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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

**INFORMATION STRUCTURE OF LEXICAL -
TERMINOLOGICAL UNITS IN THE ENGLISH AND
AZERBAIJANI LANGUAGES**

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INTRODUCTION

Relevance of the topic and degree of investigation. Information contained within a particular segment of discourse is conveyed through various linguistic units. One such category comprises lexical-terminological units. Alongside their numerous linguistic characteristics, lexical-terminological units possess distinctive informational properties. The present study elucidates the informational essence and content of lexical-terminological units in the English and Azerbaijani languages and substantiates their role within information flow and the informational space of these languages. This constitutes one of the principal and most relevant aspects of the research.

Terminological activity encompasses various types of information, including scientific, factual and cognitive information. One of the fundamental issues in this field is the problem of terminological nomination. The typology of terminological nomination is directly related to the structure of the information conveyed. Consequently the relevance of the topic is determined by such issues as the informational nature of lexical-terminological units, their informational load and block, information law, the definitional features of terms, means of information transmission, the cognitive characteristics of terms and the role of these units in the perception of the linguistic worldview. These considerations constitute the principal dimensions of the study's relevance.

In the contemporary global communication environment, terminological information is presented not only through verbal texts but also multimodally via visual, audio and digital platforms. This factor further enhances the significance of research on terminological systems.

Another important aspect determining the relevance of the topic is the rapid transformation of terminological systems under conditions of globalization and digital communication, as well as the expansion of their functional capabilities as carriers of information. Scientific and technological progress, the intensification of international information exchange and the emergence of new fields of knowledge necessitate the study of terminological units not only from nominative and definitional

perspectives but also from cognitive and communicative standpoints. While English, as the language of global scientific communication, significantly influences the formation and dissemination of new terms, Azerbaijani presents particular interest regarding the assimilation, adaptation and preservation of the informational potential of this terminological flow within the national linguistic system.

From this perspective a comparative investigation of the information structure of lexical-terminological units, their functioning within texts and the processes of condensation, decoding and cognitive interpretation of terminological information constitutes a relevant scientific problem in theoretical linguistics, terminology studies and applied linguistics. The relevance of the research is also determined by its potential to establish a new scholarly perspective on the study of the information-terminology sphere of language, terminological nomination and cognitive-informational models. Furthermore, the development of digital technologies and artificial intelligence-based systems has intensified interest in the automatic extraction, processing and systematization of terminological units, thereby necessitating the application of new scientific approaches to terminology management. These issues are systematically addressed throughout the dissertation and serve to determine the informational functions of terminological units at various structural levels.

The structural-semantic, nominative, and functional characteristics of terminology and lexical-terminological units have been investigated from various perspectives in Azerbaijani and international linguistics. V.M. Leichik viewed terminology as a system of concepts and information¹; Yu.S. Stepanov investigated the role of terms in the expression of scientific knowledge²; and I.R. Galperin studied the typology of textual information³. In Azerbaijani linguistics, M. Gasimov⁴,

¹ Лейчик, В.М. Терминоведение. Предмет, методы, структура. / В.М.Лейчик. – Москва: Издательство ЛКИ, – 2007. – 256 с.

² Степанов, Ю.С. Основы общего языкознания. / Ю.С.Степанов. – Москва: Просвещение, – 1975. – 271 с.

³ Гальперин, И.Р. Текст как объект лингвистического исследования /

S. Sadigova⁵, I. Gasimov⁶ and A. Asadov⁷ have made significant contributions concerning the informational load of terms, term formation and the characteristics of terminological systems.

Nevertheless, the information structure of lexical-terminological units in English and Azerbaijani, their cognitive-informational nature and their informational potential have not yet been comprehensively investigated from a comparative perspective. Although M.N. Volodina's studies on terminological nomination and the cognitive-informational nature of terms are well known, systematic comparative investigations based on the languages under consideration remain virtually absent. Therefore, the present research seeks to fill this gap in the existing body of scholarship.

Object and subject of the research. The object of the research is lexical-terminological units, while the subject of the research is their information structure.

Aim and objectives of the research. The study investigates the nomination of lexical-terminological units and their informational functions on the basis of their cognitive-informational foundations. To achieve this aim, the following objectives have been established:

- to identify the formal, semantic (content), specific and cognitive (conceptual) structures of terms;
- to examine terms as special means of information transmission and determine their information structure;
- to specify the domains and methods through which information is conveyed by lexical-terminological units;

И.Р.Гальперин. – Москва: Наука, – 1981. – 140 с.

⁴ Qasimov, M.Ş. Azərbaycan dili terminologiyasının əsasları / M.Ş.Qasimov. – Bakı: Elm, – 1973. – 186 s.

⁵ Sadıqova, S.A. Azərbaycan dilində terminologiyanın nəzəri problemləri. / S.Sadıqova. – Bakı: Elm, – 2002. – 230 s.

⁶ Qasimov, İ. Azərbaycan dilində hərbi terminologiyanın təşəkkülü və inkişafı (Monoqrafiya). / İ.Qasimov. – Bakı: Nurlan, – 2020. – 312 s.

⁷ Əsədov, Ə. Türk dillərində termin yaradıcılığı / Ə.Əsədov. – Bakı: Elm, – 1997. – 154 s.

