РОЗДІЛ III

Музика пастуших традицій

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ЗВУК ЗВ'ЯЗКУ: ПРАМОВА, МУЗИКА ТА МІЖВИДОВА КОМУНІКАЦІЯ У ЗАХІДНО-МОНГОЛЬСЬКИХ ПАСТУХІВ

У статті досліджується складна взаємодія ритмічних, часових, структурних, мелодійних, вербальних та тембральних особливостей, властивих (цим) спеціалізованим вокальним формам (співам пастухів).

Основний результат дослідження. Спів пастухів у Західній Монголії осмислений не лише як музична традиція, а як високоспеціалізований, культурно розвинений код вокальної комунікації, оптимізований для ефективної міжвидової взаємодії.

По суті, він функціонує як потужна культурна технологія, необхідна для регулювання поведінки тварин та забезпечення економічної стабільності кочового скотарства.

Крім того, аналіз порушує важливі питання стосовно формульних мелодій, їх передання від покоління до покоління та територіального поширення, тим самим встановлюючи критичне впорядкування даних (порядок денний) для майбутніх досліджень.

Ключові слова: спів пастухів, одомашнення, міжвидова комунікація, Західна Монголія, Ойрад

Figure 1. һәрдин цекә, Bulgan sum. Photograph by Ghilyana Dordzhieva, 2024

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THE SOUND OF CONNECTION: PROTO-LANGUAGE, MUSIC, AND INTERSPECIES COMMUNICATION AMONG WESTERN-MONGOLIAN HERDERS

Vocal forms of communication between humans and their livestock are vital to the traditional culture of Mongolian nomadic herders. The pragmatic function of these calls - herd management and the stimulation of maternal behavior to accept a nursing lamb - and their specific verbal and musical characteristics are not only of ethnographic interest but also one of the earliest strata of Mongolian folk music. By examining the structural patterns of herders' call singing, I argue that they constitute one of the foundational layers in the genesis of the traditional Mongolian vocal system.

In this paper, I focus specifically on herders' singing to preserve newborn livestock recorded[1] from the Torgud, Khoshud, Zakhchin, and Ölöt people in Khovd aimag in Western Mongolia. My fieldwork was conducted in the Bulgan sum, Mankhan sum, and Khovd in August-September 2023–2025, while the herders' singing was one of many research topics on the Oirad musical traditions. These materials raise critical questions that require further investigation and targeted, dedicated fieldwork.

The herders' singing in Western Mongolia has not yet been the subject of an ethnomusicological study. Few examples of such singing have been published in the Folk-Songs collections of D. S. Dugarov (1964; 1969; 1980), and B. F. Smirnov (1971). Similar forms from Siberian Turkic traditions have been examined in the works of N. M. Kondratyeva and V. V. Mazepus (1993), and T. Levin and V. Süzükei (2010).

The study of vocal communication between humans and domestic animals has historically remained on the peripheries of ethnomusicology. However, in recent years, this field has gained importance due to the integration of emerging interdisciplinary fields, particularly zoo-semiotics and ethnobiology. The convergence of methodologies across disciplines opens up new possibilities for a comprehensive analysis of these forms of communication. Several key studies provide a theoretical foundation for this approach. Specifically, R. Dor (no date), noting the similarities in the phonetic characteristics and structural aspects of shepherd calls (*khuchements*) across various Eurasian traditions, interprets these signals as elements of an interspecies communication system and proto-language. Hutchins's (2019) fieldwork in Dundgovi *aimag* focuses on how herders' songs strengthen parental bonds between sheep and their foster lambs. His observation expands understanding of the potential influence of music on animals, demonstrating that animals can be active recipients of music in a role traditionally attributed exclusively to humans.

Context and Setting

In Western Mongolia, a traditional nomadic economy based on four seasonal migrations remains the prevailing form of pastoralism. The five livestock species *таван хошуу мал* include horses, cattle, camels, sheep, and goats. Cases of newborn abandonment are more common among sheep and goats. Such complications are not believed to occur in horses, which are considered exceptionally intelligent and independent animals.

