УДК 81'42: 002: 81'373.46: 81'38

PRINCIPLES OF SCIENTIFIC AND TECHNICAL TEXT ANALYSIS

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Intensive exchange of scientific and technical information makes actual providing effectiveness of its communication and recipience. The paper considers classification of scientific and technical texts based on the criterium of text communicative purport. The research of epistemic and linguistic means of influence upon the addressee, peculiar for these texts, shows that the choice of linguistic and structural organization of researched texts is determined by their main communicative function – informative function. Representation of accurate and detailed factual information, use of terms and term combinations, passive syntactic constructions, simple two-member sentences with nominal enumeration and homogeneous members, complex sentences with multi-staged subordinate connection are means of author's communicative and pragmatic purport realialisation. The obtained results prove that structure and composition peculiarities, exact definitions and clear organization of text reprezentation are aimed at the achievement of its main purpose – effective transfer of scientific and technical information.

Key words: *Scientific and technical text, communicative and pragmatic purport, factual information, terms, term combinations, communicative function.*

DOI: 10.21272/ *Ftrk.2018.10(1)-12*

Verbal text is one of the most effective means of information coding, storage and communication. Relevance of our work is determined by the growing interest to the object of the research - scientific texts. Rapid development of science and technology, increasing influence of scientific and technical information resulted in the necessity of better comprehension of language means that make scientific communication the most effective.

The purpose of the study is to make thorough analysis of scientific texts based on linguistic and epistemic means of information transfer in these texts. To achieve this goal the following tasks should be solved:

–making classification of scientific texts, the main criterion of which is the communicative purport of the text;

–analyzing linguistic, structural and content features specific to texts of this genre;

–examining the means of influence on readers used by the authors of these texts.

The object of the research is scientific and technical texts (SST) from chemical engineering sphere and adjacent areas; the subject of the research is lexical, syntactic, structural and composition means of communicativity realization in SST.

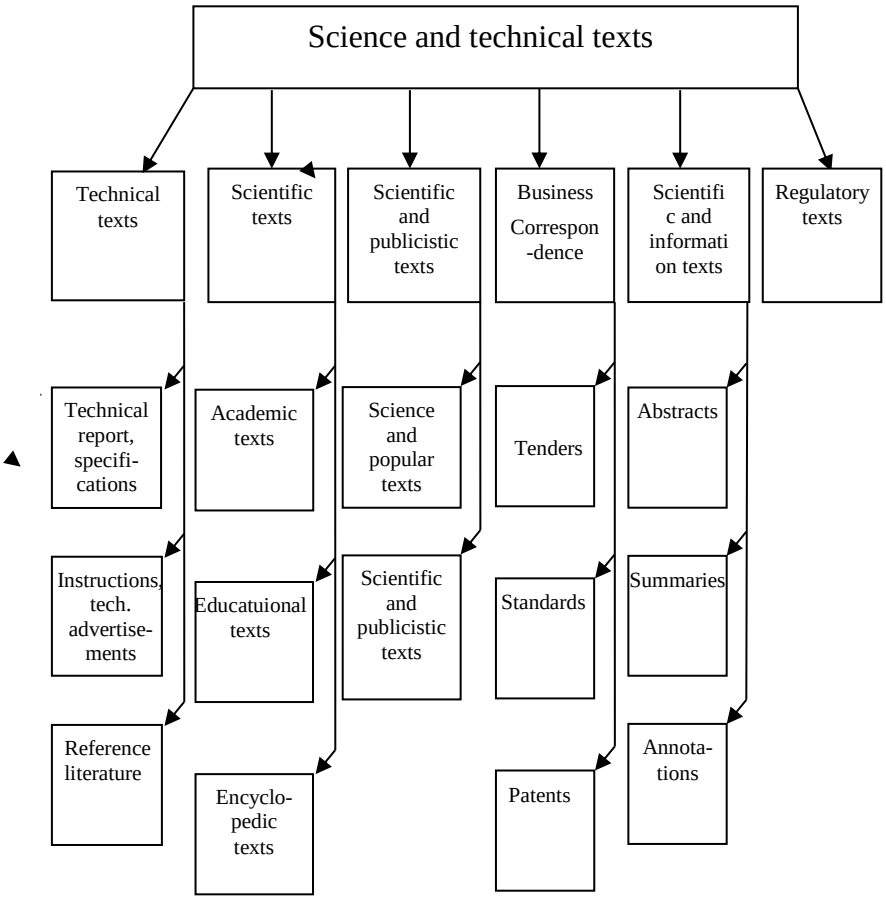
Complex analysis that includes comparative and typological method, methods of structural and pragmatic analysis is used in this paper.

