DUTAR PERFORMANCE IN CENTRAL ASIAN FOLKLORE: BIOMECHANICS, ARTICULATION, AND PSYCHOACOUSTICS

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ДУТАРНОЕ ИСПОЛНИТЕЛЬСТВО В ФОЛЬКЛОРЕ ЦЕНТРАЛЬНОЙ АЗИИ: БИОМЕХАНИКА, АРТИКУЛЯЦИЯ И ПСИХОАКУСТИКА

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MARKAZIY OSIYO FOLKLORIDA DUTOR IJROCHILIGI: BIOMEXANIKA, ARTIKULYATSIYA VA PSIXOAKUSTIKA

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Keywords: Karakalpak folklore, ethnomusicology, dutar, playing techniques, biomechanics, right-hand articulation, left-hand vibrato (nola), acoustic resonance, intangible cultural heritage.

Summary. This article explores the enduring and archaic motif of the "slandered mother" within the epic traditions of Turkic peoples, with a specific focus on the Karakalpak heroic epic "Sharyar" and its typological parallels in the "Goroghli" (Koroghlu) cycle. By utilizing the historical-genetic and structural-semantic methods of folklore studies, the research analyzes the mythological roots, social functions, and gender dynamics underlying this plot template. Particular attention is given to the zoomorphic elements (such as the substitution of human twins with animal offspring) and the profound matriarchal echoes preserved in the Karakalpak tradition, where the female protagonist (Injim) plays an equally heroic role in restoring cosmic and social justice. The expanded analytical section demonstrates that this motif serves not merely as a family conflict, but as an apocalyptic test of the royal lineage, ultimately reinforcing the moral imperative of truth and the supreme value of maternal honor over politics.

Ключевые слова: каракалпакский фольклор, этномузыкология, дутар, техники игры, биомеханика, артикуляция правой руки, леворучное вибрато (нола), акустический резонанс, нематериальное культурное наследие.

Резюме. В данной статье исследуется один из самых древних и устойчивых мотивов — мотив «оклеветанной матери» — в эпических традициях тюркских народов на примере каракалпакского героического дастана «Шарьяр» и его типологических параллелей в цикле «Гёроглы». Используя историко-генетический и структурно-семантический методы фольклористики, автор детально анализирует мифологические корни, социальные функции и гендерную динамику этого сюжета. Расширенный раздел обсуждения показывает, что зооморфные элементы (подмена младенцев щенком и котенком) отражают древние анимистические страхи, а матриархальные отголоски в каракалпакской традиции, где дочь (Инджим) играет равноправную и решающую роль в спасении брата и матери, делают этот эпос уникальным. Делается вывод, что данный мотив является не просто семейным конфликтом, а апокалиптическим испытанием царского рода, утверждающим высшую ценность материнской чести и неотвратимость космической справедливости.

Tayanch so‘zlar: qoraqalpoq folklori, etnomuzikologiya, dutor, chalish texnikalari, biomexanika, o‘ng qo‘l artikulyatsiyasi, chap qo‘l nolasi (vibrato), akustik rezonans, nomoddiy madaniy meros.

Rezyume. Ushbu maqolada turkiy xalqlar epik an’analaridagi eng qadimiy va barqaror motivlardan biri – "tuhmatga qolgan ona" motivi qoraqalpoq qahramonlik eposi "Sharyar" hamda uning "Go‘ro‘g‘li" turkumidagi tipologik parallellari misolida batafsil tadqiq etiladi. Folklorshunoslikning tarixiy-genetik va struktural-semantik usullaridan foydalangan holda, ushbu syujetning mifologik ildizlari, ijtimoiy funksiyalari va o'ziga xos gender xususiyatlari chuqur tahlil qilingan. Kengaytirilgan tahliliy qismda zoomorfik elementlar (chaqaloqlarning o‘rniga it va mushuk qo‘yilishi) qadimgi animistik qo'rquvlar ishorasi ekanligi hamda qoraqalpoq dostonchiligiga xos bo‘lgan matriarxat qoldiqlari – qiz bola (Injim) ning adolatni tiklash va onasini qutqarishdagi teng huquqli qahramonlik roli alohida e’tirof etiladi. Xulosa qilib aytganda, mazkur motiv shunchaki oilaviy nizo emas, balki shoh avlodining apokaliptik sinovi bo‘lib, unda ona sha'ni va kosmik haqiqatning har qanday taxtdan ustunligi o‘z tasdig‘ini topgan.

