

ISMGE 2020**II International Scientific and Practical Conference "Individual and Society in the
Modern Geopolitical Environment"****SURGICAL INSTRUMENTS AS A PART OF PROFESSIONAL-
LINGUISTIC WORLD-IMAGE**

Sanya I. Madzhaeva (a), Tatiana V. Lukoyanova (a)*, Liliya A. Kiseleva (a)

*Corresponding author

(a) Astrakhan State Medical University, 121 Bakinskaya Street, Astrakhan, 414000, Russia,
lukoyanova_tanya@mail.ru

Abstract

The article is devoted to the analysis of the branch of medicine “surgical instruments” as a part of professional-linguistic world-image of a medical specialist. It was found that the lexical system of the language of this branch of medicine has been changed in the process of its development. New lexical units (special and common ones) were revealed at each of the three distinguished stages of development. It is determined that the design and modernization of technology as well as the use of advanced materials play an important role in the formation of analyzed branch of medicine. The invention of surgical instruments, the performance of surgical operations, the regular improvement of the materials which are used in structure of surgical instruments, the discovery of new laws of physics that have found application in the construction of surgical instruments, the modernization of the properties of instruments caused by the needs of surgical practice, the involving of new areas of medicine in surgery enrich German medical terminology. The design and modernization of technology, advanced materials develop medicine, enlarge its lexical field, and improve the methods of treatment, thereby preserving human health.

2357-1330 © 2020 Published by European Publisher.

Keywords: German medical terminology, human health, medical specialist, modernization, professional-linguistic world-image, surgical instruments.



1. Introduction

The professional outlook is reflected in the language used in special field. Linguistic research of the human factor in the language has acquired a new perspective caused by the study of world views and, in particular, by the study of the linguistic world-image and led to use of special concepts - a linguistic world-image and professional-linguistic world-image. These concepts become fundamental ones in modern anthropolinguistics and are the most important condition for the existence of a man in the world, as they express the specificity of a man and his life, his relationship with the world (Serebrennikov, 1988).

2. Problem Statement

This concept is studied by many branches of scientific knowledge. So, in philosophy as the world views the scientists understand “the whole objective content that a person has” (Gubsky, 1997). Tsivyan (2005) defines the world views (the model of the world) as a short and simple image of the total amount of ideas about the world in this tradition, taken in their systemic and operational aspects. According to Grinev-Grinevich and Sorokina (2014) a linguistic world-image is the knowledge about the world presented in linguistic forms. The scientists believe that the linguistic world-image is the sum of ideas about the world that was historically formed in the everyday consciousness of a given linguistic collective and then reflected in their language. Analysis of the works of scientists demonstrated that there are many interpretations of the concept “linguistic world-image”. It indicates that there are differences in the world views of different languages and in the perception of the surrounding world by native speakers of a particular language. We think that the linguistic world-image is the representation of a certain linguistic collective about the structure, elements and processes of reality reflected in the language, a complete image of a person, his inner world, the surrounding world and nature carried out by means of naming units. It summarizes, systematizes the information, knowledge, vision of an object received by a person and expressed them with lexical elements. So, we can say that at the present stage of development of linguistics, linguistic models of the world are the objects of description and interpretation in different sciences about human in the linguistic context.

3. Research Questions

Any type of activity leaves a specific stamp on the lifestyle of a specialist, forming his professional-linguistic world-image.

A professional-linguistic world-image is “an information storehouse” of scientific knowledge of the special field, as it is the result of human cognitive activity in a particular branch of knowledge. In the second half of the 20th century such scientists as E.I. Golovanova, T.L. Masych, S.L. Mishlanova, V.F. Novodranova, E.A. Sorokin, A.D. Samigullin, L.A. Chernyshova, L.A. Shkatova and others investigated professional-linguistic world-image. The combination of words “professional-linguistic world-image” has recently been used actively by linguists, but it has not been clearly defined in linguistics. This is due to the fact that the scientific world-image is the sum of all scientific knowledge about the world developed by all special sciences, and the professional-linguistic world-image is a part (or fragment) of the scientific

world-image (Pribytova, 2005). According to Chernyshova (2010), the professional-linguistic world-image plays the role of a meaningful reflection of scientific idea in a specific area of the individual's special life activity. The scientist confirms that domain-specific terminology is the result of professional thinking; it exists within the linguistic world-image of a particular nation and corresponds to its thinking.

