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SEMANTIC AND LEXICAL CHANGES IN NEO-LATIN VOCABULARY IN THE FIELD OF MEDICAL DEVICES AND PROCEDURES

The article concerns the possibility of using Latin as a means of communication by the medical community. It is an analysis leading to an answer to the question of the possibility of conveying in Latin the content, which determines the intellectual activity of a modern man. Meeting this challenge requires the introduction of new terms and phrases into Latin vocabulary. The currently used words in the field of medical devices and procedures will be discussed. Motivation of Neo-Latin terms, the reasons for the word transformation and the directions of these changes, as well as calques from modern languages and the issue of terms that can be called 'loan words returning' (*i.e.* words of Latin origin, which survived in modern languages and returned to the Neo-Latin vocabulary, following the path: Latin to modern languages to Latin) will be the subject of the analysis. Finally, it will be focused on the intelligibility and communicativeness of these terms. The purpose of the study was to draw attention to the enormous potential of Latin and to demonstrate that Latin (similarly to modern languages) has the opportunity to meet the challenges posed by significant technological progress and related to its requirement of creating new specialized terms.

Keywords: Latin, Greek, medicine, terminology, linguistics, semantics, word formation, loanwords

Słowa kluczowe: łacina, greka, medycyna, terminologia, językoznawstwo, semantyka, słowotwórstwo, zapożyczenia

SEMANTISCHE UND LEXIKALISCHE ÄNDERUNGEN DES NEULATEINISCHEN VOKABULARS IM BEREICH MEDIZINISCHER GERÄTE UND VERFAHREN

Der Artikel befasst sich mit der Möglichkeit, Latein als Kommunikationsmittel in der medizinischen Fachwelt zu verwenden. Es handelt sich um eine Analyse, die zu einer Antwort auf die Frage nach der Möglichkeit führt, den Inhalt, der die geistige Tätigkeit eines modernen Menschen bestimmt, auf Lateinisch zu vermitteln. Die Bewältigung dieser Herausforderung erfordert die

Einführung neuer Begriffe und Phrasen in den lateinischen Wortschatz. Es werden die aktuell verwendeten Begriffe im Bereich medizinischer Geräte und Verfahren besprochen. Motivation neu-lateinischer Begriffe, die Gründe für die Worttransformation und die Richtung dieser Veränderungen sowie Calques aus modernen Sprachen und die Frage nach Begriffen, die als „wiederkehrende Lehnwörter“ bezeichnet werden können wird Gegenstand der Analyse sein. Abschließend wird der Fokus auf der Verständlichkeit und Kommunikationsfähigkeit dieser Begriffe liegen.

Ziel der Studie war es, auf das enorme Potenzial des Lateinischen aufmerksam zu machen und zu zeigen, dass Latein (ähnlich wie moderne Sprachen) die Möglichkeit hat, den Herausforderungen des erheblichen technologischen Fortschritts und der damit verbundenen Notwendigkeit, neue Fachbegriffe zu schaffen, gerecht zu werden.

Schlüsselwörter: Latein, Griechisch, Medizin, Terminologie, Linguistik, Semantik, Wortbildung, Lehnwörter

Introduction

Latin has been giving wordforms and whole lexemes to the lexis of many European languages since the moment of their foundation up until now. This is why the most common words, as well as scientific terms, are easy to understand in various languages, which do not even belong to the same group (Nybakken 2012; Janson 2012: 91–102). Therefore, we can certainly say that Latin being a “dead language” still lives in many modern languages. “What a dead language it is if it has survived thousands of years without fading?” (J. Tuwim, *Łacina*, przekład własny).

