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Problems and prospects of systematization of the general scientific terminology

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Abstract

Relevance. The relevance of the research is the need to create new mechanisms for improving, stabilizing and unifying the terminological system on the example of general scientific terminology. It is essential to study how terms adapt and integrate into different fields, track their transition between areas, document this process, collect textual fragments and study the behaviour of the term in specific contexts.

Purpose. The aims of the article are the detailed analysis of terminological problems at the present stage of development of science and technology, analysis of general scientific terminological units, their functional usage in cross-disciplinary branches.

Methodology. The main methods of analysis are the theoretical method that were used for the systematization of scientific knowledge in linguistics and related fields, and the method of component analysis that were used during distinguishing semantic components in terms.

Results. The article conceived the works on the terminological problems topics, demonstrating different approaches: communicative, linguistic, psychological, poly discursive, and also considered the main perspective directions for further work in terminology and terminography.

Conclusions. Materials of this work can be used in follow-up studies on general scientific terminology. It can include the classification and categorization of terms, a study of peculiarities of usage of terms in contexts, semantic and structural analysis of terminological items, unification and systematization of existing terms, etc.

Keywords: terminology; terminological system; terminology unit; systematization; classification; problem; perspective.

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Introduction

The relevance of the article topic is due to the existence of unresolved problems in order to systematization, classification and unification of the terminological system. On the one hand, there are many linguistic works in this light, but they concern the study of narrow-focused terminology. The distribution, functioning and interrelation of common terminology units are the subject of research by a small number of scientists. The newish and effective mechanisms developed for the classification of specialized vocabulary have made it possible to use them on the example of common terminology. The process of categorization and terminologization (transition of terms from one category to another) at present is one of the promising directions of modern science. In this article were analyzed the works of modern world scientists in the field of terminology, the focus of which is the different branches of knowledge. Therefore, the glossary item "term" is considered from the point of view of communication [1-4], linguistics [5; 6], psychology [7], in the national perspective [8]. Many authors have researched terminology and terminography in a specific field of application: legal [9] medical [10], public [11].

Researchers Y. Usmonov, Z. Usmonova [12] focus on the main problems of general scientific terminology and priority ways of their solution, among which are the elimination of ambiguity of the text through the standardization of terminology in order to ensure the effectiveness of communication. The article V. Dubichinskiy [13] reveals the main range of issues that currently solve the terminography, considers important problems of the modern theory of terminography; the main types and stages of creation of terminological dictionaries, pays attention to the alphabetical, alphabetical-nested and lexicographic principles of their construction, standardization of terminology, educational terminography and terminographical computerization. From the point of view of S. Shelov [14] the main tasks of the terminography in the future will be the classification of the basic concepts of scientific knowledge by ontological levels, the stratification of terms, that is, the distribution of first and second-level terms, consideration of the order of formation of dictionary articles (linear sequence by alphabet or placement by conceptual structure), interpretation of vocabulary of terminological and professional character in a philological dictionary, research of the functioning of the term in a general.

Linguistics researcher B.-M. Schuster [2] considers prospective the research of terminological system from the point of view of cognitive linguistics, pragmatics and the involvement of modern approaches, for example, sociometry. The new concept of terms as prototypes or frames, social function and semantic effort of terms, functioning of different stable lexical units in diachronic, terminologization and determinologization processes. In this article were applied well-known methods of extracting the terminological core and periphery used in a narrow-focus scientific environment, using the example of general vocabulary. The article discusses the introduction and use of scientific terminology, explains classification challenges, and outlines future linguistic work for standardizing new terms. It covers methods for creating terminological dictionaries, thesauruses, and glossaries. It

also categorizes various types of vocabulary and demonstrates effective models for standardizing national terminology systems.

The purpose of this research were an astute analysis of general terminology from the point of view of problems and prospects for development in the future, consideration of the basic principles for fragmentation (extraction) the denotative meaning of stable units, assessment of the functioning of terminological vocabulary in contexts, taking into account the specificity of the field of knowledge, development of further directions for the effective unification and stabilization of the terminological base. The object of the work is the study of general scientific terminology in different fields in linguistic, communicative, functional-stylistic, structural and phonological aspects.