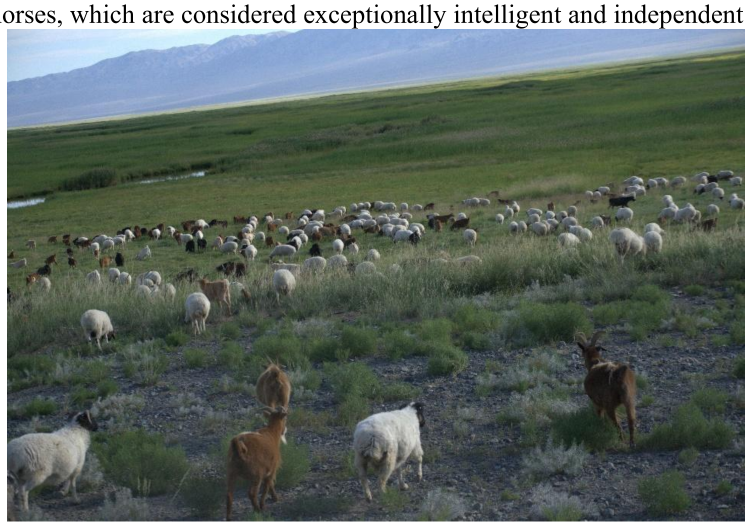


Figure 2. Bulgan sum. Photograph by Ghilyana Dordzhieva, 2024

[1] Excerpts from my video recordings support the analyzed examples and musical notations.

The need for special actions and singing to save offspring arises primarily when the mother is extremely weak or exhausted, as well as in situations involving orphaned newborns. The incidence of these critical cases increases sharply during *зуд* - a weather combination of impassable ice and deep snow, that can make grazing impossible and deprive livestock of their ability to forage. It typically occurs in winter or early spring and could result in the herd's mortality.

The livestock birthing season occurs in early spring. Successful stimulation of maternal acceptance and bonding of the ewe or she-goat with newborn offspring could include the following steps:

- Scent manipulation

A shepherd smears the newborn's back or tail with the mother's milk or even the mother's own urine. This action is crucial to making the baby's scent familiar and acceptable to the mother.

- Taste manipulation

The newborn could be smeared with salt or salted milk tea. These actions effectively prompt the mother to lick the young, which is the critical step for establishing the maternal bond and securing acceptance for nursing.

- Tactile stimulation

Singing is accompanied by frequent patting and stroking of the animal, or hand milking while holding or gently pushing the baby animal toward the udder.

- Controlled anxiety and pain stimulation

A specific action, primarily employed with goats, involves bringing and tethering a dog near the kid**,** thereby arousing the mother's fear for the young animal's safety. This immediate alarm triggers a powerful protective instinct, which often compels a mother to accept a kid and initiate nursing. The practice of twisting a goat's tail is used to physically force the mother into accepting the kid.

However, although physical and behavioral methods are used, the core method of influencing an animal is singing call-words, which are special to each species. I use the Kalmyk Cyrillic and IPA system for representing these signals. The older generations in Bulgan and Mankhan *sum* still use Oirad language varieties, especially when singing and talking about ritual and ceremonial practices[2].

Table 1. Singing call-words, which are special to each species.

	Kalmyk Cyrillic	*IPA*	*Verbs, formed from this phonetic*
for ewe	• төөhэ • төөhө • пөөhэ • пөх • ----	**[t ø ɣe]** **[t ø ɣ ø]** **[p ø ɣe]** **[p ø x]** **[ɥ]** initial bilabial vibrant	төөhлх
for she-goat	• чүүре	**[tʃ y y r e]**	чүүрлх / чүүрлх
	• чууру	**[tʃuru]**	
	• чуурэ	**[tʃure]**	
	• чуура • чооhэ	**[tʃura]** **[tʃ ø ɣe]**	
for she-camel	• көс • хөс • кос	**[к ø s]** **[x ø s]** **[кos]**	көс лх хөс лх хос лх
for cow	• hoy • ho • гоу • го	**[ɣou]** **[ɣo]** **[ɢou]** **[ɢo]**	n/a

The diversity of presented phonetic variants is associated with the dialectal features of the Western Mongolian languages:

[2] For comparative data, I utilize information collected in the late 1990s among the Kalmyks, a related Oirad ethnic group that migrated from Inner Asia to the low Volga region in the 17th century.

