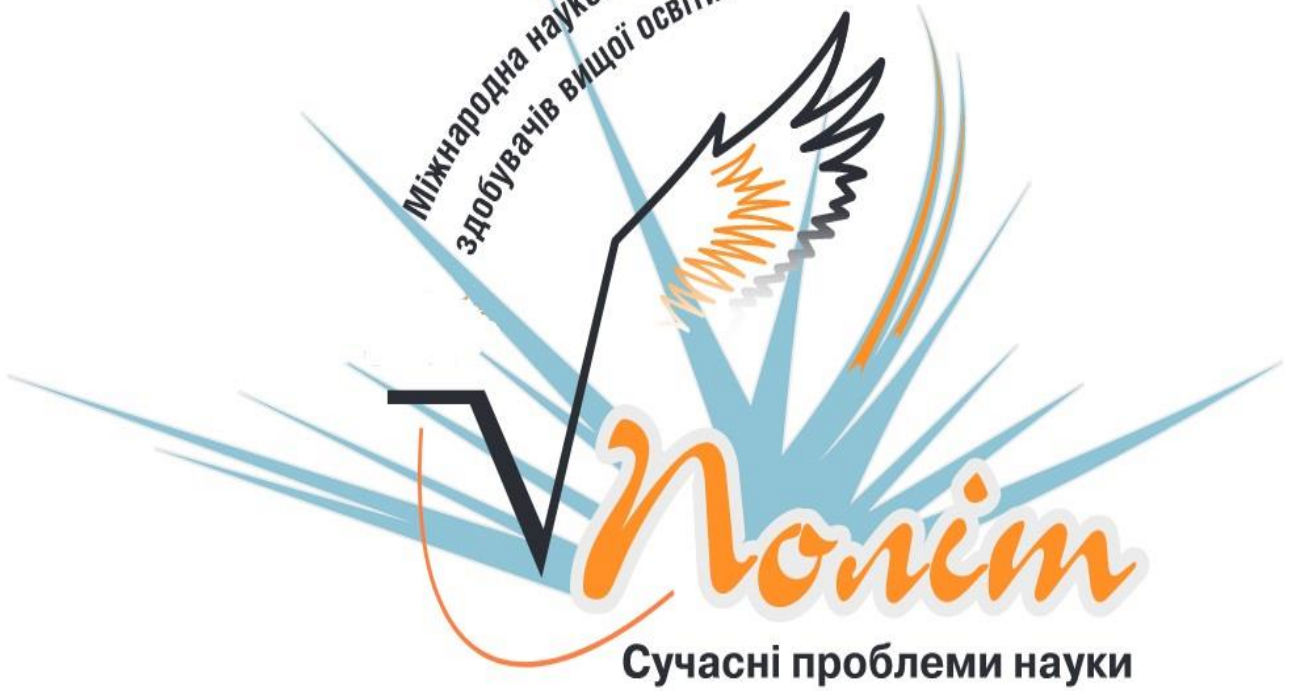


**КАІ**

НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ  
«КИЇВСЬКИЙ АВІАЦІЙНИЙ ІНСТИТУТ»



Міжнародна науково-практична конференція  
здобувачів вищої освіти і молодих учених



НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ «КИЇВСЬКИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ»  
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ПОЛІТ. СУЧАСНІ ПРОБЛЕМИ НАУКИ  
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У збірнику вміщено тези доповідей докторантів, аспірантів, молодих учених і здобувачів вищої освіти, які взяли участь у роботі XXIV Міжнародної науково-практичної конференції «Політ. Сучасні проблеми науки» за напрямом «Гуманітарні науки». Для широкого кола фахівців.

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LACUNARITY IN TECHNICAL TEXTS:  
LINGUO-COGNITIVE AND SOCIOCULTURAL DIMENSIONS

**Abstract.** This study investigates lacunarity in technical texts as a complex linguo-cognitive and sociocultural phenomenon that extends beyond simple lexical absence. Drawing on a corpus of English-language technical materials from IT, electrical engineering, and industrial safety domains, two primary lacuna categories are identified and analysed: conceptual lacunae, arising from misaligned mental mappings between specialist cultures, and sociocultural lacunae, rooted in divergent engineering traditions, legal frameworks, and professional ethics. The study systematizes key bridging strategies – calquing, descriptive translation, and functional substitution – and critically addresses the risks of AI-generated "hallucinations" in translation of non-equivalent terminology. The findings confirm that resolving terminological gaps requires the integration of cognitive flexibility, domain expertise, and cultural awareness, with direct implications for technical translation pedagogy.

**Keywords:** lacunarity, technical translation, conceptual lacunae, sociocultural lacunae, terminological gaps.

**Introduction.** The accelerating emergence of engineering technologies generates terminological gaps – lacunae – where the target language lacks direct equivalents for source concepts, impeding intercultural professional communication. Recent lacunology treats [1, 2] lacunae as a multidimensional phenomenon spanning lexical, cognitive, and pragmatic levels, forming a distinct interdisciplinary field at the intersection of sociolinguistics and applied linguistics (Anokhina, Szerszunowicz). Research on conceptual divergence in terminological translation demonstrates [3] that sociocultural constraints generate varying degrees of semantic shift from the source text, particularly in specialized technical and cross-cultural professional communication (Temmerman). A growing body of scholarship addresses the role of generative AI in translation, documenting the risk of "hallucinations" – plausible yet semantically inaccurate equivalents – which proves especially critical when handling terminological lacunae in domain-specific texts (Guerreiro et al.; Ji et al.). Contemporary scholarship approaches [4] this issue from lexicographic and cognitive angles: Faber & L'Homme examine specialized knowledge representation, while recent research foregrounds the growing influence of AI tools on translation workflows. The scientific problem resides in the lack of a unified framework for classifying and resolving lacunarity across both cognitive and sociocultural dimensions of technical discourse.

