

ETHNODESIGN AND THE TRANSFORMATION OF CULTURAL CODES: INTERPRETATION OF THE KAZAKH TEKEMET ORNAMENT IN CONTEMPORARY FASHION

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The article provides a comprehensive and scientific examination of the concept of ethnodesign and its strategic role in the modern fashion industry of Kazakhstan. The primary objective of the research is to determine how the conceptual elements of traditional Kazakh clothing (ornament, form, material, symbolism) are reinterpreted in the language of modern fashion and their significance in preserving national cultural identity amidst globalization. Particular attention is paid to the aesthetic and semiotic aspects of the "tekemet" pattern, as well as innovative ways of transferring it onto modern fabrics using sublimation printing technology. The author proposes optimal methods for utilizing this technology as a contemporary artistic solution in garment design, harmoniously blending tradition and innovation. It is scientifically substantiated that the sublimation method allows for maintaining high color fastness of the traditional ornament, accurately rendering its natural texture, and producing high-quality products based on eco-friendly materials. The study analyzes the historical development stages and semiotic principles of Kazakh costume, along with an in-depth exploration of cultural codes (color, form, symbol). Furthermore, the creative practices of contemporary Kazakhstani designers are examined, and a comparative analysis of ethno-elements in both couture and mass-market fashion is conducted. Consequently, it is proven that ethnodesign is a highly effective and promising direction for preserving national cultural heritage, fostering ecologically responsible fashion, and integrating digital innovative technologies into the industry.

Keywords: ethnodesign, Kazakh national clothing, tekemet ornament, sublimation printing, cultural code, semiotics, sustainable fashion, modern fashion industry.

ЭТНОДИЗАЙН И ТРАНСФОРМАЦИЯ КУЛЬТУРНЫХ КОДОВ: ИНТЕРПРЕТАЦИЯ КАЗАХСКОГО ОРНАМЕНТА ТЕКЕМЕТА В СОВРЕМЕННОЙ МОДЕ

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В статье всесторонне и научно рассматривается концепция этнодизайна и его стратегическая роль в современной индустрии моды Казахстана. Основная цель исследования - определить, как концептуальные элементы традиционной казахской одежды (орнамент, форма, материал, символика) переосмысливаются в языке современной моды и какое значение они имеют для сохранения национальной культурной идентичности в условиях глобализации. Особое внимание уделяется эстетическим и семиотическим аспектам узора «текемет», а также инновационным способам его переноса на современные ткани с помощью технологии сублимационной печати. Автор предлагает оптимальные методы использования данной технологии как современного художественного решения в дизайне одежды, гармонично сочетая традиции и инновации. Научно обосновано, что метод сублимации позволяет сохранять высокую стойкость цвета традиционного орнамента, точно передавать его природную фактуру и получать качественный продукт на основе экологически чистых материалов. В ходе исследования были проанализированы исторические этапы развития и семиотические принципы казахского костюма, а также глубоко изучена система культурных кодов (цвет, форма, символ). Кроме того, изучена творческая практика современных казахстанских дизайнеров, проведен сравнительный анализ особенностей использования этноэлементов в авторских проектах и масс-маркете. В результате доказано, что направление этнодизайна является наиболее эффективным и перспективным с точки зрения возрождения национального культурного наследия, формирования экологически ответственной культуры моды и внедрения цифровых инновационных технологий в индустрию.

Ключевые слова: этнодизайн, казахская национальная одежда, орнамент текемет, сублимационная печать, культурный код, семиотика, экологическая мода, современная индустрия моды.