√ The phonetic variations of front-row and back-row vowels **[ø] - [o]** are one of the most pliable components of the Western Mongolic languages. In these signal words, different performers could use front vowels (except when addressing cows) or back vowels.

√ In words to a goat, the quality of the vowel after [t͡ɕ] is difficult to determine.

√ In call-words to cow, the similarity and potential interchangeability of [g] and [ɣ] is due to their shared mode of articulation. Both sounds are voiced and produced at the back of the mouth (velar): [g] is a plosive, meaning the airflow is completely blocked by the back of the tongue and then released abruptly; [ɣ] is a fricative, meaning the airflow is compressed through a narrow gap at the same point of articulation.

√ In call-words to a she-camel, the alternating use of [k] and [x] reflects different stages of historical sound development. Both sounds are articulated on the velum (soft palate): [k] is a plosive, [x] is a fricative. Many Oirat dialects retain the original [k] sound in initial positions, while in standard Khalkha and Buryat, the [x] sound predominates in these positions.

The signal words addressing a cow and a she-camel[3] are shorter and exhibit fewer phonetic variants. In the calls directed at a goat, some performers utilize the consonant [r] as the second sound, while others sing with the guttural sound [ɣ]. This consonant alternation, combined with vowel variations, results in a greater overall range of call versions for goats. The highest degree of phonetic variants is observed in the singing for a sheep. I suggest that the primary sound used in calls to sheep is the bilabial trill [ψ][4]5, performances of which have been documented among Western Mongols and the Kalmyks. The consonantal sounds [t] and [p] may therefore represent a phonetically simplified performance or substitution derived from this original labial vibration. Also, the bilabial trill [ψ] phonemically functions outside the regular human speech sounds' system in this region.

Linguistically, R. Dor classifies these specific non-lexical coaxing calls as imperatives - direct commands to change animal behavior. A notable feature is that the Western Mongols' appealing signals serve as the etymological basis for verbs used to express the distinct acts of domestication and bonding between the animal and its young. These include *төөнлх* (to bond/coax a sheep), *чүүрлх* (to bond/coax a goat), and *көөслх* (to bond/coax a camel). The primary sonic signals, having formed the etymological foundation for these specialized verbs, demonstrate the profound integration of this acoustic communication into the local languages and worldview.

Figure 3. Narantsetseg, 73 y. o, вангин торгуд, Ярмт газр әәл, Bulgan sum. Photograph by Ghilyana Dordzhieva, November 9, 2024

Rhythmic and Temporal Features of the herders' singing *төөнлх, чуурлх, көөслх*

A dominant characteristic of the herders' singing is its steady rhythmic pulsation, which is synchronized with the performer's tactile movements (patting and stroking) to create a unified, calming effect. This metric organization shares a functional similarity to human lullabies, a parallel noted by researchers such as Hutchins, who titled his relevant work "Like a Lullaby." Further supporting this analogy, the Telengits of the Kosh-Agach district in the Gorny Altai Republic utilize a single melodic type for both animal coaxing and children's lullabies[5].

The beat is determined by the musical duration of the sung signal word. In my notations, this basic unit of rhythm could be represented as follows[6]:

- dotted quarter note q (when the beat has a ternary division),
- quarter note q or half note h (when the beat is structured with a binary division).

The tempo of the singing is consistently slow and typically measured in the range of **47 to 66** beats per minute (bpm). This range is physiologically significant because the normal resting heart rate for sheep and goats is substantially higher, normally between **70 and 96 bpm**. The slower tempo of the singing serves as a purposeful therapeutic tool to mitigate stress and consequently slow the animal's natural heart and respiratory cycles. This process is essential for shifting the animal's state from anxiety and rejection (driven by **Sympathetic Nervous**

[3] While coaxing a camel involved playing the *ikili* musical instrument in Western Mongolia and the *dombra* among the Kalmyks, this instrumental practice is rarely observed among contemporary herders.