As professional-linguistic world-image we understand an informative invariant of scientific knowledge in a special field of human activity; it is universal, since the scientific knowledge is objective itself (Kiseleva, 2018). During the mental and verbal cognitive activity of a person (specialist), professional knowledge is generated and accumulated; the gaining and forming of it is possible because of linguistic means.

4. Purpose of the Study

We analyze one of the branches necessary for treatment – surgical instruments as a part of professional-linguistic world-image. After analyzing the definitions of the terms *instrumentarium* and *instruments*, which are done in Russian and German books, dictionaries and encyclopedias we conclude that surgical instrument is a word or terminological combination of words meaning a set of instruments used for surgical manipulations and diagnostic examinations (Lukoyanova, 2017).

5. Research Methods

In this paper, the professional-linguistic world-image (PLWI) of this branch of medicine was analyzed by means of diachronic description (to characterize the process of formation of PLWI of a surgeon in Germany), structural, definitional and conceptual analysis. The material for study is simple, complex terms and terminological word-combinations which form a professional-linguistic world-image of the branch of medicine “surgical instruments”. It was found that the vocabulary of this branch of medicine has been changed in the process of its formation and development that also influenced the professional-linguistic world-image of a medical specialist.

6. Findings

All evolutionary processes in science can be revealed in lexical-semantic, structural and syntactic changes of terms. Analysis of the works on surgery and its terminology allowed us to identify three main stages of the formation of the studied area of medicine, which also influenced the formation of the branch of medicine “surgical instruments”.

First stage – the stage of formation and development of professional-linguistic world-image of a surgeon (by means of the example of the terminological field “surgical instruments” in the German language). This stage includes the empirical and most part of the anatomical and morphological periods of the evolution of surgery and covers the VI - VII centuries and the middle of the XIX century.

First stage is characterized by the presence of words borrowed from other fields of knowledge and from the common vocabulary. With time these borrowed words underwent a process of terminologisation, enlarged the conceptual content of lexical units. After that they are used in the studied terminological field.

According to the results of the research, after the process of terminologisation of lexical units having certain semantic characteristics of a common word, get motivation from the linguistic substrate, so, they get a way of representing content level, an internal form (Kosova, 2004). At the same time, there are a number of semantic differences between the term and the common vocabulary. For example, the non-special word *der Löffel* (spoon) in the dictionary of Duden (2002) has the meaning [*Ess*]gerät, an dessen unterem Stielen deeineschalenartige Vertiefungssitz und das zur Aufnahme von Suppe, Flüssigkeit, zur Zubereitung von Speisen und o. Ä. Verwendetwird – device (to eat food), on the lower end of the handle of which there is a rounded bowl used for lifting soup, liquids to the mouth or for cooking food. In the analysed terminological field, the lexeme had changed the conceptual content and has the meaning of a surgical instrument that looks like a spoon with a handle and working part with a small cup-shaped extremity having sharpened edges, used for scraping the cavity or removing pathologic tissue. For example, *der Augenlöffel* is an ophthalmic spoon (a surgical tool to remove the tissues of the eyeball), *der Harnblasensteinlöffel* is a spoon for removing stones from the bladder, *der Knochenlöffel* - a bone spoon (a surgical tool for curettage of pathological tissues in the bone and bone cavities). At the same time, the conceptual content of the lexical unit is enlarged. In these complex noun-terms, the defined word *der Löffel* indicates a tool with the function of taking (lifting), scraping, removing tissues or foreign bodies from an organ. In addition, the cavity for which the tool is used may be different and the first component of a complex term indicates individual characteristics of the surgical instrument.

