

## FUNCTIONAL AND STYLISTIC FEATURES OF SCIENTIFIC-TECHNICAL ARTICLES ANNOTATION TEXTS

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*The article considers the main properties of scientific style, such as objectiveness, logicity, fidelity, generalization, relevant for annotation texts of scientific-technical articles. The leading communicative function of these texts is performed through epistemic and linguistic means.*

**Keywords:** *annotation text, communicative function, objectiveness, logicity, generalization, fidelity, scientific-technical article.*

The up-to-date scientific and technical language changes permanently due to increasing influence of technology and that of the scientific and technical texts in everyday communication. Due to the growing number of scientific publications, to find the necessary information is becoming ever complicating task. Annotation texts (AT) of scientific-technical articles signal about publishing of new researches, articles and help readers to find out article they are interested in.

The aim of the article is the analysis of linguistic means used to express the main functional and stylistic features of scientific-technical texts.

The object of research in the paper is annotation texts of scientific-technical articles.

The subject of the research is functional and stylistic features peculiar to the texts of above mentioned genre. It is well known that the informative function of scientific and technical texts is being implemented most completely as compared to the rest two of the major language functions, namely, these of communication and influence [1]. Information obtained as a result of scientific research of the objects and phenomena then serves as the basis to describe the functions and designs of various machines and their units. To provide the most complete information is objective of the first priority to describe any technical solutions, designs and devices. The informative function is considered to be the language function to present the logical content [2: 380].

The annotation text (AT) of a scientific article is essentially the abridged (concise) version of the original text content. AT is aimed to identify the subject of the scientific and technical article, to deliver the key points and general ideas of the basic text to a reader.

The AT-s are being classified as the simple structure texts (with no additional texts included). The AT-s are the lapidary ones in which the essential volume of information is being conveyed by a small quantity of informational units. The AT-s support the descriptive function by just listing the main features of the subjects and problems involved. Concerning the properties of the functional style, the AT-s are being referred to as scientific and technical texts. As to the subject and topic content, the AT-s are classified into the exact science cycle and, due to their speech presentational format, into the written texts. The term 'annotation of the scientific-technical text' is considered in this paper as the abridged version of the scientific and experimental text content structure, which performs the signaling function. The AT-s communicative purpose is to indicate the appearance of the particular new article in the sphere of scientific communication in order to attract attention of a reader and to estimate the quality of the basic article. To raise interest of the potential reader the list of the main features dealt with the basic article as well as their significance and ways to resolve the problems involved are presented. Therefore, it is the informative function that is being introduced most completely in AT of scientific-technical texts. The main properties of the scientific style, such as objectiveness, logicity, fidelity and generalization are also relevant for the AT-s of the scientific and technical texts [3, 4, 5, 6, 7]. The objectivity as a stylistic feature of AT is determined by their objective-

documentary character. The AT-s of that genre describe the fields of reality, the facts and interaction between them beyond the human consciousness.

Logicity (consistency) in the AT-s of the scientific-technical articles is being determined by the very principle of scientific presentation, that is addressing the intelligence of a reader. The correspondence of the statements presentation to the laws of logical thought development is called 'logicity'. Scientific-technical text is a series of linguistically formed ways of logical thinking - reasoning, arguments, theses, definitions, hypotheses [7: 122]. Their aim is to focus reader's attention on the subject of research.

Logicity in the AT acts as means of convincing the addressee, since the rhetoric is the art of using "all available means of persuasion" and is a branch of logic. One way to influence the audience is to appeal to the mind of the recipient, without violation of logical principles [185: 39]. Logicity of statements is achieved by progressively deploying sense, introducing of the exact terms and definitions, using of linguistically designed ways of thinking.

To express the logic and consistent presentation, argumentation of content and rigorous motivation of its links simple two-member sentences are used in AT, as the most clearly expressing the logical judgment, the consistency of the main aspects of the article. For example, the AT of the scientific report at the international conference "Pumps for a Safer Future" consists of five sentences, all of them have subject and predicate:

*Over 1,500 pumps in a number of industries were investigated. Pumps were classified into five groups in respect of power, ranging from under 5 kW up to over 150 kW. Malfunctions were classified into 34 types and the cost effects on each studied. The fault causing the highest downtime and maintenance cost is the leakage of seals. The paper also considers examples of the frequency of preventive and corrective maintenance actions, including the use of 24 condition monitoring methods / PFSF, 19 /.* In this example, the use of simple two-member sentences can clearly present the extent of the experiments conducted for fault detection and classification of pumps.

To show complex logical relationships between facts and phenomena, between the theoretical calculations and practical solutions complex sentences with coordinate and subordinate clauses are used.

