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FRAME MODELLING OF THE SUBLANGUAGE OF ELECTRICAL ENGINEERING (IN RUSSIAN, GERMAN, FRENCH)

The article examines the emergence and consolidation of electrical terminological units in the compared languages: Russian, German, and French, through the use of frame analysis based on the sublanguage of electrical engineering. The authors attempt to unify professionally labelled units according to a thematic principle that establishes a connection between the group under study and the practical functioning of electrical terms. This is achieved by relying on existing communities of objects and phenomena of objective reality, as reflected in language. The analysis is based on statistical data identified during the research process. This statistical data is supported by the quantitative characteristics of a specific frame model presented in the work, which serves as the basis for assessing the importance of certain frames for participants in the field of electrical engineering. The study confirms the hypothesis that the identified subframes not only determine the direction of grouping nominative term units but also highlight the significance of certain term groups for technical professionals.

Key words: frame, subframe, term, term element, term system, slots, subslots, electrical engineering, sublanguage.

MAIN PROVISIONS

A frame is one of the central concepts in cognitive linguistics, representing integral fragments of knowledge organized in a special way and explicated through language. In modern linguistics, there are various interpretations of this term. A.P. Babushkin, for instance, defines a frame as a structure of knowledge – a piece of information about a specific fragment of human experience, stored in memory or created as needed from memory's components [1, 5]. According to Barsalou, the cognitive models adapt based on situated conceptualization, emphasizing that knowledge structuring reflects both scientific understanding and contextual experiences [2, 37].

N.N. Boldyrev suggests that the emergence of frame semantics as a research method is linked to the postulation of a dependency of linguistic meaning on human cognitive experience [3, 23].

Introducing new categories into linguistic theory often leads to significant theoretical and practical challenges, and frame theory is no exception. Researchers note several reasons for the lack of a unified understanding of this linguistic phenomenon:

Initially, the term “frame” was used in artificial intelligence systems to model the processes of understanding natural language texts. It was only later that Charles Fillmore applied frame theory to linguistics, particularly in lexical semantics [4, 378].

The frame extends not only to various forms of knowledge about the world but also to the knowledge of language as a type of human knowledge. The concept of “frame” undergoes various interpretations, often referred to as “stereotypical situations” [5, 537].

It is essential to consider that some situations may correspond to static pictures, such as the “светодиодная дуга” [LED arc] frame, while others may correspond to dynamic representations, like the frame scenario “обработка металла методом вакуумно-электролитического давления” [metal processing using vacuum-electrolytic pressure]. Often, a single element or scene is fixed within a sequence of events. In our case, the frame “подготовка порогового заземления” [preparation of threshold grounding] is recorded as a sequential chain of events, otherwise known as a scene.

It is important to note that frames primarily act as means of organizing experience and tools of cognition, serving as internal cognitive structures. In this regard, the frame, as understood by Fillmore is particularly relevant, is a structured system of linguistic and cognitive units that represent knowledge or a schema of experience [4, 378].

INTRODUCTION

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Frame analysis, as a research methodology, is highly relevant in modern linguistics and cognitive science because it allows for the consideration of the structure and organization of knowledge in language. This study focuses on the unification of term elements within the sublanguage of electrical engineering, which is crucial for improving the understanding and usage of specialized terminology across different languages.

The relationships between terminological units in the electrical engineering terminology system are complex. The study revealed that emerging terminological systems are characterized by a pronounced hierarchical structure. Of all the cognitive models, we believe the frame is the most suitable for describing knowledge structures verbalized in the sublanguage of electrical engineering. The cognitive model of the electrical engineering terminology systems in different structural languages, as considered in this article, is built upon the basic frame "electrical engineering."

Constructing a frame for the sublanguage of the electrical engineering terminology system allows for the representation of the organizational structure of scientific knowledge in this field within the mind. This reflects the cognitive essence of the terminology under study. The electrical engineering frame has a specific structure with an internal organization of its elements, representing knowledge about the electrical engineering domain in the minds of native speakers of Russian, German, and French.

The analysis of the features of the electrical terminology system revealed several unique specific properties. Electrical engineering terminology is an essential and integral component of scientific and technical discourse, which is the domain where this terminology is implemented.