However, this paper represents a view from a different perspective. Namely, it leads to answering the question if the Latin language could still be used as an international means of communication, with particular emphasis on medicine. First, however, the crucial question arises of whether it is possible to communicate in the 21st century using only Latin. Wilfried Stroh claims that in times when Latin was used as a lingua franca throughout Europe, it froze in its most beautiful and pure form, which was known to Vergil and Cicero. It means that it stopped developing in terms of grammar. Also, the meaning of words has not been changed much. From that moment on, the Latin vocabulary has been regularly enlarged, so it could serve as an international language for almost 20 centuries. Finally, he concludes: *Nur durch seinen „Tod“ konnte Latein unsterblich werden* [Only by its “death” Latin could become immortal]. According to Stroh, the immutability of this language determines its homogeneity. It has not evolved, as the other languages have and thus it can still be understood by people regardless of their place of residence. This is why Latin became an excellent means of international communication (Stroh 2007: 111).

Many organisations connecting people who speak Latin in everyday life have been found throughout Europe and the United States. It should not be surprising when we look at the grammatical structure of this language, which, on the one

hand, is quite complex¹, but, on the other, it lets express every, even the most intricate thought. Thus, the problem seems to appear only when it comes to the vocabulary itself. Yet we do not mean the basic words that refer to daily activity of people, *i.e.* eating, cooking, hygiene, sport, education, earning money *etc.*, since our fundamental activities have not changed from the Antiquity until now, as much as it seems. What has changed the most is the equipment we use and some branches of science that we discovered, with new concepts that have influenced our everyday lives to some extent. Thus, because of the number of new referents that appear in the modern world, the Latin language faces a great challenge if it is to serve as a means of communication in general and for the medical community. This challenge, namely, requires Latin to introduce completely new terms and phrases into its vocabulary. Furthermore, Latin should give a new semantic value to already existing words, as happens regularly in modern languages. Of course, it is a very wide matter, impossible to be elaborated comprehensively in one article. Nevertheless, the most important issues will be briefly presented. Therefore, we should focus on such issues as: ways of semantic transformations of the new terms; polysemous words; so-called “false friends”; “loan words returning”, *i.e.* words of Latin origin, that survived in modern languages and “returned” to the modern Latin vocabulary; comprehensibility of the new terms (Buttlerowa 1978; Krukowska 2015; 2017).

Latin was used as an international language until the beginning of the 20th century. Until then, it was very popular to publish books and papers and to participate in conferences using this language. However, with the development of science and technology after World War I and especially after World War II, English took the place of Latin as a *lingua franca*. Although Latin has been forgotten by many, even then it was still being used as a medical language. Doctors were writing diagnoses and prescriptions in Latin at that time and new medical terms have been continuously created based on classical (Latin and Greek) word forms. Nowadays, according to the patients’ rights charter, everything must be written in the official language of the particular country. For, patients have a right to know everything about their physical condition. This opinion is questioned by certain doctors according to whom patients should not interfere with the healing process; sometimes it is also better for them not to know an unfavorable diagnosis, because a bad psychological state might worsen their physical condition. However, the legal matters of the patients are considered to be more important in this case. There is also another reason for the removal of Latin, often criticized by the medical community. It is a prosaic inability of office workers (who usually control the finances of hospitals) and private insurance companies to comprehend the Latin medical language. The content of the medical documents written in Latin

¹ It has five types of declination with six cases, four types of conjugation, one present, three past and two future tenses, voice, mood *etc.*

was not easy for them to understand and therefore the procedures connected with a financing often could not run smoothly. This was one of the main reasons for the removal of Latin from the position of the official medical language in Europe.

The purpose of this paper was to demonstrate the possibilities of Latin language use as a means of international medical communication. It aimed to present and discuss a group of Neo-Latin words referring to modern medical equipment and procedures, exhibiting features of semantic and/or structural changes, some of which belong to the category of internationalisms.²

In this paper, describing the international nature of New Latin lexemes, we intend to use the definition of J. Maćkiewicz who, in our opinion, presents the boundaries of internationalization in the best way. She defines international words as follows: “Internationalisms are these words that exist in various languages, whose external form (written and/or spoken) allows every person who does not even know the specific language, for their identification; these words should also be their own equivalents in translation. They should exist in at least three languages belonging to different language groups as well” (Maćkiewicz 1984). The reason for focusing on internationalization in the Neo-Latin lexis is to show the similarity of the processes observed in modern languages and in Latin itself.