[4] Using the symbol [ψ] as a non-standard, ad-hoc symbol specifically chosen to visually represent the unique nature of the labial trill sound, distinguishing it from standard speech sounds. However, the bilabial trill has an official IPA symbol [ʙ].

[5] Field recording made in 2001, archive of Ghilyana Dordzhieva.

[6] Thus, the ternary division of the beat is reflected in 6/8 time signature and its variants; the binary division of the beat is reflected in 4/4 time signature and its variants.

System (SNS) activation) to one of calmness and receptivity (driven by **Parasympathetic activation**) (Detweiler, Erickson, 2004, pp. 195–213). The SNS is widely defined as the division of the autonomic nervous system responsible for the "fight-or-flight" response, an acute reaction to stress or danger that results in immediate physiological changes such as increased heart rate, elevated respiratory rate, and the diversion of energy away from non-essential functions (like digestion or maternal bonding) (Marieb, Hoehn, 2019, pp. 500–505). By overriding this acute stress response and inducing the dominance of the Parasympathetic Nervous System ("rest and digest"), the herder's song facilitates the specific physiological and emotional state necessary for successful maternal bonding.

Rhythmic grouping of call-words

Typically, the rhythmic grouping within the main beat unit starts with a long duration directly on the strong metric beat (downbeat), like in Table 2.

♩. ♪
чүү-ре

A few herders prefer to start with a short duration on a weak metrical placement (anacrusis or upbeat), Table 3.

♪ ♩.
чүү-ре

Noteworthy, И. Нямаа spontaneously switched between rhythmic patterns during our conversation:

Table 2. Чүүре

И. Нямаа, b.1937, тəəҗин торгуд

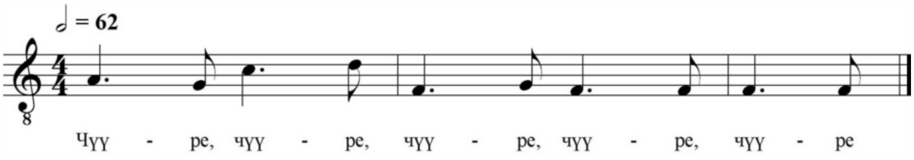


Table 3. Чүүре

И. Нямаа, b.1937, тəəҗин торгуд
Нямаа Дойсмаа, 50 y.o. (daughter), тəəҗин торгуд

The singing may contain the chanting of a single signal word, and this structural type constitutes the majority of recordings gathered in the Khovd *aimag*. In actual performance situations, as reported by the herders, the singing can persist for 15–20 minutes. This extended vocalization is structurally formed by the multiple, continuous repetition of a single signal word and a single melodic idea. The effectiveness of these singing stems from their high degree of repetition and intonational consistency, which facilitates the animal's perception and processing of the acoustic signal[7]. This predictable, constant pattern minimizes cognitive effort and ensures the sending of a calming effect.

Action-oriented performance: repetition and flexibility in variable-length melodic strophes. The length of the melodic phrases is regulated by the duration of the performer's breath; the ending or a brief, silent pause that marks a phrase boundary (*caesura*) is thus coordinated with the natural end of the performer's respiration. It is noteworthy that this archaic breathing length of phrasing remains an important structural principle in the Mongolian long songs *ут дун / уртын дуу*.

The melodic structures of this region are expressive and dynamic. Most melodies are built on a three- or four-note scale within a *fifth*. A phrase begins with the upper level and ends with the lower root note. A rapid, audible, vocalized expiration can be strategically deployed to complete a melodic phrase:

[7] Frequency.

