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Article

A Study on the Performance Techniques and Vocal Characteristics of "Nogula" in the Long Ballads of Ar-Khorchin

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Abstract: As the core ornamentation modality of Mongolian long melodies, Nogula serves as a key identifier distinguishing the stylistic features of long melodies across diverse regions. The Nogula of the Ar-Khorchin long melody differs significantly from the ornamentation paradigms of the Ujimqin and Hulunbuir traditions. Drawing extensively on local nomadic culture and oral performance practices, it has evolved its own unique phonation logic and distinct timbral qualities. Based on raw performance samples collected through comprehensive fieldwork and ethnographic interviews in the Ar-Khorchin region, this study examines the bodily phonation mechanisms of Nogula. It systematically categorizes its phrastic forms, elucidates internal resonance configurations, and analyzes the generation of rhythmic dynamics within its vocal lines. Furthermore, the research compares these features with contemporary long-melody traditions and discusses the ontological attrition that occurs as Nogula transitions from traditional oral practice to modern institutional vocal pedagogy. This transition often leads to a loss of nuanced expressive details and contextual meaning. The study ultimately demonstrates that Ar-Khorchin Nogula is not merely an ornamental vocal technique; rather, it functions as a profound sonic vehicle embedded in the auditory cognition of nomadic communities. Its distinctive vocal characteristics actively preserve the cultural identity of regional long-melody traditions, offering critical insights for ethnomusicological preservation and the development of culturally responsive vocal training methodologies in contemporary academic settings.

Keywords: vocal ornamentation; mongolian music; traditional singing; vocal techniques; performance practice

1. Introduction

The Mongolian long melody has been preserved for millennia through oral transmission and direct apprenticeship. As the core vocal ornamentation technique underpinning its extended melodic phrasing, Nogula occupies a central position in the study of this musical tradition. Prior research has largely emphasized taxonomic classification of Nogula variants and broad cultural interpretation; however, micro-level vocal analysis specific to the Ar-Khorchin region remains limited [1, 2]. Located in eastern Inner Mongolia, the Ar-Khorchin steppe has historically experienced ethnic migrations and cultural integration, giving rise to a distinctive aesthetic orientation—marked by restraint and depth—in its local long melodies. The frequency and contour of melodic fluctuation, as well as the mode of vocal projection in its Nogula, differ notably from those observed in neighboring leagues. Drawing on field-recorded audio materials and synthesizing prior scholarly insights, this study investigates the vocal mechanisms of performance, delineates the technical forms and vocal characteristics of Ar-Khorchin Nogula, and reconstructs the underlying logic of its vocal production, thereby contributing empirical evidence to the nuanced understanding of regional schools within Mongolian long melody.

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2. Tracing the Origins and Defining the Connotations of Nogula within the Ar-Khorchin Context

The term "Nogula" originates from the Mongolian language, where it literally denotes "folds" or "ripples"; in musicological discourse, it has been rendered as "vibrato" when describing vocal technique in the long melody tradition. Within long-melody performance, Nogula signifies continuous, undulating pitch fluctuations occurring across extended vocal phrases—a dynamic vocal effect achieved through integrated coordination of laryngeal tension and respiratory control. While related vocal phenomena appear across the singing practices of various Mongolian tribal groups, the terminology, acoustic realization, and aesthetic evaluation of Nogula differ significantly among them; thus, it cannot be directly equated with Western vocal vibrato. Key distinctions exist in vocal support mechanisms, the structural logic governing pitch variation, and its broader cultural function within musical expression [3].

The emergence of the Ar-Khorchin tribal identity reflects centuries of migration, resettlement, and intertribal interaction during the Ming and Qing dynasties. Sustained nomadic livelihoods and evolving sociocultural exchanges contributed to the development of a distinctive regional long-melody style—characterized by grounded phrasing, measured tempo, and tonal restraint. For local practitioners, Nogula is not merely a notated ornament but an essential sonic layer embedded within the melodic architecture of sustained tones and elongated phrases [4]. It arises organically from the prosodic extension of lyrical syllables and auxiliary vocables rather than functioning as an isolated technical device. Folk understanding holds that a long melody performed without Nogula lacks expressive vitality in the grassland tradition: unadorned sustained tones provide only the melodic framework, whereas Nogula imparts fluidity, timbral richness, and emotional resonance to the vocal line.