The new Latin medical terms

New Latin medical terms can be divided into three basic categories:

1. To the first group belong classical Latin lexemes whose semantic range has not changed much. They kept their basic classical meaning, adding to their semantic scope terms that refer to medicine. Some of them also came to the vocabulary of modern languages in an unchanged (or almost unchanged) form as international words.

A good example here is a noun *specillum, -i (medicinale)*, which in Antiquity already meant “a surgical instrument, type of probe”, *i.e.* “a blunt-ended surgical instrument for exploring a wound or part of the body” (Soanes 2006; *s.v. probe*). Nowadays, it is also known in a sense of a long plastic pipe used in feeding.

The next example in this group is another noun *spat(h)ula, -ae*, which already in ancient times determined “an implement with a broad, flat, blunt blade, used for mixing or spreading” (Soanes 2006; *s.v. spatula*). Today, it exists in a sense of “a tongue depressor” in spoken Latin as well as in English (*spatula*), German (*Mundspatel*), Polish (*szpatułka*), Russian (шпатель [shpatiel]), French (*spatule*), Spanish (*espátula*), Italian (*spatola*) and Portuguese (*espátula*). In addition to the medicine itself, derivatives of the Latin origin lexeme also exist in the meaning of “tools used in pharmacy”.

² The vocabulary collected in this article was taken from the following sources: Albert 1998; *Neues Latein-Lexikon: Lexicon recentis latinitatis* 1998; Morgan 2000; del Col 2007; Lichtenberger 2022.

The interpretation of a semantic development of a Neo-Latin equivalent for “a stretcher” is also similar. The Latin terms *lecticula, -ae (medicina)*, *feretrum, -i* and *ferculum, -i* were already known to the Romans in the sense of “a litter” or more broadly – “an equipment for carrying heavy objects”.

Two synonyms exist in the Neo-Latin vocabulary referring to a *catheter; -is* – “a flexible tube inserted into the bladder or another body cavity to remove fluid” (Soanes 2006; *s.v. catheter*). This referent of Greek origin (*καθεστήρ, -ῆρος* [kathester] – “a tampon, surgical catheter, pendant” was already known in late Latin in the sense of “a medical instrument, catheter”. In modern languages, it takes the forms of *catheter* (Eng.), *Katheter* (Germ.), *catéter* (Sp.) and *catetere* (It.). However, the synonymous noun *fistula, -ae*, will be described in the second word group.

Another referent in this group is the compound term *sella rotalis*. The decision to place it here is based on the fact that, on the one hand, it can be considered as a borrowing, specifically a semantic calque, *i.e.* a case of term where “translation of form occurs between source and borrowing languages during transfer of meaning” (Porter 2000: 97), but on the other hand, it consists of two pure Latin words – *stella, -ae* – “a chair” and *rotalis* – “having wheels”. Thus, we might analyze the Neo-Latin term *sella rotalis* as a calque from English, German, Italian or Spanish from the following forms, respectively: *wheelchair*, *Rollstuhl*, *sedia a rotelle* and *silla de ruedas*. Nevertheless, we can also assume a natural linguistic development, which resulted in the formation of this term, that might have been based on the structure of this referent.

Considering medical procedures, we can discuss a classical Latin verb *operor; -ari*, which still refers to the content of “working, being busy, acting”, with the only difference that in the medical context it receives a narrower sense of “performing a surgery”. Similarly, are used its modern derivatives and, at the same time, semantic equivalents in English, German, Spanish, Italian and Polish (respectively: *operate*, *operieren*, *operar*, *operare*, *operować*). In the same way should be analyzed a Latin noun *operatio, -onis* (formerly: “a work, an action”, now used also in a surgical sense), which is derived from this verb and survived in similar meanings in the languages listed above in the forms, respectively: *operation*, *Operation*, *operación*, *operazione*, *operacja*.