To identify a number of medical instruments (*der Magenspiegel* - gastroscope; *der Scheidenspiegel*, *der Vaginalspiegel*- vaginal speculum; *der Leberabduktionsspiegel* - speculum for abduction of the liver; *der Nierenspiegel* - kidney speculum) due to their polished surfaces, which make it possible to examine cavities hidden from direct observation, the common word *der Spiegel* (speculum) is used as the main component in such terms. The first component of a complex noun-term indicates the domain of usage of the tool. There are a number of semantic differences between the medical term *der Spiegel* (speculum) and the common lexical unit. The term verbalizes a surgical instrument used not only for examination of the cavity, but also for ectasia of body channels.

The borrowed terms from other fields of knowledge were pointed out during the research. For example, *der Bohrer* - drill, *trepan*, *der Schaber* - scraper, *der Spatel* - spatula, *die Spritze* - syringe, *der Meißel*, *der Stichel* - chisel, *die Säge* - saw, *der Schlauch* - sonde, tube, *der Hammer* - hammer, mallet, *die Zange* – forceps, clamp, *der Haken* - hook, retractor, *die Raspel* - raspator, *die Feile* (file) - *die Knochenfeile* (bonefile/tab), *der Nagel* - nail. According to the results of the research, these lexical units are used in form of special terms for identification a surgical instrument in the studied terminological field.

These terms in medical terminology underwent semantic rethinking, indicating the same principle of the tool's use. For example, *die Spritze* (syringe) means a tool for sprinkling or injection; in the 15th century it was used as *die Feuerspritze* (fire pump; fire-hose barrel). In the studied terminological field, the word *die Spritze* (syringe) was terminologized in the 16th – 17th centuries (Duden, 2001) and its semantics has changed. A medical syringe is a tool in the form of a hollow graduated cylinder with a piston for *pumping* or *aspirating* liquids. The syringe as a medical tool was designed in 1853 by two scientists: the Scotsman Alexander Wood and the Frenchman Charles Gabriel Pravoz. Ch.G. Pravaz

invented a syringe for surgical purposes; A. Wood used it for subcutaneous injections. However, the name to this medical instrument was given by German scientists, and it is still used in the medical terminology.

Terms with German origin (*der Bohrer - drill (medical)*, *der Stichel - stichel*, *die Spritze - syringe*, *der Spatel - spatula*, *der Tupper - tupper*) are used in world medical terminology. In the international nomenclature borrowed terms with German origin have been recorded since the end of the 19th century and that fact can be explained by the intensification of scientific research in medicine in Germany, as well as the fact that the use of the Latin language during this period becomes less compulsory (Olehnovich, 2012).

The use of language units from non-special lexis and terms from other fields of knowledge in medical terminology can be explained by the interaction of everyday and professional areas of communication. They are based on two dominant types of thinking: sensually-figurative and verbal-logical. It confirms the validity of the conclusions made by Golovanova (2011) that scientific knowledge is based on the results of everyday knowledge, since every day and rational knowledge are interconnected. Such interaction explicates the essence of the process of cognition – person understands new knowledge (objects) through the known one.

The term *surgical instrument* itself was borrowed by the Russian language at the beginning of the 18th century (the lexeme *instrumentarium* – in Polish an instrument (with the stress on the second syllable from the end) and in the German language (with the stress on the last syllable); the Greek word *cheirurgikós* in the meaning "made by hands" is borrowed through the Latin language (*chirurgicus*). In the German language the combination of words *das chirurgische Instrumentarium (surgical instruments)* appears in the 16th century (Duden, 2001) at the stage of formation and development of the studied terminological field and is borrowed from the Latin language. *Das Instrumentarium* from Latin *instrumentarium - a set of instruments* (das Instrument from Latin *instrumentum - equipment, instrument, apparatus*). The choice of Latin borrowing is probably related to the desire to align the knowledge of surgery with international combination of words in different countries, since science belongs to all humanity, and the research of every specialist is based on the achievements of scientists from other countries all over the world which were made in different time periods.

Second stage – the stage of accumulation of terms by the professional-linguistic world-image of a surgeon (by means of the example of the terminological field “surgical instruments” in the German language). It covers a part of the anatomical and morphological period from the second half of the 19th century, the period of great discoveries of the late XIX and early XX centuries, the physiological period, as well the period of the last part of the XX century.