The *purpose* of this study is to unify the term elements of the electrical engineering sublanguage through the use of frame analysis methods. This is achieved by constructing cognitive frame models of specialized knowledge structures, allowing us to trace the emergence and consolidation of electrical terminological units in language.

To achieve this goal, the following *objectives* are addressed:

1) build cognitive frame models of electrical terminology systems in comparable languages;
2) identify the general and specific aspects of these models;
3) determine the cognitive mechanisms influencing the formation and functioning of electrical terms.

The *object* of the study is the sublanguage of electrical engineering in Russian, German, and French.

The *subject* of the study is the term elements structured into frames in these languages.

The *hypothesis* is that the frame structure of the term elements of the electrical engineering sublanguage reflects not only specialized knowledge but also cultural, social, and cognitive aspects. This makes it possible to unify and better understand their use across different languages.

The *scientific novelty* of this work lies in the application of frame analysis to the study of electrical terminology in three languages, which has not been previously conducted.

The *significance* of this study is in the potential for unifying terminology, thereby facilitating better understanding and knowledge exchange among specialists from different countries.

The problem of frame analysis and its application in lexical semantics has been explored by scholars such as A.P. Babushkin, Z.D. L.W. Barsalou and others [1-2]. Key aspects of frame theory in linguistics are also addressed in the works of C. Fillmore [4].

In domestic linguistics, the issue of lexical-semantic groups of mental vocabulary in Kazakh and other Turkic languages, based on the construction of frame models, has been explored by various scholars. For instance, G.A. Baitileuova and her colleagues focused on enhancing vocabulary through frame structures in the Kazakh language [6]. Furthermore, L. Dalbergenova has provided a comparative analysis of evidentiality in German, Russian, and Kazakh languages, highlighting the argumentative functions of this linguistic feature [7].

In modern linguistics, the concept of 'frame' is characterized by the following features:

- A frame is a structure of knowledge, a model of culturally determined, canonized knowledge.
- A frame can reflect the structure of knowledge from any area of human life.
- The frame structures knowledge about a stereotypical situation, representing a thematic unity.

Any frame carries conventional elements, presupposing certain stable characteristics that allow a subject to recognize the given frame effortlessly. As noted by L.W. Barsalou, the fundamental idea of this

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theory is the activation of conceptual knowledge, where certain elements of the original mental structures are selectively emphasized or combined, leading to the creation of new meaning [2, 39].

Based on this theory, frames appear as active structures where even stable, unchanging features can exhibit development dynamics. This positioning does not imply a complete negation of stable structures, as identifying frames would otherwise be difficult.

A frame is a structure whose elements interact hierarchically. Elements of the upper level include stable features, while elements of lower levels are filled with features as the frame adapts to specific situations.

Thus, the frame model of the electrical engineering sublanguage is a knowledge structure verbalized by the lexical units of the terminological system under study, forming a multi-level hierarchical structure.

MATERIALS AND METHODS

The research is based on an analysis of specialized literature, articles on the subject, dictionaries, encyclopaedias, and publications in modern periodicals. The primary material consists of terminological elements of electrical engineering in Russian, German, and French. Special texts of popular scientific articles, specialized foreign-language dictionaries, foreign-language manuals on electrical engineering served as research material (Spett G. Grundlagen der Elektrotechnik: band 2. Grundstromkreis, 2019. 354p., Springer G. Fachkunde Elektrotechnik, 2019, 351p., Heller B., Veverka A. Les Phénomènes de choc dans les machines électriques, 2015. 217p.). The collection of the material of the analyzed electrical terminology was carried out by a continuous sampling method with a total volume of 9208 units.

Research methods:

1. Frame analysis: For constructing cognitive frame models.
2. Statistical analysis: To identify the quantitative characteristics of frames and their elements.

Logical-conceptual method: For structuring and identifying the denotative sphere of terminology

3. the method of structural analysis based on prototype theory;
4. the method of frame and thesaurus modeling;
5. statistical method of quantitative and percentage characteristics;
6. the method of mathematical modeling.

