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HARBIY AVIATSIYA TERMINLARINING KO'P KOMPONENTLI
XUSUSIYATLARI

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Annotatsiya. Ushbu maqolada harbiy aviatsiya terminlarining ko'p komponentli tuzilishi, ularning semantik, morfologik va sintaktik xususiyatlari hamda maxsus harbiy-texnik diskursdagi kommunikativ vazifalari tahlil etilgan. Ko'p komponentli terminlarning shakllanish mexanizmlari: atributiv bog'lanish, termin komponentlarining iyerarxik tashkil etilishi, aniqlovchi birliklarning semantik vazni hamda qisqartmalar bilan birikish jarayonlari yoritilgan. Ingliz, rus, o'zbek tillarida qo'llaniladigan harbiy aviatsiya terminlari qiyosiy tahlil qilinib, ularning tarkibiy modellaridagi o'xshashlik va farqlar aniqlangan. Shuningdek, harbiy aviatsiya terminlarida ko'p komponentlilikning asosiy sabablari murakkab texnik tushunchalarni aniq ifodalash, funksional jihatdan ixcham kommunikatsiyani ta'minlash hamda harbiy amaliyotda terminologik aniqlikni oshirish kabi omillar ilmiy izohlangan.

Kalit so'zlar: harbiy aviatsiya, ko'p komponentli terminlar, harbiy-texnik diskurs, terminologik tizim, atributiv konstruktsiya, semantik tuzilma, sintaktik model, qiyosiy tahlil, terminologik aniqlik, morfologik integratsiya.

Аннотация. В данной статье анализируется многокомпонентная структура терминов военной авиации, их семантические, морфологические и синтаксические особенности, а также их коммуникативные функции в специализированном военно-техническом дискурсе. Рассматриваются механизмы формирования многокомпонентных терминов: атрибутивное сочетание, иерархическая организация компонентов термина, семантическая нагрузка определяющих единиц и процессы сочетания полных форм с аббревиатурами. Проведен сопоставительный анализ терминологии военной авиации в английском, русском и узбекском языках, выявлены сходства и различия их структурных моделей. Кроме того, научно обоснованы основные причины многокомпонентности в терминологии военной авиации, обусловленные необходимостью точного выражения сложных технических понятий, обеспечения функционально компактной коммуникации и повышения терминологической точности в военной практике.

Ключевые слова: военная авиация, многокомпонентные термины, военно-технический дискурс, терминологическая система, атрибутивная конструкция, семантическая структура, синтаксическая модель, сопоставительный анализ, терминологическая точность, морфологическая интеграция.

Abstract. In this article the multi-component structure of military aviation terms, their semantic, morphological, and syntactic characteristics, as well as their communicative functions within the specialized military-technical discourse are analyzed. The mechanisms of multi-component term formation including attributive linking, hierarchical organization of term components, semantic weight of defining elements, and the processes of combining full forms with abbreviations are examined. A comparative analysis of military aviation terminology used in English, Russian and Uzbek is conducted, revealing structural similarities and differences in their compositional models. The study also provides a scientific explanation of the main reasons for multi-componentiality in military aviation terminology, such as the need to accurately express complex technical concepts, ensure functionally concise communication, and enhance terminological precision in military operations.

Keywords: *military aviation, multi-component terms, military-technical discourse, terminological system, attributive construction, semantic structure, syntactic model, comparative analysis, terminological precision, morphological integration.*

Introduction. The rapid development of modern military aviation, coupled with the increasing technological complexity of aerial warfare systems, has led to the emergence and continual expansion of highly specialized terminological units. Among these, multi-component military aviation terms occupy a particularly significant place, as they serve to encode intricate operational, tactical, and technical concepts with maximal precision. These terminological structures are not arbitrary; rather, they reflect systematic linguistic, cognitive, and functional processes that operate within the sphere of military-technical communication. As a result, military aviation terminology has become an important object of study in contemporary linguistics, especially within the fields of terminology theory, cognitive linguistics, functional linguistics, and specialized discourse analysis.

