

**CULTURAL-CONNOTATIVE FEATURES OF PHRASEOLOGICAL UNITS IN  
DIFFERENT LANGUAGES AND THEIR INTERPRETATION THROUGH  
ARTIFICIAL INTELLIGENCE**

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**Abstract:** This article examines the cultural and connotative characteristics of phraseological units across English, Uzbek, Russian, and other languages. Drawing on the findings of scholars such as Djumaeva, Nasirova, Niyadullayeva, Mahmudova, and Goziyeva, the study provides an integrated analysis of the linguistic and cultural challenges associated with the translation of idioms. Furthermore, the paper proposes a unified AI-based methodological framework for detecting, interpreting, and translating phraseological units while preserving their semantic depth and cultural specificity. The study also outlines a five-stage computational model based on linguistic corpora, semantic embedding, context-sensitive neural architectures, and post-editing mechanisms aimed at improving the automatic interpretation of idioms in machine translation systems.

**Keywords:** Phraseological units, cultural connotation, cross-cultural semantics, idiom translation, artificial intelligence, semantic interpretation, machine translation, multilingual NLP.

### **1. Introduction**

Phraseological units encode a nation's worldview, collective memory, values, and historical experience. Djumaeva (2023) describes idioms as culturally entrenched verbal codes formed through generations of human experience. Idioms such as "kick the bucket," "oq yo'l tilayman," or "держатель камень за пазухой" contain layers of meaning that cannot be understood or translated literally. Their interpretation requires identifying deep semantic meaning, uncovering cultural associations, and selecting appropriate equivalents.

### **2. Cultural Connotations**

English idioms often reflect individualism, pragmatism, and practical experience, e.g., "break the ice" or "cost an arm and a leg". Uzbek idioms emphasize collectivist values, social norms, and moral principles, such as "ko'ngli toza" or "yuragi orqaga tortdi". Russian idioms exhibit historical, ironic, and socially reflective nuances, for example "держатель язык за зубами", "вешать лапшу на уши", and "как белка в колесе". These examples demonstrate how cultural connotations influence the meaning and translation of idiomatic expressions across languages.

### **3. Translation Challenges**

Translation of phraseological units faces several challenges. Literal translation often results in loss of meaning; for instance, «break the ice» translated literally as «muzni sindirmoq» is incorrect. Cultural connotation may be lost, e.g., «ko'ngli keng» does not have a direct English equivalent. Contextual dependency is another challenge as idioms rely heavily on situational context. Finally, certain idioms lack equivalents in other languages, requiring adaptive strategies and semantic reconstruction to preserve intended meaning.

Previous research highlights semantic classification, cultural interpretation, emotional-pragmatic function, and equivalent-search strategies.

### **4. Methodological Insights**

Research by Djumaeva, Goziyeva, and Sharipova emphasizes semantic classification, cultural layer analysis, and comparative linguocultural studies. Nasirova focuses on historical and emotional-pragmatic functions, while Niyadullayeva proposes semantic reconstruction and cultural adaptation for translation. These methodologies collectively inform AI-based approaches, combining semantic analysis, contextual understanding, and equivalent search strategies to enable accurate interpretation of idiomatic expressions.

### **5. AI-Based Interpretation Model**

The proposed AI model for interpreting phraseological units involves five stages:

- 1) Creation of a multilingual idiom corpus with semantic codes, cultural notes, contexts, and translation variants;
- 2) Automatic idiom detection using models such as mBERT, RoBERTa, or LSTM-CRF;
- 3) Semantic interpretation through Semantic Role Labeling and Sentence-BERT to capture literal and figurative meanings;
- 4) Translation generation emphasizing cultural equivalents, pragmatic adaptation, and semantic reconstruction;
- 5) Automatic post-editing (APE) to correct mistranslations and reinforce cultural relevance. This approach ensures preservation of both semantic and cultural information in machine translation outputs.

### **6. Conclusion**

Phraseological units encode rich cultural and semantic information that cannot be fully captured through literal translation. Their meaning reflects societal values, historical experience, and emotional-pragmatic nuances. Combining linguistic, cultural, and AI-based methodologies allows for improved detection, interpretation, and translation of idioms. The proposed AI framework provides a practical solution for maintaining semantic integrity and cultural sensitivity in machine translation systems.

### **References**

1. Djumaeva, G. (2023). Comparative Study of Idioms in English and Uzbek Languages.
2. Nasirova, K. (2022). Idiomatic Expressions and Cultural Values in Multilingual Context.
3. Niyadullayeva, S. (2023). Translating Idioms and Proverbs Across Cultures.
4. Mahmudova, F. (2021). Linguistic and Cultural Features of Phraseological Units.
5. Goziyeva, M. (2022). Semantic Classification of Animal-based Idioms in English and Uzbek.
7. Sharipova, O. (2021). Phytonymic Phraseological Units: Linguistic and Cultural Analysis.