- to clarify the relationship between lexical-terminological information and context;
- to identify the principles governing the transmission of definitional information in the information-terminology spheres of the compared languages;
- to examine the sources of lexical-terminological units, their linguocultural aspects and the means of information compression in relation to text and information;
- to construct conceptual models of term meaning;
- to investigate the psycholinguistic, cognitive-informational, linguistic and linguo-pragmatic aspects of lexical-terminological nomination;
- to determine national and international means of terminological nomination;
- to reveal the functional and communicative foundations of term transformation;
- to establish principles for the analysis and classification of lexical-terminological nomination based on existing theoretical sources;
- to formulate fundamental propositions concerning models of the information structure of lexical-terminological units as distinct from their other structural dimensions;
- to examine multimodal forms of presenting terminological information and their influence on information structure;
- to identify semantic variability of terminological units across different contexts and cultural environments;
- to analyse the mechanisms underlying the dynamic development of terminological systems in response to social and technological changes;
- to investigate the functioning of terminological units within interdisciplinary communication environments;
- to determine the prospects for the automation of terminological systems and their management through artificial intelligence technologies;
- to analyse the cognitive-cultural specificity of terms.

Research methods. The principal methodological approach employed in the study is linguistic analysis. In addition, descriptive,

comparative and componential analysis methods have been applied where necessary.

Main provisions submitted for defense.

- In the compared languages the information structure of lexical-terminological units requires comprehensive and systematic investigation. Restricting research to formal-semantic and specific structural dimensions is insufficient. These units possess substantial informational potential, and the comprehensive study of their specific characteristics based on materials from two typologically different languages constitutes a fundamental proposition of the research.

- Information concerning specialized concepts is transmitted through lexical-terminological units. Contemporary society functions within a new information environment and linguistic research must correspond to the developmental requirements of the information society.

- Lexical-terminological units, like other linguistic units, play a significant role in shaping the global information environment. Within this framework, information is generated and enriched through the interaction of terminological and informative functions.

- The position and status of lexical-terminological units within the information space are decisive and may be regarded as one of the primary indicators of informational capacity.

- The information model inherent in the system of lexical-terminological units should be expanded and represented as a more independent system. Such a system must encompass the informational means of lexical-terminological units, the determination of their content within informational contexts, and their various definitional features.

- The informational load of these units must be precise and unambiguous.

- A thorough study of these issues contributes to a deeper understanding of the cognitive structure of language and its role in constructing the linguistic worldview.

Scientific novelty of the research. The scientific novelty of the dissertation lies in the fact that it identifies and determines the special place and status of the informational load and informational block of

lexical-terminological units in communication. For the first time highly significant problems of terminological nomination are subjected to comprehensive analysis on the basis of the compared languages. The cognitive-informational structure and nature of terms are systematically conceptualized. Key notions such as *term predication*, *terminological information* and *the information-terminology sphere of language* are examined from a new theoretical perspective. The semantics and functional characteristics of selected terms are investigated on the basis of specific regularities, and the distinctive typology of the subject under study is presented.

Theoretical and practical significance of the research. The dissertation examines the means and mechanisms through which information is transmitted within the lexical-terminological systems of languages. From a theoretical perspective, the categorical relationships between information theory and lexical-terminological systems are explored. Furthermore substantial efforts have been made to reconcile conceptual divergences within the field. The research provides a well-founded contribution to revealing the informational potential of lexical-semantic units and determining their specific role within the information sphere.

The issue of how information is transmitted through linguistic means occupies a certain place in both university and secondary-school curricula. In the information age, discussions and research in this field have become increasingly relevant and demand rigorous scholarly attention. The findings of the dissertation may contribute to the teaching of English and Azerbaijani language courses at universities and secondary schools, facilitating more systematic explanations of relevant topics. The conceptual provisions of the dissertation may also serve as a specialized subject within courses on informatics and terminology and contribute to the improvement of lexicology and terminology instruction.

Approbation and application of the research. The principal findings of the research have been presented and discussed at scientific seminars and at national and international scientific conferences. Articles

and conference papers related to the topic have been published both in Azerbaijan and abroad.

Institution where the research was conducted. The dissertation was carried out at the Department of Languages of Odlar Yurdu University.

Structure and overall volume of the dissertation. The dissertation consists of an Introduction, three chapters, a Conclusion, and a Bibliography. The Introduction comprises 10,345 characters; Chapter I, 49,670 characters; Chapter II, 70,090 characters; Chapter III, 86,506 characters; and the Conclusion, 7,202 characters. Excluding the bibliography, the dissertation contains a total of 225,314 characters.

MAIN CONTENT OF THE RESEARCH

The **Introduction** substantiates the relevance of the research topic and the degree to which it has been investigated, identifies the object and subject of the study, defines its aims, objectives and methods and presents the main propositions submitted for defense, the scientific novelty, theoretical and practical significance, degree of investigation of the topic, approbation and application of the research, as well as concise information on the structure of the dissertation.

Chapter I, entitled “**The general structure of lexical-terminological units**” examines the formal, semantic (content), cognitive (conceptual), and specific structures of lexical units as an integrated system. In the first section of the chapter, entitled “*On the study of language, terminology and information issues*”, the author notes that language is a system of signs used to express ideas and thoughts. Numerous disciplines are concerned with the study of language, one of which is terminology studies. Terminology studies investigate all characteristic features of terms as linguistic representations of scientific concepts.

The processes of qualitative and quantitative change and enrichment within a language are most prominently manifested in its terminology. Terminology constitutes a significant component of the lexical layer of every developed national language that has attained a

certain level of advancement and serves as one of the principal sources contributing to its enrichment.

The distinguished scholar A.A. Kharkevich repeatedly emphasized the significance of information theory within the field of terminology. According to him, terminology, through its signs, terms and conceptual apparatus, has been able to develop an important theoretical framework - information theory. In his view *information* is understood as data, the preservation of an object, its transmission, publication, and transformation into another form. Information is characterized by both qualitative and quantitative precision ⁸.

