

## International Medical Terms Use in the Kyrgyz, Russian and English Languages

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### Abstract

This article is investigates medical terminology descriptions, analyzes medical terms according to their semantics with structure and discusses new terms emergence specifics in the modern medical language. Based on comparative and theoretical analysis methods, productive word-building elements in the Kyrgyz, Russian and English languages were revealed. Scientific and technological progress at the present stages characterized by a constant expansion of international information exchange in various area.

**Keywords:** internationalism, description, medical terminology, national language, translation, morpheme, factor

### 1. Introduction

Scientific and technological progress at the current stage characterized by a constant expansion of international information exchange. This leads to an extraordinary intensification of process contact between languages, the degree of which depends on level of scientific and technical contacts, and on the certain knowledge areas development. As a result, there is an inclusion of terms from one language to another and internationalisms begin to play an important role in separate systems of terms. Consequently, a natural desire arose

to unify the medical terminology both at the interlingual and intersectoral levels through internationalization (Imankulova et al., 2020).

Term is a word or phrase, meaning the concept of a special field of knowledge or activity and determined as lexical system integral part in literary language, different from other categories of words with its huge information richness (Tkachuk, 2010).

The internationalization of terminology is a complex, ambiguous and lengthy process. As a result of structure and content analysis, internationalism have multidimensional nature of terms associated with

nationalization of form and content including variation of international elements on the graphic, phonetic, morphological, semantic and conceptual levels (Edlichko & Yafarov, 2016). This is especially true for national and international terms interaction problem in individual sublingual languages. Although this issue is very relevant, it is still not well understood. Recently, concept of "internationalism" has not found yet a single definition among linguists. Thematic principle of classifying phraseological units (Mamasheva et al., 2021a; Mamasheva et al., 2021b) has real merit but not considering linguistic characteristic features of phraseological units (Abakulov & Nishanov, 2016).

According to L.B. Tkacheva definition for internationalisms is given as "words borrowed by a number of languages with the same meaning, having one source language and bearing the national language specifics". The author also emphasizes that most of international terms are based on the Latin and Greek morphemes, while at the same time there are many new terms with international nature on a national basis, the creation of which is depend on extralinguistic factors. Therefore, the "national character of international terms" is emphasized (Dmitrieva, 2011).

It was mentioned that international words "are found in many languages, but have minor phonetic differences associated with the pronunciation peculiarities in each language" (Arbekova, 1977). It is also considered that "international words with the same origin, found in several languages as a result of simultaneous and sequential borrowings from the same source" and specifies that they are especially noticeable in various terminological systems (Arnold, 1966; Arnold, 1973). V.V. Akulenko explains that international words form in several languages and have one way or another in phonetic, grammatical and

semantic similarity degrees. Also Akulenko identified this type of borrowing as internationalisms characterizing morphemes, lexemes and phrases of a similar kind. As for terminology, these terms have the same meaning and similar in form: words, elements of terms, stems, morphemes and combinations of terms (Shalal, 2018). At the same time, internationalism forms similarity extends not only to sound and writing, but also to motivation signs felt by native speakers. These motivations in terms can be morphological, semantic, and lexico-grammatical in terms of combinations.

In various fields of knowledge, internationalisms are presenting main part of terms. Study of relationship problem between borrowed terms and native terms in medical terminology makes it possible to identify reasons for existing relationship between national and international terms (Imetova, 2016) in medical field, as well as in establishing the general patterns. Materials in this study were selected from the Kyrgyz, Russian and English terms of sublingual medicine.

Since structuralisms are accomplished with signs and not with objects themselves, the main attention of structuralists was attracted by semiology which is a science analysing properties of signs and sign systems, as well as communication theory. Semiotics has been applied to film, theatre, medicine, architecture, zoology, and other areas concerned with communication and the information transfer (Arikh, 2016). From the latter position, signs act as a means of communication (Nikolaeva, 2016). The language semantic structures are not only realized, but first recreated in multidimensional actualization process and communication, i.e. in the form of texts. Text only but not a sign can be considered as an object of creation - transmission - preservation - transformation of information (Zolyan, 2015).

## 2. Research methods and materials

In this article descriptive method is performed to study an individual units and concepts of international medical terms in Kyrgyz, Russian and English language systems. The main characteristics such as phonemes, morphemes with grammatical structures of medical terms were described. Typological research method distinguished different types of internationalization words including hybrid, incomplete and mixed species. Different variety of international medical terms examples were given to show their use and tracing.

