strings and woodwinds present a complex rhythmic interweaving in their interplay. This sense of interweaving reflects the rich dynamics created by the combination of different rhythmic patterns in Gamelan's music.

In terms of intervals, both fifths and octaves are mainly used in the first movement to shape the Gamelan style in a non-traditional harmonic way with parallel upward and downward movements, and in bars 23 to 30 (see Figure 2), and in bar 33 (see Figure

3), where the theme of a parallel octave upward and a fifth is played by the oboe and the flute alternately, Debussy creates an effect similar to that of the Gamelan music by means of a short melodic motif and a repetitive rhythmic patterns, creating an effect similar to the short melodic fragments found in Gamelan music.

Fig. 1. Multi-level rhythms [13].

Fig. 2. Five degrees of octave parallelism [13].

Fig. 3. Types of octave parallelism [13].

In Figure 2, the string section plays an almost short melodic motive through a succession of small jumps in octaves, and this melodic motive is constantly passed between the different voices, creating a rhythmic and layered musical effect. This shortness, repetitiveness and fluidity of the melody gives the music a melodic character similar to that found in Gamelan, while at the same time enhancing the sense of structure of the piece, and the two motifs are repeated through periodic variations on different instruments.

In Gamelan music, percussion instruments are a key part of the acoustic hierarchy, as Zhao argued: "In Gamelan music, in order to enrich the acoustic effect to create acoustic level changes, usually the ensemble instruments around the main theme for improvisation, pay attention to the counterpoint rhythm is wonderful and independentand." [11] Debussy also uses percussion instruments in this movement to achieve a similar acoustic effect to that of Gamelan music, using percussion with high-frequency metallic tones in bars 73 to 75 (see Figure 4) to imitate the metallic lute tones of Gamelan music, and in bar 35 (see Figure 5), using timpani along with strings and brass instruments to create a sound effect similar to that of the courtly religious elements of the Gamelan culture. In bars 73 to 75 (see Figure 5), timpani are used along with strings and brass instruments to create a soundscape with courtly and religious elements of the Gamelan music culture.

Fig. 4. Tone imitation [13].

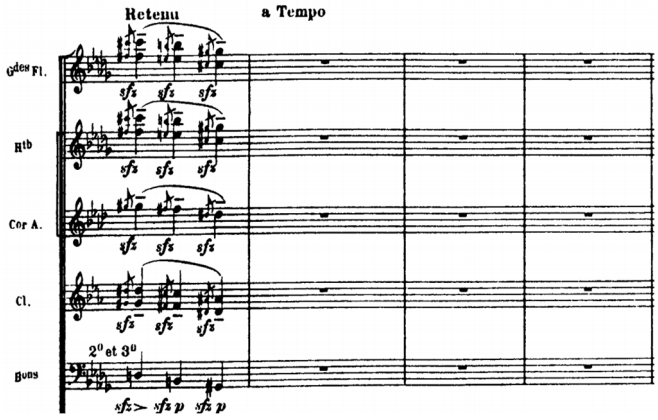

Fig. 5. Tone imitation on woodwinds [13].

This use of percussion not only enhances the rhythm, but also heightens the overall sense of atmosphere of the piece, showing the shock and change of the sea. Chen analysed: "The emotion, paired with the mix of viola, double bass, harp, and timpani, with overlapping lines, refreshingly conveys the darkness before the dawn at sea. In the performance of the flute, clarinet, English horn, and cello, one seems to hear the sound of waves crashing against the rocks." [12] The arrangement of this passage, clearly inspired by the Gamelan ensemble model, demonstrates how Debussy combined the percussive characteristics of Eastern music with the orchestration techniques of the Western symphony.The specific application of gamelan elements in the first movement of Debussys La Mer can be seen in Table 1.

Table 1. Analyses of the key-features.

Key-features	Specific use of Gamelan elements in the first movement of Debussy's *La Mer*	Analysis
Rhythmic structure	0:19-0:30 Different rhythmic interplay through strings and woodwinds with percussion bass-based sound effects	By contrasting strings with woodwinds and aided by percussion, Debussy creates a multi-layered rhythmic structure similar to Gamelan's, expressing the dynamic changes of the sea.
Melodic structure	The string section's octave-leaping melody (1:30-1:45) alternates with the woodwind's parallel fifth (1:50-2:05), creating a Gamelan-like "vocal relay".	The strings present the melody through short motives and repetitive rhythmic patterns. The melodic motifs alternate between different voices, similar to the short melodic fragments of Gamelan, and this repetition and fluidity of the melody enhances the sense of structure and rhythm of the work.
Harmonic characteristics	A chromatic descent for strings (4:50-5:10) collides with woodwind pentatonic modulation, breaking with traditional functionality and showcasing Gamelan's asymmetrical scale influences.	Debussy enhances the openness of the music through the use of major and minor second, simulating harmonic characteristics similar to those found in Gamelan music.
Role of percussion	The timpani (3:25-3:40) form a rhythmic base with bass string sustains, similar to Gamelan's "circular gongs". Triangles and cymbals (4:10-4:30) High frequency shimmering, mimicking the tremolo effect of the Gamelan metallophone.	Percussion combined with strings and brass. The use of percussion mimics the metallic tones of the Gamelan, enhancing the rhythm, and combining it with the strings and brass to create a religious court sound similar to that of the Gamelan.

To sum up, Debussy skilfully incorporated elements of Gamelan music in the first movement of The Sea, From Dawn to Noon. Gamelan music, with its unique rhythmic structure, timbral variations and melodic characteristics, had a profound influence on Debussy's compositions. By absorbing and recreating Gamelan music, he broke through the limitations of traditional Western harmony and tonality and created an avant-garde audio language. As the German musicologist Sachs said, "The blood of the East is still circulating in the veins of Western music", this cross-cultural fusion not only enriched the expression of Western symphonic music, but also provided a new perspective on the development of music in the 20th century [4].

4 Conclusion

Through the above analysis, it can be confirmed that Debussy, in the first movement of *La Mer*, successfully integrated the rhythmic structure, timbral changes, melodic characteristics and harmonic use of Gamelan music into the composition of Western symphony, and these techniques not only helped Debussy to shape the sense of fluidity of the sea, but also enhanced the exotic tone of the work, giving it a unique acoustic effect and expressive tension, and at the same time showed his deep understanding and innovative transformation of Eastern music, and also provided new possibilities for cross-cultural exchange between the East and the West in the 20th century. At the same time, it also demonstrates his deep understanding and innovative transformation of Eastern music, and provides new possibilities for cross-cultural exchanges between East and West in the field of music in the twentieth century.

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