At this stage, there is a deepening of knowledge, whose process in terminology is expressed as follows:

the term becomes the “genus” term and has the “species” terms. For example, with the development of medical instruments, the term *das Spanninstrument (clamping instrument)* has become “genus” term. It has now a number of “species” terms – *das Federspanninstrument (spring-clampinginstrument)* – *das lösbare Spanninstrument (split-palmatedinstrument)* – *das*

Gelenkspanninstrument (gouge-clampinginstrument) – das das Schlittenspanninstrument (slide-clampinginstrument) – das Gelenkschlittenspanninstrument (gouge-slided clampinginstrument).

The presence of genus-species relations allows us to conclude that complex noun-terms (50.8%) represent the multi-stage mechanism of understanding of the functions of a surgical instrument by a medical specialist and helps to improve it.

Genus-species relations represent terminological word-combinations. In the terminological word-combinations the main word expresses a genus feature that is characterized by a word that defines the species feature of a surgical instrument. At the same time, if we speak about cognition, the leading role is played by the lexical unit marking the species feature. For example, *a button-shaped knife (knopfförmiges Messer)* – a spear-shaped knife with a spherical button at the end used for suturing during external rhinostomy; *a spear-shaped knife (lanzeförmiges Messer)* is a knife for incisions of the eye membranes with a blade in the form of the triangle with two equal sides.

An adjective part of such terminological word-combinations has special scientific information; it is a “terminological marker-specifier”. Because of it, specialist can divide the instruments into subgroups, so he can distinguish a surgical instrument in its group.

It is necessary to say about the high frequency of terminological word-combinations (34.4%) in the studied terminological field. The reason of it is their “plastic” structure. The terminological word-combinations representing the features of a surgical instrument can increase the number of their components. The process of accumulation of cognitive features is endless, it occurs as a result of the development of science and technology and as a result of the mental activity of a specialist. For example, *straight scissors (gerade Schere)* are used to cut tissue of superficial wounds; *pointed scissors (spitze Schere)* are used for correction of wound lips during cosmetic operations; *straight pointed scissors (gerade spitze Schere)* are used both for dissection of thin tissue and for cutting the meninges during neurosurgical operations.

In the terminological field “surgical instruments” of the German language there are terminological word-combinations that consist of four, five, six, seven and eight words. For example, *das Gerätzum Setzen der Magendarmanastomose – an apparatus for applying gastrointestinal anastomosis; der Apparat für Ösophagoenterostomie und Ösophagogastrostomie – apparatus for applying the oesophagointestinal gastric anastomosis; hämostatische Klemmfür Blutstillung aus der Kapsel der Vorsteherdrüse – prostate capsule haemostatic clamp*. But terminological word-combinations consisting of two words are used most often; this fact can be explained by the verbal economy associated with professional specificity;

the deepening of differentiation in the meanings of synonyms. At the stage of formation and development of the surgeons' professional language there were of course the synonyms, but, as a rule, doctors did not differ their meaning. For example, the synonyms *chirurgisches Messer (surgical knife) – der Skalpell (scalpel)*. These surgical instruments belonging to the subgroup “cutting instruments” have differences in their shape and function. *A surgical knife (chirurgisches Messer)* is a single or double-blade medical tool for dissecting soft tissues, tendons and cartilage (Petrovsky, 1983); *a scalpel (der Skalpell)* is a small surgical knife for cutting tissue with a short blade and a long handle (Petrovsky, 1984).

The presence of synonyms (13.7%) is associated with the progress of science. The synonyms give the opportunity to name the selected categories and concepts in different ways. For example, *das Doppelspekulum*– *das Scheidenspekulum* – *das Vaginalsepekulum* (*vaginal speculum*). In the term *das Vaginalsepekulum*, the lexical unit *vaginal* indicates the organ for inspection of which this tool is used. Its synonymous term *das Scheidenspekulum* (*scheiden – to widen*) reveals the principle of its use (the instrument is a movable tool with hollow blades used to widen the opening of the vagina), the term *das Doppelspekulum* (*doppel – double*) explains the structure of the vaginal speculum – bivalve instrument;

since the middle of the 19th century, a large number of eponyms (12.3%) had appeared in the studied terminological field. Such terms are “personalized record”, as they perpetuate the name of the master or scientist who investigated and sometimes modified the instrument.