There are types of linguistic signs: 1) artificial or metaphysical sign, fixed in the language norms and functioning in language as a systemic formation; 2) natural or phenomenological sign, fixed in speech in fact, in same language, understood as actual practice of language functioning. Metaphysical sign is presented in a language understood as a theoretical education, which determines formal sign material principle (Kataev, 2016). In accordance with specific types of implementation of similarity in signs, V.V. Akulenko distinguished seven types of international linguistic signs shown in Figure 1.

## 3. Results and discussions



Figure 1. International linguistic signs specific types according to V.V. Akulenko.

In addition the following internationalization varieties were classified:

1) Complete or absolute internationalization of words, when terms completely coincide in sound letter expression. For example, оптимизация (in Russian), optimization (in English), усул (in Kyrgyz); гипертензия (in Russian, in Kyrgyz), hypertension (in

English), миопия (in Russian, in Kyrgyz), myopia (in English). Here are examples of such terms use: «Бейтап куткаруу операциясына муктаж» (in Kyrgyz); «Пациент нуждается в спасательной операции»; «Patient needs a life-saving operation» (in Russian). «При гипертонии прием нитроглицерина дает облегчение

на короткое время и неэффективен» (in Russian).

«Гипертонияда нитроглицеринди ичүү кыска убакытка жеңилдик берет жана натыйжасыз» (in Kyrgyz); «With hypertension taking nitroglycerin gives relief for a short time and is ineffective» (in English).

2) Incomplete, mixed or hybrid internationalization, in which one or two components in terminological combination remain as sound letter expression of original word, the rest are traced, for example, аборт на задворках (in Russian); backstreet abortion (in English); фактический цикл (in Russian); actual cycle (in English); линзовидный астигматизм (in Russian); lenticular astigmatism (in English).

The following are examples of hybrid internationalisms use: «Диагностика показывает, что в результате выскабливания и пункции матки происходит ретроверсия матки. Следствие предполагаемого аборта на улице. Прогноз для плода плохой в случае кесарева сечения», - сухо произнес гинеколог (in Russian). «Диагноз жатындын кюретажынын жана пункциясынын натыйжасында жатындын ретроверсиясы пайда болорун көрсөтөт. Көчөдө бойдон алдыруунун кесепети. Кесарево операциясы учурунда түйүлдүктүн божомолу начар", - деп айтты гинеколог» (in Kyrgyz). «The diagnostics tells that as a result of uterine curettage and puncture there is retroversion of uterus. Consequence of backstreet abortion supposed. The prognosis for the fetus is poor in case of cesarian section» uttered dryly the gynecologist (in English). Here there is tracing of internationalization is shown, when only the meaning coincides and sound letter expression completely diverges, in this respect they are national, for example, in Russian «переохлаждение», in Kyrgyz «бөрү

жатыш (крапивница)» «urticaria», «кычышуу (зуд)» «prurigo»; in English «subcooling» (Dzhapanov, 2005).

A significant number of international terms observed in those languages that become the property of all goods in society and develops at the level of interethnic contacts. First of all, they are including medicine sublingual.

Below are examples of different types of international medical terms in the Kyrgyz, Russian and English languages: микстура (in Russian), суюк дары (in Kyrgyz), mixture (in English); стоматология (in Russian), тиш дарыгери, стоматолог (in Kyrgyz), stomatology, dentist (in English); трансплантация или пересадка какого-либо органа или ткани (in Russian), кандайдыр бир органды же тканды трансплантациялоо (in Kyrgyz), transplantation (in English); онкология (in Russian, in Kyrgyz), oncology (in English); кардиология (in Russian, in Kyrgyz), cardiology (in English); дүүлүкмө, аллергия (in Kyrgyz), allergy (in English); трепанация или хирургическая операция, заключающаяся в создании отверстия в кости с целью проникновения в подлежащую полость (in Russian), хирургиялык операция сөөктүн астындагы көңдөйдү оюу (in Kyrgyz), trepanation (in English); иммунология медико-биологическая наука, изучающая реакции организма на чужеродные структуры (in Russian) immunology; патогенез, механизм зарождения и развития заболеваний и отдельных их проявлений (in Russian), оорулардын келип чыгышынын жана өнүгүшүнүн механизми жана алардын жеке көрүнүштөрү (in Kyrgyz), pathogenesis (in English); ферментативная система (in Russian), ферменттик система (in Kyrgyz), enzyme system (in English) etc. (Dzhapanov, 2005). «С такой аллергией и ее реакцией на антисептик пациент не в