Materials and Methods

The methodological basis of the work provides a theoretical analytical and synthetic comprehension of terminological problems in world science on the example of general terminology that are functioning in different branches of knowledge, the assessment of the sustainability of the termbase and recording of changes in the process of technological development. Modern research demonstrates the usage of a different approaches and methods for the interpretation and study of the terms of the system: contextual, conceptual, psycholinguistic, communicative, some consider formation and establishment of the term base in the national discourse. The study considered the main issues in classifying and organizing current terms. It focused on new research methods for lexical stable units, interlingual differences in the adaptation of terminology units, the unification and standardization of terms, tracking new terms in context, identifying new stylistic and semantic differences, and the processes of terminologization and determinologization in modern national linguistic structures.

The application of component analysis allowed to analyze the direct and metaphorical meanings of some terms, to extract sememas – elementary constituents of the word meaning, the main denotative meaning and to determine the way of meanings building (metaphorical, metonymic) and connotations. Component analysis is also carried out on the basis of dictionary definitions, emphasizing of the nearest genus or class to which the subject belongs, and determination of generic differences. The further analysis of the communicative research of terms in the field of scientific communication, and contextual analysis, representing the study of specific terminological lexical units in specific contexts are also promising. The work presents a broad research base on the issues of terminology studies, a lot of scientists make conclusions about the current status of the termbase, about further ways of its development, set objectives and identify next steps and stages of existing problematical issues solution. A great deal of materials is focused not only on linguistic factors, but also on apart from linguistic factors, which allows studying of the formation of terminology from a historical perspective in-depth.

At the first stage of the scientific research, the scientific linguistic base and sources of interdisciplinary humanities were collected and studied, special attention is paid to the

communicative aspect of the research. The carefully selected literature has been classified and systematized properly, the narrow research on legal, medical terminology are also presented. The scientific base helped to implement the set linguistic tasks, work regarding the extracting of the necessary material was carried out. The second stage of the study presents a component analysis based on the example of general scientific terms, which made possible the extraction of primary and secondary components of meanings. The article focuses on main problems of unification and systematization of terms, the existing mechanisms of terminologization (metaphorization, metonymization) and adaptation of lexical items with consideration of national linguistic specificity are illustrated. At the final stage, the results of the research work were carried out, the results were interpreted and further vectors of terminology development were designed, the problematic issues that required solutions in the near future were specified. Therefore, writing the article required the following methods: analytical-synthetic, component linguistic analysis.

Results and Discussion

Prospects and problems of systematization and classification of general scientific terms

Terminology is the study of special notions and their linguistic designations or terms. Such specialized units are the result of the development of cognitive processes and communication between specialists in a particular field of knowledge. The work with terminology involves studying the functioning of terminological system in communicative contexts, fixing the meanings of terms in dictionaries and glossaries for decoding or generating text. The usage of terminology often contemplates a problem of adequate translation, which involves minimizing differences in the definition of the meanings of terminological units in different fields of knowledge. Important directions in context of research activities are the identification and understanding of specialized terms in discourse, the evaluation, the consultation and creation of information resources; the specification of interlingual correspondences between the terms of the specialized field of knowledge, the data management for reuse in future translations, the evaluation of needs and resource collection, the extraction and selection of terms, description of concepts and terms in source and target languages, the comparative analysis of documentation, the development of terminology articles, its support and distribution [1].

E. Rokhlina, E. Abramova [5] focus on the main terminological problems: the existence of different definitions of "term", different classifications of types of terms on the basis of different criteria, systematization, standardization, ordering, unification. The authors note the importance of researching the term throughout its life cycle: the preterms, the application of the term in cross disciplinary branches and tracking the frequency of its usage. The semantics of terminological units is key to understanding in the process of translation, because the meaning of a scientific text is concentrated in its terms rather than in syntax. The verbs play an important role in the understanding and structure of this discourse, because knowledge consists of events and states, many of which are linguistically represented by verbs: to project, to display,

to interact, to unify, to compare. Therefore, the predominance of a group of verbs in the text largely determines the nature of the text and its content. The authors note that verbs are not terminological units per se, they may have a special meaning in context. Among them there are performative verbs (related to textual functions such as discussion, observation), verbs of logical relations (copulative verbs); phraseological verbs (verbs in word-combinations and established collocation, lexicalizing the actions and processes) and quasi-terminological verbs (verbs that encode processes typical of the specialized field) [1]. E. Rokhlina and E. Abramova [5] considers that the most popular models of word formation are: noun adjunct + noun, attributive adjective + noun, adjective phrase + noun.

