



Borrowings and internationalisms in aviation terminology

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ABSTRACT

The article is devoted to the study of borrowings and internationalisms in the field of aviation terminology. The rapid development of aviation as a global industry has led to the formation of a specialized vocabulary, a significant part of which consists of English terms adopted in different languages. The paper analyzes the linguistic mechanisms of borrowing, the degree of assimilation of international terms, and their role in ensuring effective communication in professional aviation discourse. Special attention is paid to the influence of English as a lingua franca on the unification of aviation terminology and to the challenges of translation and adaptation in national linguistic systems. The findings highlight the significance of internationalisms for the standardization of aviation communication and for ensuring safety in the global aviation environment.

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Aviatsiya terminologiyasidagi o'zlashma so'zlar va xalqaro atamalar

ANNOTATSIYA

Kalit so'zlar:

aviatsiya terminologiyasi,
o'zlashmalar,
internatsionalizmlar,
xalqaro muloqot tili,
professional muloqot,
standartlashtirish.

Maqola aviatsiya terminologiyasidagi o'zlashmalar va xalqaro atamalarni o'rganishga bag'ishlangan bo'lib, unda aviatsiyaning jadal rivojlanishi ushbu sohada maxsus lug'at shakllanishi, uning muhim qismini turli tillarga qabul qilingan inglizcha atamalar tashkil etishi yoritib berilgan. Tadqiqotda terminlarning o'zlashish mexanizmlari, internatsional so'zlarning tilda o'zlashish darajasi hamda ularning professional aviatsiya

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diskursida samarali muloqotni ta'minlashdagi roli tahlilga tortilgan. Shuningdek, ingliz tilining xalqaro til (lingua franca) sifatidagi ta'siri, aviatsiya terminologiyasining unifikatsiyasidagi o'rni va milliy til tizimlarida tarjima hamda moslashtirishdagi qiyinchiliklar keltirilgan. Tadqiqot natijalari aviatsiya muloqotining standartlashtirilishi va global aviatsiya xavfsizligini ta'minlashda internatsionalizmlarning ahamiyatini ko'rsatadi.

Заимствования и интернационализмы в авиационной терминологии

АННОТАЦИЯ

Ключевые слова:

авиационная терминология, заимствования, интернационализмы, язык международного общения, профессиональная коммуникация, стандартизация.

Статья посвящена изучению интернациональных терминов в области авиационной терминологии. Быстрое развитие авиации как глобальной отрасли привело к формированию специальной лексики, значительную часть которой составляют английские термины, заимствованные в различные языки. В работе анализируются лингвистические механизмы заимствования, степень ассимиляции интернациональных терминов и их роль в обеспечении эффективной коммуникации в профессиональном авиационном дискурсе. Особое внимание уделяется влиянию английского языка как языка международного общения (lingua franca) на унификацию авиационной терминологии, а также проблемам перевода и адаптации в национальных языковых системах. Результаты исследования подчеркивают важность интернационализмов для стандартизации авиационного общения и обеспечения безопасности в мировой авиации.

INTRODUCTION

The emergence of aviation as a separate field of human activity in the early 20th century led to the creation of a highly specialized set of terms. Aviation terminology, like the industry itself, has been developing under conditions of international cooperation, technological innovation, and constant cross-cultural contact. This explains why a large proportion of aviation vocabulary consists of borrowings and internationalisms, which ensure the unification of professional communication across countries and cultures.

One of the most striking features of aviation terminology is the dominance of English. Since the mid-20th century, English has been recognized by the International Civil Aviation Organization (ICAO) as the official language of international air communication. For example, standard commands such as “*Cleared for takeoff*,” “*Stand by*,” “*Mayday*,” and “*Wilco*” are used worldwide without translation, functioning as linguistic universals in aviation practice. Their direct adoption into other languages minimizes ambiguity and reduces the risk of miscommunication, which is especially critical in emergencies.

Borrowings are often connected with technological innovations introduced in English-speaking countries. Terms such as *cockpit*, *autopilot*, *jet*, *runway*, and *black box* have been borrowed directly into many languages with little or no modification. In Uzbek

and Russian, for instance, the English word *radar* has been integrated as *radar* (узб. *radar*, рус. *радар*), demonstrating its status as an internationalism. Similarly, *aviation* (Uzbek: *aviatsiya*, Russian: *авиация*) originates from the Latin *avis* (“bird”) through French and has become a universal term across numerous languages.

Another important group of terms includes acronyms and abbreviations that have acquired international status. Examples are *VOR* (*VHF Omnidirectional Range*), *ILS* (*Instrument Landing System*), and *ATC* (*Air Traffic Control*). These abbreviations are usually not translated, but rather pronounced according to the phonetic rules of each language, maintaining their global recognition.