состоянии провести серьезную операцию. Исход операции может быть неблагоприятным» (in Russian), «Мындай аллергия жана анын антисептикке реакциясы менен пациент олуттуу операция жасай албайт. Операциянын натыйжасы жагымсыз болушу мүмкүн» (in Kyrgyz), «With such an allergy and its reaction for antiseptic the patient is in no condition for a major operation. Operation outcome may be unfavourable» (in English). «Показана ампутиация бедренной кости в нижней трети, радикальная мастэктомия, экстирпация прямой кишки» (in Russian). «Төмөнкү үчтөн биринде сөөктүн ампутиациясы, радикалдык мастэктомия, көтөн чучуктун экстирпациясы көрсөтүлгөн» (in Kyrgyz), «There is indicated amputation of the femur in the lower third, radical mastectomy, extirpation of the rectum» (in English).

Currently, there are three main ways of international terminology formation in the medicine sublingual:

- 1) Analyzing of already existing terms in other languages, those terms are selected and borrowed that allow filling gaps in national terminology. In this way, several local terms find their use in other languages, and an international "scientific sublingual" is gradually being created;
- 2) The language of international terms origin depends on the place and formation of a certain field of knowledge and their further development in other countries. In particular, in medical terminology, almost all internationalisms formed in the Latin language, which is associated with origin of medicine in ancient Rome. One of the most active and promising ways in medical terminology formation is the use of Greco-Roman word roots; the tendency to rely on ancient Greek and Latin roots when creating new terms remains as important.

These morphemes are used in many languages to form medical terms, and the so-

called elements of international terms, they are convenient, because meaning of a certain group of such elements is known as term semantics, built on language from such elements, will be clear to scientists with same specialty speaking in different languages. Peculiarity of these terms is semantic accessibility, accuracy, brevity and education simplicity.

Terms that serve as a nomination for such topics, phenomena and concepts, representing outstanding achievements of science and technology and become international. In this case, national terms become international at the same time as the information about this achievement is received. An example is the English medical term "heart transplantation", acquired an international character, «операции по пересадке сердца» (in Russian), «жүрөк трансплантациясы боюнча операциялар» (in Kyrgyz), which was first established by Cape Town hospital surgeon X. Bernard in early 70s of last century, for example, the medical term, криозонди Купер (in Russian) Cooper cryoprobe (in English), which became property of all languages in 1961, American surgeon I.S. Cooper first used local freezing during surgery on the head brain created by him with a cryosurgical apparatus.

There are a huge number of examples of such terms use: «Наблюдается заметный тремор конечностей. Словесная продукция пациента замедлена и бессвязна. Подозревается болезнь Паркинсона. Изучение рефлексов и стереотаксический метод лечения являются обязательными» (in Russian), «Буттардын титирөөсү байкалат. Бейтаптын оозеки өндүрүшү басаңдады жана ыраатсыз. Паркинсон оорусуна шектелген. Рефлексерди изилдөө жана стереотактикалык дарылоо ыкмасы милдеттүү» (in Kyrgyz), «There is a noticeable tremor of the limbs. The patient's

verbal production is slow and incoherent. Parkinson's disease is suspected. The study of reflexes and the stereotaxic method of treatment are mandatory» (in English).

Thus, a comparative study of national and international words relation problem in medical terminology showed internationalization process of terminology due to a number of extralinguistic factors. The presence of internationalisms, the intensity of their appearance in the language, inclusion into other languages is determined by following factors:

- 1) Provenience place of particular science and its formation;
- 2) Development in other countries;
- 3) Cooperation of scientists from different countries;
- 4) Vast exchange of scientific and specialized information.

The process of words internationalization has covered terminology of various sciences, including medical, although the scope and depth of process vary depending on terminological system, the largest number of international terms is observed in sublingual terms, which have become property of all sectors in society and are developed at the level of interethnic contacts.

If until the 20th century, Latin language was the source of internationalisms in medical terminology (Satyvaldieva et al., 2021), then in the second half of 20th and 21st centuries this function was complete by English language, terms of which are increasingly entering the Kyrgyz language medical terminological system (Dmitrieva, 2011). Terms internationalization can be full, hybrid, or traced; not only individual terms become international, but also terminological combinations and abbreviations often found in combination with national terms.