ЭТНОДИЗАЙН ЖӘНЕ МӘДЕНИ КОДТАРДЫҢ ТРАНСФОРМАЦИЯСЫ: ҚАЗАҚ ТЕКЕМЕТ ӨРНЕГІНІҢ ЗАМАНАУИ СӘНДЕГІ ИНТЕРПРЕТАЦИЯСЫ

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Мақалада этнодизайн ұғымы және оның қазіргі қазақстандық сән индустриясындағы стратегиялық рөлі жан-жақты әрі ғылыми тұрғыдан қарастырылады. Зерттеудің негізгі мақсаты – дәстүрлі қазақ киімінің концептуалды элементтері (орнамент, форма, материал, символика) заманауи сән тілінде қалай қайта ұғынылып, жаһандану жағдайында ұлттық мәдени сәйкестікті сақтауда қандай маңызға ие екенін айқындау болып табылады. Мақалада негізгі назар текемет өрнегінің эстетикалық және семиотикалық қырларына, сондай-ақ оны сублимациялық баспа технологиясы арқылы заманауи маталарға көшірудің инновациялық жолдарына аударылады. Автор бұл технологияны киім үлгісіндегі заманауи көркемдік шешім ретінде пайдаланудың және дәстүр мен инновацияны өзара үйлестірудің оңтайлы тәсілдерін ұсынады. Сублимация әдісі дәстүрлі өрнектің реңк тұрақтылығын жоғары деңгейде сақтауға, ою-өрнектің табиғи құрылымын дәлдікпен беруге және экологиялық таза материалдар негізінде сапалы өнім алуға мүмкіндік беретіні ғылыми негізделеді. Зерттеу барысында қазақ киімінің тарихи даму сатылары мен семиотикалық принциптері сараланып, маңызды мәдени кодтардың (түс, форма, символ) жүйесі терең талданды. Сонымен қатар, қазіргі қазақстандық дизайнерлердің шығармашылық тәжірибесі зерделеніп, этноэлементтердің авторлық жобалар мен масс-модадағы қолданыс ерекшеліктеріне салыстырмалы талдау жасалды. Нәтижесінде этнодизайн бағыты ұлттық мәдени мұраны жаңғырту, экологиялық жауапты сән мәдениетін қалыптастыру және цифрлық инновациялық технологияларды индустрияға енгізу тұрғысынан ең тиімді әрі болашағы зор бағыт екені толықтай дәлелденді

Негізгі сөздер: этнодизайн, қазақ ұлттық киімі, текемет өрнегі, сублимациялық баспа, мәдени код, семиотика, экологиялық сән, заманауи сән индустриясы.

Introduction

In recent decades, the concept of ethnodesign has acquired increasing significance in the cultural context of Kazakhstan. Contemporary fashion and costume design are no longer perceived solely as aesthetic phenomena; rather, they are interpreted as reflections of national culture, historical memory, and collective identity. Centurial social structures, gender roles, and philosophical systems remain deeply embedded within the matrix of historical Kazakh attire. Modern apparel design actively re-evaluates these foundational cultural markers, utilizing cutting-edge manufacturing methods and advanced materials to translate traditional symbolism into contemporary semiotic systems.

Integrating national decorative motifs into modern wardrobes can be effectively achieved via thermal sublimation printing. By applying high pressure and elevated temperatures, designers can precisely replicate complex ornamental systems - such as those found on historical felt tekemet rugs - directly onto modern fabrics. Consequently, traditional patterns transcend pure decoration, merging with industrial manufacturing processes to streamline their integration into mass fashion production. This methodology significantly expands

the aesthetic vocabulary of ethnodesign while establishing a robust framework for safeguarding heritage through material transformation.

The phenomenon of globalization has reshaped global garment design, fostering cross-cultural hybridity and establishing alternative frameworks for creative dialogue. Today, international designers actively leverage regional design specificities and ethnic aesthetics, treating cultural pluralism as a primary source of creative inspiration. A parallel trajectory is observed within the domestic design school of Kazakhstan. Here, historical costume components undergo deep transformation through the prism of minimalist composition, contemporary tailoring configurations, and sophisticated technology, which elevates national design to a higher tier of conceptual art.