The method of matching between verbal phraseological units on the example of English and Spanish proved that the terminological units with the verb's meaning reduce the polynomial of the term by limiting it to one meaning. Therefore, the ability of a lexical domain to combine terms within the same conceptual categories facilitates prediction and translation of text segments [1]. The status of adjectives as independent terms has been demonstrated in recent academic papers, but their treatment in modern terminological practice is not entirely satisfactory. During the researching French terms-adjectives using corpus semantic analysis, the researchers concluded that their lexical functions became the main tool for detecting subtle semantic differences. A promising direction for the development of the terminological system is the establishment of the status of adjectives, which are terms, the study of paradigmatic and syntagmatic relations of such units in contexts, their fixation in dictionaries [6]. Among terminological units there are many postverbal nouns with semantics of action, phenomena: an image, a collision, a measurement, the condition, the consequence (an image, a collision, a measurement, a state, the consequence), nouns with abstract meanings: the project, the model, the factor, the analogy, the synthesis, the standard (the project, the model, the factor, the analogy, the synthesis, the standard), adjectival phrases: the man-made disaster, the graphic modeling, the music fragment [15]. In order to understand the nature of the terminological system, the classification of terms by usage should be considered:

1. The general scientific terms – terms used in almost all branches terminology, for example: a system, a trend, a law, a concept, a theory, an analysis, a synthesis, etc. It should be noted that such terms within a certain terminology can specify their meaning: the currency system, the drainage system, a theory of economic risk, a theoretical mechanics. This category includes general technical terminology: machine (technique) as a device, aggregate – washing machine, machine (description of everyday life) – car.

2. The inter-branch terms are terms that are used in several related or remote branches. Therefore, economic science shares terminology with other social and natural sciences, for example: depreciation, environmental costs, sanitation, technopolis and private ownership.

3. The narrow-branch terms are terms specific to a particular branch, as leasing, bank guarantee, chip, dystonia.

The main and widely used terminological systems are medical, technical, economic, legal terminology, and there

are many interdisciplinary and narrow terminological bases: sociolinguistic, installation and construction, finance and banking, electrical. In order to obtain the effective results, it is necessary to select units, determine the frequency of their usage, the universality of application in each branch, to study the difficulties of adequate translation on specific examples, to study the variability of connotative components [9; 16]. The relevance of research on the terminological system is due to the displacement of printed dictionaries, the variety of types of dictionaries and the principles of the selection of units, the demand for bilingual and polylingual dictionaries [5]. On the example of the legal terminology V. Turanini et al. [9] makes a conclusion about two sets of terms in view of their functional and stylistic characteristics: the general (generic, general, communicative meaning) and special, which can be divided into technical (special-technical) and artificial (purely legal, specially legal). The researcher notes that there are terms that can be used both in the general literary language and in a special sublanguage, for example, legal. The same applies to special terms from other fields of knowledge involved in the legal language: melioration (agrarian sphere), quarantine (medicine). Such terms have dual usage and are specific to the donor language and the specialized legal language.