The obtained results of the research are: the classification of scientific texts, based on the criterion of dominant communicative purport (function) that is realized according to a pragmatic purpose of the text; complex structural, semantic and pragmatic analysis of the examined texts.

The problem of text typology has been widely discussed in modern linguistics. Based on different criteria classifications of text were the subjects of thorough analysis in the works of numerous home and foreign linguists, like: G. V. Eiger, V. L. Yukht [1]; K. Gauzenblaz [2]; A. N. Morohovsky [3]; M. Pfuitze, D. Blei [4]; Yu. Marchuk [5]; H. Glinz [6]; Ch. Gniffke-Hubrig [7]; V.G. Kuznetsov [8]. Typology of scientific texts clearly demonstrates their characteristics, common and distinctive features.

Among scientific texts along with monographs, scientific articles, textbooks, technical documentation, there are a lot of leaflets, manuals, instructions for beginners, science-technical and commercial advertisements, and etc. Despite the variety of genre submitting scientific and technical prose, these texts have peculiar specialization in specific areas of science and a set of terminology units corresponding to a separate specialty and given topic. Texts differ in the way they present information and means of text representation, which are determined by their authors' intentions.

The scheme given below shows the diversity of scientific and technical texts genres.



The main criterion of scientific texts classification is their communicative purpose (communicative intention, communicative function). The communicative purpose is considered as directivity on solving certain tasks of verbal communication [9, p. 269].

Taking into account this criterion, scientific and technical texts can be divided into:

a) instructive texts: memos, instructions, manuals, various technical handbooks, science-technical and commercial advertisements);

b) informative texts: reference books, technical reports, scientific and experimental, production and technical texts, newsletters, company profiles, annual reports, product ranges, abstracts, scientific-experimental articles;

c) texts regulating official and business relations in spere of scientific and technical communication: patents, standards, specifications, tenders.

Scientific and technical text realizes its communicative function in accordance with the author's pragmatic purport, which determines the basic information content, choice of lexical, syntactic and structural means to realize communicativity of the text.

Scientific and tehnichnical text is an entire speech work, that relates to scientific and technical human activities; communicative intention of this text is the communication of information about tangible and intangible objects, their quantitative and qualitative characteristics and spatial relationships between them, by means of every day language and terminology linguistic units [10, p. 45].

Means of influence on the recipient used by the authors of STT can be divided into epistemic and linguistic. Epistemic means, which are related to knowledge, are: the essence of the text, its credibility, factual part of its information. For example, detailed description of a device design, benefits of its use affect an addressee's intellect, appealing to his background knowledge in a particular field of science and technology. Information is a way of influence in the process of communication; at the same time pragmatic potential of "intellectual information" is not supposed to be less emotional, and it is able to affect communicants and make them change their behavior.

The main communicative function of scientific texts is the function of information. The texts of this genre include two types of information: factual and conceptual. The leading role in the researched texts belongs to the explicit factual information, which tells about facts, events, processes that occur in the surrounding world. Submitting of visual and detailed factual information (for example, about the results of the experiment) may be both a purpose of scientific and technical text and / or means of forming a deep layer of conceptual information. For example: *Submersible generators are installed for operation in parallel with an existing power system, from which it draws its magnetizing current. They are essentially reverse-running pumps, directly coupled to induction generators. Turbines and generators are housed together in a shroud, installed directly into the pipeline (HT, 2).* Description of the underwater generator mechanics (factual information) persuades the readers, that use of such generator is the simpliest and the most saving way to obtain additional energy (conceptual information).