Nevertheless, critical academic voids persist in this field, notwithstanding the expanding popularity of ethnic trends in the fashion market. Existing studies mainly focus on historical reconstruction, decorative analysis of ornaments, or general issues of national identity in fashion. However, insufficient attention has been paid to the systematic analysis of cultural codes in traditional Kazakh clothing and their transformation in contemporary fashion design, particularly in relation to innovative textile

technologies. Moreover, the integration of semiotic analysis with practical design approaches remains underexplored, which limits the understanding of ethnodesign as a complex cultural and technological phenomenon.

The relevance of this study is therefore determined by the need to develop effective strategies for preserving and revitalizing national cultural heritage in the context of globalization, as well as by the necessity to conceptualize ethnodesign not only as an artistic practice but also as a methodological framework within contemporary design research.

The aim of the research is to analyze the transformation of cultural codes embedded in traditional Kazakh clothing within the contemporary fashion system and to propose an innovative model for preserving national distinctiveness.

To achieve this aim, the following research objectives were formulated:

- to identify the historical and semiotic principles underlying traditional Kazakh clothing;
- to analyze the system of cultural codes, including ornament, color, form, and symbolism;
- to examine the works of contemporary Kazakh designers;
- to determine the methods of applying ethno-elements in both authorial design and mass fashion;
- to investigate the use of innovative materials and technologies in ethnodesign, including sublimation printing;
- to develop a contemporary model of ethnodesign.

The object of the study is the contemporary fashion environment of Kazakhstan, while the subject of the study is the modern interpretation of cultural codes in traditional Kazakh clothing. The methodological framework of the research includes content analysis, visual and semiotic analysis, and the comparative-historical method.

From a theoretical perspective, ethnodesign can be interpreted not merely as an artistic approach but as a discursive and cultural phenomenon that contributes to the actualization of cultural memory. Contemporary Kazakh designers increasingly treat national codes not simply as decorative motifs but as meaningful symbolic systems, adapting them to the visual language and technological practices of contemporary design. In the context of the 21st century, issues of cultural identity and heritage preservation have become central to fashion studies. From this standpoint, ethnodesign represents not only an aesthetic orientation but also an effective strategy for the

preservation and reinterpretation of cultural heritage in new forms [1].

As noted by Appadurai (1996), globalization does not merely connect cultural spaces but also generates new cultural formations and hybrid identities. Within this framework, ethnodesign may be considered an important mechanism for the transformation and renewal of national cultural codes [2].

The scientific novelty of the research lies in the integrated analysis of cultural codes in traditional Kazakh clothing in relation to contemporary fashion practices and innovative textile technologies, as well as in the development of a conceptual model for the reinterpretation of ethnodesign in modern design practice.

Materials and methods

Historical Foundations and Semiotics of Kazakh Clothing

The traditional clothing culture of the Kazakh people reflects the nomadic way of life, the natural environment, and the system of worldview values. Clothing was not merely a practical necessity but also served as an indicator of social status, age, and spiritual values [3]. Each element - ornament, color scheme, material, or embroidery - possesses its own symbolic meaning.

Historically, the main materials used in Kazakh costume included wool, felt, leather, silk, and cotton. Felt garments and headdresses (for example, *borik* and *tymak*) performed not only practical functions but also carried sacred and protective meanings [4]. The culture of dress was perceived as a form of maintaining harmony between humans and nature, as well as a means of preserving social order.

The ornamental system is considered one of the most expressive semiotic structures in Kazakh culture. Motifs such as *koshkar muiz* (ram's horns), *tuye taban* (camel's foot), *irek* (wave), and *kus kanaty* (bird's wing) function not merely as decorative elements but as symbols representing continuity of generations, the cycle of life, and natural balance.

Color also plays a significant semantic role in Kazakh clothing culture: white symbolizes purity and the beginning of life; red represents vitality and festivity; blue signifies the sky and the spiritual world; and black is associated with the earth and wisdom. The combination of colors reflects symbolic balance within the national aesthetic worldview [5].

From a semiotic perspective, Kazakh clothing may be interpreted as a culturally coded text. It communicates the wearer's social role, age,

gender, and tribal affiliation. For instance, garments worn by young women often feature abundant decoration and embroidery, whereas clothing of older women tends to be more restrained. Men's clothing, in contrast, emphasizes functionality and freedom of movement.