On this basis, the authors conclude that there are terms of dual usage (general terms) and specialized terms (from a specific field of knowledge). By way of education, legal terms are divided into terminological (lexical items that have become terms in a legal context): a thing, property formulated by representatives of legal science and practice: right of operative administration and transterminologized: disqualification, reorganization (general, used as terms and in other fields of knowledge). By unambiguous legal terms are meant linguistic units, which are always used in only one meaning, they are characterized by the one-vector character of their semantic interpretation, such terminology units are the subject of this work. The legal terms used in different meanings are regarded as ambiguous [9]. The medical term, being a representative of medical communication, emphasizes the unambiguous basis of the term. In the view of the terminologization process, medicine is a closed branch compared to others, because the terminology is carefully selected and developed over the years. The doctor's speech should be accurate, unambiguous, unmistakable, truthful and respond to all levels of the national language – orthoepical, phonetic, lexical, word-forming, morphological, syntactic, orthographic and stylistic. Traditionally, medical terms tend to special categories: angina, myoma, cataract, but there are also general: model, system, operation, dynamics and cross disciplinary: manipulation, valve. The linguists classify medical terms in this way: anatomical medical terms, clinical medical terms, medical terms of disease names, dental terms and pharmaceutical terms [10; 17].

The analysis of some general scientific terms can show the process of their formation and the specifics of usage in a particular field. For example, the word "operation" means actions, activities aimed at the solution of any task, for the achievement of any goal, performed according to a certain plan and belonging to the range of functions of a given enterprise, institutions, equipment, etc. The contextual field of using of this term looks like: banking operation (economy), surgical operation (medicine),

technological operation (technology), program operation (programming), military operation (military). With the help of such combinations it is possible to demonstrate the process of formation of the terminological system with the help of adjectivization, a lot of terms are built on the model of "adjective" + "noun". Today these are established term, fixed in highly specialized dictionaries, so there is a problem of distinction between special adjective terms, used in narrow-focused contexts, and general phrases that are not already fixed in the profile dictionaries. The replacement of the term with detailed phrases should be limited, because it leads to the formation of hybrid terms, and the extension of the term is associated with an increase in semantic traits [5; 18]. This topic must be considered in detail due to the active tracking of such units in the scientific literature, the identification of new terminological word formations and their fixation in narrowly specialized dictionaries, a promising direction is the study of terminological dominant (core) and periphery.

The general scientific word "model" means the reproduction or display of an object, a design (constructions), a description or calculations that reproduce the principles of internal organization, certain properties, attributes or/and characteristics of the object of research or reproduction (original). This lexical item has a wide range of usage: design model, clothing model, situational model, information model, natural model, model of economic process. There is also the notion of the "medical model" as a generic name often used to denote the approach to psychiatry and clinical psychology. The technical sphere demonstrates a variety of different terminology, it is necessary to distinguish several groups: terms, which are based on postverbal nouns with semantics of action (calculation, measurement, manufacturing), lexical item of general scientific character (element, construction, coefficient) terms metaphorically rethought in other sciences (mechanism, engine, module), narrow-focus words and phrases (fire-resistance, thermal layer, bearing capacity, unit loading). The frequently used tools for terminologization and the appearance of general terms are metaphorization and methonymization. For example, the lexical item "device" has several meanings: the structure, the internal structure, the organization of something; the device, the equipment, the mechanism; the action of the organization of the holiday, the meeting; the regulation. The first meaning is the foundational one, followed by the metaphor – the transfer of the word's meaning to other spheres of knowledge for the nomination of other subjects and phenomena. There is a wide range of usage of this terminological unit in the context: the device unit (equipment), the device of the state (right), the device for work, the device of the park (common usage).

The terms of methonymic word formation are formed in the context of analogy of general and partial, most often under such a template noun are adjusted. According to the type of transfer "action – tool of its implementation" the following lexical units were formed: insulation (restriction of freedom – electrical insulation), rotation (regular replacement – rotation of magnetic tapes), drainage (removal of water – waterproof material). For systematization and differentiation of terms (separation of general and narrow-focused) it is necessary to record all processes related to metaphorical and methonymic rethinking of words and phrases in modern science. The

economic sphere is a relatively open structure, constantly updating and replenishing its lexical and semantic resources. It is characterized by a wide range of general scientific terms, linguistic models and formulas for word formation. For example, there are a number of terms with the core adjective “economic”: economic categories, economic principles, economic laws, economic theory, economic benefits, “financial transaction”: financial transaction, financial system, financial resources, financial system, financial market. In this case, nouns of general scientific interest are used.