The conceptual information typically contains the author's understanding of the relationships between the facts, described at the level of factual information and projects the author's extrapolation of these relationships on the surrounding reality, i.e. this is the author's conception of the world. It is information of the implicit character, while the factual information in the text is objectified by means of verbal signals with a high degree of explicitness.

In the process of text communication, the athor achieves the desired result, using linguistic means that promote realization of communication purposes. In STT terms and term combinations due to their great conceptual capacity compress information, make the text more informative and exact, threby providing realization of the author's pragmatic purport.

A term is "a word or word combination that accurately and unambiguously names an object or phenomenon, revealing science and technology notion and its content; the term is based on scientific definition" [11, p. 38].

Scientific and technical texts normally contain a great number of abstract and specific terms. The first ones express abstract concepts, others have a more specific content meaning. In contrast to production and technical terms, scientific terms have a higher degree of science abstraction. Specific terms as a rule denote specific objects (tools, materials, etc), for example: *steel stop valve; coupled valve; casing wear ring*.

Terminology of modern STT is divided into the following structural types: one-word terms and term-communications.

One-word terms can be presented by: stems, derivatives, compound words, abbreviations or acronyms. Term-stems usually consist of nominal root morphemes, for example: *pump*; *valve*; *drive*; *piston*. Term-derivatives are most commonly presented by words with suffixes *-er*. *-or* (names of instruments and devices) and *-ing* (names of processes), for example: *impeller, water thrower, computing, operating, reversing*. Compound terms: *keyways, pipeworks, pipeline, waterproof*.

As to term-combinations the most often are used binary combinations, for example: *steam turbines, impeller hubs, relief valves*. Multi-component combinations which make

technical notions more precise and specific to the maximum are nominative groups, consisting of three or four components, for example: *single entry suction type*; *a compressed asbestos fibre joint; precision motor couplings.*

Structure of STT usually has such elements as: thematic content (description and characteristics of different devices technical design), composition and linguistic means, peculiar these texts.

The composition of STT is also aimed at achievement of the main purpose - effective commuinication of scientific information. The order of considered material placement, its choice and arrangement is of great importance for convincing presentation of information. A scientific and technical text usually consists of three parts: introduction and statement of the fact, its proofs or verification, conclusion. This system is determined by the functions of different parts of the text.

The function of the introduction in STT is to inform the reader about the text referent and prepare him for perception of further information. As a rule, the introduction contains special terms that name and determine the subject of the text, names of companies and technology standards.

The main body of STT contains facts which prove and verify information that we need to explain or to convince in its authenticity. Factual material used in this part is to be arranged and presented with maximum efficiency. As a rule, the body of STT is a description. Such texts are characterized by the predominance of nominal style. This phenomenon permits to generalize text representation and increase informative capacity of text more effectively. The means of relizing pragmatic effect in STT are the following linguistic means: terms and different kinds of term combinations, demonstrative and personal pronouns as connection means, keyword repetitions, logical connectors such as *however, also, futhermore* (set up logical connections between sentences) at the lexical level; extended two-member sentences that most accurately express the logical judgments; complex sentences with multi-stage subordinate and/or coordinate connection (representing complex logical relationship between facts and events); parallel structures (expressing equivalent phenomena) at the syntactical level.

The final part of STT usually contains definitive conclusions concerning correctness / incorrectness of facts and their significance for use of a described object, i.e. they offer new knowledge or idea that can be used in practice further.

As to microcomposition of the text (compositional structure of the paragraph), it should be noted that paragraphs of STT texts are usually devoted to one subject-matter. There are two types of paragraphs:

1) Paragraph that has two-part structure (consisting of a topic sentence expressing the main idea of the paragraph, and supporting sentences. For example*: (I) Reciprocating pumps do not have the benefit of mechanical seals and various packed designs have involved to cope with increased hazards posed by modern process requirements. (2) modern packing developments are discussed including the materials available for soft, packing and the modifications required to enable components to cope with man made fibres. (3) The terminology for stuffing box sub systems is clarified (PSF, 23).* In this example, a topic sentence is the first, supporting sentences are the second and the third ones.