Research stages:

1. Collection and systematization of data on electrical terminology in the three languages.
2. Construction of cognitive frame models based on the collected data.
3. Conducting statistical analysis to identify the quantitative characteristics of frames.
4. Comparative analysis of frame models in Russian, German, and French.
5. Formulating conclusions and recommendations for unifying terminology.

The study includes the construction and analysis of cognitive frame models of electrical engineering terminology, the identification of common and specific features in term systems of different languages, and recommendations for their unification.

The practical significance lies in improving the understanding and use of electrical engineering terminology, which facilitates more effective knowledge sharing and collaboration between specialists in different countries.

The cognitive aspect of term unification: in modern linguistics, cognitive models are defined as hierarchical structures of scientific knowledge, as described by Galiakberova, who emphasizes the importance of structuring components in electrical engineering terminology through the means of linguistic objectification [5, 538].

The frame of the electrical engineering terminology system reflects the ordering of terminology, fixed in its constituent subframes and slots, each of which is an increasingly detailed representation of the basic concept of the corresponding fragment of the general logical-conceptual system [5, 378]. In this context, the basic concept is the term “electrical engineering.”

The frame of any terminological system can be viewed as a hierarchical ladder of subframes that connect the given frame with functional relationships to subordinate frames, allowing the derivation of a subordinate frame from a higher one. Therefore, an important stage in the analysis of any industrial term system is determining the structure of terms that fixes the position of the named objects.

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The frame approach to the description of a term system creates a cognitive mechanism for explaining the processes of knowledge accumulation, processing, and information transfer within the system. The frame approach to organizing lexical material allows the presentation of terminological vocabulary in a more structured form.

In the structuring process, a logical-conceptual method is employed, which involves identifying a specific denotative sphere and correlating this sphere with its linguistic expression [8, 9]. In other words, frames are formed based on terminological lexemes, identified through subject-logical generality and denoting a specific subject area.

The hierarchical structure of a frame consists of terminal slot nodes (terminals) and non-terminal nodes. Terminal nodes represent and describe an object, its specific features, and information about the relationships between objects, the frame's usage, the next action, or the action required if an assumption is not justified. Non-terminal nodes contain specific information related to the conceptual object described by the frame, as well as data necessary for inference procedures [9, 5].

Thus, a frame consists of a name and individual units called slots. It has a homogeneous structure:

FRAME NAME

- 1st slot name: value of the 1st slot.
- 2nd slot name: value of the 2nd slot.
- Nth slot name: value of the Nth slot.

An unfilled frame is positioned as a protoframe, while a filled frame is positioned as an exoframe. A set of frames that models a particular subject area forms a hierarchical structure, where frames are assembled using generic connections. At the top level of the hierarchy is the frame containing the most general information applicable to all other frames.

The relationship between the concepts of “frame” and “concept” is complex and finds an ambiguous solution. Based on generic relations, a concept is defined as a generic concept in relation to a frame, while a frame is described as one type of complex concept. Frames facilitate the perception of speech information, allowing for the instant correlation of existing knowledge forms in new situations. They enable individuals to respond adequately to changing situational contexts and predict upcoming communicative behaviour and strategies to achieve communication goals.

However, while recognizing the frame as a special cognitive cast in each person’s memory, responsible for storing conventions, norms, rituals, and human archetypes, it should be noted that the frame is not a singular structure for indicating the way knowledge is represented.

S.A. Zhabotinskaya identifies five types of frames that constitute a frame network: subject-centric frame, actional frame, partitive frame, hypo-hyperonymic frame, and associative frame [10, 150].

The ability to identify and present logical connections and relationships in a structural form between elements of the electrical engineering terminological system is a key aspect of this study. The presentation of the electrical engineering terminological system in the form of a frame enables a comprehensive understanding of its structure. Frame analysis reveals the structural organization of a sample set of electrical engineering terms compiled through continuous sampling of specialized literature, articles on the subject, dictionaries, encyclopaedias, and publications in modern periodicals. This analysis demonstrates the relationships between the concepts within this terminology system.

Moreover, the constructed frame structure of the terminology system allows for the recreation of the cognitive model of the professional language landscape. It also traces the dynamics of its formation in line with the evolution of scientific knowledge.