Such a semiotic structure makes it possible to reinterpret Kazakh clothing within the framework of contemporary ethnodesign. Traditional elements - ornament, color, form, and material - represent manifestations of cultural memory and aesthetic continuity.

The traditional Kazakh costume reflects not only everyday needs but also a broader cultural and spiritual system. The choice of materials, forms, and color combinations conveys social hierarchy and worldview values. Ethnographic data indicate that basic forms and ornamental patterns symbolize the harmony between nomadic life and the natural environment. For example, the *koshkar muiz* ornament is an ancient symbol of continuity and abundance and has been widely used not only in clothing but also in household objects and jewelry. The analysis of the semiotic nature of such elements contributes to a deeper understanding of the cultural significance of ethnodesign.

Contemporary cultural theorists and fashion scholars, including Joanne Eicher and Sandra Evenson (2015), interpret traditional clothing as a reflection of the individual within a cultural environment, associating it with the concept of the "Visible Self" [6].

Developing this idea further, A.R. Nurdubayeva and G.D. Bekibayeva (2024) examine clothing design in the Kazakhstani fashion context as a representation of cultural memory and national identity. Through the analysis of design practices at the Kazakh National Academy of Arts, they reveal a semiotic bridge between traditional symbolism and contemporary form. Their research demonstrates that ethnodesign today functions not merely as an aesthetic approach but as a visible structural code of national culture, shaping a new visual language of Kazakh identity in the context of globalization [7].

Contemporary Trends: Globalization and Hybridization in Fashion Imagery

In the context of globalization, fashion has become one of the most dynamic spaces of cultural interaction. On the one hand, this process erases cultural boundaries and facilitates the emergence of new hybrid forms; on the other hand, it intensifies the need to preserve national identity [8].

The integration of ethnic elements with contemporary styles in Kazakh fashion represents a clear example of such cultural hybridization. As

demonstrated in the study by **Meruert Zhanguzhinova (2024)**, contemporary Kazakh designers reinterpret ethnic codes and employ them as a form of postcolonial cultural response [9]. This approach does not imply a mechanical reproduction of tradition but rather enables its reinterpretation and rearticulation within a new cultural context.

Research on Kazakh fashion over the past decade reveals a growing tendency toward the combination of ethnic markers with minimalist and functional design approaches. This reflects a process of visual code reduction and the transition toward new semantic spaces. Within this framework, the conceptual garment model proposed in this study, incorporating traditional *tekemet* ornamentation, emerges at the intersection of national symbolism and contemporary aesthetics. The *tekemet*, as one of the oldest semiotic mediators of nomadic culture, carries deep symbolic significance, making it a meaningful source for modern design interpretation.

Creative Practices of Modern Kazakhstan-Based Designers: An Overview

The current trajectory of fashion in Kazakhstan revolves around harmonizing ancestral legacies with prevailing global styles. Over the past few seasons, local creators have closely examined authentic symbolic systems to embed them into modern stylistic frameworks. This creative exploration has resulted in innovative formats for showcasing national identity visually, while simultaneously reshaping corporate branding methodologies within the local garment sector [10].

Starting from the 2019 seasonal runways, the Aida KaumeNOVA fashion house has consistently re-imagined traditional Kazakh design markers, translating ancient cultural signifiers into the lexicon of modern ready-to-wear apparel. In these collections, the designer combined natural fabrics such as silk and velvet with traditional embroidery techniques, integrating them into both sporty and classical silhouettes. In interviews, the designer has emphasized the intention to convey the subtle aesthetic content of nomadic culture through the dynamic image of the modern woman. Such approaches illustrate Aida KaumeNOVA's strategy of incorporating national elements into contemporary fashion discourse at a symbolic level [11].