Another example is a verb *examino, -are* that originally meant “to test, check, consider”. In medical terminology, its semantic scope has been narrowed down to the sense of “inspecting someone or something closely to find out their nature or condition” (Soanes 2006; *s.v. examine*). In both meanings (classical and modern – medical), it survived in English: *examine* and Romance languages: Sp. *examinar*, It. *esaminare* and Fr. *examiner*. In Slavic languages, however, it survived only in the first meaning (referring mostly to school tests): Pol. *egzaminować*, Ros. экзаменовать [egzaminowat’]. Therefore, it should be treated as an internationalism in the first sense, but as a “false friend” in the second (Machnicka 2007).

According to Chamizo-Domínguez, “the linguistic phenomenon of false friends can be defined as the fact that two given words are similar or equivalent (graphically and/or phonetically) in two or more given languages but have different meanings” (Chamizo-Domínguez 2005: 165).

The semantic development in all examples within spoken Latin itself proceeds in the same way as in the other languages mentioned above. The causes of semantic transformations are the result of the natural development of a language and seem to be easy to explain. Namely, we can observe here a process of semantic specialization, which in a professional medical context is associated with performed activities, as well as the appearance and structure of specific referents. We can assume that these terms would also be easy to understand in a specific medical sense for ancient Rome citizens.

2. In the second group, we placed the New Latin words that are characterized by retaining both phonetic and graphic form, however, their semantic scope has been changed to a greater extent. These words can be divided into two categories presented below.

(a) Natural changes within Latin without, or with small, interference of modern languages:

To this category belongs a modern referent used not only in computer science but also in medicine, namely *discus*, -i, which already in ancient times determined “flat and rounded objects used, for example, in sport”. Today, in the sense of “a record” (i.e. “data storage”), it exists in modern Latin as well as in many languages from the Romance (Sp., It. *disco*), Germanic (Eng. *disc*) and Slavic (Pol. *dysk*) group (Krukowska 2015; 2017).

Cannula, -ae is the next example. Its classical meaning was “a reed, pipe”; it also took the sense of “respiratory tracts”. In modern times, the Latin term *cannula* got a new specialized surgical sense of: 1. “a needle-formed and also needleless tube that can be inserted into a blood vessel, cavity, or an organ”; 2. “a nasal pipe for oxygen delivery”; 3. “a tracheal tube used in tracheotomy”; 4. “an intubation pipe”. It is present as an international word in: Eng. *cannula*, Germ. *Kanüle*, Fr. *canule*, Sp. *cánula*, It. *cannula* and Pol. *kaniula* (Harper 2017; s.v. *cannula*).

Similarly we can analyze a Latin term *acus*, -us (*hypodermica*), which can be considered either as an actual translation of an English – (*hypodermic*) *needle* or Spanish term – *aguja* (*hipodérmica*), or, which is also possible, as a natural semantic development of the Latin word, thus, in many languages the noun “needle” has a wide semantic scope, extending from “needle-like parts of trees, the thin stiff leaves”, “sewing tool”, “implement used in technology and architecture”, “a thin pointer on a dial, compass etc.”, “a stylus used to play records”, to medicine, compare: Eng. *needle*, Germ. *Nadel*, Pol. *igła*, Sp. *aguja*, It. *ago* (Harper 2017; Soanes 2006; s.v. *needle*). Needles of all types are very slender and sharp objects. Therefore, the semantic development is very easy to interpret. It is an example of metaphorization based on the combination of appearance and structure.

