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WORD FORMATION AND SEMANTIC FEATURES OF CYBERSECURITY TERMS WITH THE CYBER-/KIBER- ELEMENT IN ENGLISH AND UZBEK

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Abstract: This paper comparatively examines the word formation and semantic characteristics of cybersecurity terms containing cyber- in English and kiber- in Uzbek. The material consists of nine kiber- terms among the 13 concepts defined in Article 3 of the Law of the Republic of Uzbekistan "On Cybersecurity", along with terms found in scholarly sources. The analysis establishes that the single-word terms in the Law are formed according to a semi-calque (hybrid) model; that kibermakon serves as a key concept in the system of legal definitions; that the safety/security distinction is not expressed lexically in Uzbek; and that spelling and synonymic variation occur.

Keywords: cybersecurity terminology, terminological element, kiber-, hybrid term, semi-calque, semantic neutralization, variation.

INTRODUCTION

The development of digital technologies has transformed cybersecurity terminology into an open system that is continuously enriched with new lexical units, with English serving as its principal donor language. In English, the element cyber- forms single-word terms and also occurs in multicomponent expressions. In Uzbek, kiber- has been established at the legislative level; however, some scholarly sources have not examined its role in word formation in detail as a separate issue. Identifying the formation patterns and semantic boundaries of units containing kiber- is therefore an important research task.

A term is a word or phrase naming a concept within a specialized field, while a terminological system is an organized set of concepts in that field and the linguistic units designating them. A terminological element is a recurrent component of terms that contributes a shared meaning (the working definition used here). A hybrid term is formed by combining an international element with a component of the Uzbek language. A semi-calque is a lexical unit in which one part of a foreign-language term is borrowed and the other part is translated.

The purpose of this paper is to comparatively identify the word-formation models, semantic characteristics, and types of variation associated with terms containing cyber-/kiber-. The material includes the concepts specified in Article 3 of the Law (the text in Cyrillic script was transliterated into Latin script) and units recorded in scholarly sources. The methods employed are comparative, componential, and definitional analysis.

Danilin identifies two functions of cyber-: it can be written together with a lexical base (cybersecurity, cyberattack) or used as a separate attributive modifier (cyber threats, cyber laws). Based on an analysis of scholarly articles, Ramirez and Choucri found that the separately written form cyber began to occur more frequently than the solid compound form around 2008. For ease of searching, they recommended writing cyber separately (optionally with a hyphen) and cyberspace as one word, while accepting both cybersecurity and cyber security.

Of the 13 concepts defined in Article 3 of the Law, nine contain the element kiber-: six are single-word terms (kibermakon, kibertahdid, kiberxavfsizlik, kiberhimoya, kiberhujum, kiberjinoyatchilik), and three are multiword expressions (kiberxavfsizlik hodisasi, kiberxavfsizlik obyekti, kiberxavfsizlik subyekti). In all six single-word terms, the international element kiber- is attached to a lexical base assimilated into Uzbek. These terms are therefore hybrid formations following the semi-calque model: cyber threat — kibertahdid; cyberattack — kiberhujum; cyberspace — kibermakon; and cybercrime — kiberjinoyatchilik (the final two English equivalents are supplied by the author). Danilin also explains the Russian correspondences cyberattack — кибератака and cybercrime — киберпреступление through the same process of semi-calquing.

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Both affixation (formation by means of affixes) and compounding (combination of lexical bases) participate in word formation: kiberjinoyatchilik = kiber- + jinoyat + -chi + -lik. A semantic distinction is evident here. The Law defines kiberjinoyatchilik as a "set of crimes", meaning that the suffixal sequence -chilik conveys a collective sense. The Russian term киберпреступление, by contrast, denotes an individual criminal act, and the form kiberjinoyat is also found in scholarly writing. Within the system of definitions, kibermakon functions as a central concept: the definitions of kiberxavfsizlik, kiberhujum, kiberjinoyatchilik, kiberxavfsizlik hodisasi, and kibertahdid all contain the expression kibermakonda ("in cyberspace"). The clustering of three multiword terms around a single base is also found in the pair referring to critical information infrastructure objects and subjects. It therefore cannot be considered a feature exclusive to the kiber- family of terms (the author's conclusion).

The most significant semantic distinction concerns the opposition between safety and security. Alpeev distinguishes safety as the property of an object not being a source of danger to its external environment and protectedness as the capacity to withstand external threats. On this basis, he proposes the pair cyber safety — кибербезопасность объекта and cyber security — киберзащищенность объекта (an individual proposal rather than an established normative distinction). In Uzbek, both concepts are expressed using the word xavfsizlik, as illustrated by yong'in xavfsizligi — fire safety and axborot xavfsizligi — information security (examples supplied by the author). Consequently, the opposition is neutralized within kiberxavfsizlik: the two meanings are not distinguished in the lexical form (the author's conclusion). Because the Law defines kiberxavfsizlik as a state of protectedness, its legal meaning is closer to security. Where a distinction is necessary, the component himoyalanganlik ("protectedness") may be used; for example, the proposed equivalent of security posture is himoyalanganlik darajasi ("level of protectedness"). The extent to which this equivalent is accepted in actual usage requires separate investigation.

Variation appears in three forms. First, there are orthographic variants: kiberxavfsizlik / kiber xavfsizlik and cybersecurity / cyber security. Second, there are synonymic variants: kiberjinoyat / kiberjinoyatchilik and kiberbardoshlilik / kiberbarqarorlik (cyber resilience). The latter alternatives are regarded as closely related but not fully equivalent translations. Third, a single-word term may compete with a multiword expression: the form kiberhodisa occurs alongside kiberxavfsizlik hodisasi, the latter being the form used in the Law.

In conclusion, in English, cyber- functions both as an attached terminological element and as a separate modifier, and its spelling conventions have not become fully stable. In Uzbek, the kiber- element is attached to the lexical base in the terms considered from the Law, and the single-word formations follow the semi-calque model. Kibermakon acts as the central concept in the system of definitions, whereas kiberxavfsizlik does not lexically express the safety/security distinction. Orthographic, word-formation, and synonymic variants also reduce terminological consistency. It is therefore advisable to identify kiber- formations as a distinct group of semi-calques, to use the forms established in the Law as normative reference points, and to assess parallel variants by corpus frequency and definitional precision. Since the sample is limited to 13 definitions, these conclusions are preliminary and require verification against a larger corpus.

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