Designer **Saltanat Baimukhametova** (brand *Salta*) combines traditional ornaments with geometric minimalism in her collections. In this direction, traditional motifs are integrated with modernist aesthetics, allowing the semantic codes of national culture to be presented within a new context. Her works have been showcased at fashion events in

Almaty and Paris, which demonstrates the growing international recognition of Kazakh ethnodesign.

In recent years, one of the brands contributing to the development of a contemporary interpretation of national cultural codes and the concept of modern “nomadic aesthetics” in Kazakhstan is **Global Nomads**. In its work, the brand promotes the concept of the “neo-nomad,” combining traditional nomadic ornamentation and decorative elements with contemporary design approaches. Through its collections and initiatives, the brand seeks to connect national identity with today’s global culture and to create a visual language that is accessible and relevant to a new generation.

Results and discussion

Authorial Model and Interpretation of the Tekemet Ornament

One of the most ancient and semiotically significant elements of the material culture of the Kazakh people is the *tekemet* (Figure 1). The *koshkar muiz* (ram’s horn) ornament, widely used

in its decoration, functions as a central archetype within the figurative system, symbolizing the unity of nature and spirit, the continuity of life cycles, and the succession of generations.

In the study by Sergali Suraganov, it is demonstrated that the primordial meaning of this motif is directly connected with the worldview structure of the Kazakh people. According to the researcher, ornaments should be interpreted not merely as decorative elements but as an artistic language of cultural memory and a symbolic code that conveys collective meanings [12].

This conceptual perspective formed the theoretical foundation of the authorial design model developed in this research. Within this framework, the *tekemet* ornament is interpreted as a semantic core of ethnodesign, revealing the deep structural principles of national aesthetics and enabling their reinterpretation in contemporary fashion practice.



Figure 1. Traditional Kazakh tekemet.

The authorial sketches developed in the course of the research (Figures 2 and 3) demonstrate the possibility of reinterpreting traditional *tekemet* ornamentation within contemporary clothing forms. The conceptual idea of the model is based on the synthesis of traditional texture and modern form, allowing national symbolism to be presented at a new visual level.

The developed female look relies on an exaggerated shoulder line, fluid silhouettes, and oversized sleeve structures, which yields an

expressive yet balanced architectural form. Conversely, the menswear ensemble utilizes a tailored, semi-fitted blazer paired with traditional trousers, projecting a minimalist, highly functional, and disciplined aesthetic.

In the compositional solution, ornamental modules placed in the chest and shoulder areas function as the primary artistic accent, forming the visual center of the garments and reinforcing the symbolic significance of the traditional motif within a contemporary design framework.



Figure 2. Authorial model of men’s and women’s garments based on traditional Kazakh tekemet ornamentation.



Figure 3. Principles of applying tekemet ornamentation in garment structure (front and back views).

At the sketch development stage, the ornamental elements were planned to be applied to the fabric surface using sublimation printing technology. This method makes it possible not to replicate the felt texture directly but to convey its chromatic and textural effects through contemporary print technologies. In this way, the aesthetics of traditional handicrafts acquire a new material interpretation through digital design tools.

Sublimation printing is a technique based on the process of dye sublimation at high temperatures and the deep penetration of pigments into textile fibers. The main advantages of this method include color brightness, durability, and environmental safety. In their study, Yang, Clarke, and Lewis demonstrate the applicability of this method to wool and natural fiber-based textiles, as well as the effectiveness of reactive dyes in such materials [13]. Therefore, this technology provides both a scientific and technological foundation for working with natural textures in ethnodesign.

As noted by Bisht and Gurusamy, digital and sublimation printing technologies have become an important direction in the fashion industry, combining environmental responsibility with the growing demand for individualization [14]. This approach enables the reinterpretation of ethnic codes in contemporary forms. In accordance with this tendency, the authorial model presents the *tekemet* ornament as a new form of cultural visibility emerging at the intersection of tradition and technology.