In linguistic research, multi-component terms are viewed as structured lexical-semantic complexes whose internal organization corresponds to the hierarchical structure of the concepts they denote. The study of such terms is therefore inseparable from the examination of attributive constructions, semantic dependency relations, hierarchical modification patterns, and morphosyntactic integration mechanisms. In the military aviation domain, these structures frequently combine technical parameters, functional characteristics, mission-specific elements, and operational constraints, resulting in highly compressed yet semantically saturated lexical units such as *advanced ground-controlled interception radar system*, *low-altitude air-defense missile platform*, or their Russian counterparts like *комплекс высокоточного авиационного наведения* and *низковысотная система противовоздушной обороны*. These examples demonstrate that multi-component terms not only name objects but also reflect the layered conceptualization inherent in military technology and operations.

The multi-component nature of military aviation terms is further shaped by interdisciplinary terminology borrowing, especially across English and Russian, which function as dominant languages of military-technical communication. English, as the leading language of NATO and global aerospace industries, contributes highly regularized terminological models, often characterized by transparent attributive modification and stable morphological patterns. Russian, with its long-standing military tradition and extensive technical lexicon, exhibits both structural parallels and language-specific adaptation strategies. Comparative analysis of these two languages provides valuable insights into how different linguistic systems encode identical operational concepts through multi-component terminology.

Another essential dimension of this phenomenon involves the interaction between full multi-word terms and their abbreviated or partially abbreviated forms, which emerge in

response to communicative demands for brevity and operational efficiency. In military discourse where accuracy, rapid information exchange, and unambiguous interpretation are crucial abbreviated and multi-component forms often coexist, forming a dynamic terminological system. For example, a complex term such as *long-range air-to-surface guided missile system* may appear alongside its abbreviation or code designation, creating a layered terminological network.

Given the conceptual density, structural complexity, and cross-linguistic variability of multi-component military aviation terms, their systematic study is essential for understanding the linguistic mechanisms that underpin military communication.

Literature review. The study of multi-component terminology in military aviation lies at the intersection of terminology theory, specialized discourse analysis, cognitive linguistics, and military communication studies. Foundational works by terminology theorists and representatives of the general theory of terminology provide the conceptual basis for analyzing structured terminological units. According to Wuster, specialized terms, particularly multi-component ones, are hierarchical conceptual constructs whose internal structure mirrors the complexity of the domain they represent [12]. This principle is central to military aviation terminology, where composite units encapsulate technical, functional, and operational attributes within a single lexical entity.

Later developments in terminology studies expanded the structural and cognitive dimensions of multi-component terms. Cabre emphasizes the interaction of linguistic, cognitive, and communicative factors in terminological formation, asserting that complex terms must be analyzed not only morphologically but also with regard to their pragmatic roles in domain-specific communication [2]. Similarly, Temmerman highlights the prototype-based and conceptual nature of terms, showing that multi-component structures reflect categories with internal variability, especially in technologically dynamic fields such as aviation and defense [11].

Within the linguistic study of technical and military discourse, researchers have explored the syntactic patterns of multi-word terminology, demonstrating that attributive noun phrases, compounding, and hierarchical modification patterns are central to terminology formation in English and Russian. Their findings show that multi-component terms typically encode layered attributes such as operational scope, technological specifications, and functional parameters a phenomenon prominent in military aviation terminology (e.g., “long-range air-to-surface precision strike missile system”).

Russian linguistic scholarship has also contributed significantly to the analysis of military terminology. Works by Reformatskiy, Serebryakova and Pavelkina examine the syntactic, morphological, and semantic features of multi-component terms in Russian technical discourse, noting a strong tendency toward complex attributive chains and terminological compaction [9;10;8]. Russian military aviation terminology, in particular, is

characterized by extensive use of syntactic compressions, hyphenated structures, and attributive-modifier sequences (e.g., *низковысотная зенитно-ракетная система*).