The cognitive model of the electrical engineering terminology systems in different structured languages assumes the presence of a main, basic frame: “electrical engineering.” Fundamental to this study is the understanding that a frame is an organized mental structure of data in human memory. A person perceives a particular linguistic structure as a frame while possessing knowledge about the semantics of a word and the sequence of events within a specific situational model.

Almost every terminological system can be represented as a hierarchy of subframes subordinate to a primary frame. By using frame analysis, the cognitive mechanisms of certain processes of knowledge accumulation and processing can be explained as accurately as possible, that is, through linguistic consciousness. In the course of this study, several key resources in German, French, and Russian were analysed to provide a comprehensive understanding of the terminological systems in electrical engineering across different languages.

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For German sources, foundational texts such as “Elektrotechnik für Ingenieur:innen: Grundlagen” by Ose R. was crucial in establishing the fundamental principles of electrical engineering terminology. Additionally, “Elektrotechnik für Maschinenbauer: Grundlagen” by Hering E., Gutekunst J., and Martin R. provided detailed insights into technical skills and knowledge in advanced electrical engineering [11-12].

French resources included “Dictionnaire technique de l’électrotechnique et de l’électronique” by Grenier J.-G., which provided comprehensive technical terminology in electrical engineering, and “Vocabulaire d’Électrotechnique et d’Électroénergétique”, which offered a structured and updated vocabulary for electrical engineering terms, available online at Loterre [13-14].

In Russian, significant contributions were made by Galiakberova A.R. with “Sovremennaya elektroenergeticheskaya terminologiya: strukturnyi i semanticheskii aspekty,” which explored the structural and semantic aspects of modern electrical engineering terminology [5]. Additionally, Nurtazina M.B. in her work “Opyt funktsionalno-kommunikativnoi interpretatsii semantiki taksisa” provided insights into the functional-communicative interpretation of semantics, emphasizing the role of cognitive processes in understanding specialized terminological systems in the field of electrical engineering [15].

These resources collectively supported the analysis and construction of cognitive frame models of electrical engineering terminology, facilitating a detailed comparative study across the German, French, and Russian languages.

RESULTS

A frame is a structure of knowledge, representing a package of information about a certain fragment of human experience (object) or a stereotypical situation.

At the first stage of frame analysis, the directions for grouping the nominative units of electrical engineering terminology systems were identified. The analysis results showed that terms are distributed according to their conceptual affiliation as follows:

- Identification of frames in the terminological system of the base language: Russian.
- Identification of frames in the terminological system of the German language.
- Identification of frames in the terminological system of the French language.

Such identification of frames in the term systems of differently structured languages is important because it allows for the representation of the term system in the linguistic consciousness of speakers of the analysed languages. The selected frames, verbalized through terms and term combinations, constitute the specific “foundation” of multilingual terminology systems in the sublanguage of electrical engineering.

The model under consideration includes all the frames and subframes identified during the analysis, as well as the main functional connections between them. In the designated frame schemes, the corresponding subframes are defined, the core of which is as follows:

In the terminological system of the **Russian language**:

- Электростатическое поле [Electrostatic field]
- Электростатический динамик [Electrostatic speaker]
- Электростатический экран [Electrostatic screen]
- Электростатический тензометр [Electrostatic strain gauge]

In the **German** terminology system:

- die Elektrostatische Einheit [Electrostatic unit]
- die Empfangsfrequenz [Reception frequency]
- der Extinktionskonstante [Extinction constant]
- die Erregerfeldkurve [Excitation field curve]
- die Fernsteuerung [Remote control]

In the **French** terminology system:

- Éléctrotechnique, champ électrostatique [Electrotechnics, electrostatic field]
- Haut-parleur électrostatique [Electrostatic speaker]
- Écran électrostatique [Electrostatic screen]
- Jauge de contrainte électrostatique [Electrostatic strain gauge]

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The identified subframes not only determine the direction of grouping nominative units but also highlight the significance of certain term groups for participants in technical activities. Terminological systems that nominate individual branches of science and technology are organized by appropriate frames, reflecting the knowledge of these fields in a specific structure.

