ARCHITECTURAL AND CONSTRUCTION TERMINOLOGY IN THE ERA OF DIGITAL TRANSFORMATION: A MULTILINGUAL APPROACH IN THE CONTEXT OF UZBEKISTAN

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Abstract. This paper explores the methodological foundations for developing a multilingual corpus of architectural and construction terms (Uzbek, Russian, and English). Based on linguistic modeling, the study validates the concept of a "terminological palimpsest," where digital BIM definitions are superimposed onto classical architectural systems. The research identifies strategies to overcome semantic lacunae and nominative asymmetries in the context of global industry standardization.

Keywords:

Architectural terminology, BIM technologies, Multilingual parallel corpora, QMQ standards, Semantic asymmetry, Triglossia, Uzbekistan.

АРХИТЕКТУРНО-СТРОИТЕЛЬНАЯ ТЕРМИНОЛОГИЯ В ЭПОХУ ЦИФРОВОЙ ТРАНСФОРМАЦИИ: МУЛЬТИЛИНГВАЛЬНЫЙ ПОДХОД В КОНТЕКСТЕ УЗБЕКИСТАНА

Аннотация. В статье исследуются методологические основы формирования многоязычного корпуса архитектурно-строительных терминов (узбекский, русский и английский языки). На основе лингвистического моделирования в работе обосновывается концепция «терминологического палимпсеста», при которой цифровые дефиниции информационного моделирования зданий (BIM) накладываются на классические архитектурные системы. В исследовании определены стратегии преодоления семантических

лакун и номинативной асимметрии в условиях глобальной стандартизации отрасли.

Ключевые слова: архитектурная терминология, BIM-технологии, многоязычные параллельные корпуса, стандарты QMQ, семантическая асимметрия, триглоссия, Узбекистан.

RAQAMLI TRANSFORMASIYA DAVRIDA ARXITEKTURA VA QURILISH TERMINOLOGIYASI: O‘ZBEKISTON KONTEKSTIDA MULTILINGVAL YONDASHUV

Annotatsiya. Maqolada arxitektura va qurilish terminlarining ko‘p tilli korpusini (o‘zbek, rus va ingliz tillari) shakllantirishning metodologik asoslari tadqiq etilgan. Lingvistik modellashtirish asosida binolarning axborot modellashtirish (BIM) raqamli definisiyalari klassik arxitektura tizimlariga ustma-ust tushadigan «terminologik palimpsest» konsepsiyasi asoslab berilgan. Tadqiqotda sohani global standartlashtirish sharoitida semantik lakunalar va nominativ asimmetriyani bartaraf etish strategiyalari aniqlangan.

Kalit so‘zlar: arxitektura terminologiyasi, BIM-texnologiyalari, ko‘p tilli parallel korpuslar, QMQ standartlari, semantik asimmetriya, triglossiya, O‘zbekiston.

1. Introduction.

Modern architectural lexis is a dynamic system undergoing a profound technological transformation.

- **Scientific Hypothesis:** Traditional classification methods based on architectural forms (e.g., *vault, arch*) [3] increasingly conflict with modern engineering definitions (e.g., *grid shells*) [3], creating redundancy and shifting semantic boundaries.
- **The Context of Uzbekistan:** In accordance with **Presidential Decree No. UP-6099**, the inventory of lexis becomes critical during the transition to the

Latin script and the integration of national **QMQ (Qurilish me'yorlari va qoidalari)** standards into the global information space [5,6].

2. Methods.

The study is based on a synthesis of classical terminology science (**S. V. Grinev-Grinevich, V. M. Leychik**) [2,4] and modern digital linguistic methods:

- **Comparative-Typological Method:** Analysis of parallel corpora across three languages (Uzbek, Russian, English).
- **Linguistic Modeling Method:** Identification of terms considering their "semantic multilayering"—ranging from aesthetic function to constructive roles within **BIM (Building Information Modeling)**.
- **Verification:** Utilizing state standards (**QMQ**) as benchmark filters for lexical selection.

3. Results

The analysis revealed the following patterns:

- **Terminological Palimpsest:** It is demonstrated that the innovative BIM layer is superimposed onto classical architectural orders. This creates a "semantic multilayering" that requires accounting for the artistic and aesthetic value of a term alongside its technical specification.
- **Semantic Asymmetry:** Profound differences in nomination methods were identified. For instance, highly differentiated Russian terms (e.g., *rigel, progon*) [7] encounter a broader English denotatum (*beam*).
- **National Lacunae and Relics:** Unique lexemes were identified (e.g., Uzbek ***sinch***—traditional timber framing) [1,8], which lack direct technological equivalents in **ISO** international standards. This emphasizes the necessity of preserving the national component in global glossaries.

4. Discussion

The globalization of the construction industry leads to **nominative asymmetry**. We argue that overcoming "translation lacunae" is impossible without unification based on national **QMQ** standards. These standards must serve as a mediator between traditional Eastern architecture and international requirements. The linguistic redundancy caused by digitalization necessitates the transition from static dictionaries to **dynamic ontologies**.

5. Conclusion

The theoretical framework of this research justifies the transition from simple lexical collection to the practical study of etymological chains and structural-semantic transformations. The integration of Uzbekistan's terminological system into the global discourse is only possible through rigorous lexical verification under the conditions of Latinization and digital transformation.

References

1. **Abdullaev, A.** (2010). *Arkhitektura va qurilish terminlarining izohli lug'ati* [Explanatory dictionary of architectural and construction terms]. Tashkent: TashGTU.
2. **Grinev-Grinevich, S. V.** (2008). *Terminovedenie: ucheb. posobie dlya stud. vyssh. ucheb. zavedenii* [Terminology science: A textbook for university students]. Moscow: Academia.
3. **Harris, C. M.** (2005). *Dictionary of Architecture and Construction* (4th ed.). New York: McGraw-Hill Education.
4. **Leychik, V. M.** (2009). *Terminovedenie: Predmet, metody, struktura* [Terminology science: Subject, methods, structure] (4th ed.). Moscow: Librokom.

5. **Ministry of Construction of the Republic of Uzbekistan.** (2022). *QMQ 2.01.18-22. Binolarning energo-tejamkorligi* [QMQ 2.01.18-22. Energy efficiency of buildings]. Tashkent: Davlatarkhitektqurilish.
6. **President of the Republic of Uzbekistan.** (2020). *Decree No. UP-6099: On measures to further improve the language policy and develop the Uzbek language in the country*. Lex.uz. lex.uz
7. **Rimsina, V. I. (Ed.).** (2021). *Bolshoy stroitelnyi slovar* [Great construction dictionary]. Moscow: RAASN.
8. **Tollieva, O. T.** (2023). *Arkhitektura terminlarining qiyosiy-tipologik tahlili (o‘zbek, rus va ingliz tillari misolida)* [Comparative-typological analysis of architectural terms: On the example of Uzbek, Russian and English languages]. *Scientific Bulletin of NamSU*, 4(1), 215–222.