“Terms are not special words; rather, they are words that perform a special function” ⁹. V. Adilov states that *“terms are used more extensively in the scientific style than in other functional styles of the literary language and characterize scientific discourse from a logical and informational perspective”* ¹⁰. The languages selected for comparison are among the functionally developed languages of the world. By encompassing all spheres of social life, these languages have become one of the principal factors of cultural and technological advancement. The functional capacities of terms are considerably broader than those of commonly used lexical items.

In the second section of the chapter, entitled *“The formal and semantic (content) structure of lexical-terminological units”* the author notes that the formal structure of a term is comparable to that of any lexical unit of a language. Structure, in general, constitutes both the material and the object of language. The structure of a term, as it were, embodies its meaning. The primary structure of lexical-terminological units is their formal structure. This structure encompasses such features as the field to which a term belongs, its etymological origin, its meanings and

⁸ Лингвистические проблемы научно-технической терминологии. / – Москва: Издательство “Наука”, – 1970. – 231 с.

⁹ Виноградов, В.В. Русский язык / В.В.Виноградов. – Москва- Ленинград: – 1947. – 783 с., - с.5

¹⁰ Adilov, V. Termin və ümumişlək sözlər // Terminologiya məsələləri, – 1990. – s.10-14., - s.10

the combinations it generates. Such characteristics are formally represented in terminological dictionaries. In these dictionaries the term is described in terms of its external form and appearance, thereby revealing its formal-structural properties. For example, the term *adapter* is of Latin origin and derives from the word *adaptare*. In both English and Azerbaijani it conveys the meaning “*to adapt*” or “*to make suitable*”.

Lexicological terms constitute a special category of lexical units. The terminology of the English language consists primarily of Africanisms, Americanisms, Anglicisms, Classicisms and Gallicisms. In certain cases this classification is expanded to include such categories as Australianisms, Briticisms and others.

From a typological perspective the structure of English lexical-terminological units may be examined within semantics through four aspects applicable to every sign, including linguistic signs: form, meaning, historical development of the language and etymology of the word and function.

In both English and Azerbaijani terms may be classified according to their structural type and degree of complexity into the following categories: simple (root) forms, compound forms and derived (affixal) forms. For example, in English: simple terminological units: *name, word*; derived (affixal) terminological units: *complaining, pre-terms*; compound terminological units: *word-cluster, aprtonym*; complex terminological units (multi-word terms): *phonetic motivation*, etc.

Statistical analysis of these structural relations in English terminology reveals the following distribution: simple terms: 51 terms (6.3%); derived terms: 156 terms (18.9%); compound terms: 111 terms (14.3%); complex terminological units: 498 terms (60.5%). Total: 822 terms¹¹.

The third section entitled “**The cognitive (conceptual and perceptual) and specific structure of lexical-terminological units**”

¹¹ Гринев-Гриневич С.В., Сорокина Э.А. Опыт описания формальной структуры термина (на материале английской терминологии лексикологии) // С.В.Гринев-Гриневич, Э.А. Сорокина. Вестник Московского государственного областного университета. Серия: Лингвистика, – 2020, №(5), – с.74-85.

concludes that within the cognitive structure of a linguistic unit, meaning and comprehension occupy a central position. The term *cognitio* originates from Latin and denotes *perception, cognition, or understanding*.

According to the author the cognitive characteristics of lexical-terminological units include the following: 1) expressiveness – the verbalization of cognitive means within the language system; 2) effectiveness – the rapid and efficient resolution of practical tasks; 3) algorithmicity – the presence of systematic and rule-governed procedures; 4) adaptability – the capacity for adaptation to different communicative and conceptual contexts; 5) assimilation and perception – the ability to be comprehended and internalized by language users. These characteristics demonstrate that, like words in general, terms are also mental units of language. As the author notes, *“Like words, terms are mental units of language.” Within the linguistic system, the cognitive system becomes actualized through its interaction with the information system, giving rise to new theoretical approaches, particularly the theories of categorization and conceptualization in language. According to these theories, human cognition is encoded in language and linguistic structures serve as mechanisms through which conceptual knowledge is organized, represented and communicated* ¹².

Frame meanings emerge within a conceptual structure. A frame is understood as any cognitive concept or notion. For instance, in semantic analysis, the term “*boy*” evokes the notions of “*male*” and “*young*,” whereas the term “*girl*” is associated with the notions of “*female*” and “*young*.” Through this process, information (cognitive information) expands and becomes increasingly differentiated. This mechanism facilitates the organization of cognitive structures and semantic representations within the mental space. Consequently, the cognitive conceptual base contributes to the development of terminology. As noted, *“an important direction has emerged within cognitive terminology. This*

¹²Хомякова, Е.Г. Информационная-когнитивная система и ее актуализация в языке./ Е.Г.Хомякова. – СПб., Санкт-Петербургское философское общество, – 2004. – с.180-197.

direction focuses on determining how a term is perceived and conceptualized within an informational-cognitive structure”¹³.

The study of information generated within a terminological system through a cognitive approach constitutes an important area of contemporary linguistic research. By *terminological system* (*terminosystem*), one understands a structured and organized set of linguistic units resulting from cognitive processes of perception and conceptualization. The current stage of linguistic development requires the functioning of anthropocentric and linguistic knowledge within the context of globalization and rapidly expanding information exchange. Language serves as a fundamental instrument of communication, emerging and developing within society and its social environment.

The second chapter of the dissertation is entitled **“The special information structure and means of lexical-terminological units”**. Under conditions characterized by the intensive growth of scientific and technical knowledge, terminological units function as specialized linguistic means that ensure the precise, systematic and lossless transmission of information. The formation of terminological information results from the interaction between the lexical-semantic system of language and the system of knowledge. Within this interaction a term encodes the content of a particular concept, establishes its definitional boundaries and creates a unified model of interpretation for scientific communication.