Scholarly analysis has identified two principal categories of Nogula—haolai nogula and erou nogula—based on systematic examination of long-ballad repertoires across Inner Mongolia. In the Ar-Khorchin region, both types manifest with distinct local inflections. Haolai nogula relies primarily on laryngeal vibration, producing subtle, high-frequency pitch oscillations with relatively small amplitude; erou nogula, by contrast, is breath-driven, originating in thoracic diaphragmatic engagement and yielding broader, more variable pitch excursions. Ar-Khorchin long-ballad performance rarely employs the expansive, dynamically pronounced erou nogula; instead, the repertoire emphasizes the refined, controlled articulation of haolai nogula. This stylistic orientation aligns with regional aesthetic preferences and distinguishes the tradition from the more robust and wide-ranging Nogula practice observed in Ujimqin singing. Vocal choices are thus shaped by the local cultural environment, and variations in Nogula execution serve as audible markers of divergent auditory sensibilities among nomadic communities.

3. Performance Techniques and Vocal Physiology of Ar-Khorchin Nogula

Nogula is a comprehensive vocal technique grounded in the integrated coordination of breath, laryngeal musculature, and resonance cavities. Singers develop precise control over laryngeal muscle engagement, supported by consistent, sustained breath flow, to produce periodic pitch fluctuations on extended sustained tones. In Ar-Khorchin performance, breath support is anchored low in the abdominal region; singers employ diaphragmatic breathing as the foundational mechanism and maintain a steady, gradual release of air, avoiding sudden changes in airflow that could disrupt laryngeal stability [5]. Breath consistency is fundamental to Nogula execution: loss of airflow control interrupts the regular laryngeal tremor and compromises the subtle tonal shaping essential to the technique.

Haolai nogula constitutes the most characteristic technical form within the Ar-Khorchin long melody tradition. During phonation, the vocal folds remain in continuous closed-phase vibration, while the laryngeal and pharyngeal wall muscles undergo rapid, minute cycles of contraction and relaxation, generating fine-grained, uninterrupted

micro-fluctuations in pitch [6, 7]. This technique features high-frequency oscillations within a narrow pitch range; large-scale laryngeal motion remains imperceptible, and successful execution depends on refined neuromuscular control of the intrinsic laryngeal muscles. Field recordings of Ar-Khorchin folk artists demonstrate stable fluctuation frequency across extended melodic passages and lyrical segments; pitch variation does not intensify arbitrarily with emotional expression, yielding a sonic texture that is both intricate and measured.

Erou nogula appears infrequently in Ar-Khorchin long ballads, typically reserved for sections with pronounced narrative function. It relies on controlled modulation of thoracic breath pressure to induce slight adjustments in laryngeal position, resulting in broader pitch excursions and a comparatively slower rhythmic pulse. Local performers apply this technique selectively—using it briefly at phrase peaks to introduce localized expressive emphasis—rather than as a pervasive ornamental device [8]. This restrained usage contrasts markedly with the more prominent and wide-ranging application observed in Hulunbuir long ballad traditions.

A clear distinction must be drawn between Nogula and Western vocal vibrato [9]. Western vibrato arises primarily from breath-driven modulation, with the larynx held relatively stationary, and aims for symmetrical, evenly spaced oscillations. By contrast, Ar-Khorchin Nogula originates in active, dynamic engagement of the laryngeal musculature, and its oscillatory pattern inherently displays asymmetry. Singers modulate the density and temporal spacing of fluctuations in response to textual meaning and expressive intent, rather than conforming to a fixed, mechanically uniform frequency. Within the oral transmission framework, Nogula has no codified technical specifications; instead, each master singer develops a unique oscillatory signature. Such individual variation reflects the living, embodied nature of the tradition and presents inherent limitations for full representation through conventional staff notation.

The acquisition of Nogula follows regionally specific pedagogical pathways. In the Ar-Khorchin area, instruction traditionally occurs without written notation; apprentices learn through repeated attentive listening to elder singers, careful imitation of throat sensation and breath behavior, and sustained physical practice to internalize kinesthetic patterns. Teaching emphasizes holistic vocal integration—uniting breath management, laryngeal coordination, and articulatory precision—rather than isolating vibratory detail for analytical study [10]. This embodied mode of transmission poses significant challenges for adaptation into standardized vocal pedagogy, representing a central obstacle in contemporary preservation initiatives.

4. The Vocal Characteristics Shaped by Ar-Khorchin Nogula

Through the aforementioned vocal techniques, Ar-Khorchin Nogula has developed a distinctive vocal style system, whose characteristics manifest in three dimensions: timbral texture, resonance distribution, and rhythmic articulation. The overall vocal style rests on a rich and restrained foundation, devoid of sharp, bright high-frequency overtones; its sonic quality exhibits a robust core with fine surface textures. The principal tone of the long melody is solid and stable, overlaid with a dense, continuous Nogula ripple, while the structural framework of this principal tone remains unobscured by ornamental flourishes.