The analysis showed that the frame model is similar across the languages under consideration and accurately represents the terminological systems studied. The frame "electrical engineering" in these languages is a structured contour of terminology systems developed over many centuries. Within this frame model, the central concepts of the first level include electronics, electrical technologies, computers, automated machines, and production processes.

The comparative analysis of the electrical engineering terminology system identified the frame as a multi-tiered structure, including the interconnection of subframes, slots, and subslots. The frame model of the Russian language is structured with 5 subframes, 6 slots, and 10 subslots. The analysed subframes reflect technological processes, units of measurement used in electrical technology, physical phenomena, and equipment. Stable subframes characterize the main processes and phenomena present in the terminological systems of the languages under consideration, indicating their similarity. Differences are observed at the slot and subslot levels.

In European languages, there are similarities in the structure of the frame model. The frame model of the German language is represented by 5 subframes, 6 slots, and 14 subslots, which fundamentally distinguishes it from the Russian language model. The frame model of the French language is represented by 5 frames, 5 slots, and 13 subslots. The slight lag in the number of slots is explained by the peculiarities of the national language policy of France, aimed at preserving the authenticity of the language.

Frame analysis showed the following:

- 18.8% of the terminological system (TS) for the frame "elements of overhead and cable lines" in the Russian language is due to the growth of knowledge in the terminospheres of "Aircraft and aeronautics."
- 23.5% of the TS for the frame "Die Hochspannungstechnik" in the German language is explained by the high level of knowledge in the terminology of "voltage." A similar percentage (23%) in the French language is explained by the development logic of technical thought in Europe (Table 1).

Table 1 – Quantitative characteristics of frame models

Frames of the Russian terminology system (number of terms)	**Frames of the German terminology system (number of terms)**	**Frames of the French terminology system (number of terms)**
1	2	3
Техника высокого напряжения [high voltage technology] 418 TS- ≈ 18,1%	Die Hochspannungs technik [high voltage technology] 542 TS- ≈ 23,5%	Technologiede haute tension [high voltage technology] 528 - ≈ 23%
Электрические машины [electric cars] 273TS- ≈ 11,8%	Die Elektrische Maschinen [electric cars] 254 TS- ≈11,1%	Machines électriques [electric cars] 260 - ≈ 11,2%
Аппараты (кол-во) [devices (quantity)] 321TS- ≈ 14%	Das elektrisches Gerät [devices (quantity)] 275TS- ≈ 12%	Appareils électriques [devices (quantity)] 258 - ≈ 11%
Электропривод [electric drive] 300 TS- ≈ 13%	Der Elektroantrieb [electric drive] 201 TS- ≈ 8,8%	L'entraînement électrique [electric drive] 258 TS- ≈ 11%
Элементы воздушных и кабельных линий (кол-во) [elements of overhead and cable lines (quantity)] 453TS- ≈ 18,8%	Die Elemente der Overhead und Kabelleitungen [elements of overhead and cable lines (quantity)] 468 TS- ≈ 20,3%	Des éléments d' aériens et câbles de lignes [elements of overhead and cable lines (quantity)] 458 TS- ≈ 19,8%
Физические явления [physical phenomena] 302 TS- ≈ 13,2%	Physikalische Phänomene [physical phenomena] 305TS- ≈ 13,2%	Les phénomènes physiques [physical phenomena] 289TS- ≈ 12,5%
Измерительные приборы [measuring instruments] 235 TS- ≈10,2%	Die Instrumente Ausrüstung [measuring instruments] 257 TS - ≈ 11%	Appareillages de mésure [measuring instruments] 251 TS- ≈ 11%
Note – the % ratio is given from the total number of selected terms in 2302 terminological combinations of each term system, in total – 9208 terminological combinations		

The statistical data were obtained using methods of percentage and quantitative characteristics.

The analysis of the frames “Apparatus” [devices (quantity)] (14%) and “Электропривод” [electric drive] (13%) in the terminology system of the Russian language shows an increase in knowledge in the field of electrical and hardware modelling, similar to that in Europe.

An almost equal number of terminological systems in the term systems of Russian, German, and French languages in the frames “Измерительные приборы” [measuring instruments] – 10.2%, “Die Instrumenten Ausrüstung” [measuring instruments] – 11%, “Appareillages de mesure” [measuring instruments] – 11%, is explained by the parallel development of scientific thought in Europe.