## Conclusion

The problem of relationship between national and international medical terminologies and individual issues, such as source of terminology internationalization, level of terms internationalization, their national nature, connection with not linguistic events, and all internationalisms in terminology created long ago and recently appeared. Productivity of internationalisms have a great significance both for research and for translators' practical activity. Thus, the following conclusion can be drawn: international terms are terms that have the same meaning, same origin language, which almost simultaneously enter the other languages terms system working in two or more languages, but do not always coincide graphically or phonetically.

## References:

- Abakulov, R.A. & Nishanov, Ch.B. (2016). Phraseological units' classification. *Bulletin of Osh State University*, 1, 104-107.
- Arbekova, G.I. (1977). *Lexicology of the English language*. Moscow: Higher School, 240.
- Arnold, I.V. (1966). *The semantic structure of the word in modern English and the methodology of its research*. Leningrad: Education. 192.
- Arnold, I.V. (1973). *Lexicology of the modern English language*. Leningrad: Education, 240.
- Dmitrieva, E.V. (2011). Problems of translation of medical terms into the state language. Russian language in Kyrgyzstan: problems of functioning and learning: Proceedings of the student scientific-practical conference, Kyrgyz-Russian Slavic University. Bishkek: KRSU, 72.

Dzhapanov, A.A. (2005). *Medical Russian-Kyrgyz educational dictionary*. Bishkek, 96.

Edlichko, A.I., & Yafarov, R.K. (2016). Processes of internationalization and nationalization of terminology. *Bulletin of Moscow University. Series 19. Linguistics and Intercultural Communication*, (4), 61-70.

Imankulova, T., Ysmailova, R., Salieva, D., Mamatova, A., Mukhtarova, N., Darbanov, B., Abdullaeva, Z., & Aliev, G. (2020). Avicenna's Contribution to Medical Terminology. *Open Access Library Journal*, 7: e6724. <https://doi.org/10.4236/oalib.1106724>

Imetova, J.K. (2016). The ways of teaching the meaning of English words: clever, intelligent, smart to the Kyrgyz students using their life experience. *Bulletin of Osh State University, I*, 116-120.

Kataev, A.O. (2016). Linguistic sign as a category of philosophy, linguistics and translation studies. Bulletin of the Peoples' Friendship University of Russia. Series: Theory of language. Semiotics. *Semantics*, (4), 17-25.

Mamasheva, O., Madmarova, G., Abytova, G., Berdibekova, B., Bolotakunova, G., Ormokeeva, R., Shaimkulova, A., Temirkulova, Y., & Abdullaeva, Z. (2021a). Reflection of Nations Mentality in the Kyrgyz, Russian and English Language Phraseological Units. *Open Journal of Modern Linguistics*, 11, 24-33. <https://doi.org/10.4236/ojml.2021.111002>

Mamasheva, O., Madmarova, G., Kalygulova, S., Raimova, G., Ergeshova, G., Kabylov, T., Nasyrova, M., Asanbaeva, B., & Abdullaeva, Z. (2021b). Somatic Phraseology that Shows Kyrgyz People Historical and Cultural Development. *Open*

*Journal of Modern Linguistics*, 11, 710-718. <https://doi.org/10.4236/ojml.2021.114056>

Nikolaeva, T.G. (2016). Analysis of sign theories of language in the works of foreign linguists. *Topical issues of modern philology and journalism*, 2(21), 6-14.

Satyvaldieva, A., Bekboeva, B., Batyrshina, F., & Abdullaeva, Z. (2021). Lexico-Semantic Ways in Medical Terms Formation through Logical Tasks and Exercises When Teaching Kyrgyz Speaking Groups. *Open Journal of Modern Linguistics*, 11, 640-646. <https://doi.org/10.4236/ojml.2021.114049>

Shalal, F.A. (2018). Morpheme-based approach versus word-based approach: classifying derivative words with respect to their bases. *Russ Linguist* 42, 237-269. <https://doi.org/10.1007/s11185-018-9197-5>

Tkachuk, M.S. (2010). Interaction of term systems in intercultural communication. *Bulletin of the Siberian State Automobile and Road Academy*, (15), 18-21.

Zolyan, S.T. (2015). Between the world and language: to the foundations of the semiotics of the text. Method: *Moscow Yearbook of Proceedings from Social Science Disciplines*, (5), 250-264.