The following characteristics of lexical-terminological information have been identified: 1) accuracy and reliability of information – truthfulness, authenticity, credibility, validity and correctness; 2) completeness of information – integrity and comprehensiveness; 3) precision of information – exactness, correctness and consistency; 4) value of information – significance, usefulness and importance; 5) timeliness of information; 6) clarity of information – intelligibility and ease of understanding; 7) accessibility of information – feasibility, convenience

¹³.Исакова, С.С. Когнитивная структура термина. // Вестник ЭКТУ, Западно Казахстанский государственный университет им. М.Утемисова, – 2015. – с.207-213, - с.209

and simplicity; 8) conciseness of information – brevity and compactness; 9) relevance of information in terms of topicality; 10) relevance of information to a particular communicative purpose or context; 11) preservation and protection of information.

It is also possible to distinguish several modes of information transmission through lexical-terminological units. Among them, two principal types may be identified: 1) information conveyed through specialized terms used within a text; 2) information provided by individual lexical-terminological units in terminological dictionaries. For example, let us consider several lexical-terminological units related to corpus linguistics: *corpus* – an information retrieval system based on the electronic collection and organization of texts in a particular language.

Following this definition, the term national corpus is introduced: *national Corpus* – a corpus that represents a language at a particular stage or stages of its development, encompassing the diversity of its genres, styles, territorial varieties and social variants. National corpora are widely used for linguistic research and language teaching purposes.

Further information is provided regarding corpus linguistics itself: corpus linguistics research generally pursues two major objectives: first, the development of methodological tools and resources for linguistic investigation; and second the study and analysis of linguistic phenomena through these tools in order to clarify their nature and underlying characteristics¹⁴. As can be seen, systematic relationships emerge between the structural components of a definition and its informational block. These issues are discussed in the first section of the chapter entitled “*The transmission of information through lexical-terminological units*”.

The second section is entitled “*Lexical-terminological information and issues of context*”. According to the conclusions reached by S. Valiyeva, language, as an essential means of communication, is closely connected with the concept of *information*, which reflects objects, processes and phenomena. It may be argued that events occurring in the

¹⁴ Mahmudov, M.Ə. Türk dillərinin milli korpusları / M.Ə.Mahmudov. – Bakı: Elm və təhsil, – 2018. – 392 s., - s.17

world generate information for society. Any piece of information creates a basis for understanding other information, thereby reducing uncertainty, ignorance and lack of knowledge.

Language and its terminological foundation function as manifestations of human cognitive activity, which implies processes of conceptualization and conceptual operations. Lexical-terminological units convey specialized concepts through information within specific situations and scientific-professional communication. The pragmatic dimension of a lexical-terminological unit is reflected in its ability to create a specialized communicative strategy through its structural and semantic characteristics.

Terminological nomination (designation) represents a specific nominative activity within terminology studies. It operates within the information-terminology sphere of language, where terminological information is formed, preserved, encoded, processed, revised, prepared, utilized by individuals and subsequently comprehended. The sources of lexical-terminological information are closely connected with society's cognitive experience. The foundations of terminological information emerge through the condensation of knowledge, information and lexical meaning. Information is encoded in two principal ways. In the first case general linguistic information is encoded; in the second case the definition of a lexical-terminological unit is established. The process of encoding is coordinated with the structure and content of terminological information.

Information may be presented within a term either in a complete form or in a condensed form. Terminological information is encoded through specific term elements, whether national or international, thereby revealing the informative capacity of the term and generating further terminological series and derivative formations.

The information-terminology sphere of individual national languages clarifies the possibilities for the unification of term-forming means. A substantial number of terminological elements of Latin and Greek origin ensure a high degree of informativeness under optimal conditions. These elements actively contribute to strengthening informational capacity.

“There are specific reasons for giving priority to international word-forming and grammatical elements derived from Greek and Latin in the

process of term formation. First, this is related to various historical tendencies. Second, they enable ideas and information to be expressed precisely, clearly, and unambiguously. Third, since Greek and Latin are considered dead languages and the internal relationships within their root-affix systems are no longer evolving, their linguistic elements have retained stability. Consequently, these elements are used in a similar manner across languages belonging to different linguistic systems. Most importantly, although such elements may be artificially and mechanically combined within a particular language, the resulting term is ultimately regarded as a lexical unit of that language itself”¹⁵.

In the third section, entitled “*The information-terminology sphere of typologically different languages*” the researcher notes that the study of information transmission through lexical-terminological units one of the pressing issues in contemporary lexicology and terminology necessitates a systematic approach to its investigation. In the author's view examining the various means that facilitate the study of this phenomenon may provide a basis for developing innovative scholarly perspectives on the mechanisms through which communicativeness and informativeness are generated in the process of communication. At the same time many issues concerning the information-terminology sphere of typologically different languages have not yet received adequate and comprehensive solutions.

The concept of information is also closely associated with the notions of sign and signal. The idea of a *carrier of a sign or signal* likewise encompasses these meanings. From this perspective language is embedded within various information systems and functions according to the principles governing those systems. The principal information functions of language include: providing society with information; preserving important and essential information; serving the processes of information transmission and communication.

Two major types of information are distinguished in language: elementary information; social information.

¹⁵ Məmmədli, N. Yunan və latın mənşəli beynəlmiləl termin elementlər / N.Məmmədli. – Bakı: Elm, – 1998. – 119 s., - s. 6-7

The term in question was first encountered in Karl Brugmann's 1904 scholarly work *Die Demonstrativpronomina in den indogermanischen Sprachen* (*The Demonstrative Pronouns in the Indo-European Languages*)¹⁶. The information that emerges subsequently moves beyond elementary and simplistic characteristics and conveys data concerning the further development of the problem. Among recent studies, E.B. Paducheva's research devoted to temporal deixis further expands the information regarding this lexical-terminological unit¹⁷.