The classification of terms is the most important stage in the unification of the terminological system: they can be divided into fields of knowledge, by the frequency of usage in a particular field, by the degree of citation in science. Such measures simplify the search for a specific term, give an idea of the functionality of the term in a particular field of application. One of the most important tasks at the moment is the creation of dictionaries, thesaurus, glossaries of general scientific terms in each field of activity. The working names: “Dictionary of general scientific terms used in computer technology”, “Thesaurus of general scientific terms in medicine”, “Modern glossary of general scientific terms used in economic science”. A promising direction of the classification is the creation of online dictionaries on popular web platforms with categories: general scientific, cross disciplinary and narrow-focused terms (for example, a dictionary of banking terms with three such categories). This will make it possible to starkly illustrate the existence of a variety of terminology, dividing it into three groups: lexically stable, subject to semantic changes and with minimal risks to semantic changes.

The one way of systematizing of terms is to form a thesaurus, which is a kind of verbal systematizing model of the relevant branch of knowledge. It can trace the path from concept to its expression as a term, systematizing each terminological unit in terms of finding its place in a particular field of knowledge. Modeling – the process of constructing any theoretical or applied models related to the ordering of the terminological system, for example, the legal term – semantic linguistic terminology field – the apparatus of application – the system in which it is used. With the aid of focusing on a particular model, it is much easier to work with terminology and systematize it in order to form accessible text [9; 19]. Terminology should be systematized taking into account the main lexical and semantic dominant in the context field of a specific general term. Therefore, it is necessary to distinguish the key (conceptual, meaning-forming) word, and then to give details of its usage in a certain field of knowledge. Unquestionably, the problem of systematizing and stabilizing terminology is that sometimes the well-known meaning is amenable to the strongest lexical changes, metaphorization, etc. For example, the original meaning of the word “manipulation” – “reception, complex action on anything during the work of hands” is amenable to metaphor in the sociological, political sphere (manipulation of mass consciousness, political manipulation), and in physics the denotative meaning of the word is reintegrated.

On the example of the cross disciplinary term “manipulation” it is possible to trace the basic principle of distinguishing the primary meaning and denotation of the

term. The word “manipulation” is used in several sciences with different meanings: political manipulation – a political technique that allows influencing the behavior of an individual or a group of persons, psychological manipulation – a synonym of fraud, manipulation, influence on people, medical manipulation – performing certain actions or achieving a therapeutic effect under the influence of the hands, physical manipulation – control of high-frequency alternating current for the purpose of receiving telegraphic signals. Of all the before-mentioned meanings, it is easy to define a lexical semantic core: manipulation – reception. General scientific terminology demonstrates many borrowing words from other languages: project, concept (Latin), model (Italian), system (Greek), also there are lexical units with Old Slavic (the Proto-Slavic language) genealogy: measurement, limit, firmness, release, focus. In the process of transferring borrowing words from other languages, the preferred method is phonetic, allowing you to keep as close as possible to the original, the foreign word must be adapted without the usage of extra characters. The problematical issue of transition from transliteration to transcription for already knew units of general terminology, because divergence in the sound of terms can cause difficulties in international communication [20; 21].

The main criterion for definition of the correct systematization and codification of a common term is a definition suitable for all branches of knowledge, without special semantical-lexical differences. One of the problems faced by the lexicographers of general scientific vocabulary – the shortest and fullness explanation, suitable for all possible contexts. In order to properly describe the subject, the phenomenon, it is necessary not only to understand the basic concept of the term, but also to have an idea about the formation of meanings and the specifics of usage in different fields of knowledge. The efficiency of systematization is due to the need to monitor the context in different fields of knowledge, studying the possibilities of interpretation by modern scientists, caused by the development of science and technology. Quite apart from the fact that general scientific terms are lexically stable, they can be subject to minor semantic, structural, phonological changes in the process of improvement and the appearance of new technologies.

