## ТЕОРЕТИЧЕСКАЯ, ПРИКЛАДНАЯ И СРАВНИТЕЛЬНО-СОПОСТАВИТЕЛЬНАЯ ЛИНГВИСТИКА / THEORETICAL, APPLIED AND COMPARATIVE LINGUISTICS

## LATINIZATION OF ANATOMICAL TERMINOLOGY IN RUSSIAN AND ENGLISH

Research article

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**Abstract**

The basis of anatomical terminology is Latin, but in each country it has national variants. This article presents the results of the analysis of Russian and English anatomical terminology for the degree of their Latinization. The study examines and substantiates the term "Latinization", which refers to the use by native speakers of another language of elements of the Latin language of different language levels. When analyzing anatomical terminology, we are talking about Latinization at the level of vocabulary. The paper provides its own classification of Russian and English anatomical terms based on their similarity with their Latin equivalents. The relative number of borrowed Latin terms in the English and Russian languages of anatomy is determined, conclusions are made about the degree of Latinization of anatomical terminology in Russian and English.

**Keywords:** anatomical terminology, English and Russian anatomical terms, latinization.

## ЛАТИНИЗАЦИЯ АНАТОМИЧЕСКОЙ ТЕРМИНОЛОГИИ В РУССКОМ И АНГЛИЙСКОМ ЯЗЫКАХ

Научная статья

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**Аннотация**

Основа анатомической терминологии – латинский язык, однако в каждой стране она имеет национальные варианты. В данной статье представлены результаты анализа русской и английской анатомической терминологии на предмет степени их латинизации. В исследовании рассматривается и обосновывается термин «латинизация», под которым понимается использование носителями иного языка элементов латинского языка разных языковых уровней. При анализе анатомической терминологии речь идет о латинизации на уровне лексики. В работе приводится собственная классификация русских и английских анатомических терминов на основе их схожести с латинскими эквивалентами. Определяется относительное количество заимствованных латинских терминов в английском и русском языках анатомии, делаются выводы о степени латинизации анатомической терминологии в русском и английском языках.

**Ключевые слова:** анатомическая терминология, русские и английские анатомические термины, латинизация.

**Introduction**

The knowledge of anatomical terminology is a necessary condition for being a Medical Professional. But in the modern world professional communication is carried out mainly in English so the comparison of terminological systems in the native language, Latin and English occurs regularly when the terms are studied and used in the communication. The actuality of the article is due to several points. The first one concerns the methodology of foreign language teaching: it is well known that understanding the differences between language phenomena in different languages facilitates the process of mastering the language. The second point is a general linguistic problem of language influence as the paper presents evidences of Latin influence.

The universal terminology of Anatomy is known to be based on the Latin language, but in each country, it is translated into the national language. In Europe, the first official list of the Latin terms as the world's official standard vocabulary for all medical sciences was published in 1895. This version was many times revised since then and the latest edition, Terminologia Anatomica, was approved by the International Federation of Associations of Anatomists in 2011. In this version one can see not only the officially recognized anatomical terms in Latin but a list of recommended English equivalents as well.

In Russia, the formation of anatomical terminology began in the 18th century, when the first medical books in Russian appeared. Currently, the official publication edited by L.L. Kolesnikov is used in Russia. It is a detailed list of anatomical terms in Latin, Russian and English.

The goal of this study is to define the phenomenon of "Latinization" and analyze the degree of Latinization of the anatomical terminology in English and Russian. To achieve the goal anatomical terminology of the skeletal system in English, Russian and Latin was analyzed, anatomy terms in different languages were compared and classified into several groups and subgroups, the total number of terms and the number of those terms that belong to a particular group of the classification of English and Russian anatomical terms were calculated.

**Research methods and principles**

The analysis of anatomical terms related to the skeletal system from International anatomical terminology edited by L.L. Kolesnikov [7] and Terminologia Anatomica [14] was made. Latin terms were compared with English and Russian equivalents. In the study our own classification is used.

**Main results**

When analyzing Latin and English anatomical terminology (1164 terms) three groups and five subgroups were identified. The basic principle of classification is phonetic image similarity of the terms.

*The first group* includes English terms that completely coincide with Latin ones, that is, lexemes borrowed from Latin, but not assimilated into English.

Subgroup 1.1 has 65 terms that completely coincide in English and Latin, e.g. framen lacerum - foramen lacerum, clivus - clivus.

Subgroup 1.2 includes 14 terms that completely coincide, but at the same time have synonyms in English, e.g. os japonicum - os japonicum - bipartite zygomatic bone, praemaxilla - premaxilla - incisive bone.