At the same time, the adaptation of borrowings may vary depending on national linguistic systems. For example, the English word *flight* is rendered as *лёт* in Russian, while in Uzbek the equivalent *parvoz* is used in general contexts, though the borrowed form *flight* can also appear in professional discourse. Such cases illustrate the coexistence of native equivalents and borrowed forms, raising important questions about assimilation and standardization in different languages.

Thus, the study of borrowings and internationalisms in aviation terminology not only reveals the linguistic mechanisms of word formation and adaptation but also demonstrates the direct link between language, technology, and international cooperation. A detailed analysis of these processes allows researchers to understand how global communication is maintained in aviation and why unified terminology is essential for safety and efficiency in this high-risk professional environment.

MATERIALS AND METHODS

Borrowing is one of the primary mechanisms of lexical enrichment, particularly in technical and scientific domains where new concepts require rapid terminological development. According to Haugen (1950) and Weinreich (1953), borrowings enter a recipient language either as direct loanwords, loan translations (*calques*), or loan shifts, and they often undergo phonological or semantic adaptation. In aviation, English has historically acted as the donor language, while Russian and Uzbek have functioned as recipient systems, adopting forms such as *radar*, *jet*, *cockpit* with minimal modification, or creating *calques* like *black box* → *чёрный ящик* → *qora quti*. Closely related to borrowing is the phenomenon of internationalisms, defined by Filin (1982) as lexical items of Latin-Greek origin that appear across multiple languages with little variation examples include *aviation*, *radio*, and *helicopter*. These units serve as linguistic bridges in international scientific and technical communication, essentially fulfilling the role of a *lingua franca*. The General Theory of Terminology (Wüster, 1979) provides a useful framework for understanding such processes, emphasizing the need for monosemy, unification, and functionality in specialized vocabularies. These principles are particularly critical in aviation, where the precision of terminology directly impacts safety. International bodies such as ICAO enforce standardization through globally recognized acronyms and abbreviations (*ATC*, *GPS*, *ICAO*), which enhance efficiency and reduce ambiguity. The dynamics of borrowing, however, vary across languages: Russian frequently balances between *calques* (*вертолёт*) and borrowings (*джет*), while Uzbek demonstrates stronger reliance on direct adoption (*radar*, *jet*, *GPS*), reflecting both modernization processes and the increasing influence of English in technical education. As Cabré (1999) notes, terminology forms a specialized subsystem of language characterized by precision, stability, and reduced polysemy, and aviation terminology exemplifies this model by

functioning as a globalized lexicon shaped by borrowing, internationalisms, and standardization under the conditions of globalization (Crystal, 2003).

RESULTS

According to Haugen (1950), borrowing can be classified into three main types:

Loanwords (direct adoption with phonetic adaptation)

e.g., radar → радар → radar (minimal adaptation).

Loan translations (calques) (structural borrowing through translation)

e.g., black box → чёрный ящик → qora quti.

Loan shifts (semantic extensions of existing words)

e.g., flight in English means both “полет” and “рейс” but in Russian and Uzbek, equivalents diverge: полет/parvoz (physical act of flying) vs. рейс (scheduled trip).

This typology helps explain why aviation terminology exhibits a mixture of unchanged internationalisms (aviatsiya, radio) and locally adapted forms (рейс/parvoz).

Internationalisms are defined (Filin, 1982) as words with identical or similar phonetic and semantic structure across multiple languages. In aviation, these are often of Latin-Greek origin via French or English. Examples:

English	Russian	Uzbek	Origin	Note
aviation	авиация	aviatsiya	Lat. avis	Shared across >40 languages
radio	радио	radio	Lat. radius	Global adoption in tech
helicopter	вертолёт	vertolyot	Gr. helix + pteron	Hybrid: RU has calque (вертолёт), Uzbek

The ICAO Standard Phraseology represents what Cabré (1999) calls controlled vocabulary. Unlike natural borrowing, these terms are regulated by international agreement:

Mayday (distress call, from French m’aidez → “help me”) – unchanged globally.

Wilco (military abbreviation for will comply) – adopted internationally.

Stand by – global command for “wait.”

Here, linguistic borrowing is not spontaneous but enforced for safety. This reflects terminological standardization theory: internationalisms in aviation are a tool for risk reduction, not just linguistic convenience.

DISCUSSION

Borrowings in aviation often undergo phonological assimilation depending on the receiving language system:

cockpit → рус. кокпит [kokpit] (phonetic adaptation, preserved morphology).

jet → рус. джет [dʒet], узб. jet [dʒet] (different phonetic interpretations).