2) Paragraph, that has a three-part structure (consisting of a topic sentence, supporting sentence and conclusion). For example: *(I) Undoubtedly purpose-built energy recovery turbines provide the most efficient method. (2) But economic realities dictate this is not always feasible. (3) Hayward Tyler have therefore developed a range of submersible generators to provide a simple, reliable and low cost means of recovering energy (HT, 1).* In this example the first sentence is a topic sentence, the second is a supporting one, and the third is in a certain sense a conclusion which closes the topic of the paragraph offering the way out of this situation. Each element of STT composition plays an important role in the realization of communicative and pragmatic purport of the text.

Typically, properties, technical characteristics, operating conditions of machinery and equipment are listed in the texts of this genre. They are characterized by the use of extended

sentences with homogeneous members containing nominal enumeration of described object features or its parts. The use of nominative sentences in STT makes possible to emphasize the results of the text authors' activity, and due to elimination of verb information load increase saving linguistic units. In order to highlight similar or equivalent processes and phenomena in STT, coordinate connection is used. And at the same time, the equivalence of connected elements can also be expressed by parallel structures: *According to API 610 Standard definition, a single seal has one rotating face per seal chamber; a double seal arrangement has two rotating faces ver seal chamber, sealing in opposite directions; and a tandem seal arrangement has two rotating faces per seal chamber, sealing in the same direction (API, 12).*

Simple two-member sentences with nominal enumeration and sentences with homogeneous members most adequately convey logical judgements and add the exactness, significance and clearness to the description. Use of complex phrases with subordinate connection helps to express difficult logical relations between the phenomena and facts; in such cases complex sentences with a few consistently subordinate sentences can be used. The use of two-member extended sentences of middle length allows the reader to keep in mind information and clearly imagine the described object or construction, it also produces emotional influence on the addressee. Most often, sentences in chemical engineering scientific and technical texts are extended by using enumeration; participle, gerund and infinitive constructions.

High frequency of passive constructions, typical to these texts is a result of authors' desire to objectivity while describing technical devices. The use of passive constructions allows to concentrate attention rather on the text referent and results of person's activity, than on its performer.

To realize difficult logical relations between facts and phenomena, to concentrate information in STT to the maximum, complex sentences with several coordinate and subordinate clauses are used. For example: *Digital computer simulation of a complex piping system is shown to be vital to optimize the plant layout so as to minimize potentially catastrophic pressure pulsation which might be generated by valve openings or closings or pump startups or trips and which can severe damage centrifugal pumps in the system (WPa, 52).* This is a complex sentence with two homogeneous attributive subordinates that complete and specify the main sentence. Predominant use of compound sentences (compared to complex ones) is the illustration of general tendency characteristic to most western languages, that is a transition from a paratactic syntax to more difficult structure - sentences with subordinate clauses: *Maintenance personnel, designers, engineers and management who have a need to know what vibration analysis can do for them (WPb, 50).*

Some hints for the analysis of scientific and technical texts

1. Identify text genre (scientific article, technical documentation, specification, technical report, manual; patent literature, handbook; abstracts of scientific articles or reports; science-technical or commercial advertisements; newsletter; profile).

2. Point out the author's intention and communicative and pragmatic purpose of the text (to influence text addressee, namely; to inform; to convince somebody, to warn, to attract attention; to give instructions; to give explanatory argumentation; to make addressee do something; to influence somebody's world outlook). The addressant's choice of linguistic means depends on communicative purport. Accurateness and logical character of representation (means of realizing pragmatic effect) are realized at different linguistic levels. Point out, which linguistic means the author (authors) use to realize communicative and pragmatic purport of the text:

a) At the level of content (exact definitions and wordings; clear organization of the text representation; logical, successive development of the idea);

b) At the lexical level (terms and words in their special meanings; expressive means, such as methaphors, comparisons, set expressions);

c) At the syntactical level (use of two-member sentences, which express logical judgements in the most adequate way; simple two-member sentences of middle length with nominal enumeration; they give the opportunity to imagine an object or phenomenon and hold it in mind easily; complex sentences with multi-staged subordinate and/or coordinate connection, which express complicated logical relations between facts, phenomena, theoretical assumptions, etc; parallel constructions.