In terms of resonance configuration, the Ar-Khorchin Nogula technique primarily relies on chest and pharyngeal resonance, with relatively limited involvement of head resonance. During performance, the singer maintains a stable, relatively low laryngeal position, lowering the vocal center of gravity and thereby producing a broad, full, and warm timbre. When haolai nogula is applied over long notes in the low register, the fine, dense laryngeal tremolo waves enrich the low-frequency harmonic layers, endowing the voice with a sense of spatial extension that corresponds to the auditory experience of the expansive steppe. By contrast, the Ujimqin long melody makes greater use of head and pharyngeal resonance; its Nogula technique features expansive and bright vibrato, resulting in markedly different timbral characteristics between the two traditions.

Nogula redefines the rhythmic articulation of the long melodic phrase. The fundamental rhythm of this melodic form is characterized by sanban—a free, unregulated beat—in which Nogula does not employ evenly distributed ornamental sequences, but instead generates micro-rhythms within the duration of sustained notes. In Ar-Khorchin Nogula, the density of these fluctuations varies gradually in accordance with the progression of the musical phrase: in the opening phase, the ripples are sparse; as the phrase enters its mid-section with extended melodic passages, the density of fluctuations increases progressively; toward the conclusion of the phrase, the ripples gradually fade, ultimately returning to a straight, sustained note. This gradual evolution of vocal timbre allows the musical expression to flow naturally, without abrupt shifts in tone color.

The use of function words constitutes the primary structural framework of Nogula. In the Ar-Khorchin long song, lexical content is rendered in concise phrasing with minimal embellishment; it is only when the performance transitions into the extended vocal passages of function words such as "ah" or "ni" that Nogula gradually emerges. The lexical content serves to convey narrative and semantic meaning, while the function words employ Nogula to express emotion—thus establishing a clear functional distinction between textual semantics and vocal technique. By means of Nogula, the singer mitigates the segmentation of linguistic syllables, enabling smoother transitions between words and achieving the integration of linguistic prosody with vocal phrasing [11, 12]. This vocal treatment originates from the prolonged synergy between the rhythmic characteristics of Mongolian poetic language and its traditional singing practices.

Nogula also shapes the dynamic quality of the vocal timbre. In the Ar-Khorchin Nogula tradition, the principal tone consistently occupies the central position, with fluctuations oscillating slightly above and below this core pitch without ever deviating from the fundamental pitch [13]. This vocal quality is not achieved through large-amplitude pitch leaps, but rather stems from continuous, subtle oscillations that create persistent auditory nuances over a stable, prolonged tonal foundation. This restrained aesthetic reflects the understated and profound emotional expression characteristic of the Ar-Khorchin nomadic people, distinguishing it from the vibrant and expansive vocal qualities found in the long songs of other tribes.

5. Comparative Analysis of Regional Schools and the Stylistic Position of Ar-Khorchin Nogula

Across the various leagues and cities of Inner Mongolia, the long song tradition widely employs the Nogula vocal style; however, regional practices differ in technical emphasis and aesthetic priorities for vocal expression. As a result, characteristic phrasing patterns in Nogula serve as key markers for distinguishing regional schools of long song. Placing the Ar-Khorchin Nogula within the broader context of Eastern Mongolian long songs enables a clear stylistic characterization, while comparison with neighboring schools helps clarify the unique features of this local vocal tradition.

The Nogula of the Ujimqin long song is noted for its expansive and unrestrained character; erou nogula accounts for a higher proportion of notes, displays greater pitch variation, follows a composed and open rhythmic cadence, emphasizes upward resonance, and yields a bright, transparent timbre [12, 14]. Performers often introduce an extended Nogula at the beginning of a phrase and sustain it throughout the piece, lending strong expressive power to the voice. The Hulunbuir long song incorporates both types of Nogula; in highly lyrical repertoire, performers frequently use erou nogula, marked by pronounced pitch shifts, fluid and winding vocal lines, and intense emotional delivery. In contrast, the Zhasaktu long song features shorter, more abrupt pitch fluctuations and denser ornamental embellishments; Nogula here functions primarily as intra-phrase decoration, with relatively brief extended passages.

The Ar-Khorchin long song tradition centers on haolai nogula, distinguished by gradually narrowing structural contours, a downward shift in tonal focus, and restrained phrasing [15, 16]. Nogula does not dominate the melodic framework but instead serves consistently as the textural foundation beneath sustained notes, with phrase length and

fluctuation complexity mutually limiting one another. This feature emerges from the interplay of geographical environment, tribal history, and folk aesthetics—elements deeply intertwined rather than merely coexisting. The Ar-Khorchin steppe landscape, encompassing both mountainous and flat terrain, and its semi-agricultural and semi-pastoral mode of production—distinct from purely nomadic livelihoods—have shaped singers' lived experience. Consequently, aesthetic sensibility gravitates toward serenity and depth, avoiding exaggerated or overt vocal effects. Such restraint reflects not technical limitation but a deliberate convention of the local tradition: the nuanced expressivity of haolai nogula resides precisely in subtle, layered articulation within sustained tones.