In the fourth paragraph of the chapter, entitled “*Issues of the transmission of definitive information through lexical-terminological units*”, the author presents views concerning the role of terms as means of information. Language is a system of signs that expresses various ideas and thoughts. The forms through which objective reality manifests itself are realized through language and its means and after a certain period, are transformed into information. At the same time, the process of communication itself constitutes an exchange of information. During this exchange, the expressive and emotional coloring of facts is realized not only through various stylistic devices but also through lexical-terminological units. “*In the modern period, changes occurring in social society and public life lead to the emergence of new terms in language. All developing fields generate new terms and the functional characteristics of their new types, including nominative (significative), informative, communicative, regulative, system-forming, and definitive functions... Definition is connected with informativeness and is closely related to ‘the disclosure of a concept, the determination of its semantics, the substantiation of its logical meaning and subsequently its visualization. In this process information is comprehended more profoundly’*”¹⁸.

¹⁶ Brugmann, K. *Die Demonstrative Pronomina der indogermanischen Sprachen*. / K.Brugmann. – Leipzig: Gruyter, – 1904, – 151 s., - s.18

¹⁷ Падучева, Е.В. Семантика синтаксиса. / Е.В.Падучева. – Москва: Наука, – 1974. – 291 с.,- с. 11

¹⁸ Sadıqova, S.A. Definitiv terminlərin yaranması // Terminologiya məsələləri, – 2002. – s.18-23, s.22; Zeynalova, G. Azərbaycan dilində definitiv terminlərin yaranma prosesi /filologiya üzrə fəlsəfə doktoru dis.avtoreferatı / – Bakı: – 2022. – 29 s.,s.28

Definitive information is a system of knowledge concerning the definitive function of a term. V.V. Vinogradov writes that *“a term performs not a nominative function but a definitive function; in other words, a term is a sign serving as a means of precise designation and this sign becomes a means of logical definition. At this point, the word acquires the status of a scientific term”*¹⁹. In terms of its essence and content the definitive function is the function of defining corresponding concepts. According to the viewpoint of K.A. Levkovskaya, who provides a comprehensive explanation of the theory of the word, the definitive function is characteristic specifically of a scientific term, distinguishing it from ordinary words²⁰.

The third chapter of the dissertation is entitled **“The role of lexical-terminological units in the process of information formation and transmission within the structure of a text”**. In the first paragraph of the chapter, entitled *“The formation of information in the structure of a text and the functional role of lexical-terminological units”*, S. Valiyeva notes that a text is a segment of speech formed by the unity and aggregation of many sentences. A text - a complex syntactic whole (CSW) as an utterance determines what the topic is about. The main idea of a text lies in the fact that the objective and subjective thoughts of the speaker or writer are realized within it. Texts vary in size and structure, while logical-semantic relations encompass the unity of their sentences.

A text also possesses another distinctive structure. Concerning this issue, G. Kazimov writes that *“a text (syntactic whole) is studied both as a linguistic fact and as a speech fact. The structure of every text is built on the basis of a specific model. The structure of the model is known: first, general information about the microtheme is provided; then this information is expanded and interpreted in a substantiating manner and finally it is summarized. This constitutes the semantic aspect of the model structure. For a particular theme to be constructed on the basis of this*

¹⁹ Виноградов, В.В. Русский язык / В.В.Виноградов. – Москва- Ленинград, – 1947. – 783 с., - с. 12

²⁰ Левковская, К.А. Теория слова принципы ее построения и аспекты изучения лексического материала /К.А.Левковская. – Москва: Наука, – 1962. – 300 с., - с.196.

*model structure, there exist lexical-terminological means, word-terminological combinations and sentence-utterance models. At the same time, there are lexical-grammatical and lexical-terminological means (conjunctions, modal words, deictic and prosodic means, etc.) for linking words and terms, term-word combinations and sentence-utterances. All these are linguistic means that serve the structural organization of the text”*²¹.

A considerable number of works on the structure of the text have been written in Russian and European linguistics. We shall not dwell on these issues. What interests us is the *“information potentially embedded within the structure of the text”*. Today, nations live in the information age. One of the most significant contemporary realities is the fact that the “information war” has become more influential than all other forms of warfare. From this perspective, the acquisition, dissemination, transmission and exchange of information are matters of serious importance. We address this issue because of its particular relevance in the modern era. However, our primary interest lies in the information accumulated in texts of all kinds and in the means through which this information is conveyed to listeners and readers.

Various types of information are also condensed through terms; that is, the informational volume of a text is compressed and this is regarded as a form of specialized knowledge. *“Information is formed within the structure of the text and constitutes its informational basis. For this purpose, the text enters into the process of communication”*²².

In the second paragraph, entitled *“Information sources of lexical-terminological units”*, the author writes that information data, its emergence, its benefit to people, the means through which it is generated, disseminated, communicated, transmitted and comprehended, etc. is the result of a long process. In this subsection we shall discuss not every type

²¹ Kazımov, Q.Ş. Seçilmiş əsərləri / Q.Ş.Kazımov. – Bakı: Nurlan, –V cild, – 2008. – 500 s., - s.444

²² Каменская, О.Л. Текст и коммуникация. / О.Л.Каменская. – Москва: Высшая школа, – 1990. – 152 с., - с.32

of information, but rather the informational load of lexical-terminological units and the means that transmit information.