3. Characterize the kinds of information in the text: factual; conceptual; explicit; implicit; specific; common.

4. Point out in which way the category of informativity is realized in the text:

1) Use of terms:

a) Special/abstract words; and

b) One-word terms: stems and derivatives (point out, what suffixes are more productive in term-building in the text under analysis);

c) Compound terms;

d) Term-combinations (binary combinations; multi-component combinations with structure

S + S + S (attributive function of substantives in preposition).

2) Predominance of nominal style;

3) Use of passive and impersonal syntactic constructions (a subject being omitted, the attention is concentrated on the results of the action);

4) Use of 2-3 consistently subordinated clauses;

5) use of two-member sentences with nominal enumeration; infinitive and participle constructions;

6) Polysyndeton (instead of asyndeton).

5. Describe composition of the text (or composition of the paragraph). Give short characteristics of the parts of the text and of their pragmatic aspect (title of the text, author's name (authors' names), summary, an introductory part, a main part, a conclusion, references).

Composition of the paragraph. Kinds of paragraphs:

–with 2-part structure (open);

–with 3-part structure (closed).

Here we present the analysis of technical advertisement text of Lowara centrifugal pumps *(L,1).*

The analysis of the scientific and technical text:

THE NEW GENERATION OF END SUCTION CENTRIFUGAL PUMPS
IN STAINLESS STEEL

HIGH-TEK:

–The new way to manufacture pumps.

–The expression of the state of art technology in deep forming stainless steel applied to pumps.

–The wide range of single stage centrifugal pumps to ISO standards and derived (close-coupled), in chromnickel steel.

The Design:

–Computer-assisted at all stages, designers carefully aimed at the creation of a pump featuring maximum stability and raggedness.

The Manufacturing:

–Components are built from polished stainless steel plates which are laser cut, cold formed and welded on flexible highly robotic lines. This system allows strict maintenance of dimensional standards, thereby guaranteeing constant high quality in the finished product.

The Product:

–A horizontal centrifugal pump with hydraulic characteristics and pump end dimensions according to European standards. This type of construction allows internal inspection of hydraulic parts without removal of pipework (back pull-out design). The exclusive

characteristic that makes this pump special is the material used for its construction: STAINLESS STEEL!

***Applications**:*

–HIGH-TEK pumps are ideal for water and many other liquids transfer in civil, industrial and agricultural installations.

***Pump Technical Data**:*

–Capacities up to 100 m 4h.

–Heads up to 60 m.

–Power from 1,5 kW to 11 kW.

–Maximum operating pressure 12 bar.

–Liquid temperature: from 20° C to +90° C. in the standard version.

–Counter clockwise rotation from pump end.

Characteristics:

–Single impeller centrifugal enclose coupled pump with axial suction and radial delivery.

–Compact construction for easy installation in cramped spaces. Size of the hydraulic end in accordance with ISO standards.

–Suction and delivery flanges in accordance with UNI 2236, DIN 2532 (PN10) STANDARDS.

–Counter flanges supplied on request.

–Stainless steel impeller particularly resistant to corrosion, keyed to the shaft and fixed by impeller out.

–Replaceable wear ring in double-surfaced stainless steel for maximum hydraulic efficiency.

–Mechanical seal housing/back plate engineered in stainless steel, precisely contoured onto a light alloy, adapter for maximum stability and ruggedness. Special construction to ensure lubrication of the various mechanical parts in all possible installation positions.

–Mechanical seal housing according to ISO 3069 (DIN 24960) Standards.

The text under analysis is a scientific-technical advertisement from Lowara catalog.

It contains rather detailed information about new generation of centrifugal pumps made of HIGH-TEK stainless steel. The communicative and pragmatic purport of the text is to convince possible readers in the advantages of the model, which is advertised, and urge them to use the pumps in their activity. It is realized at different levels: at the level of context, at the lexical and the syntactical levels.

The text under consideration contains both factual and conceptual information. The factual information concerning pumps' design, manufacturing, applications and technical data describes main characteristics of the pumps and forms conceptual information, implicated by the authors: HIGH-TEK centrifugal pumps are the best available for water and many other liquids transfer in civil, industrial and agricultural installations. The factual information is explicit, while the conceptual one is mainly implicit: addressees can get it only after reading the whole text and having made their own conclusion.