German surgeon Bernhard Rudolph Konrad von Langenbeck (from 1848 to 1875) had investigated and used a number of surgical instruments: *Langenbeck's surgical hook* (*der Langenbeck-Hacken*), *Langenbeck's surgical knife* (*das Messer nach Langenbeck*), *Langenbeck's raspator* (*das Raspatorium nach Langenbeck*). In structure of these terms there is the name of the scientist. At the end of the 19th and in beginning of the 20th centuries, the Swiss surgeon Caesar Roux created surgical hooks (*der Roux-Haken*); the German surgeon Christian Albert Theodor Billroth is creator of *Billroth's hemostatic forceps* (*die Billroth's Schieberpinzette*); the Swiss surgeon Robert Liston created *Liston's bone cutting forceps* (*die Zangen nach Liston*). These surgical instruments are used in surgery nowadays. They were named after their “creators”, so these terms are eponyms not only in German language, but also in world medical terminology.

Third stage – the contemporary stage of development of the professional-linguistic world-image of a surgeon (by means of the example of the terminological field “surgical instruments” in the German language). It is characterized by further progress of knowledge and practice, determined not so much by the anatomical and physiological development of surgery, as by more sophisticated technical support of operating rooms, the use of nanotechnology, that entails a change in the consciousness of the specialist and in his thinking.

At this stage, the development of surgery is reflected in the terminological field "surgical instruments" of the German language in the form of new lexemes. It is caused by:

the involving of new areas of medicine in surgery. There are minimally invasive (*die minimal-invasive Chirurgie*), laser (*die Laserchirurgie*), endoscopic (*endoskopische Chirurgie*), ultrasound (*die Ultraschallchirurgie*), robotic-based surgery (*die Roboterchirurgie*).

In the studied terminological field the development of robotic-based surgery is characterized by an increase in the number of complex terms (*das “da Vinci“ – System, das Händhabegerät (der Manipulator)*), terminological word-combinations with the abbreviated component (*der Roboter-Chirurg STAR (Smart Tissue Autonomous Robot), der Roboterarm AESOP (Automated Endoscopic System for Optimal Positioning), der Roboterarm CASPAR (Computer Assisted Surgical Planning and Robotics), der Roboter-Chirurg IBIS* (where IBIS is the name of the company that developed this surgical system)). Such terms allow you to create a bright, easy in remembering and at the same time compact and short term. For example, “Da Vinci” robot is named after Leonardo da Vinci, who designed the first

anthropomorphic robot. At the same time, in the medical discourse, the name of the robot surgeon is reduced to the abbreviated component (*PUMA - der Roboter PUMA (Programmable Universal Manipulation Arm)*), which is “due to the pace of life and the desire to use the time as efficiently as possible” (Lukoyanova, 2017).

discovery of new physical principles used in construction of surgical instruments:

- use of high energy sources to reduce the morbidity and time of operation, to improve its quality. In the terminology field “surgical instruments” of the German language, these terms are represented by terminological word-combinations with the abbreviated component (*die HF-Elektrode für die mono-oderbipolare Koagulation*), and by complex terms with the such components as *Hochfrequenz-* (high frequency), *Elektro-* (electro), *Elektrode-* (electrode), *Koagulation-* (coagulation). Foreexample, *das Koagulationskabel, das HF-Messer (or das Hochfrequenzmesser), das Hochfrequenzleitkabel, das Elektrotom, das Elektroresektionsinstrument, die Koagulationselektrode, die Schlingenelektrode;*
- miniaturization of surgical instruments. Because of it surgical instrument can be used directly in the area of surgical intervention. The miniature size of surgical instruments is marked with the Greek terminoelement *Mikro-*: *das Mikro-Bulldog-Klemmen, die Mikropinzette, die Mikrofederschere, der Mikronadelhalter mit und ohne Sperre, die Mikroinstrumente.*
- regular improvement of the materials which are used to make surgical instruments (Cr - chromium, Ti - titanium, Ni - nickel, Mn - manganese, Mo - molybdenum, N - nitrogen, S - sulfur, V - vanadium). The use of materials is represented in the form and structure of terms marked by the predominance of complex terms and terminological word-combinations: *der Titanclip, teflonüberzogener Schaft.*
- modernization of the properties of instruments caused by the needs of surgical practice: *das Klammermagazin (clips box for suturing the organs), der Linear Cutter (Stapler) (linear cutter – linear suturing and cutting stapler), der zirkuläre Stapler – der Zirkulärstapler (circular stapler), die MIC-Instrumente, where MIC – Minimal Invasive Chirurgie (instruments for minimally invasive surgery), der Trokar (trocar), der Mandrin (mandren), der Obturator (obturator), der Applikator (applicator (surgical)), das Rasterkraftmikroskop–AFM (atomic-force microscope), das Rasterelektronenmikroskop–REM (scanning probe microscope–SPM).*