**Goal.** The study aims to analyse the linguo-cognitive and sociocultural nature of lacunarity in technical texts with the help of Sketch Engine and Corpus Query Language (CQL) and to systematize strategies for bridging terminological gaps in professional translation practice.

**Materials and methods.** The research corpus comprises English-language technical texts from IT, electrical engineering, and industrial safety domains. Conceptual analysis was applied using the Sketch Engine to identify cognitive lacunae; componential analysis was used to examine terminological structure; comparative cultural analysis served to detect sociocultural gaps. Translation strategies were evaluated through descriptive and functional equivalence frameworks.

**Results.** Two primary lacuna categories were identified. *Conceptual lacunae* emerge when a scientific paradigm lacks an established category in the target mental lexicon. Terms such as *cloud computing*, *sandbox*, and *digital twin* originated as cognitive metaphors filling conceptual voids before attaining standardized cross-linguistic status [5]. *Smart grid* similarly demands expanded descriptive translation to communicate its full infrastructural scope beyond any literal rendering [6].

*Sociocultural lacunae* reflect divergences in engineering traditions, legal frameworks, and professional ethics. The term *know-how* carries specific legal weight in Western engineering culture with no precise structural counterpart in many other systems [7]. Terms such as *fail-safe*, *ruggedized*

*equipment*, and *design freeze* encode culturally embedded reliability and procedural standards that require cultural adaptation rather than formal correspondence.

Effective resolution strategies include calquing (*motherboard* → *материнська плата*), descriptive translation for infrastructurally complex terms, and functional substitution where cultural equivalence prevails over formal accuracy. A pressing contemporary challenge is posed by Generative AI, which may produce plausible yet semantically inaccurate equivalents – so-called "hallucinations" [8, 9] – reinforcing the indispensable cognitive mediating role of the human translator.

The cross-analysis of both lacuna categories reveals a consistent pattern: the greater the divergence between source and target engineering cultures, the higher the degree of semantic loss in direct translation, necessitating a shift from formal to functional equivalence strategies. Furthermore, the findings demonstrate that no single translation strategy proves universally effective – the optimal approach is determined by the text type, domain specificity, and the pragmatic function of the term within its professional context. These observations substantiate the need for a systematic lacuna classification framework integrated into technical translation training, enabling translators to make informed, context-sensitive decisions rather than relying on ad hoc solutions.

**Conclusions.** Lacunarity in technical discourse constitutes a layered phenomenon demanding the integration of cognitive flexibility, terminological expertise, and sociocultural awareness. The proposed classification and strategies carry direct practical value for technical translation pedagogy and intercultural engineering communication.

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### **THE CHRONOTOPE OF ALASKA IN UKRAINIAN TRANSLATION (BASED ON KRISTIN HANNAH’S NOVEL “THE GREAT ALONE”)**

**Abstract.** The study explores the peculiarities of chronotope representation and its translation in *The Great Alone* by Kristin Hannah. The study analyzes the reproduction of spatial and temporal markers in the Ukrainian translation and identifies the main translation transformations used to preserve the atmosphere, emotional impact, and local color of Alaska’s chronotope. Special attention is paid to lexical, stylistic, and grammatical transformations as means of recreating the original narrative effect. The research demonstrates that the chronotope functions as an active element of the plot, shaping the emotional perception of fear, isolation, and admiration for the wilderness.

**Key words:** chronotop, Alaska, realia, transformation.

**Introduction.** The chronotope is an integral component of a literary text, serving as a formative element of the plot and a means of constructing the author’s worldview. In translation studies, the adequate rendering of these elements is of primary importance to recreate the unique atmosphere and cultural landscape intended by the author, which is essential for achieving an equivalent impact on the target audience. The theoretical foundation of spatial categories in art draws upon G.E. Lessing [5], while modern scholars like V. Lukianets [6], R. Ingarden [3], and T. Kushnirova [4] examine the chronotope as a structural law and narrative strategy. The primary scientific problem lies in the challenge the translator faces: not merely conveying the linguistic meaning of spatial and temporal markers, but accurately recreating the authentic local color, emotional perception, and unique atmosphere of the chronotope.

**The aim** of the study is to identify the typical features of the chronotope and the specificities of its translation based on the novel “*The Great Alone*” by Kristin Hannah [1].

Research materials are the original English version of Kristin Hannah’s novel “*The Great Alone*” [1] and its Ukrainian translation “*Велика Глушина*”(translated by D. Stelmakh and A. Dudchenko) [2] served as the basis for this study. The practical material comprises 10 examples selected from the English version and 4 examples from the Ukrainian translation. To address the research objectives, the method of theoretical literature analysis was employed to establish the scientific framework of the study. The comparative method and translation analysis was utilized to identify differences and similarities between the original text and its translation. Linguo-stylistic, contextual and componential analyses were applied to examine the semantics and stylistic peculiarities of lexical units denoting space and time, while the classification method served to systematize the identified translation transformations. The method of quantitative calculations was used to determine their frequency.

**Results.** The ultimate goal of translating spatial and temporal markers is not just the accurate rendering of linguistic units, but the recreation of the original’s unique atmosphere and emotional potential. This requires the complex application of interlingual transformations and positions the translator as a fully-fledged intercultural mediator. The chronotope functions not as a passive background, but as an active antagonist. Time loses its social measurability, submitting to natural cycles of survival, while space transforms from hyperbolized scales to claustrophobic confinement.