The factual information is explicated mainly by use of abstract and specific terms. Cf.: *centrifugal pumps, chromnickel steel, robotic lines, pipework, stainless steel, flanges, impeller, shaft, etc* (specific terms); *stability, ruggedness, maintenance of dimensional standards, high quality, pressure, liquid temperature, rotation, suction, etc* (abstract terms). Percentage of the concrete and abstract terms in the text under analysis is equal (23 specific terms versus 23 abstract ones). That is the text contains both common and specific information.

Terms in the text under analysis are represented by different structural types:

1) Stems: *pump, steel, plate, head, shaft*;

2) Derivatives: *impeller, adapter, pressure, corrosion, stability, erosion;*

3) Binary tern combinations (the most productive models Adj. + N, N + N): *wear ring, suction and delivery flanges, axial suction, liquid temperature, operating pressure, stainless steel;*

4) Multi-component term combinations: *single stage centrifugal pumps, pump end dimensions, back pull-out design, counter clockwise rotation, stainless steel impeller, mechanical seal housing.*

Use of terms helps to compress information, makes the text more informative, exact and, therefore, more convincing.

The text under consideration is characterized with the predominance of nominal style almost in all subtexts. Such phenomenon is characteristic to the most scientific and technical texts. It permits better generalization of the text representation and increases informative capacity of the text

Accurateness and logical character of representation are means of realizing pragmatic effect in texts of this genre. Exact definitions and wordings, clear organization of the text representation, logical successive development of the idea contribute to realization of author's intention at the level of context.

To attract readers' attention, to emphasize the most significant points the authors of the text use:

1) Emphatic constructions: *Computer-assisted at all stages, designers carefully aimed at the creation of a pump featuring maximum stability and ruggedness; The exclusive characteristic that makes this pump special is the material used for its construction: Stainless stee.!;*

2) Words, which express subjective evaluation: *the state of art technology; the exclusive characteristic; strict maintenance of dimensional standards;*

3) Word-intensificators: *in all possible installation positions; constant high quality*.

At the syntactical level the communicative and pragmatic purport is realized by use of:

1) One-member nominal sentences with homogeneous members, which give a descriptive character to the text: *Single impeller centrifugal enclose coupled pump with axial suction and radial delivery;*

2) Two-member sentences of middle length which express logical judgement in the most adequate way and permit to hold in mind easily the information of the sentence: *The type of construction allows internal inspection of hydraulic parts without removal of pipeworks;*

3) Parallel constructions: *Counter flanges supplied on request. Stainless steel impeller, particularly resistant to corrosion and erosion, keyed to the shaft and fixed by impeller out.*

Compact construction for easy installation in cramped spaces. Replaceable wear ring in doubled surfaced stainless steel for maximum hydraulic efficiency;

4) passive constructions (subject being omitted, attention is concentrated on the results of the action): *Components are built from polished stainless steel plates which are laser cut, cold formed and welded on flexible highly robotic lines.*

As to the composition, the text under analysis consists of the introductory part, the main part and the conclusion. The title of the text names its referent - the centrifugal pumps in stainless steel. The title is vivid, expressive and immediately attracts readers' attention. Special interest is exited by the words "the new generation".

The introductory part, represented by subtext HIGH-TEK, contains some data about the firm technology and production, and prepares readers for perception of the main information. To attract attention the authors of the text highlight the novelty and unique character of their technology and underline that the pumps entirely meet the requirements of ISO standards.

The main part of the text is represented by the description of design, manufacturing, applications and principal data of Lowara centrifugal pumps. Though the information is not detailed (that is not necessary for advertisements), it keeps proving *"the constant high quality in the finished product".*

The main part consists of several subtexts. Each of them has its own subtitle. Note, that the subtexts are arranged according to their importance - that is, according to the principles of Classical Rhetorics. The most significant information (about characteristic features of centrifugal pumps and their advantages) is placed in the final part - conclusion, that is, in the strongest position.

So, the results of the analysis show, that to produce an emotional influence upon addressees and realize the communicative and pragmatic purport of the text its authors use both epistemic and linguistic means.