All normative requirements put forward to the properties of terms imply unambiguity, accuracy, brevity, nominativeness, systematicity, etc., according to which the verbosity and cumbersomeness of a term is considered a serious drawback due to the violation of the principle of brevity of the term. Along with one- and two-word terms, term formations consisting of three, four or more components occupy a significant place in the scientific and technical discourse of military aviation topics. The discrepancy with the requirement of brevity is compensated by the ability of a multi-component aviation term (MCAT) to maximally reflect the distinctive features of the terminable concept. Obviously, MCAT differs from a single-word term not only in the number of components, but also in the conceptual scope and categorical complexity. In polylexemic (from three or more semes) military aviation terms, a combination of a detailed concept is realized with such a verbal designation of its unique properties, which makes it unambiguous and precise. Most industry dictionaries contain one- and two-component terms, but the tendency towards polylexemicity is increasing. In the “English-Russian and Russian-English Aviation Dictionary”, 53% of terms are three-component combinations: battle-tolerant aircraft (aircraft with high combat survivability); 37% are one- and two-element aviation terms: zoom-maneuver, “*свеча горка*”; 20% are 4, 5, 6-component terms: *mechanically interconnected control columns* (*механически связанные штурвалы управления*); *constant airspeed-constant lift coefficient flight* (*полёт с постоянными скоростью и коэффициентом подъемной силы*). It has been established that among Russian terms there are more multi-component terms than among their English variants: *управление преследуемым летательным аппаратом* (*evader control*).

In the field of aviation linguistics, studies explore how the functional constraints of aviation communication influence terminological formation [1;6]. Their research highlights the necessity of precision, brevity, and standardization, especially in environments where miscommunication has critical consequences. Although they focus primarily on civil aviation, their findings are equally relevant to military aviation, where the terminological load is higher and multi-component formations are more frequent.

Comparative linguistic studies further illuminate cross-linguistic differences in the formation, structuring, and semantic interpretation of multi-component technical terms in English and Russian [3;5]. Their observations support the findings of more recent research: English tends toward analytically structured, transparent constructions, while Russian frequently relies on dense morphological integration and multi-layered syntactic compression.

Taken together, these scholarly contributions form a comprehensive framework for understanding the linguistic nature, structural organization, and communicative functions of

multi-component military aviation terminology. The existing literature highlights universal principles such as hierarchical modification, functional condensing, and semantic precision while also revealing language-specific strategies in English and Russian terminological systems.

Analysis and results. The analysis of multi-component military aviation terminology reveals that the structural, semantic, and functional mechanisms governing these units reflect the high degree of specialization characteristic of military-technical discourse. Across the examined English, Russian, and Uzbek corpora, multi-component terms demonstrate consistent patterns of hierarchical modification, attributive expansion, and semantic condensation. However, each language exhibits its own structural tendencies and morphosyntactic preferences, which influence how complex military concepts are encoded.

Multi-component terms in English predominantly adhere to left-branching attributive constructions, where each modifier narrows the semantic scope of the following head noun. Examples such as long-range precision-guided cruise missile, airborne early warning and control system, and advanced ground-controlled interception radar unit illustrate how English relies on premodification to encode layered military concepts. These structures are highly compact but semantically dense, requiring precise ordering of attributes to ensure accurate interpretation.

In contrast, Russian multi-component terms exhibit a more balanced use of pre- and post-modification, often realized through adjective-noun chains combined with genitive constructions. Terms such as *комплекс дальнего радиолокационного обнаружения*, *самолёт радиоэлектронной борьбы стратегического назначения*, and *высокомобильная система противовоздушной обороны ближнего действия* demonstrate a syntactic flexibility that allows Russian terminology to represent hierarchical relationships through grammatical case markings and lexical agreement.