Another example is a noun *syringa*, -ae, which is derived from the Greek lexeme *σῦριγξ*, - *ιγγος* [syrinks, -ingos] meaning “pan flute”, “shepherd pipe”, as well as “tube, channel”. In modern sense, it is a “tube with a nozzle and piston for sucking in and forcing out liquid in a thin stream, often one fitted with a hollow needle for injecting drugs or withdrawing body fluids” (Soanes 2006; *s.v.* *syringe*). It exists in some modern languages: Eng. *syringe*, Sp. *jeringa*, It. *siringa*.

As was already mentioned, in the Neo-Latin vocabulary there exist two synonymous words referring to a *catheter*; -is, one of which was presented and elaborated above. The other, which is supposed to be mentioned as well, is a noun of a Latin origin – *fistula*, -ae – “a pipe”. The long, slender shape and hollow structure determined the development of its meaning in a medical context.

These terms exemplify a process of metaphorization, which stands for transferring a meaning to a new referent on account of bearing a resemblance to the features (appearance, color, shape, function *etc.*) of a basic referent expressed by a given word.

(b) Fundamental semantic changes under the evident influence of modern languages:

This process is illustrated by a Neo-Latin noun *monitor*; -oris existing in classical Latin in the meanings of “someone who reminds, counsels, or checks”, as well as “a guide or teacher”. Similar meanings can be found in Spanish (*monitor*) “a man who admonishes or warns” and in English (*monitor*), where it took a sense of “a school pupil with special duties” (Harper 2017; Soanes 2006; *s.v.* *monitor*). In the twentieth century, a new sense of this word has been developed after a new referent appeared: “a device for checking the technical quality of a transmission”. It led to the content of “a display screen used to view a picture from a particular camera or computer” (Soanes 2006; *s.v.* *monitor*). This noun exists in a technical sense in many languages: Eng., Sp., It., Pol. in the same form – *monitor*, from which it went back to the Neo-Latin vocabulary in a new sense (Krukowska 2017).

Another noun, which underwent the process of fundamental semantic changes is *prothesis*, -is, also called *membrum artificiosum* – “an artificial limb”. It is of Greek derivation – *πρόσθεσις* [*prósthesis*], known in a form of *prothesis*, -is in Late Ancient Latin – “addition of a letter or syllable to a word (in grammar)”. The association of adding a morpheme to a word with “the addition of an artificial part to supply a defect of the body”, which has been known in medical arts from 1706 (Harper 2017; *s.v.* *prosthesis*), creates a good example of metaphorization. It is present as an international word in many languages from all three groups: Eng. *prosthesis*, Germ. *Prothese*, It. *protesi*, Sp. *prótesis*, Pol. *proteza*, Rus. *протез* [protez].

Iniectio, -onis also creates an example of fundamental semantic transformation. Its classical meaning is “a throwing in”, from a verb *inicio*, -ere – “to throw in or on; insert, bring into”. Currently, in medicine, it stands for “introducing a drug or other substance into the body with a syringe” (Soanes 2006; *s.v.* *injection*). As an international word, it takes the following forms: Eng. *injection*, Germ. *Injektion*, It. *iniezione*, Sp. *inyección*, Pol. *iniekcja*.

A good example for this group is also a Latin verb *scando*, -ĕre – “to climb, rise” but also “to declaim a poem according to its metrical feet”. The modern medical sense of “an action of examination of a human body” is probably connected to the notion of the rising and falling rhythm of poetry. In the English language, the verb *to scan* in the sense of “moving a detector or beam across someone or something” appeared in the middle of the 20th century. With technological development, it expanded its semantic scope referring to the act of converting “a document or picture into digital form for storing or processing on a computer” (Soanes 2006; *s.v.* *scan*). After the invention of a new medical device, the verb has also been used in this particular context. Many European languages loaned this Latin origin lexeme, but changed, under the English influence, meaning: Germ. *scannen*, Sp. *escanear*, Pol. *skanować*.