Thus, our linguistic analysis of scientific and technical texts is based on the research of realization means of their communicative function. According to the basic criteria - communicative purpose, these texts are divided into instructive, informative and texts regulating official and business relations in scientific and technical communication. Texts of analysed genre realize their communicative function in accordance with the author's pragmatic purport. This, in its turn, determines the basic content of information, choice of lexical, syntactical and structural means for realizing text communicative function of this genre– communication of information. Explicit factual information plays the leading role in these texts (information about facts, results of experiments, processes), which is at the same time, both the purpose of scientific and technical texts and means of formation conceptual information. The latter has implicit character which is realized by means of discrete verbal signals, oriented toward specific background knowledge of recipients. Described facts, processes, mechanisms contain information which is associated with the initial situation and requires special background knowledge from the recipients. To ensure adequate perception of information by the addressee, a great number of terms and term combinations are used being ideal means of conveying information, adequate to the particular part of practice. Use of terms compresses information, makes it accurate, objective, reliable, and optimizes the process of scientific and technical communication. When describing technical solutions, designs and devices, information is given in impersonal or indefinite personal form. It determines the use of significant number of passive constructions. Each element of text composition also plays an important role in realization of text pragmatic purport: the introduction prepares the audience for perception of the main information; the body of the text proves and confirms the reliability of the obtained results; the conclusion contains the most important and compressed information of the text. The composition of text and arrangement of paragraphs are aimed at conveying of convincing information. The choice of linguistic, lexical and syntactical means used by authors of scientific and technical texts is determined by the text pragmatic purport ensuring the efficiency of scientific communication.

ПРИНЦИПИ АНАЛІЗУ НАУКОВО-ТЕХНІЧНИХ ТЕКСТІВ

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Інтенсифікація обміну науково-технічною інформацією актуалізує проблему забезпечення ефективності її надання. У статті надається классифікація науково-технічних текстів, основним критерієм якої є комунікативна настанова тексту. Детальний аналіз епістемічних та мовних засобів впливу на адресатів, притаманних текстам вказаного жанру, показує, що комунікативна функція науково-технічних текстів – функція повідомлення - визначає підбір лінгвістичних засобів та структурну організацію досліджуваних текстів. Надання чіткої та розгорнутої фактуальної інформації, використання термінів та темінологічних словосполучень, пасивних дієслівних конструкцій, простих двоскладних речень з переліком і однорідними членами, складнопідрядних речень з декількома послідовно підпорядкованими підрядними є засобами реалізації комунікативно-прагматичної настанови автора. Результати дослідження підтверджують, що структурні та композиційні особливості науково-технічних текстів, точні визначення та чітка організація викладення матеріалу також спрямовані на досягнення основної мети – ефективного повідомлення наукової інформації.

Ключові слова: *науково-технічний текст, комунікативно-прагматична настанова, фактуальна інформація, терміни, термінологічні словосполучення, комунікативна функція.*

ПРИНЦИПЫ АНАЛИЗА НАУЧНО-ТЕХНИЧЕСКИХ ТЕКСТОВ

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Интенсивный обмен научно-технической информацией делает актуальной проблему обеспечения эффективности процессов ее сообщения и восприятия. В статье представлена классификация научно-технических текстов, основным критерием которой является коммуникативная установка текста. Подробный анализ эпистемических и языковых способов воздействия на адресатов, характерных для текстов данного жанра, показывает, что коммуникативная функция научно-технических текстов – функция сообщеня – определяет подбор лингвистических средств и структурную организацию исследуемых текстов. Предоставление четкой и развернутой фактуальной информации, использование терминов и терминологических словосочетаний, пассивных глагольных конструкций, простых двусоставных предложений с перечислением и однородными членами предложения, сложноподчиненных предложений с несколькими последовательно подчиненными придаточными являются способами реализации коммуникативно-прагматической установки автора. Результаты проведенного исследования подтверждают, что структурные и композиционные особенности научно-технических текстов, точные определеня и четкая организация изложения материала также направлены на достижение осонвной цели – эффективного сообщения научной информации.

Ключевые слова: *научно-технический текст, коммуникативно-прагматическая установка, фактуальная информация, термины, терминологические словосочетания, коммуникативная функция.*

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Received: 3 January, 2018