Table 4. Чогэ, чогэ

Пүрэв Цэдэн-Иш, тәәжин торгуд

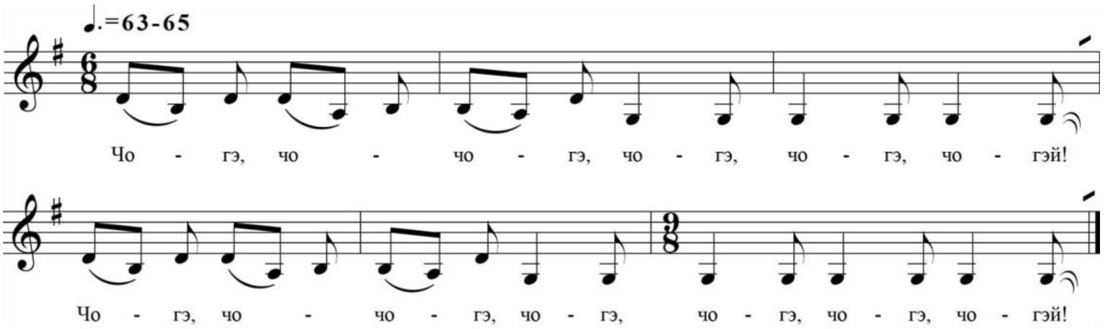


Table 5. Тохо, тохо

Ниман Лхагважав, беелин торгуд, 50 у.о.

Performers demonstrate significant flexibility in constructing melodic strophes of varying lengths, leading to both shorter and longer melodic sentences. An extended melodic strophe combines several shorter melodic phrases and ends definitively on the root tone. The completion may be highlighted with a quick, vocalized expiration or by a change in rhythmic grouping:

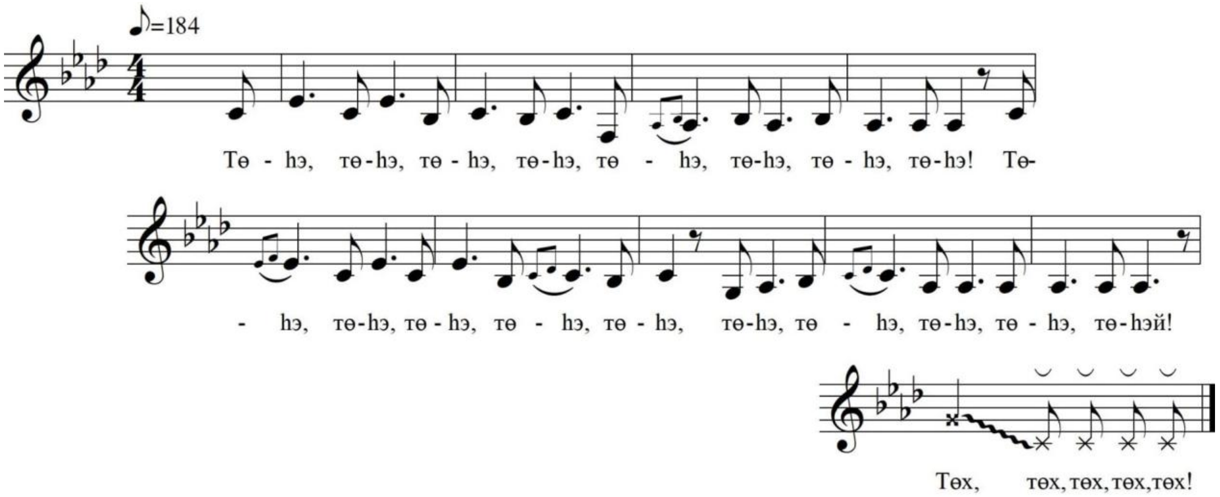
Table 6. Чуу-ру, чуу-ру

Наранцецег, 73 у.о, вангин торгуд

Another way to complete the melodic strophe could be an exclamation and a quick articulation of signal words:

Table 7. Тооxe, тооxe

Нямаа Дойсмаа, 50 у.о., тайджиин торгуд



Although the primary verbal elements are call-words, some herders can incorporate additional words of reproach and complaint, like in Nerguy's performance: "Your udder is full, your chick is hungry!"