Considering semantic changes in the above-mentioned words, we should not only focus on Latin itself, but also on modern languages, as the analysis of their transformation processes, when it comes to Latin borrowings, gives a glance on the ways the Latin words survived in modern terminology, which seems to be a hypothetical response to the question about probable development of these terms if Latin was still in use. Many of these examples, especially from point (b), belong to the category of terms that we define as “loanwords returning”, *i.e.* lexemes that came the way: Latin to modern languages to Latin, saving a similar graphic-phonetic form and reaching a new meaning often by copying the semantic processes from modern languages.

In some cases, however, we can assume with a high probability that the Latin words would develop their new semantic scope without any foreign influences, since their new sense does not differ much from that known to the ancient Romans. A noun *discus*, for instance, got a new content due to its shape – round and flat. For the Romans, it was obvious to call even unknown objects due to their shape. Therefore, we can assume that they would call *the record* using the noun *discus*. Also, the *cannula* could possibly be comprehensible for them in a new sense, since the new referent, a medical device, simply gets a form of *a pipe* or *a reed* known to the Romans very well. Therefore, we can assume that most of the lexemes mentioned above, when used in the context of medicine or pharmacy, would be easily understood by someone who only uses classical Latin.

Taking into consideration examples from point (b) – *monitor*, *prothesis*, *iniectio*, *scandĕre* – it might be probably more difficult, but not impossible, since we should not reject the hypothetical possibility of occurring in Latin similar, if not the same, processes as takes place in modern languages. If we assume a natural development of languages following the evolution of a technical thought of a man, we cannot neglect the actual examples of these processes that we experience, observe, and use on a daily basis. For instance, in the modern sense of a verb *scandĕre* the notion of *rising* and *climbing* is still noticeable. We can also explain how the shifting of a semantic scope of the other given words proceeds,

where sometimes meaning of minor importance becomes a basis for the fact that another referent starts to be denoted by a particular term. In the noun *prothesis*, for instance, not the connection with grammar but the concept of *adding* itself became an issue of utmost importance.

3. The last category is a group of Neo-Latin words that did not exist in classical Latin. We are going to present here the transformations in a range of both derivation and semantics within the Neo-Latin medical vocabulary. It is divided again into two subgroups.

(a) Terms that were created on the basis of stems of Latin and/or Greek origin:

This phenomenon can be illustrated by an etymological analysis of a New Latin internationalism *scansorium*, -i derived from the verb *scando*, -ĕre, *scandi*, *scansum* mentioned above. It is also present in modern languages in similar forms: Eng. *CT scanner*, Germ. *Scanner*, Sp. *escáner*, Pol. *skaner TK*. The Latin speakers created the term for this medical device using a Latin stem *scans-* and a suffix *-orium* characteristic for the so-called *nomina instrumenti*.

Next examples are the Neo-Latin words *computatrum* (noun) “computer” and *computatorius*, -a, -um (adjective) “referring to a computer”, which are based on the international word known in many languages from all three groups: Eng. *computer*, Germ. *Computer*, It. *computer*, Port. *computador*, Pol. *komputer*, Ros. компьютер [kompiuter]. It has been derived from the Latin verb *computo*, -are “to count”. For, a *computer* has been created first for the purpose of counting. Nowadays, it has developed so significantly that its name does not specify its functions anymore. As a medical device, it is useful for performing the most precise examinations, which would surely be incredible for the ancient Romans. However, at least the term would sound familiar to them. The Latin lovers created these neologisms similarly to the internationalisms with a Latin root *comput(a)-* adding to them suffixes specific for nouns: *-trum* and adjectives: *-orius*, -a, -um (Krukowska 2015; 2017).