Language is a system of signs that conveys certain ideas and thoughts. Lexical-terminological units are among these signs. These units possess multifunctional characteristics. One of these characteristics is that a lexical-terminological unit *“has a definitively established meaning and conveys this meaning to others in the form of information”* ²³. By “established meaning,” what is understood is the semantics that a word acquires in a text after being transformed into a term. It should be noted that words that perform a specialized function are distinguished by possessing a high degree of informational load. This informational load and meaning are manifested in the term’s ability to present objects, processes, phenomena of objective reality, and the concepts associated with them in the form of information. K. Levkovskaya notes that, alongside the linguistic-structural and conceptual aspects of a term, an informational structure is also present within it ²⁴.

Addressing the issue of terminological innovation and information, T. Guliyev writes: *“Every new piece of information acquired gives rise to the emergence of a new concept in the language and its vocabulary. Thus, new concepts themselves are determined through information intensity... Every new and necessary piece of information necessitates the creation of a new concept in the language and dictates the emergence of terms that ensure its expression and transmission. Likewise, new concepts themselves pass from one language to another through information intensity”* ²⁵.

Information about a term can be provided in books, articles, monographs, the press, mass media, social networks, television and radio programs, information agencies, Internet information resources, and other sources related to terminology. These may be regarded as sources of information concerning terminological units.

²³ Левковская, К.А. Теория слова принципы ее построения и аспекты изучения лексического материала /К.А.Левковская. – Москва: Наука, – 1962. – 300 с., - с.164

²⁴ There again - с.43

²⁵ Quliyev, T.Z. Azərbaycan ədəbi dilində terminoloji yeniləşmə. (1920-1990-cı illər) / T.Z.Quliyev. – Bakı: Nurlan, – 2005. – 289 s., - s.4

The third paragraph is entitled “*The linguocultural information of lexical-terminological units*”. The author states that cognition is considered a philosophical category that provides a comprehensive explanation of human existence. From another perspective however, it does not merely reflect material reality but also embodies national and spiritual values. In the process of social development, language emerged and functioned as a universal means of expressing thought and communication associated with the formation of cognition. Natural language became the primary means of expressing scientific and cultural concepts. From this standpoint, language plays a significant role in the cognitive activity through which objects, entities, phenomena and other elements of the surrounding world are comprehended.

Culturology is the combination of practical skills and modes of thinking that characterize the way of life of a people. It represents a value selection carried out by society. The development of culturology proceeds rapidly. The intensification of its development leads to an acceleration in the development of language. As a science culturology has been formed and organized through the thinking of the linguistic personality and through linguistic categories and concepts. A national cultural code has emerged. Consciousness and communication have “governed” this code.

Language and speech not only reflect reality but also shape information through their rich expressive means. As noted above, one of these means is lexical-terminological units. The transmission of various types of information through lexical-terminological units has been discussed extensively in the previous sections of the study. In this part of the dissertation, however, attention is devoted to the transmission of cultural information through these units. It should be noted that researchers have identified the “language–culture–human–ethnos” quartet as a new paradigm in linguistics ²⁶. This paradigm, of course, also exerts its influence on linguocultural information. V.N. Prokhorova writes:

²⁶ Quliyev, T.Z. Azərbaycan ədəbi dilində terminoloji yeniləşmə. (1920-1990-cı illər) / T.Z.Quliyev. – Bakı: Nurlan, – 2005. – 289 s., - s.3

*“Terminology is a code and is capable of conveying cultural and emotional information as well”*²⁷.

Various types of cultural information emerge. In order to obtain these types of cultural information, the lexical-terminological system is also approached from a linguocultural perspective. In the words of A. Sukhanov linguoculturology appears as a reflection of the anthropocentric and integrative orientation of modern linguistics. Thus, language and speech also stimulate the spiritual capacity and multifaceted activity of human beings through lexical-terminological units²⁸.

M. Volodina writes: *“Today, since the term as a carrier of information constitutes a special and relevant concept, a specific scientific direction in terminology studies should be devoted to the analysis of term-creating activity”*. According to M. Volodina, *“the cognitive informational essence of a term is determined by the process of professional and scientific communication, by the scope and activity of nominative processes in all directions of term formation, by the flow of information within a particular linguistic space, and by its inseparable connection with the development of cognition”*.

Expressing her view on this issue, S. Ivanova states: *“The lexical-terminological units of a language reveal the national-cultural characteristics and the figurative essence of information”*²⁹.

The fourth paragraph is entitled *“Terminological nomination and information”*. According to the author's conclusion in this section, terminological nomination constitutes a special domain of the nominative system of language and functions as one of the leading mechanisms in the process of the formation, systematization and transmission of scientific knowledge. The concept of nomination is associated with the function of

²⁷ Прохорова, В.Н. Об эмоциональности // – Москва.: Изд-во Наука, Лингвистические проблемы научно-технической терминологии, –1970. – с.153-157

²⁸ Суханов, А.П. Информация и прогресс. / А.П.Суханов. – Новосибирск: – 1988. – 192 с., - с.52

²⁹Иванова, С.В. Культурологический аспект языковых единиц. / С.В.Иванова. – Уфа: Башкирский государственный университет, – 2002. – 116 с., - с.21

linguistic units to name objects, phenomena and concepts that exist in reality.

In the *Explanatory Dictionary of the Azerbaijani Language*, the following definition of the term “nomination” is provided: “1. Naming as a process; the correspondence of a word to a given concrete referent. 2. Nomination is understood as the nominative function.” Like a word, a term is also a nominative unit. One type of nomination is terminological nomination. The result of terminological nomination is connected with semantic shifts. As a result of semantic shifts, a new term is formed. This constitutes a secondary nomination (naming). Terminological nomination is a nominative activity. It occupies an important place in the informational and terminological sphere of language. In the primary nomination of a term, one piece of information or knowledge is present, whereas in its secondary nomination, another type of information exists. The nominative function arising from these successive layers of information is directly connected with human activity, cognition and communication.³⁰ In general the concept of “nomination” is an onomasiological concept and possesses a diverse structure and a complex system. This issue has been elucidated in the works of V.N. Teliya, A.A. Ufimtsev, E.V. Kubryakova and others. “Nomination” is characterized by the nominative function of linguistic units³¹.