Differences among regional Nogula practices are not rigid boundaries. Historically, nomadic movements, temple fairs, and exchanges among folk singers have fostered mutual influence and integration of techniques, allowing some performers to engage with multiple regional styles. Yet centuries-old aesthetic tendencies continue to shape dominant vocal norms within local communities; externally introduced techniques are typically absorbed and adapted to fit local conventions. When a singer performs long-ballad repertoires from different tribal traditions, they adjust laryngeal control and breath management to meet each school's specific Nogula requirements. Thus, Nogula techniques and vocal aesthetic sensibilities form an integrated acoustic system: separated from their regional aesthetic context, these techniques lose functional grounding and cannot persist independently. Fundamentally, distinctions among schools arise from divergent vocal habits—patterns embodied in singers' laryngeal and respiratory coordination as well as embedded in listeners' aesthetic expectations.

6. Evolution of Vocal Modalities in the Living Heritage of Nogula

The process of modernization has transformed nomadic lifestyles, leading to a continuous reduction in the cultural environment where the long song thrives; consequently, the oral transmission of Nogula faces numerous challenges. Contemporary transmission of the long song follows two pathways: grassroots folk practice and professional vocal instruction in academic institutions. These two systems employ distinct approaches to Nogula, resulting in corresponding developments in its vocal stylistic forms.

Within traditional folk singing communities, the older generation of artists retains comprehensive embodied singing experience, and their Nogula techniques and vocal timbre characteristics remain relatively well preserved. However, the aging of these practitioners has led to a growing shortage of young learners, who, lacking exposure to nomadic life experiences, find it difficult to internalize the cultural context underlying Nogula. Their learning process often remains confined to surface-level vocal imitation, making it difficult to replicate the physical sensation of fine laryngeal muscle control. The Nogula performances achieved through such imitation tend to be mechanical and rigid, devoid of the naturally variable micro-rhythms characteristic of authentic singing, and exhibit reduced internal vocal coordination.

Since professional music institutions have incorporated long-style singing techniques into their vocal training curricula, they have needed to transform this oral art form into standardized teaching content [17]. Notation can only delineate the contour of pitch; it cannot capture the nuanced fluctuations of the laryngeal muscles during the Nogula technique. In teaching practice, some instructors have adopted Western vibrato training methods to teach Nogula, simplifying the internal laryngeal mechanisms and equating Nogula training with uniform vibrato exercises. Performers trained under this approach exhibit regular and uniform Nogula fluctuations, yet they lose the asymmetric and gradually evolving timbral characteristics of Ar-Khorchin Nogula, thereby weakening the distinctiveness of their regional stylistic identity.

The preservation challenge of Nogula fundamentally stems from the ontological shift experienced by embodied oral music during its textualization and standardization. While sheet music and audio recordings can capture the acoustic outcomes, they cannot convey the bodily perception accumulated by singers across generations. Preservation efforts

should therefore extend beyond mere audio recording and repertoire archiving; they must also include oral documentation of performers' embodied techniques during Nogula performances, as well as records of their aesthetic interpretations of vocal timbre and phrasing. Only by establishing comprehensive vocal timbre archives can the distinctive techniques and aesthetic core unique to Ar-Khorchin Nogula be fully safeguarded [2].

7. Conclusion

In the long melodies of the Ar-Khorchin region, Nogula represents a distinctive vocal ornamentation system achieved through the coordination of laryngeal muscle control and breath management. Technically, it employs refined and restrained haolai nogula as its primary form, while judiciously incorporating expansive erou nogula passages; acoustically, it exhibits regional characteristics marked by prominent low-frequency resonance, gradual tonal undulations, and a steadfast core pitch. Compared to long-melody traditions in neighboring regions, the aesthetic of Nogula is characterized by restraint and depth, deriving its auditory distinction from subtle and sustained pitch fluctuations—a marked contrast to the overt and melodious ornamentation styles of the Ujimqin and Hulunbuir long-melody traditions. Nogula is not merely a musical decorative technique; it is an embodied vocal practice that encapsulates the nomadic culture of the Ar-Khorchin people. In contemporary transmission practices, standardized vocal training may erode the inherent asymmetric undulatory qualities of Nogula, leading to the loss of its essential vocal character. Future research should continue to rely on field recordings to deepen acoustic analyses at the micro-level of Nogula vocalization, balancing technical documentation with the preservation of its cultural context, thereby safeguarding the unique sonic identity of the Ar-Khorchin long melodies.

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