The color palette of the model is based on the warm tones characteristic of traditional Kazakh *tekemet* (Figure 1), including shades of brown, ochre, beige, deep red, and bluish hues associated with natural wool and felt. This combination preserves both naturalness and cultural authenticity, corresponding to the principles of sustainable fashion. In the sketch version, a lightweight, eco-friendly polyester-based fabric was selected, adapted for sublimation printing and ensuring color durability. Opting for this specific textile base maximizes the primary benefits of thermal sublimation technology, namely exceptional pattern definition and superior colorfastness, which are vital for rendering historical motifs in modern garments.

Semiotically, the incorporated *koshkar muyiz* pattern serves as an emblem of vitality, welfare, and generational continuity, whereas its balanced, rhythmic arrangement reflects ancient concepts of cosmic equilibrium and human-nature alignment. Through this conceptual lens, the developed collection proves that ethnodesign

extends far beyond superficial decoration, acting as a dynamic vehicle for resurrecting collective historical memory via modern design tools.

The defining characteristic of this project lies in its rejection of literal copying of *tekemet* carpet textures; instead, it focuses on re-conceptualizing their deep philosophical and allegorical essence using thermal transfer techniques. This approach aligns directly with current experiments led by prominent Kazakh design figures, mirroring the ongoing interaction between heritage and technological progress seen in the commercial lines of labels like Aida KaumeNOVA and Global Nomads.

Conclusions

The presented research has monitored the evolution of Kazakh ethnic design paradigms within the modern apparel sector and mapped out the mechanisms of cultural code transformation. The primary objective centered on evaluating how ancestral design attributes - including geometry, silhouette, materials, and iconography - express themselves within modern styling systems, defining their impact on national self-identification.

Utilizing a methodological framework based on content analysis, iconographic examination, semiotic decoding, and comparative historical tracking enabled the extraction of deeper contextual layers from ancestral heritage materials. The gathered data proves that the phenomenon of ethnodesign transcends superficial embellishment or passing stylistic trends; instead, it represents an interdisciplinary domain where cross-cultural dialogue converges with advanced manufacturing workflows.

The analytical process brought to light several pivotal insights:

Foremost, historical Kazakh costume alongside its complex ornamental layouts acts as an evolutionary repository of generational values. These design systems explicitly reflect the nomadic worldview, community hierarchies, and core artistic philosophies of the civilization.

Furthermore, current apparel design environments facilitate the manifestation of these cultural markers through alternative material configurations. Modern practitioners successfully utilize updated design lexicons to reframe indigenous symbols, thereby actively stimulating collective historical memory in today's society.

Finally, the original garment prototypes produced during this project offer a concrete blueprint for heritage adaptation by embedding *tekemet* carpet layouts into current silhouettes. This creative output successfully bridges artistic

innovation with eco-conscious manufacturing philosophies, principally realized via clean thermal sublimation processes.

The semantic significance of the *tekemet* motif lies in its role as an artistic code representing the archetypal memory of Kazakh culture. Its integration into contemporary clothing enables the preservation of national identity while simultaneously forming a new visual language.

Sublimation printing technology has proven to be an effective method for reinterpreting the textures of traditional felt and wool through modern digital means. This technique is environmentally safe, provides high color accuracy, and allows the semiotic meaning of ethnic ornamentation to be preserved while translating it into a new material and technological context.

The future of ethnodesign lies in the continued study of cultural roots and their integration with innovative technologies, new materials, and global fashion trends. As noted by Deng, Liu, and Chen, the intersection of cultural heritage with digital technologies and artificial intelligence contributes to the emergence of new qualitative levels in ethnic fashion design [15].

Overall, the results of the study confirm that ethnodesign is an effective mechanism for conveying national culture in contemporary forms. The custom-designed apparel concept, inspired by *tekemet* iconography and realized via advanced heat-transfer printing, exemplifies a balanced fusion of historical continuity and industry innovation. It broadens the horizon for showcasing Central Asian art on the international fashion stage. Ultimately, this underscores the academic and practical utility of the project, verifying that regional heritage remains vibrant and adaptable in the era of digital design.

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