Table 8. Тооxe, тооxe

Khurlee Nerguy, khoshud, b.1961

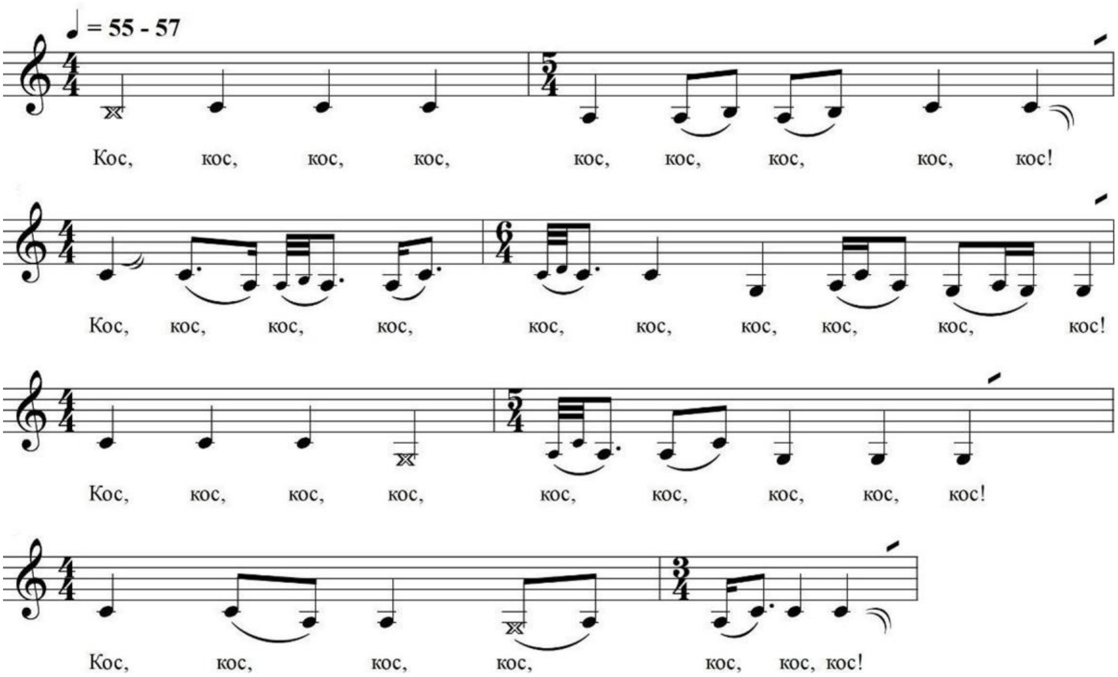
Төөhэ, төөhэ, төөhэ, төөhэ, төөhэ, төөhэ!	[tœɣe]
Делнчнь делврвə, дегдəкəчн өлсвə!	Your udder is full, your chick is hungry!
[ии-həд]	[like this]
Төөhэ, төөhэ, төөhэ, төөhэ, төөhэ, төөhэ, төөhэ!	[tœɣe]
Делнчнь делврвə, дегдəкəчн өлсвə!	Your udder is full, your chick is hungry!
Төөhэ, төөhэ, төөhэ, төөhэ, төөhэ, төөhэ, төөhэ!	[tœɣe]
[ии-həд]	[like this]

This observed set of compositional principles confirms the close functional and structural parallels between this genre and lullabies.

The herders' singing in the Bulgan sum represents tunes within the ambitus of a perfect fifth. The appeal to the she-camel, recorded from Oold in Khovd, is featuring a melodic range within the interval of a fourth:

Table 9. Кос, кос, кос, кос

Жигжидсүрэн Баттулга, өөлд, Баалгас яс (Бородой овг) 78 років



These observations enable us to raise questions about the distribution of melodic types in Western Mongolia, aiding their geographic mapping and later connection with various dialects and ethnic groups. Concurrently, this raises a crucial issue concerning the use and intergenerational transfer of formulaic melodies. For instance, the presented study found two sisters singing different melodies: one follows the template learned from her father, and the other uses a template passed down from her husband.

Vocal technique and timbre

Analysis of the acoustic properties focuses on timbre as a factor that enhances audibility and functional efficacy. Herders produce calls with a resonant, chesty timbre, achieved through intense diaphragmatic breathing and chest vocalization. This timbral quality conveys a crucial emotional load, allowing the herder to project confidence and calm, which directly affects the animal's desired response. The melodic elements of these invocations, characterized by their variations and inclusion of ornamental elements, bear a noticeable resemblance to the musical style of *Ut Dun/Urtyn duu* (long-song). These elements can be viewed as components of a traditional vocal system organically linked to the performance practice of long-songs. The practice of singing itself can also be interpreted as a form of vocal training organically integrated into the fabric of traditional knowledge. This multilayered aspect of performance, which combines acoustic technique, structural resemblance, and semiotic function, thus opens significant avenues for further dedicated scientific research.