Uzbek multi-component military aviation terms reflect the influence of both Russian and international aviation terminology while maintaining agglutinative structural patterns. Uzbek terms often rely on post-modification and analytic constructions, as in *uzoq masofali havo-hujumidan mudofaa raketa majmuasi*, *kichik balandlikdagi nishonlarni aniqlash tizimi*, and *strategik havo qo'mondonligi nazorat markazi*. These structures prioritize transparency and sequential semantic development.

Across languages, multi-component terms encode complex military concepts through hierarchical semantic structuring, where attributes specify operational range, mission type, technological function, or threat category. Comparative analysis shows that this hierarchy tends to follow similar conceptual dimensions:

range and altitude: English: *medium-altitude long-endurance UAV*; Russian: *беспилотный летательный аппарат средней высоты большой продолжительности полёта*; Uzbek: *o'rta balandlikda uzoq muddat parvoz qiluvchi uchuvchisiz apparat*;

function and mission type: English: *air-to-surface tactical strike missile*; Russian: *тактическая ракета класса воздух–поверхность*; Uzbek: *havo-yer sinfidagi taktik zarba raketasi*;

technological characteristics: English: *synthetic-aperture radar imaging module*; Russian: *модуль радиолокационного изображения с синтезированной апертурой*; Uzbek: *sintezlangan aperturali radiolokatsion tasvirlash moduli*.

These parallel structures show that multi-component terms are shaped by universal conceptual principles, even while linguistic encoding differs.

A key finding is that multi-component terms frequently coexist with abbreviated or coded forms, which serve operational needs for brevity. English tends to use initialisms (e.g., *AWACS – Airborne Warning and Control System*, *SEAD – Suppression of Enemy Air Defenses*), whereas Russian frequently employs syllabic abbreviations or alphanumeric designations (*РЭБ – радиоэлектронная борьба*, *ПВО С-400*, *БПЛА Орлан-10*). Uzbek military aviation terminology often integrates international abbreviations while adding descriptive extensions for clarity:

AWACS erta ogohlantirish va boshqaruv tizimi;

РЕБ tizimlari (radioelektron kurash);

S-300 zenit-raketa majmuasi.

This interaction demonstrates how abbreviations operate within broader multi-component terminological systems.

Although the core concepts remain consistent across languages, structural divergences can produce partial or non-literal equivalences. For instance, the English term low-observable stealth attack aircraft may be rendered in Russian as *малозаметный ударный самолёт* and in Uzbek as *past aniqlanuvchanlikka ega hujum qiluvchi samolyot*, with each language choosing different semantic emphases. Similarly, English compound modifiers often require expanded analytic structures in Russian and Uzbek, revealing differences in morphosyntactic economy.

The study confirms that the multi-component nature of military aviation terminology serves several critical functions:

Precision: ensuring exact differentiation between weapon classes, mission profiles, and technological variations.

Systematization: encoding hierarchical relationships within complex military systems.

Communicative efficiency: facilitating rapid and unambiguous information exchange in operational settings.

International interoperability: allowing cross-linguistic consistency in multinational military cooperation.

Overall, the findings demonstrate that multi-component military aviation terms are not merely linguistic constructions but essential tools for structuring and conveying highly specialized knowledge within military-technical discourse.

Discussion. The findings of this study reveal that multi-component military aviation terms represent a highly specialized segment of technical vocabulary shaped by operational demands, linguistic conventions, and cross-linguistic interaction. The comparison of English, Russian, and Uzbek structures shows that while these languages share similar conceptual domains, they differ in the linguistic mechanisms used to encode complex military knowledge. These differences illuminate broader typological and functional patterns that enrich our understanding of terminological systems in military discourse.