Aspects of the study of the terminological system in modern science

The modernization of the European Union’s (EU) inter-agency terminology database IATE (InterActive Terminology for Europe) provided an opportunity to rethink the technology, architecture and data structure of the system to prepare it for future challenges, including compatible functionality, modularity, scalability and data exchange. In article P. Zorrilla-Agut and Th. Fontenelle [22] discusses how IATE data, which is one of the largest multilingual terminology databases in the world, can be used by exterior tools such as computer-aided translation (CATE). One of the promising directions of systematization of the terminological system is modernization of the application, ordering it with the latest software and systems engineering standards and technologies for the benefit of all users and for better management of EU linguists.

Ch. Roche et al. [23] considers that terminology dictionaries, including such resources as knowledge bases and terminological databases, ontologies, “traditional” dictionaries, etc. should meet the needs of human and machine in a globalized society. Because there have been significant changes in the processing of information and the language of terminological systems has to be adapted to the new realities brought about by the evolution of society. In order to systematize and classify terms in different fields of knowledge, it is need to develop new online terminological resources, new ways of presenting data, the exploring relationships not only inside the resources, but also between them. An important criterion for testing the suitability of online dictionaries will be the most convenient functionality, the simplicity of the usage and correspondence to the expectations of users. In recent years, the creation of a number of electronic terminological resources has been linked to theoretical, methodological and technical developments. The main task in the digital age is the development of open linguistic (Wordnet), terminological (IATE, Unified Medical Language System), encyclopedic (Wikipedia, DBpedia, BabelNet) platforms. For further research it is necessary to use extracts from scientific works, templates of definitions and contexts and processing of corpus-based data.

M. Haspelmath [24] compares general and private linguistics by investigating a hypothetical set of congenital building blocks in specific languages, and develops measurements that can be applied to the linguistic evaluation of any language. It is also noted that private language research contributes only indirectly to general linguistics, and no linguist can keep up the facade that the description of a particular language automatically contributes to general linguistics. Therefore, all linguists need an explicit methodology for language comparison. B.-M. Schuster [2] focuses on the relationship between terminological systems and communicative factors. The central role of terms in scientific communication is based on the fact that they designate and identify key objects and subjects of academic discipline. The general or traditional terminology states that the terminological unit should relate to only one mental concept, requiring connection with a particular object, unambiguity and independence from context. From a theoretical point of view, the establishment of hierarchical orderly terminological systems plays a key role in ensuring the most comfortable and understandable communication in the scientific environment. In practice, there are both unambiguous and polysemantic terminological units in each field of knowledge.

One of the important directions of systematization of terminological units is the study of the peculiarities of the special term usage in scientific discourses unrelated to the main branch of application. This aspect appears in the so-called polydiscourse communication. The work of I. Kulikova, D. Salmina [4] is based on a study of 45 linguistic terms (the so-called “migrants”), among which grammatical, lexical and orthographic invariants. The problem in the systematizing such units is in the fact that the meaning of a particular term can only be defined in a context using deep determination at all language levels. The TermEnsembler terminology extraction and alignment system, created from the perspective of language service providers in the language and translation branch, consists

of conceptual and concept-oriented terminological database with support for standard field file format for easy exchange with other terminological applications, online user interface for database management and semi-automatic extraction of terms, monolingual terminological extraction algorithm (currently supported by English and Slovenian languages), there is also a new bilingual alignment methodology with several components on the example of English and Slovenian languages [25]. The system work consists of several stages:

1. The monolingual extraction of the term, that is the so-called filter for nested terms and recognition of similar units, subsequently created two lists of terms (one for each language) ordered by rating.

2. The bilingual alignment of terms in two lists, searching for analogues and creating a pairs of terms in English and Slovenian languages by the use of matching phrases.

In the course of this study, A. Repar et al. [26] concludes that bilingual alignment improves the quality of monolingual terms at 10%, from the point of view of systematizing of the terminological system, this was a crucial step towards unification. It was also indicated further priority directions for study of terminology: the addition of new languages to the system, the introduction of new monolingual approaches, the optimization of parameters of evolutionary algorithm, the development of new fast methods of optimization, the embedding words, the natural language processing and interlanguage embedding. L. Biel and A. Doczekalska [8] investigate the subject and techniques of transferring supranational terms into national legal systems. The basis is not only the level of terms, but also the level of concepts, where the EU terms can be transposed literally into national legislation (import) with some form changes, including neologisms, replaced by national terms (localization) or not transposed at all (zero transferring). Each technique of transfer at the term level can be combined with a number of variants at the concept level, with the importation of the concept, its modification, localization or no transfer.