Conclusion

The striking similarity in the phonetic forms of calling signals across Mongolian and Turkic language cultures of Siberia provides a compelling basis for establishing the antiquity of this phenomenon. Given the divergence of the Proto-Mongol and Proto-Turkic language families over six millennia ago, this tradition of specialized human-animal communication likely dates back at least six millennia.

This study has established the herding coaxing song not merely as a musical genre, but as a highly specialized, culturally evolved vocal communication code optimized for effective interspecies interaction. The integrated results of the linguistic, musical, and functional analysis reveal a remarkable degree of structural optimization:

- Rhythmic and Physiological Control.
- Compositional Principles: short, functionally complete phrases that are consistently repeated and synchronized with the performer's respiratory cycle.
- Verbal Constraint: extreme lexical constraint, focusing on specific signal words. Ultimately, the herding song represents a unique and valuable example of how human vocal tradition has been adapted and refined into a highly effective interspecies communication system. Moving beyond mere anthropological curiosity, this genre demonstrates a functional code where musical, linguistic, and physiological elements precisely converge to achieve a desired emotional and biological outcome. It is, fundamentally, a powerful cultural technology essential for regulating animal behavior and ensuring the economic stability of nomadic herding.

List of Musical Notations, Performers, and Field Video Recording Fragments timing

Field video fragments accompanying the article are available for viewing on YouTube channel https://youtu.be/pA6PC7gEnE4

Table 2	0:00 И. Нямаа, b. 1937, taizhiin torguud, Bulgan sum	recorded 09/10/2024 Bulgan sum, C0077
Table 3	0:18 И. Нямаа, b. 1937, taizhiin torguud; Нямаа Дойсмаа, 50 y.o., taizhiin torguud	recorded 09/10/2024 Bulgan sum, C0077
Table 4	0:38 Пүрэв Цэдэн-Иш, taizhiin torguud,	recorded 09/14/2024 Bulgan sum, C0063
Table 5	0:53 Ниман Лхагважав, 50 y.o., beiliin torguud,	recorded 09/08/2024 Bulgan sum, C0061
Table 6	1:25 Наранцецег, 73 y.o., vangiin torguud, Ярмт газр ээл, Bulgan	recorded 09/11/2024 Ярмт газр ээл, Bulgan, C0044
Table 7	2:05 Нямаа Дойсмаа, 50 y.o., taizhiin torguud, Bulgan sum	recorded 09/10/2024 Bulgan sum, C0067
Table 8	2:33 Хүрлээ Нергүй, b.1961, khoshuud, Bulgan sum	recorded 09/14/2024 Bulgan sum, C0061
Table 9	3:03 Жигжидсүрэн Баттулга, 78 y.o., ööld, Baalgas yas, Boroldoi ovog	recorded in Khovd 09/25/24, C0253

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Summery

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THE SOUND OF CONNECTION: PROTO-LANGUAGE, MUSIC, AND INTERSPECIES COMMUNICATION AMONG WESTERN-MONGOLIAN HERDERS

This article examines the complex interplay of rhythmic, temporal, structural, melodic, verbal, and timbral features inherent in the specialized vocal forms. The primary outcome of this study establishes the herders' singing in Western Mongolia not merely as a musical tradition, but as a highly specialized, culturally evolved vocal communication code optimized for effective interspecies interaction. In essence, it functions as a powerful cultural technology necessary to regulate animal behavior and ensure the economic stability of nomadic pastoralism. Furthermore, the analysis raises crucial questions regarding the formulaic melodies, their intergenerational transmission, and their territorial distribution, thereby setting a critical agenda for future research.

Keywords: herders' singing, domestication, interspecies communication, Western Mongolia, Oirad