The conducted research confirms the hypothesis that the cognitive approach to analysing the electrical engineering terminology system allows for the unification and better understanding of specialized terminology across different languages. It is recommended to use frame analysis for further study and unification of terminology in other scientific and technical fields.

Further development of frame analysis in linguistics and other related sciences will help improve interlingual communication and mutual understanding among specialists in various fields.

DISCUSSION

The results of this study align with the broader body of research on terminological systems and frame analysis in linguistics. Frame analysis has been extensively used to study how different languages conceptualize and structure specialized knowledge, and the findings in this study confirm many previous observations. For instance, earlier works on the cognitive approach to linguistics, particularly in technical domains, have also demonstrated the universality of certain conceptual frames, regardless of language.

In comparing the present results with previous studies, it becomes clear that the multi-tiered structure of the frame model found in the terminological systems of Russian, German, and French is consistent with earlier analyses of technical sublanguages. The structural similarity between the languages reflects the global nature of technical advancements in electrical engineering. However, this study also revealed some linguistic and conceptual differences. For example, the slight variation in the number of slots and subslots in the German and French systems compared to Russian reflects the unique characteristics of national language policies, particularly France's emphasis on preserving linguistic purity, which is an important finding not highlighted in many earlier studies.

This study builds on existing research by demonstrating that the cognitive approach to terminological systems allows for not only the classification of terms but also an understanding of the underlying conceptual structures that drive technical innovation and communication. For example, the frame “Die Hochspannungstechnik” in German, which accounts for 23.5% of the terminological system, is a clear reflection of the high level of technical knowledge in high-voltage technology in Europe, an observation that aligns with the findings of similar studies on electrical engineering terminology.

Moreover, the practical significance of this research lies in its potential application in the field of technical translation and education. By highlighting both the commonalities and the differences in the structure of electrical engineering terminology across three major languages, this study contributes to the development of more effective multilingual technical communication tools, including terminological databases and glossaries. The results also suggest that further research could focus on other branches of engineering to see if similar patterns emerge, which could enhance cross-linguistic communication in other fields as well.

The study contributes to the existing literature on frame analysis by providing a detailed account of how electrical engineering terminology is organized across three languages. The results emphasize the importance of frame analysis in understanding and unifying specialized terminologies. Future studies could apply similar methodologies to other fields, fostering better interlingual communication and enhancing international collaboration among technical professionals.

CONCLUSION

The purpose of this study was to unify the term elements of the sublanguage of electrical engineering through the use of frame analysis methods. The main tasks included the construction of

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cognitive frame models of electrical terminology systems in Russian, German, and French, the identification of general and specific elements in these models, and the identification of cognitive mechanisms influencing the formation and functioning of electrical terms. The research methodology included frame analysis, statistical analysis, and the logical-conceptual method.

The analysis of the basic frame model of the electrical engineering terminology system confirms several key points:

- Structuring the model:the model is structured through the core elements (dominants, frames, subframes) and the peripheral section (slots and subslots), characterizing the specifics of cognitive modeling in differently structured languages.
- Reflection of knowledge structure: frames have the ability to reflect the structure of knowledge in the electrical engineering field, allowing us to identify the national specifics of the linguistic consciousness of speakers of Russian, German, and French.
- Organization of electrical engineering: frames effectively reflect the organization of the electrical engineering field. The presented frames of the electrical engineering terminology system in differently structured languages confirm the existence of various ways of explicating cognitive knowledge in the terminology of electrical engineering.

The mental perception of electrical engineering terminology by Russian speakers differs from that of German speakers, which has historically led to differences in the patenting of inventions and discoveries, as well as the migration of terms and terminological systems into European languages, particularly German. In the languages examined, the same number of frames and subframes was identified, representing the core of the frame model, while differences are observed at the peripheral level – at the level of slots and subslots.

Analysis of the illustrative material demonstrates the expansion of the frame model in the peripheral area to a level of 15 to 20 or more tiers. The considered frame models in differently structured languages seem to be open due to the promising development of the cognitive aspect of electrical engineering itself, which will lead to the addition of new subframes, slots, and subslots.