One key point emerging from the analysis is the role of linguistic typology in shaping multi-component terminology. English, with its strong reliance on premodifying attributive structures, achieves significant lexical compression but risks ambiguity if modifiers are ordered incorrectly. This characteristic reflects a wider tendency in English technical discourse toward compact, multi-noun complexes such as long-range precision-strike missile platform or synthetic-aperture radar reconnaissance system. Russian, by contrast, distributes semantic load across syntactic positions and morphological markers, resulting in more transparent hierarchical encoding. The Russian terms *комплекс радиоэлектронной борьбы стратегического назначения от самолёт дальнего радиолокационного обнаружения* demonstrate how case endings facilitate precise semantic relationships even in extended multi-component constructs. Uzbek, influenced by both Russian and international (primarily English) terminology, favors analytic and agglutinative constructions that maintain conceptual clarity through sequential ordering, as seen in *uzoq masofali havo mudofaasi raketa tizimi*.

Another important dimension highlighted by the findings is the interaction between full multi-component terms and their abbreviated counterparts. In military aviation, where speed, certainty, and efficiency are critical, abbreviations often fulfill immediate communicative functions, while expanded forms preserve semantic richness. For instance, English *SEAD*, Russian *РЭБ*, and Uzbek *S-300 zenit-raketa majmuasi* represent systems in which shortened and expanded terminology operates in tandem. This duality underscores the functional interdependence between linguistic economy and terminological precision.

The cross-linguistic examples also demonstrate that conceptual equivalence does not guarantee structural equivalence. Even when languages denote the same military object or process, the internal linguistic architecture may diverge. These divergences point to deeper cognitive and linguistic differences that shape how technical information is conceptualized, prioritized, and communicated in different linguistic communities.

The discussion also reveals significant implications for military communication and interoperability. As multinational military cooperation increases through NATO, CSTO, and

joint peacekeeping or training missions there is a growing need for terminological consistency. Differences in term structure across languages may create interpretation challenges, particularly where multi-component terms contain crucial operational descriptors (e.g., altitude class, range, targeting mode). Understanding these structural contrasts can inform terminological harmonization efforts, guide the development of bilingual or trilingual military glossaries, and support more effective communication in joint operations or cross-border airspace management.

Furthermore, the research highlights the importance of cognitive structuring in multi-component terms. The layered nature of these terms mirrors the hierarchical architecture of military technology, where systems are built from subsystems, modules, and functional components. Thus, multi-component terminology becomes not just a linguistic necessity but a cognitive reflection of how military personnel conceptualize and categorize their operational environment.

Finally, the study reveals that Uzbek military aviation terminology still in active development benefits from continued standardization efforts. While the language has established analytic models for multi-component terms, variability persists in terminology borrowed from Russian and English. Strengthening terminological policy and harmonizing Uzbek multi-component terms with international standards will enhance clarity, operational efficiency, and linguistic autonomy in Uzbek military-technical discourse.

Overall, the discussion demonstrates that the multi-component nature of military aviation terminology is shaped by interplay among linguistic structure, conceptual complexity, communicative demands, and cross-linguistic influences. These findings contribute to broader linguistic debates about terminology formation, specialized discourse, and multilingual communication in technical-military environments.

Conclusion. The study of multi-component military aviation terminology demonstrates that the linguistic structure of military-technical discourse is deeply shaped by conceptual complexity, operational precision, and cross-linguistic interaction. The analysis reveals that English, Russian, and Uzbek employ distinct structural and morphological strategies ranging from dense premodification in English, syntactically flexible case-based constructions in Russian, to analytically ordered agglutinative patterns in Uzbek to encode highly specific military concepts. Despite these typological differences, all three languages exhibit a common reliance on hierarchical semantic organization, where each component of the term contributes to the accurate representation of technological, tactical, and functional properties. The interplay between extended multi-component terms and their abbreviated forms further highlights the dual need for communicative efficiency and terminological clarity in military operations. The findings show that multi-component structures are not merely linguistic formations but reflect the cognitive and functional demands of military aviation, where precision, unambiguity, and systematization are essential. Moreover, the comparative

perspective underscores the importance of terminological harmonization for international military cooperation and reveals areas where Uzbek military aviation terminology can benefit from further standardization and unified modeling. Overall, the research contributes to the broader field of terminology studies by illustrating how linguistic, cognitive, and operational factors converge in shaping the multi-component terminology of modern military aviation.

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