Progress in the use of mechanical suturing apparatus has led to construction of *the linear suturing and cutting stapler (der Linear Cutter Stapler)*. In the terminological field “surgical instruments” of the German language there is assimilated borrowed word from the English language. For example, *der Linear Cutter (Stapler)* is a *linear cutter (linear suturing and cutting stapler)*. The word *der Stapler (stapler)* indicates the similarity of configuration of the instrument with the stapler, the word *der Cutter (cutter)* emphasizes the differences between this instrument (it is used not only to create an anastomosis but also for resection, dissection) from other surgical staplers used to suture the wound borders.

The components (*Elektro-, Mikro-, die Elektrode, die Koagulation, das Mikroskop, der Stapler, das Magazin*) are used in the German language to nominate surgical instruments. These components indicate the international nature of the terminology of this area of medicine.

The use of miniature sources of “cold” light and television cameras: *die Kaltlicht angeschlossene Optik, die Chip-Kamera, das Kamerasystem, der Videorekorder, der Monitor, das Kabel*. Technological progress is relevant for surgery. At the present stage of the development of surgery, operating rooms are equipped with computers, electronic and optical apparatus. With the new technical equipment terms borrowed from the English language have been used in the surgical terminology of the German language. The presence of English terms demonstrates the international status of the English language, the desire of the medical language to internationalize. For example, in the minimally invasive surgery, special instruments are used; at the ends of these instruments there is a chip camera (*die Chip-Kamera*), which gives an accurate, color image of the cavity.

The analysis of the professional-linguistic world-image of a surgeon (by means of the example of the terminological field “surgical instruments” in the German language) revealed the desire of specialists to save the basic “prototype” terms that characterize this science. For example, in the name of such surgical instrument as *laser scalpel (das Laserskalpell)* there is a functional transfer of the name of one of the main surgical instruments. This type of scalpel does not have a cutting surface; it is used for bloodless tissue ablation. However, the term *scalpel* refers to the information-conceptual core of the term *surgery*, which explains the choice of this term by nomination of this new surgical instrument.

In addition, in the studied area of medicine, we have identified a number of proto-terms that are used simultaneously with the scientific concepts: *das Aderlaß Eisen – das Aderlaßmesser (phlebotome); das Schröpf Eisen – der Schröpfer (scarificator); das Schabeisen – das Schabmesser (raspator)*. These proto-terms are inherent in the pre-scientific period of development of special knowledge. They do not give the concept itself, but the imagination of it, which not related to the system of scientific knowledge. The lexical unit *das Eisen (iron)*, verbalizing the material which used in the structure of this surgical instrument, is borrowed from the everyday sphere of communication and explicates the interaction of professional and everyday knowledge.

Analysis of the history of the development of surgical instruments indicates that the terms during the development of the process of cognition are introduced and excluded (from terminology), interpolated (renew) and extrapolated (transferred from some areas of knowledge to others), generalized, they can enlarge the conceptual content and undergo other changes (Madzhaeva, 2010). Radical changes taking place in society make conditions for the studies that reveal the final results of the influence of these changes on the development of all spheres of human activity, including medicine (Madzhaeva, 2015), its professional-linguistic world-image.