Thus, frame models of knowledge structures in the field of electrical engineering, verbalized by lexical units of the terminological system under study, represent a multi-level hierarchical structure. Frame models in the compared languages are characterized by similarity at the core level, structured by a certain number of frames and subframes. Differences in frame models appear at the peripheral level – at the level of slots and subslots – proving the difference in the mental perception of electrical engineering terminology by speakers of differently structured languages.

The practical significance of the frame methodology is evident for the unification and standardization of the terminology system. In lexicographical terms, this approach helps present a logical system of concepts concentrated around a key scientific concept. Further development of frame analysis in linguistics and related sciences will help improve interlingual communication and mutual understanding among specialists in various fields.

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Электротехника субтілінің фреймдік моделін құру (орыс, неміс, француз тілдерінде)

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Мақалада электротехникалық терминологиялық бірліктердің пайда болу және орныгу үдерісі қарастырылады: орыс, неміс және француз тілдерінде. Зерттеу электротехниканың субтілі негізінде фреймдік талдауды қолдану арқылы жүзеге асырылады. Авторлар зерттелетін топ пен электротехникалық терминдердің практикалық қызметі арасындағы байланысты орнататын тақырыптық принцип бойынша кәсіби белгіленген бірліктерді біріктіруге тырысады. Бұл қолданыстағы объективті шындық құбылыстары мен объектілерінің қауымдастықтарына сүйене отырып, тілде бейнеленеді. Талдау зерттеу үдерісінде анықталған статистикалық деректерге негізделген. Бұл статистикалық деректер жұмыста ұсынылған нақты фрейм моделінің сандық сипаттамаларымен расталады, бұл электротехника саласындағы қатысушылар үшін белгілі бір фреймдердің маңыздылығын бағалауға негіз болады. Зерттеу анықталған субфреймдер номинативті терминдік бірліктерді топтастыру бағытын анықтап қана қоймай, сонымен қатар техникалық мамандар үшін белгілі бір термин топтарының маңыздылығын көрсететін гипотезаны растайды.

Кілт сөздер: фрейм, субфрейм, термин, термин элементі, термин жүйесі, слоттар, субслоттар, электротехника, субтіл.

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Фреймовое моделирование подъязыка электротехники (на русском, немецком, французском языках)

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В статье рассматривается процесс появления и закрепления электротехнических терминологических единиц в сопоставляемых языках: русском, немецком и французском, посредством применения фреймового анализа на основе подъязыка электротехники. Авторы предпринимают попытку унифицировать профессионально маркированные единицы по тематическому принципу, который устанавливает связь между исследуемой группой и практическим функционированием электротехнических терминов. Это достигается за счет существующих сообществ объектов и явлений объективной реальности, отраженных в языке. Анализ проводится на основе статистических данных, выявленных в процессе исследования. Эти статистические данные подтверждаются количественными характеристиками конкретной фреймовой модели, представленной в работе, которая служит основой для оценки значимости определенных фреймов для участников в области электротехники. Исследование подтверждает гипотезу о том, что выявленные субфреймы не только определяют направление группировки номинативных терминологических единиц, но и подчеркивают значимость определенных групп терминов для технических специалистов.

Ключевые слова: фрейм, субфрейм, термин, терминологический элемент, терминологическая система, слоты, субслоты, электротехника, подъязык.

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МОРФОЛОГИЧЕСКИЕ ХАРАКТЕРИСТИКИ АНГЛИЦИЗМОВ В КАЗАХСТАНСКОМ МЕДИАДИСКУРСЕ (НА ПРИМЕРЕ СОЦИАЛЬНЫХ СЕТЕЙ)

Данная статья посвящена исследованию морфологических характеристик англицизмов в казахстанском медиадискурсе на примере социальных сетей (популярных новостных телеграмм-каналов «НЕХабар» и «NUR.KZ») за 2023 год. Рассматривается процесс адаптации англицизмов в русскоязычном и казахоязычном новостном контенте с учетом их морфологических особенностей. В исследовании акцентируется внимание на соотношении отдельных частей речи и способов образования англицизмов, выявленных в ходе их изучения. Исследование проводится на материале современных медийных текстов, что позволяет