INTRODUCTION

The musical landscape of Central Asia is intrinsically woven with the sounds of traditional acoustic instruments, among which the dutar (from Persian du - two, and tar - string) occupies a preeminent position. Constructed typically from mulberry or apricot wood and strung with two silk (or modern nylon) threads, the dutar is characterized by a warm, deeply resonant, and inherently melancholic timbre. Within Karakalpak, Uzbek, and Turkmen folk traditions, the dutar is not merely an accompanying instrument for epic singers (bakhshis); it functions as an active, polyphonic co-narrator capable of expressing the most nuanced psychological states of epic protagonists.

Despite its structural simplicity—consisting of only two strings and tied frets—the dutar allows for an astonishingly complex range of sonic textures. This acoustic versatility is achieved not through mechanical advantages, but through the highly sophisticated, historically refined biomechanical playing techniques developed by master musicians over centuries. In modern academic environments, there is a critical need to scientifically document and analyze these techniques. The transition of traditional music from intimate, rural settings to formalized conservatory stages risks standardizing and thus eroding the micro-technical nuances of ethnic performance. This study aims to deconstruct the biomechanics, acoustic articulation, and psychoacoustic expression of traditional dutar playing techniques, providing a rigorous methodological framework for both ethnomusicologists and contemporary performers.

METHODS AND MATERIALS

This research employs a multidisciplinary approach integrating ethnomusicological observation, biomechanical analysis, and acoustic transcription. The primary materials for this study are derived from the performance practices of traditional master dutarists (bakhshis and instrumentalists) across Karakalpakstan and the Khorezm oasis. The methodology involved close visual and auditory observation of right-hand and left-hand synchronization, categorizing stroke patterns, and analyzing the microtonal variations produced during live performances. Additionally, comparative analysis was utilized to contrast the specific energetic techniques of the northern storytelling schools with the more lyrical, melismatic approaches of urban classical traditions.

RESULTS AND DISCUSSION

The performative architecture of the dutar can be structurally divided into three interconnected domains: the ergonomic posture of the musician, the rhythmic-percussive mechanics of the right hand, and the melodic-microtonal articulation of the left hand.

Ergonomics, Posture, and Acoustic Coupling: The physical relationship between the musician and the dutar fundamentally dictates the instrument's acoustic output. The correct posture is not merely an aesthetic convention but an ergonomic necessity for executing rapid, sustained techniques without muscular fatigue. The pear-shaped resonator (kosa) of the dutar is cradled against the right side of the musician's chest, secured gently by the inner forearm. It is crucial that the instrument is not gripped too tightly against the body; an overly firm embrace restricts the vibration of the wooden soundboard (deka), effectively muting the lower resonant frequencies. The neck (dasta) is supported lightly by the webbing between the thumb and index finger of the left hand. The instrument is typically held at an upward angle of approximately 30 to 45 degrees relative to the horizontal plane. This elevation allows the left hand to glide seamlessly across the frets while ensuring the right hand strikes the strings at the optimal acoustic "sweet spot"—usually just above the bridge (xarrak), where the string tension yields the brightest transients.

Right-Hand Mechanics: The Engine of Rhythm and Dynamics: The right hand operates as the rhythmic and dynamic engine of the dutar. Unlike guitar or saz players who may use plectrums (picks), the traditional dutar is played exclusively with the bare fingers, allowing for an incredibly tactile and intimate connection with the silk strings. The right-hand techniques (zarb or chertish) dictate the tempo, meter, and percussive character of the melody.

Yakpora (The Single Stroke): This is the foundational technique, executed primarily with the tip of the index finger. The finger strikes the strings in alternating downward and upward motions. The biomechanical efficiency of the yakpora relies on the flexibility of the wrist rather than the movement of the entire arm, allowing for extended periods of rapid playing without lactic acid buildup.

Rez (The Tremolo): The rez is perhaps the most technically demanding and acoustically spectacular right-hand technique. It involves a rapid, continuous, and fluid oscillation of the index finger (and sometimes the middle finger) across both strings. Musically, the rez creates a sustained, unbroken wall of sound, effectively overcoming the quick decay of plucked strings. It is heavily utilized during the climactic sections

(avj) of epics, simulating the continuous sustain of bowed instruments like the qobiz.