*The second group* includes terms that partially coincide with the Latin term. All terms have a different grammatical structure at the syntactic and morphological level:

- a different word order (the adjective in English precedes the noun);
- other inflections (or none);
- other ways of conveying case relations (the use of preposition instead of using the genitive case).

In the second group, three subgroups were identified.

Subgroup 2.1 has 390 terms that have similar lexical units, but with different grammatical characteristics, e.g. condylus occipitalis - occipital condyle, arcus dentalis maxillaris - maxillary dental arch.

Subgroup 2.2 has 199 terms, which include word combinations, in which one of the words does not have a Latin origin, the grammatical characteristics of the elements of the word-combinations are also different but all English elements are of the same parts of speech as in Latin: Noun + Adjective (with the reverse word order in English), e.g. incisura tympanica - tympanic notch, dentes decidui - deciduous teeth.

Subgroup 2.3 has 465 terms that have a completely different grammatical structure, contain one or more English words, but in general the terms are similar to Latin and do not cause difficulties in the perception of native English speakers, e.g. cavitas thoracis ossei - cavity of bony thorax, facies articularis tuberculi costae - articular facet of tubercle of rib.

*The third group* includes 32 terms. It contains English word combinations with lexemes of non-Latin origin, e.g. ossa membri superioris - bones of upper limb, medulla ossis - bone marrow.

When analyzing Latin and Russian terms, 912 anatomical terms were counted and 3 groups and 4 subgroups were identified.

*The first group* includes Russian terms that completely coincide with Latin ones.

Subgroup 1.1 has 20 terms that completely coincide in the Russian and Latin languages, e.g. gonion - гонион, phalanges - фаланги, syndesmosis - синдесмоз.

Subgroup 1.2 has 8 terms that completely coincide, but at the same time have synonyms in Russian, e.g. periosteum - периост, надкостница; neurocranium - мозговой череп, нейрокраниум; synovia - синовиальная жидкость, синовия.

*The second group* includes partially matching Russian terms. This group is characterized by lexical analogies but different grammatical structure of the terms.

Subgroup 2.1 has 7 terms that contains similar lexical units, but with different grammatical characteristics, e.g. linea trapezoidea - трапециевидная линия, massa lateralis - латеральная масса, epiphysis anularis - анулярный эпифиз.

Subgroup 2.2 has 140 Russian word combinations with different grammar characteristics, one or more components of which are not borrowed from Latin, e.g. lamina horizontalis - горизонтальная пластинка, kyphosis sacralis - крестцовый кифоз, arcus alveolaris - альвеолярная дуга, apertura canaliculi vestibuli - апертура канальца преддверия.

*The third group* is the largest and has 737 terms that have no similarities with Latin variants, e.g. fossa condylaris - мыщелковая ямка, foramen infraorbitale - подглазничное отверстие, sulcus vomerovaginalis - сошниково-влагалищная борозда, processus maxillaris - верхнечелюстной отросток.

Quantitative analysis shows an unequal distribution of terms by groups in English and Russian (Table 1).

Table 1 - Quantitative distribution of anatomical terms

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| Language | Group 1 absolutely coinciding terms | Group 2 partially coinciding terms | Group 3 absolutely different terms |
|---|---|---|---|
| English | 79 | 1054 | 32 |
| Russian | 28 | 147 | 737 |