The field of teaching and learning English has in its arsenal many abbreviations and terms. C. Cunningham [27] considers that terms that are not privileged or dominant in any context should be given special attention. The author proposes a new version that reconfigures the current hierarchy between the dominant language, English, and those that have a lower status in the wider scientific community. In the course of the study the most commonly used ideologically entrenched terms are problematized. By way of example legal terminology, the authors draw a number of key conclusions, focusing on the following problems in transposition. Firstly, imports may introduce unknown terms/concepts into the national legal system, but they may be misunderstood, interpreted or applied incorrect. Secondly, as a result of modifications and localizations that depart from the EU terms, two different terms denote the same concept: one at the supranational level and the other at the national level. This may lead to inconsistencies between the EU term and national systems of terms, and divergent interpretations of autonomous terms. The transferring of the term could also lead to variability within the framework of the same field of usage, so the same term would relate to different concepts. In the legal system this is considered impermissible, so it is

important to make the supranational import of terms by "safe" method, it is necessary to smooth integration of European terminological units into national structures. The rigorous research of the behavior of supranational terms for creating a holistic picture has potential [8; 28].

The article of G. Zavarzina, T. Dankova [11] is devoted to the study of the peculiarities of the development of the terminological system of public administration, which is an integral part of the socio-political terminological system. The authors note that due to the passage of time there is an expansion of the terminological system at the structure, at the semantic organization, at the type of terms and at the degree of formation and adaptation, lexical terminological units enter into new synonymous relations. E. Smoktunowicz et al. [7] examines the issues of terminology in the field of the study of psychological interventions. The affluence of formats, methods, and technological solutions has led to increased availability and economical effectiveness of clinical care, but has also spawned many terms. In this regard, the experts note certain terminological difficulties that could have serious implications for research, treatment of patients, education of students and public awareness through the Internet. The scientists proposed a solution to this problem – the creation of the concept of a general glossary, the definition of its format and methods of distribution for the widest possible recognition and effectiveness usage in psychological practice. In the process of stabilizing terminology, its variability should be taken into account. An appellative variation of terms appears because the terms have different language notations and there is rarely a complete correspondence between denominational variants in different languages. It is unsurprisingly that variations of terms are the focus of modern research. P. Faber [1] examines the reasons for terminological variation in the following categories: dialect changes based on origin; functional, registry-based; discursive, style-based; interlingual, based on the languages contact; cognitive, based on different conceptualizations.

The further study of term base should focus on primary and secondary formation of terms and terminological genesis in different contexts. However, the syntax and semantics of specialized units of knowledge should be studied in-depth, because the boundaries between the terminological phrase and the word combination are not investigated. In the field of translation, interpretation processes should be modernized and standardized, taking into account advanced terminological theory and practice. The words are the building blocks of communication in the scientific environment, as the world understanding develops, the enrichment of specialized vocabulary occurs naturally. However, in an age of cross disciplinary, the usage of industry-specific jargon can hinder effective communication between scientists who do not have common scientific experience. Therefore, the problem of the limited transfer of scientific knowledge due to the usage of industry-specific jargon has long been discussed in world science, but is not solved. The study of industry-specific jargon and scientific quotations, allowed determining the negative relationship between the proportion of jargon words in the title and abstract and the number of the cited article.

One of the ways of solving this problem was chosen: the title and the abstract arouse interest in readers, so it is

necessary to limit the usage of jargon in those sections where its usage is inevitable. The decrease of sourcing through online resources can be the result of the avoiding of the industry-specific jargon, it causing inconvenience to users. The better the article is displayed in the search results, the more likely it will attract readers and be quoted, so the direction of systematization of the term base has a potential [3; 29; 30]. In order to create an accessible and easily understandable text, translators and technical writers must have an advanced level of the language in the conceptual area, the content that must be transferred. In order to translate specialized topics, translators will need to go beyond the correspondence at the level of individual terms and establish interlingual references to all knowledge structures. Only in this case, the level of understanding that is necessary to create an equivalent text in the target language can be achieved. In comprehension of the main issues and prospects for further development of general scientific terminology, articles by modern world researchers in this field were used. The classification and systematization are the main ways to develop new strategies in the study of the functioning of terms, allowing tracking the processes in the diachronic, creating online dictionaries for the fixation of new terminological units, highlighting their meanings and understanding context.