The second name of a term its secondary nomination has a number of principal means. These means include metaphor, metonymy, synecdoche and phraseological units. Let us consider some examples. In English “mackintosh” (mackintosh) is the name of a type of fabric or raincoat. This term acquired its secondary nomination from the name Mackintosh. Another medical term is “Parkinson”, the name of a disease. It is associated with the name of the British physician S. Parkinson. In these eponyms a metonymic process has taken place. Such terms should be approached within cognitive-linguistic and informative frameworks in

³⁰ Azərbaycan dilinin izahlı lüğəti / – Bakı: Elm, – III c, – 1983. – 555 s.

³¹ Телия В.Н. Вторичная номинация и ее виды // – Москва: Наука, Языковая номинация (Виды наименований), – 1977. – с.121-129

order to comprehend their subsequently acquired meanings, informational content and other characteristics.

The paragraph entitled “*Other characteristics of terminological information in the context of the text*” is the final paragraph of the chapter. The formation of the informativeness of lexical-terminological units encompasses the following structural types of terms: the informativeness of term abbreviations; the informativeness of term words; the informativeness of complex terms; the informativeness of terms in the form of word combinations; the informativeness of acronymic terms; and the informativeness of symbol-terms. Thus the specificity of terminological information is as follows: the informativeness of the internal form of the term and of term-forming elements; and the linguistic form of term-words and their informativeness.

Discursive interaction ensures mutual communicative understanding among participants in the communication process. In discourse analysis, various types of information possess both explicit and implicit characteristics. In discourse the first and second types of information conveyed by terminological units are distinguished. The first type of information concerns the communicative process of the speaker the addresser conveys important ideas and information regarding his or her intention. The second type of information arises in the process by which the recipient the addressee interprets the discourse. Such explanation and interpretation are connected with the situation created by communication and information in speech. These types of information include encyclopedic, sociocultural and abstract information. Sociocultural information is formed in the course of social experience.

At the fourth level, abstract information is conveyed through terms. In the process of discursive activity, information transmitted through lexical-terminological units is organized and systematized. In this regard the following information types are theoretically employed in connection with terminological units used in discourse: explicit information, conventional information, and true (literal) information. Implicit (subtextual) information is related to the expression of the speaker’s communicative focus and interprets interactional meanings. One may also

encounter intersubjective information in discourse. Discursive information is divided into social-deictic information ³².

The main findings of the dissertation are as follows:

1. Language and information function as mutually conditioned systems and lexical-terminological units occupy a special place within this relationship. Alongside serving as a means of naming scientific concepts, the terminological system also functions as a communicative-informative mechanism that ensures the coding, storage and transmission of knowledge. A comparison of the terminological inventories of English and Azerbaijani demonstrates that, in addition to their nominative and definitive functions, terms are cognitive instruments involved in the formation of scientific thinking and the linguistic worldview. Since the development of terminology is directly connected with the dynamics of scientific, technological and social progress, the informational load and communicative potential of terminological units should be regarded as a separate area of linguistic research.

2. The formal and semantic structure of lexical-terminological units consists of interrelated components that ensure their functioning within the system. While the formal structure reflects a term's origin, composition and modeling characteristics, the semantic structure determines its meaning, definition, and pragmatic content. Materials from English and Azerbaijani indicate that terms are formed on the basis of simple, derived, compound and composite models and are actualized semantically through communicative situations, context and conceptual relations. The content of a terminological unit encompasses not only its lexical meaning but also its sphere of scientific-practical use and its informational capacity.

3. The cognitive and specific structure of lexical-terminological units demonstrates that they function not only as linguistic units but also as carriers of mental and conceptual knowledge. Through processes of conceptualization and categorization, terms ensure the systematization of

³² Лейчик, В.М. Терминоведение. Предмет, методы, структура. / В.М.Лейчик. – Москва: Издательство ЛКИ, – 2007. – 256 с., - с.150

scientific knowledge and provide a convenient model for the coding and interpretation of information. The unity of cognitive and communicative mechanisms within the terminological system determines the functional effectiveness of lexical-terminological units in professional communication, scientific discourse and various fields of activity. The strengthening of the informative approach in contemporary terminology allows the specific structure of terms, definition models and information blocks to be evaluated within a broader theoretical framework.

4. Lexical-terminological units serve as specialized carriers of information in the formation, systematization, and transmission of scientific knowledge. The accuracy, precision, relevance and communicative effectiveness of terminological information are determined by the definitive structure, semantic boundaries and cognitive structure of terms. As a result of the transformation of general-language information into terminological information, lexical units acquire new scientific content and become effective means for coding knowledge and sharing it in professional communication. The informational load of terminological units is conditioned by their semantic content, communicative situation, context and sphere of scientific-practical application, thereby contributing to the formation of a specialized information system.

5. The complete and adequate comprehension of terminological information is closely connected with the factor of context and the semantic potential of a term is actualized precisely within text and discourse. Context eliminates the ambiguity of a terminological unit, clarifies its informational load related to a specific concept and determines its definitive and pragmatic characteristics. Micro and macro context, intertextual and local relations, as well as field-specific terminological systems, shape the semantic functioning of the term. A term is not merely a nominative unit but also a structured form of cognitive and communicative content. This characteristic ensures its high informativeness and functional stability within context.