The group of terms that include absolutely dissimilar lexemes in the Russian language is more than 80% of the total number of studied units, and absolutely similar only 3% (Figure 1).
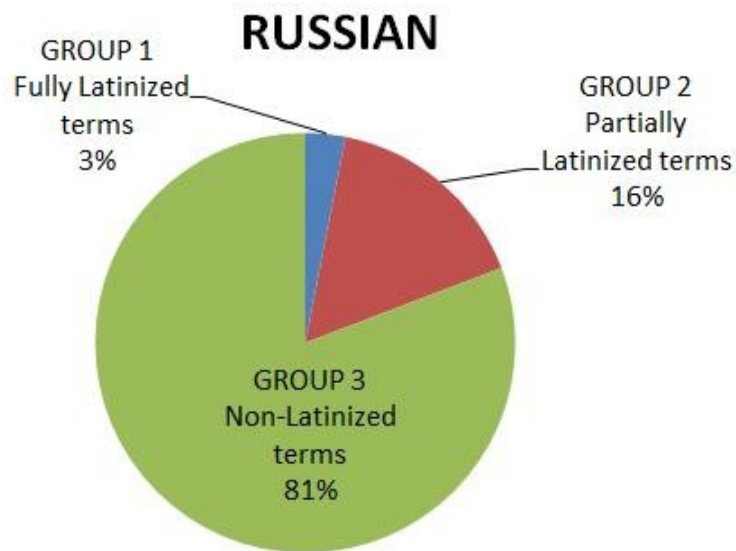
Figure 1 - The degree of Latinization of the Russian terms
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In English, the situation is absolutely opposite: 2,7% are absolutely dissimilar terms; 6,7% are absolutely similar, while the percentage of partially similar terms with different grammatical indicators and quite easily perceived by native speakers is 33,55% (Figure 2).
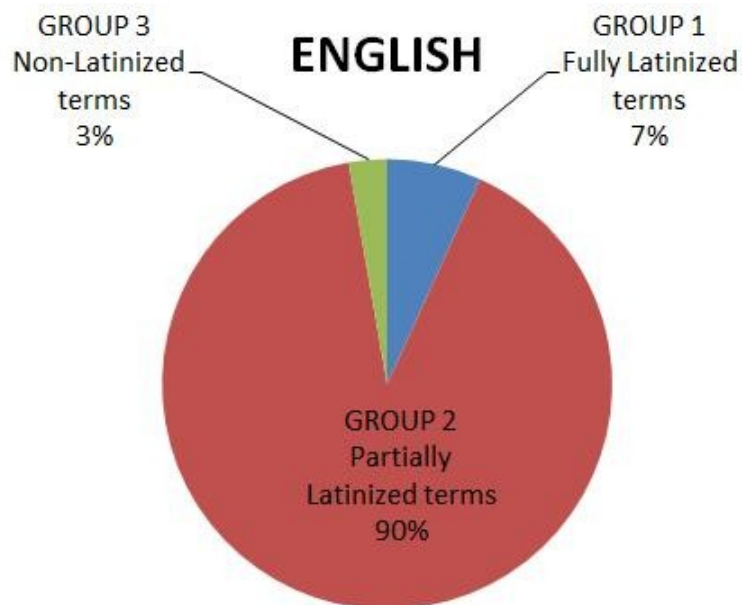


Figure 2 - The degree of Latinization of the English terms
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**Discussion**

The results of the study can be quite obvious when looking at the following example: lat. ala cristae galli - rus. крыло петушиного гребня - eng. ala of crista galli. The Latin term used in medical literature almost fully corresponds with the English equivalent and has no similarities with the Russian one. This example reflects the essence of the English language of medicine in which the majority of words are borrowed from Latin and some of them have not even assimilated, as they obey to the rules of the Latin grammar. The latter point will be a subject of the further study and now it is necessary to dwell on the reasons of such degree of Latinization of the English language of Anatomy. First of all it is necessary to look at the historical data that can highlight some aspects about the influence of Latin on English and Russian.

Latin culture, Latin scholarly traditions, and the Latin language itself have significantly influenced the development of many Indo-European languages. However, the scale of the impact varies.

The Latin language had the most significant impact on the English language, as a result of which a large number of Latin words entered the English language. The influence of Latin on English has a long history. Even before the spread of

Christianity among the Anglo-Saxons in the British Isles, there was a Romanized environment, formed as a result of almost four centuries of the presence of the Romans until the settlement of the Germans on the islands in the 5th century [15, P. 47-59]. It can be considered as the first wave of the Latin influence. The second one can be traced when the Anglo-Saxons adopted Christianity and Latin became the language of worship and church books, science and clerical education. And only in the middle of the seventh century when the major centers of political, cultural and scientific power had shifted northwards, texts began to be written in English rather than Latin [12, P. 5].

The third and the largest influence happened during the first part of the early modern period when the great amount of Latin elements came into the English language. At this time English started to be used in fields that had been dominated by Latin before – theology, philosophy and natural sciences. There appeared a need for these spheres to have its own vocabulary and as English itself was deprived of scientific terminology it was borrowed from Latin.

So the Latin vocabulary of the sphere of Anatomy appeared in English during two waves of the Latin influence: in the era of Christianization and the Renaissance. The vocabulary of these periods was naturally associated with the Christian sphere and the sphere of science, which actively developed in the Renaissance.

The Latin language undoubtedly influenced Russian as well. But the scale of the influence was not so prolonged and consequently profound as in the history of the English language. As scientists note that the Latin influence was minimal throughout the Middle Ages, and only in the 15th-17th centuries (according to different researchers), it began to increase steadily. This fact was associated with the expansion of contacts with Western Europe, with the strengthening of the political and cultural weight of the South-West of Russia [8]. In the 18th century in Russia, the Latin language dominated in science and education, a great number of scientific treatises were written in Latin. Medical science, like other fields of science in the Renaissance, was studied and described in Latin. This phenomenon can help explain the appearance of words of the Latin origin in the Russian Language as well as in English. But for the English language as it was mentioned above this influence was not the only one and was more compelling than for Russian. The Russian language of science was enriched with Latin words, but it turned out to be more self-sufficient and more influence-resistant.