The adjective *computatorius* is a part of a New Latin term *tomographia computatoria*, which makes a good example of words loaned into Latin from Greek. It is a compositum based on the stems of the verbs: τέμνειν [temnein] – “to cut” and γράφειν [graphein] – “to write”, which literally means “a picturing of cut images (using computer processing)” – and this is what the Romans would probably understand (at least the first part of it). Since, both Greek verbs (or stems) were known in classical Latin. This international term has been adopted in many languages: Eng. *computed tomography (CT)*, Germ. *Computertomographie*, It. *tomografia computerizzata*, Pol. *tomografia komputerowa*.

Another example is *defibrillator*, -oris, a New-Latin noun to determine an electronic device used to stop fibrillation, which “is rapid, irregular and unsynchronized contraction of muscle fibres” (Lumley et al. 2016: 171). It consists of a Latin prefix *de-*, an English noun *fibrillation* and a Latin suffix *-or*. The English noun as well as the verb *fibrillate* are related to a Modern Latin word *fibrilla*, -ae

“a little fiber, a filament, especially in botany”, diminutive of a noun *fibra-ae* “a fibre, a filament, entrails”, which is of uncertain origin, perhaps related to Latin *filum,-i* “a thread, a string” (Harper 2017; *s.v. fibril*).

Similarly is to interpret a New Latin noun *respirator,-oris*. It is the derivative of a classical Latin verb *spiro,-are* – “to breathe, to catch a breath”, reaching a specific sense with the addition of a prefix *re-* “to breathe again”. In both examples mentioned above, the ending *-or* determines the *nomina instrumenti*.

The next example that shows the lexical efficiency of the Latin language is the *ECG, i.e. electrocardiographia*. It is a compound term consisting of three Greek stems: *ἤλεκτρον* [elektron] – “amber”, *καρδία* [kardia] – “heart” and *γράφειν* [graphein] – “to write”. In spite of the fact that the stem *electro-* in the context of the electricity probably would not be clear for most Romans, although some evidences show that people in the Antiquity knew the phenomenon of electricity and could produce small electric charges (Ulmer 2017: 39–46; Lucendo 2020), we presume that the idea of this examination could be partially comprehensible for them, if taken literally: “a process of writing down the activity of the heart” (using the electrodes, which would sound obviously obscure for them). This term is present in: Eng. *electrocardiography (ECG)*, Germ. *Elektrokardiographie (EKG)*, Pol. *elektrokardiografia (EKG)* and Sp. *Electrocardiografía (ECG)*.

As another example in this category, we introduce a Neo-Latin noun *insertivum,-i* – “an implant”, which is of Late Latin adjective derivation *insertivus,-a,-um* – “inserted” (which is of verb derivation *insero,-ere,-rui,-sertum* – 1. “to put in, stick in, insert”; 2. “to sow, inoculate [twig], unite”). The idea of keeping a neutral ending of adjectives *-um* by creating nouns is currently quite common for Latin lovers. The new-formed noun becomes a part of the compound terms: *insertivum mammale* – “breast implant”, where the New Latin adjective *mammalis,-e* comes from a noun *mamma,-ae* “breast” and would surely be clear for the Romans and *insertivum siliconeum*, here the Modern Latin adjective *siliconeus,-a,-um* comes from a noun *silex,-icis* “flint, pebble”.

In this group, are also included Latin equivalents for *hearing aid* i.e. *auriculare,-is, instrumentum auriculare* or *instrumentum auditorium*, which are created, as we might presume, as calques of terms from modern languages, like Polish, German or Italian, where they take forms as follows: *aparət słuchowy, Hörgerät, apparecchio acustico*. Here we can see an interesting process of changing the grammatical form of an adjective by creating a noun (*auriculare,-is*), as the word *auricularis,-e* in Latin meant “pertaining to the ears, auricular”.

(b) Terms derived from roots unknown to Latin:

There are a few borrowings of this type in the Neo-Latin vocabulary, as Latin shows its productivity at a very high level. Nevertheless, we can find some examples, the first of which is a noun *laser [indecl.]*, which is an acronym and stands for *Light Amplification by Stimulated Emission of Radiation*. The term has been adopted in many languages, including English, Polish, Italian (which possess the

same written form *laser*, having some differences in pronunciation), Spanish (*láser*) and German (*Laser*).