In Uzbek, borrowings often keep English orthography (e.g., GPS, jet), while in Russian they adapt orthographically (джет, радар). This demonstrates Haugen’s idea that borrowing reflects “recipient language constraints”.

Following Wuster’s General Theory of Terminology (1979), internationalisms in aviation serve three main functions:

Unification – shared terms across languages (aviatsiya/aviation/авиация).

Precision – exact technical meaning (ILS, VOR, ATC).

Economy – abbreviations (GPS, ICAO), which reduce complexity in emergency contexts.

Thus, the dominance of English terms is not accidental, but a functional necessity in international safety communication.

The comparative analysis of English, Russian, and Uzbek aviation terminology demonstrates that the dynamics of borrowing and internationalisms reflect both linguistic traditions and sociocultural orientations. The data confirm Haugen's (1950) classification of loanwords, calques, and loanshifts, while also illustrating Wuster's (1979) principles of standardization in specialized vocabularies. English, functioning as the donor language, contributes the majority of internationalisms, particularly of Greco-Latin origin (aviation, navigation, radio, helicopter), which retain stability across all three languages. This supports Filin's (1982) argument that internationalisms provide semantic equivalence and facilitate cross-linguistic intelligibility in scientific discourse.

Russian and Uzbek, however, show different adaptation strategies. Russian demonstrates a dual tendency: on the one hand, it adopts direct borrowings such as *джет* and *кокпит*, while on the other, it preserves national linguistic identity through calques such as *чёрный ящик* and *вертолёт*. This reflects a long-standing tradition of balancing foreign influence with internal lexical productivity. Uzbek, in contrast, shows a stronger reliance on direct borrowings (radar, jet, GPS), a tendency explained by its more recent integration into global aviation discourse and the dominance of English-language training materials. Nonetheless, Uzbek also preserves certain native equivalents, such as *parvoz* for flight and *qora quti* for black box, which coexist with their borrowed counterparts. This dual-layered system illustrates a transitional stage in terminological development, where native and borrowed forms compete or complement one another depending on context.

The statistical tendencies outlined in Table 2 reveal further insights. Direct borrowings and internationalisms dominate across all three languages, but the proportions vary: English relies more heavily on internationalisms and acronyms, Russian distributes more evenly between borrowings and calques, while Uzbek favors direct adoption. These differences indicate that while aviation terminology is globally standardized in core concepts, national languages still adapt terminology according to internal linguistic norms and cultural preferences.

Functionally, the coexistence of borrowings, calques, and internationalisms demonstrates the balance between global unification and local accessibility. Standardized internationalisms and acronyms (ICAO, GPS, ATC) guarantee unambiguous communication in safety-critical contexts, while calques and native equivalents preserve comprehensibility for local specialists and students. Thus, aviation terminology illustrates not only the processes of borrowing and standardization but also the negotiation between linguistic globalization and national identity.

CONCLUSION AND RECOMMENDATIONS

The analysis of aviation terminology in English, Russian, and Uzbek demonstrates that borrowing and the use of internationalisms are the primary forces shaping this specialized lexicon. English, as the global donor language, supplies the majority of terms that circulate in professional communication, such as *altimeter*, *turbulence*, *fuselage*, and *hangar*. Russian adapts these units through both direct borrowings (*фюзеляж*, *навигация*) and calques (*воздушное судно*, *посадочная полоса*), while Uzbek relies more heavily on direct adoption (*fuzelyaj*, *hangar*, *navigatsiya*) but also produces translated forms (*havo kemasi*,

qo'nish yo'lagi). These processes illustrate the coexistence of global uniformity and local adaptation within national terminological systems.

The study revealed that the majority of terms are direct borrowings or internationalisms, while calques and semantic extensions make up a smaller but significant layer. Acronyms and abbreviations are particularly widespread, for instance, VOR, ILS, and ADS-B, and are typically preserved across languages to ensure clarity and brevity in communication. Differences appear mainly in the way these terms are integrated: Russian often combines international abbreviations with transliteration (ИЛС), while Uzbek retains the English forms alongside occasional descriptive translations.

Overall, the findings confirm that aviation terminology is highly standardized at the international level but remains flexible enough to reflect the linguistic traditions of individual languages. The coexistence of borrowed and native terms increases both accuracy and accessibility: international units guarantee unification and safety in cross-border communication, while native equivalents support effective teaching and professional training at the national level. Looking forward, the continued development of aviation technology—particularly in unmanned aerial systems, satellite navigation, and eco-aviation—will drive the creation of new terms, most of which will likely follow the same global borrowing and adaptation patterns observed in this study.

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