Consequently, the number of borrowings in the Russian language of anatomy is significantly inferior to the number of borrowings in the English language. It is this fact that was demonstrated by our study on the example of the anatomical terminology of the skeletal system.

A fair question arises whether it is possible to judge about the degree of Latinization of a language by the number of borrowings. To answer this question, first of all, it seems necessary to highlight the term "Latinization".

In the 20th century, in Russian linguistics, Latinization was understood as a campaign to convert the writing system of the peoples of the USSR into the Latin alphabet, which was carried out in the 1920s and 1930s [1]. In this case, the term "Latinization" refers to the use of the Latin alphabet, that is, it is associated with the spelling of the language.

V.D. Arakin also speaks about the orthographic Latinization of the vocabulary of the language, citing examples from the history of English: the fascination with classical antiquity, which took place in the highest circles of English society at the end of the 15th and in the 16th centuries brought to life a very peculiar phenomenon - the Latinization of spelling of words borrowed from French. By Latinization in this case the author understands the assimilation of the spelling of English words to the Latin variant [3].

The term "latinization" is analyzed in the dissertation research of G.V. Alfimova [2]. The author understands it as the process of using the Latin language by the population of the conquered territories, which was assimilated along with the culture of the conquerors. In this case, we are talking about a more voluminous, cultural and linguistic understanding of the term, which implies the use by speakers of other languages not only of the Latin language or elements of its individual levels, but also of Latin culture.

In the 21st century, the term Latinization is widely used in a narrower sense. If in the 20th century it belongs only to spelling features, then in the 21st century the term Latinization is increasingly found in the literature in the sense of "the use of Latin words". For example, Mikhail Epstein, professor of Slavic studies at Emory University (USA), analyzing the phenomenon of Latinization of Russian writing system in 21st century electronic correspondence, that is, the use of the Latin alphabet, gradually begins to expand the scope of this term, meaning by it not only the use of letters, but also words of the Latin language [10]. In conclusion, the author equates the Latinization to the barbarization of the lexis of the language, that is, its overloading with foreign language elements. Therefore, if barbarism is a foreign borrowing in a language, then Latinism can be defined as a borrowing from the Latin language.

In this sense, the term is also used by other researchers [4], [5], [6].

Thus it can be stated that as a linguistic term, the concept "Latinization" can be used to describe the use by speakers of another language of various elements of the Latin language (units of different levels).

The next question that needs to be raised concerns the possibility of judging about the relative (in comparison with other languages) degree of Latinization by the number of borrowings (Latinisms).

It seems quite possible, in our opinion, because it is the presence of lexical borrowings that indicates linguistic influence.

As it is known, the influence of languages on each other in general and on individual levels of the linguistic structure in particular is not the same in its degree and the ability to directly trace them. Thus, the effect on lexis is easy to notice, but the effect on grammar and syntax is much more difficult to detect. Lexical units are most often borrowed directly, in their entirety, in form and content. At the morphological and syntactic levels, such a phenomenon is very rare. As A. Meillet notes, grammatical borrowings are possible only between typologically similar language systems [13, P. 87]. Consequently, the influence of the Latin language could hardly have directly affected the grammar of English [11, P. 102], but the lexis of the English language has significantly changed in its composition under the influence of the Latin language. For Russian the influence of foreign languages was not so overwhelming even in the area of the vocabulary.

**Conclusion**

As it was shown English was exposed to foreign language influence much more often than other languages in the course of its history. This fact explains the presence of great amount of words of foreign origin in the English language, especially Latin ones. The study demonstrated the prevalence of Latin-borrowed words in the sphere of anatomy in English in comparison to the use of native words in the Russian language of anatomy.

Thus, based on the quantitative analysis performed, it can be concluded that anatomical terminology in English is more Latinized than Russian anatomical terms. The future research will consider the Latinization of other spheres of medical sublanguage in English and Russian.

### Конфликт интересов
Не указан.

### Рецензия
Все статьи проходят рецензирование. Но рецензент или автор статьи предпочли не публиковать рецензию к этой статье в открытом доступе. Рецензия может быть предоставлена компетентным органам по запросу.

### Conflict of Interest
None declared.

### Review
All articles are peer-reviewed. But the reviewer or the author of the article chose not to publish a review of this article in the public domain. The review can be provided to the competent authorities upon request.

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