7. Conclusion

During the whole history of development of humanity, we see the formation of medicine as a science and, consequently, the enrichment of the professional language with new special units.

Analysis of the history of surgery demonstrated that at the beginning of its formation it based on the everyday knowledge, for which the words of a common language are characteristic. At the first stage we have identified the borrowed words from other areas of knowledge; at the next stages special units appear and are used in studied terminology. This indicates the scientific nature of knowledge.

The invention of surgical instruments, the performance of surgical operations, the regular improvement of the materials which are used in structure of surgical instruments, the discovery of new laws of physics that have found application in the construction of surgical instruments, the modernization of the properties of instruments caused by the needs of surgical practice, the involving of new areas of medicine in surgery enrich German medical terminology; the terms otherwise represent the PLWI of a surgeon. The professional-linguistic world-image of a medical specialist is modified and as a result the concept of surgical care is enlarged. The doctor's professional knowledge has changed because of development of anatomy and physiology. The enrichment of the knowledge of surgeons influences and changes the PLWI of a doctor.

The branch of medicine "surgical instruments" as a part of professional-linguistic world-image demonstrates the complexity of medical language, as it is represented not only by terms, but also by common words, indicates the dynamism of its verbal display. The design and modernization of technology, advanced materials develop medicine, enlarge its lexical field, and improve the methods of treatment, thereby preserving human health.

References

- Chernyshova, L. A. (2010). *Domain-Specific Terminology in the Context of Anthropocentric Paradigm*. Moscow State Educational University Press.
- Duden. (2001). *Etimology Dictionary* (vol. 7). Duden Press.
- Duden. (2002). *Defining Dictionary* (vol. 10). Duden Press.
- Golovanova, E. I. (2011). *Introduction into Cognitive Science of Terminology*. Flinta: Science.
- Grinev-Grinevich, S. V., & Sorokina, E. A. (2014). Language as a means of studying of cognition and human evolution (for the 10th anniversary of the emergence of anthropolinguistics). *Bulletin of Moscow State Regional University, Linguistics*, 5, 12-25.
- Gubsky, E. F. (1997). *Philosophical Encyclopedic Dictionary*. Publishing House "INFRA-M".
- Kiseleva, L. A. (2018). *Terminological Representation of Professional-Linguistic World-Image of a Doctor in the German Language (by Means of the Example of the Branch of Medicine "Obstetrics and Gynecology")* (Thesis). Volgograd.
- Kosova, M. V. (2004). Principals of rethinking of common vocabulary during the process of terminization. *Bulletin of the Nizhny Novgorod University named after N I Lobachevsky*, 1, 163-172.
- Lukoyanova, T. V. (2017). *Terminological Field "Surgical Instrument": Cognitive Aspect (Based on Material of the German Language)* (Thesis). Volgograd.
- Madzhaeva, S. I. (2010). Neologisms in medical terminology – cognitive aspect (based on the material of the areas of medicine "AIDS" and "Diabetes"). *Bulletin of Chelyabinsk State University, Philology Sciences, Study of Art*, 22(203), 63-68.
- Madzhaeva, S. I. (2015). *Language Of Medicine: Int. Interuniversity Collection Of Scientific Papers*. Publishing House "KRYPTEN-Volga".
- Olehnovich, O. (2012). *XXV Int. Scien. and Prac. Conf. «Problems of modern Philology, Pedagogics and Psychology»*. London. <https://www.gisap.eu/ru/node/7816>
- Petrovsky, B. V. (1983). *Encyclopedic Dictionary of Medical Terms* (Vol. 2). Soviet Encyclopedia.
- Petrovsky, B. V. (1984). *Encyclopedic Dictionary of Medical Terms* (Vol. 3). Soviet Encyclopedia.
- Pribytova, L. V. (2005). *Professional Language of the Pit Men of the Kemerovo Region: Terminology and Parlance* (Thesis). Kemerov.
- Serebrennikov, B. A. (1988). *Role of the Human Factor in Language. Language and the World View*. Science.
- Tsivyan, T. V. (2005). *Model of the World and its Linguistic Foundations*. Publishing House "KomKniga".