6. The information-terminology sphere of languages belonging to different language systems more clearly demonstrates the interdependence of language, information and terminology. The development of the

information society and the rapid growth of scientific and social knowledge stimulate the expansion of terminological systems and the emergence of new term elements and nominative models. Materials from English and Azerbaijani show that lexical-terminological units not only name specialized concepts but also perform the functions of coding, preserving, and transmitting social, economic, cultural and scientific information. The active participation of national and international term-formation mechanisms, particularly elements of Greek and Latin origin, ensures the unification and communicative accessibility of terminological information across different language systems, thereby transforming the terminological sphere into an important component of global scientific communication.

7. Definitive information serves as one of the principal structural components of the terminological system and contributes to clarifying the semantic boundaries, conceptual content and functional designation of lexical-terminological units. A term is not merely a naming device but also a systematized form of expressing specific scientific knowledge and information. Therefore, its definition is of particular importance for preserving terminological meaning and ensuring interpretive stability. Definitions present the distinguishing features, conceptual content and semantic characteristics of a concept in a structured manner, thereby coding terminological information and establishing a unified model of perception within a specific field.

8. Information within the structure of a text is formed both through syntactic and semantic relations and through the systematic functioning of lexical-terminological units. By clarifying information condensing scientific knowledge and establishing conceptual relations within a text, terminological units ensure its informative and cognitive integrity. Materials from English and Azerbaijani demonstrate that terminological units function as carriers of specialized content and as structural organizers across various stylistic domains.

9. The informational potential of lexical-terminological units is closely connected with the sources in which they are created, used and systematized. Terminological information is formed through scientific

literature, dictionaries, mass media, normative documents and specialized communicative environments, thereby meeting the scientific and intellectual needs of society. The informative value of terms is determined by their precision, systematic nature and field specificity, which strengthens the role of the terminological system in the transmission and preservation of knowledge.

10. Lexical-terminological units, while serving as means of expressing specialized knowledge and concepts, are also carriers of national-cultural experience and collective consciousness. From a linguocultural perspective, the terminological system functions as a conceptual domain in which the interrelations among language, thought and culture are expressed. The connotative and cultural content reflected in terms contributes to the linguistic modeling of the worldview, the preservation of cultural codes and the intergenerational transmission of cultural information.

11. Terminological nomination is a complex linguistic process that not only names concepts but also ensures their scientific and cognitive identification. The emergence of new terms and the formation of their semantic structure are conditioned by scientific development, professional communication and informational needs. As a result of nominative activity, the terminological system acquires a dynamic character, systematizes the conceptual apparatus of various scientific fields and enables a more effective and precise presentation of information.

12. Terminological information in textual contexts carries not only nominative meaning but also acquires contextual, pragmatic and functional characteristics. Within a text, the semantic load of terms is formed through interaction with communicative purpose, stylistic environment and field specificity. These characteristics expand the informative value of terminological units, make the content structure of the text more systematic and multilayered and enhance the possibilities for interpretation and comprehension in the process of scientific communication.

The main content and scientific provisions of the dissertation are reflected in the following articles and conference papers authored by the researcher:

1. Terms and their formation through the calque method // *Philological Issues*, Institute of Manuscripts named after M. Fuzuli, ANAS. – Baku, 2018. No. 19, pp. 203–209 (Co-author: B. Jafarova).

2. The information load and information block of terminological units in English and Azerbaijani // *Terminology Issues*. – Baku, 2019. No. 1, pp. 245–253.

3. Terminological information and contextual issues in english and azerbaijani // *Philological Studies: Azerbaijani Emigrant Literature, Literary Process and Language Issues*. – Baku, 2019, pp. 195–201.

4. The information-terminology sphere of languages with different systems // *Philological Issues*, Institute of Manuscripts named after M. Fuzuli, ANAS. – Baku, 2021. No. 4, pp. 145–152.

5. The role of lexical-terminological units in the formation of information within the structure of the text // *The XI International Scientific Symposium “Intercultural Relations in the Modern World”*. – Tbilisi, Georgia, 27 February 2021, pp. 100–103.

6. Issues of definitive transfer through lexical and terminological units (on the basis of materials from languages of different systems) // *National Security, Historical Sciences, Philological Sciences, Pedagogical Sciences. Copernicus Colloquium Journal*. – Warsaw, Poland, 2021. No. 15(102), pp. 17–20.

7. Means of information transmission by lexical-terminological units // *Scientific Work: International Scientific Journal*. Proceedings of the Republican Scientific Resources Conference. – Baku, 2 November 2021, pp. 98–106.

8. Culturological information of lexical-terminological units // *Scientific Work International Scientific Journal*. Materials of the V International Scientific Research Conference. – Baku, 24 September 2021, pp. 336–340.

9. Lexical-terminological units participating in the structure of the text as important means of fixation transmitting specialized information //

Proceedings of the IV Republican Scientific-Practical Conference of Young Researchers. – Baku, 9 April 2021, Vol. II, pp. 254–256.

10. Condensation of information conveyed by lexical-terminological units // *Scientific Resources. Collection of Abstracts.* – Baku, 2022, Vol. 1, No. 1, pp. 17–18.

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12. Culturological information of lexical-terminological units. *Philology and Pedagogy: Scientific Research.* Baku, 2026, Vol. 3, No. 2, pp. 88–96.

13. Semantic and informative characteristics of lexical-terminological units in the structure of a text. Ministry of Science and Higher Education of the Russian Federation. Barnaul: Altai University Press, 2026, pp. 56–59.

14. Lexical-terminological units as means of information transmission. *Proceedings of the Second Republican Scientific Conference "Azerbaijani Linguistics in the Twenty-First Century: Realities and Prospects".* Baku, 26 May 2026, pp. 388–393.



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