New Latin, similarly to modern languages, has the ability to create neologisms from proper names, as we can see in the case of the term *imago Roentgeniana* – “X-ray image”. The adjective *Roentgenianus*, -a, -um was derived from the surname of Wilhelm Conrad Röntgen, their inventor. The Neo-Latin term is motivated by the German – *Röntgenbild*, which is the primary language in this case. The Polish language adopted analogical form – *zdjęcie rentgenowskie*.

Another Neo-Latin terms, which use this adjective are *Roentgeniani radii* and *radii X* – literally: “rays of Roentgen” and “X-rays”. Similar forms are present in German (primary language) – *Röntgenstrahlen* and *X-Strahlen* as well as in Italian – *raggi X* and *raggi Röntgen*. In Polish, the most popular is the first form: *promienie rentgenowskie*, whereas in Spanish, the second – *rayos X*.

Conclusion

The analysis of medical terminology clearly shows that although Latin is said to be a “dead language”, scientists still refer to its vocabulary by creating new terms for modern medical devices and procedures (Nybakken 2012). So happens for a simple reason. The stems of the Latin (and Greek) words are still comprehensible for European society, even for people who have never learnt classical languages. We can even say that sometimes scientists create a new term on the basis of Latin or Greek morphemes, not being aware of it. Therefore, Latin occasionally appears in modern terminology in an “English disguise” (Janson 2006: 139–143, 160–161). For, the primary language for modern scientific terminology is English, but its vocabulary is largely based on Latin. Fortunately, this situation occurs rather rarely in the field of medicine because doctors and pharmacists still know Latin, even if they do not speak it fluently.

Considering the topic hypothetically, we can estimate to what extent the Romans could understand modern Latin medical terminology. Many classical Latin lexemes expanded their meanings, adding new specialized terms to their semantic scope. Yet, some words are not based on the vocabulary, which is of purely Latin origin. However, we acknowledge the natural mutual interpenetration of the classical languages and, therefore, a good understanding by the Romans meaning of particular Greek words or stems. Their existence in classical Latin is also confirmed by dictionaries. Therefore, we conclude that the Romans could understand modern medical terms to some extent. Therefore, their appearance in modern spoken Latin does not seem to be unnatural.

The medical vocabulary discussed in this paper represents in many cases a group of internationalisms that are present in many European languages as well as in spoken Latin. In our opinion, it is a testimony of the mutual interfering

process of classical Latin and modern languages. However, it is not only about borrowing the vocabulary, but also, in some way, about the contemporary culture and the culture left to us by the ancient Romans. Medical Latin is easily adopted by other languages and is also capable of effortlessly adapting modern medical terminology to its own vocabulary. Therefore, the Latin language can still be used successfully by the medical community in their professional communication. It also proves that the Latin language, which is or should be included to general education, in cause of addition to students' intellectual development, brings also benefits in applying it in a professional language.

The purpose of this article was to show some important issues within the Neo-Latin medical vocabulary, which hypothetically allowed Latin to come back to the position of the international language of the medical community. We intended to show that the persisting purity of Latin, immutability of its grammatical structures, the word-formative efficiency as well as the frequent use of the Latin (and Greek) vocabulary in the modern terminology, cause this language to still be able to meet the needs of every person who deals with medicine professionally. Furthermore, modern Latin is not a language created artificially like Esperanto, nor suddenly brought back to life in the 21st century. It has been used continuingly after the Fall of the Western Roman Empire for almost 20 centuries (Janson 2012: 91–102). This causes a hypothetical situation where even the ancient Romans could understand the meaning of most modern professional medical terms. They probably would not comprehend the medical equipment's functioning itself, but they could at least understand its basic purpose by interpreting the name.

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