Conclusions

With the help of the theoretical analytical-synthetic method and component linguistic analysis, it was possible to demonstrate the main tools for studying stable lexical units using general scientific terminology. An important mechanism for future work with the terminology system is the contextual analysis, which involves a detailed study of the figuration of terms in different target and branch contexts. The diachronic fixation of terminological units is one of the most important ways to track and respond to semantic, lexical, structural, and stylistic changes. For example, today many terms are amenable to adjectivization, the general scientific term is starting to be used together with an adjective in the form of a stable lexical phrase. It can be said that the active development of new technological sectors, the appearance of new realities, subjects that are nominated and adapted with the help of the tools of the national language. The processes of transferring and accumulation of meanings take place due to metaphorical and metonymic ways of understanding reality. Therefore, new terms are appearance; it is affecting the terminology as a whole. The response of scientists to such changes should be rapid and effective, which is why it is important to develop universal mechanisms to monitor such processes.

The main aspects of the research in this work are not only the collection of materials and the formation of an information field in relation to terminological problems, but also the understanding of in which manner and how quickly the world science can cope with the issues relevant to today. The general terms have been analyzed from the point of view of the peculiarities of their functioning, word-forming capabilities, the ability to combine with other lexical items, the expansion of meanings with the help of transferring and building up connotations, processing and adaptation in different branches of knowledge, stylistic, structural and lexical stability. This article can be used to follow up study the solutions to

terminological problems, the formation of basic mechanisms for studying transfers, extracting sememes, the development of methods for creating modern dictionaries, glossaries for effective and simple work, including on advanced online platforms. The following directions have a potential:

- component, structural, and cognitive analysis of terminology;
- formation of the lexical-semantic field of the term through contextual fragmentary analysis;
- stabilization, unification and standardization of terms;
- the creation of dictionaries of modern terminological units that have appeared over the last decade

- the study of stylistic-functional features and stability of general scientific vocabulary
- the study of terminological and adaptation issues in transferring terms from one national language to another.

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Conflict of Interest

The authors declare that there is no conflict of interests.

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Проблеми та перспективи систематизації загальнонаукової термінології

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Анотація

Актуальність. Актуальність дослідження полягає в необхідності створення нових механізмів удосконалення, стабілізації та уніфікації терміносистеми на прикладі загальнонаукової термінології. Важливо вивчати, як терміни адаптуються та інтегруються в різні поля, відстежувати їх перехід між областями, документувати цей процес, збирати текстові фрагменти та вивчати поведінку терміна в конкретних контекстах.

Мета. Метою статті є детальний аналіз термінологічних проблем на сучасному етапі розвитку науки і техніки, аналіз загальнонаукових термінологічних одиниць, їх функціональне використання в міждисциплінарних галузях.

Методологія. Основними методами аналізу є теоретичний метод, що використовується для систематизації наукових знань у лінгвістиці та суміжних галузях, та метод компонентного аналізу, що застосовується при розподілі семантичних компонентів у термінах.

Результати. У статті осмислено роботи з термінологічної проблематики, що демонструють різні підходи: комунікативний, лінгвістичний, психологічний, полідискурсивний, а також розглянуто основні перспективні напрямки для подальшої роботи у термінологічному та термінографічному руслі.

Висновки. Матеріали даної роботи можуть бути використані в подальших дослідженнях із загальнонаукової термінології. Це може включати класифікацію та категоризацію термінів, дослідження особливостей використання термінів у контекстах, семантичний та структурний аналіз термінологічних одиниць, уніфікацію та систематизацію існуючих термінів тощо.

Ключові слова: термінологія; термінологічна система; термінологічна одиниця; систематизація; класифікація; проблема; перспектива.