Qo'sh Zarb (The Power Strike): In highly energetic, martial, or dramatic segments of a performance, the musician employs the qo'sh zarb. This technique involves gathering three or four fingers and striking the strings simultaneously with significant force. Often, the follow-through of the strike allows the fingertips to tap the wooden face of the resonator, adding a distinct percussive, drum-like layer to the harmonic chord.

Pishik (The Staccato Mute): To create dynamic contrast, dutarists use the pishik technique. Immediately after plucking the string, the fleshy part of the right palm or the side of the thumb lightly touches the strings, instantly dampening the vibration. This produces a sharp, dry, staccato sound that adds rhythmic bounce and syncopation to dance melodies.

Left-Hand Articulation: The Soul and Microtonality: If the right hand provides the heartbeat of the dutar, the left hand provides its soul. The left-hand techniques (parda bosish) are responsible not only for selecting the correct pitch but for infusing the melody with emotional depth, grief, and psychological tension.

Nola (Vibrato): The nola (literally translating to "lament" or "weeping") is the absolute emotional core of Central Asian string playing. Unlike Western vibrato, which is often a rapid and shallow fluctuation of pitch, the dutarist's nola is deep, deliberate, and highly expressive. It is achieved by pressing the string against the fret and gently rocking the wrist and finger parallel to the string. This microtonal fluctuation mimics the natural wavering of the human voice during moments of profound sorrow or spiritual ecstasy. A dutar performance without nola is considered "dry" and devoid of spiritual weight.

Kash or Tortim (String Bending): This technique involves pressing a fret and physically pulling or pushing the string perpendicular to the neck. The increased tension bends the pitch upward by a quarter-tone or a semitone. The kash technique is highly prevalent in Karakalpak and Khorezmian schools, used to create a crying, sliding effect (shikast) that seamlessly connects two adjacent notes, representing the sighs of an epic hero.

Sirpantish (Glissando): To create a fluid, legato melodic line, the musician slides the pressing finger up or down the string from one fret to another without releasing the pressure. This avoids the percussive attack of the right hand and creates a continuous, flowing transition between registers, heavily utilized in lyrical and romantic dastans.

Faquliyat / Forish (Hammer-ons and Pull-offs): Master musicians often employ techniques where the left-hand fingers strike the frets with enough velocity to sound the notes without any plucking from the right hand. This advanced legato technique allows for incredibly fast, cascading ornaments and trills that decorate the primary melody.

Psychoacoustic Impact and Cultural Semantics: The combination of these biomechanical techniques generates a profound psychoacoustic effect on the listener. The dutar's silk strings, when subjected to the rez tremolo and deep nola vibrato, produce a rich spectrum of overtones that resonate deeply with the human auditory cortex. In the context of the Karakalpak bakhshi art, these techniques are not used randomly; they are strictly codified to match the narrative. For instance, the qo'sh zarb (power strike) is employed during descriptions of battles or galloping horses, while the deep, microtonal kash (bending) is reserved for monologues of grief, betrayal, or the "slandered mother" motif. The physical mastery of the instrument thus translates directly into the psychological manipulation of the audience, rendering the epic an immersive, multi-sensory experience.

In conclusion, the traditional techniques of playing the dutar represent a highly sophisticated system of acoustic engineering and human biomechanics, developed and perfected through centuries of oral folk tradition. The right-hand mechanics (zarb, rez, pishik) provide a complex rhythmic and polyphonic foundation, while the left-hand articulations (nola, kash, sirpantish) unlock the microtonal and emotional potential of the instrument.

Understanding these techniques is vital for the preservation of Karakalpak and Central Asian intangible cultural heritage. As modern musical pedagogy increasingly relies on written notation and standardized tuning, there is a tangible risk of losing the archaic, improvisational soul of the dutar. For contemporary performers and sound directors, a deep scientific and practical comprehension of these manual nuances is essential to accurately record, preserve, and transmit the authentic voice of the ancestors to future generations. The dutar is not merely played; it is physically persuaded to speak, weep, and sing through the masterful synthesis of flesh, wood, and silk.

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