*The paper describes the latest developments in seals which provide safety without the need for expensive back up systems and which produce near zero emission capabilities / PFSF, 23 /.*

Such statement of logical relations is peculiar for scientific and technical articles and reports. The use of complex sentences with subordinate and coordinate clauses is due to the necessity to transmit information of more general character and to limit the AT volume strictly.

To present logical statements in scientific and technical texts a great number of coordinate and subordinate conjunctions, relative adverbs are used frequently. They show logic connections and sequence of events described in the text.

*Regenerative turbine pumps have excellent NPSH characteristics, which makes them ideally suited for different application / RT, 1 /.*

*The output shaft is supported at the top and bottom with bronze bearings that absorb side thrust and insure smooth efficient throttling control / Z, 9 /.*

*When required, an optional front-leg pivot is provided which gives maximum dimension between front legs of the mast and pipe racks when mast is horizontal / CEC, 28 /.*

Sentences with nominative enumeration, characterized by compactness and large information storage capacity are used very often. The result of their use is nominative character of scientific style, domination of which in the scientific-technical and technical texts was mentioned in the works by S.I. Kaufman [9]; I.V. Arnold; [10] V.N. Komissarov [11]; V.G. Kuznetsov [7].

*Casing wear rings, stuffing box bushes and center bearing bush are fitted as standard permitting easy replacement to maintain optimum efficiency / D, 3 /.*

*Standard pumps are bronze fitted and have hydraulically balanced impellers, stainless steel shafts, and corrosion resistant seals throughout / RT, 1 /.*

*The importance of low heat generation, multiport injection, seal flush, temperature margins and materials are considered in relation to single seals / F, 23 /.*

Generalized presentation of statements in TA of scientific and technical articles is achieved by use of generalizing lexical and passive constructions.

*'The advantages and disadvantages of seal chambers for various applications, including the enlarged bore seal chamber for centrifugal pumps, are discussed / WP, 21 /* (passive construction has generalized character - it does not specify "who, where, when" discusses this issue; words " *advantages and disadvantages* "generalize a number of specific phenomena, the essence of which is not disclosed in TA.

In the following example: *The paper describes the latest developments in seals which provide safety without the need for expensive back-up systems / PFSF, 23 /* (generalizing character has the word combination "the latest development in seals").

*The process and terminology are defined for establishing static, hydro test and dynamic pressure ratings for mechanical seals. Simplified equations, charts and examples are provided to illustrate the process / WP, 51 /.* These examples in TA of scientific and experimental articles possess passive constructions that make statements presentation generalized.

All types of scientific and technical texts, including TA, are characterized by fidelity of presentation. Scientific knowledge requires an exact representation of reality concerning quantitative and spatial relationships between facts and phenomena of the objective world. "The precise knowledge of quantitative relations of the objective world should be understood as accurate, complete, strict, maximum close to the real aspects reflection, their clear representation in numerical and dimensional terms" [12: 248].

TA of scientific and technical articles are derivative texts, so they practically do not include detailed specifications. The texts of this genre have generalized figures: *In the paper experiments carried out on impeller with diameter 315 mm in combination with several spiral casings are described / HT, 135 /.*

Realization of fidelity in TA of scientific-technical articles is due to common use of technical terms, use of words in their concrete and logical meanings, with high explicitness of expression:

*Splash type lubrication system (HS-3 models only) for all power end bearings is contained with seal chamber / THS, 1 /.*

*Much damage is reported on offshore sea water and fire water pumps including stretch riser bolts, bearing damage, cavitation damage and corrosion / PFSF, 20 /.*

Distant and contact repetitions of words or phrases of the same thematic rank in TA are the means of fidelity realization.

*Sectionalized fluid end with suction manifold, discharge manifold and stuffing box ... makes for easy maintenance and economical replacement of components. Fabricated suction manifold has multiple connections for piping flexibility. Forged symmetrical discharge manifold is reversible to allow connections from other side for piping flexibility / 7VSVPP, 2 /* (distant repetition of word combinations).

High frequency of relative pronouns use in texts of this genre makes it possible to avoid the ambiguity of the text content and helps to realize the fidelity.

*Although envisaged primary for safety-related duties, the PPS can be applied to any application where certain, fast closing under all circumstances is required / ST, 8 /.*

*... To minimize potentially catastrophic pressure pulsation which might be generated by valve openings ... and which can severely damage centrifugal pumps in the system / PP, 42/.* In these examples, relative pronouns are used to clarify the meaning of the preceding sentence.

System, structural and content peculiarities of scientific-technical articles annotation texts are determined by the correlation of these genres of texts with scientific and cognitive activity and their leading function - communicative and informative. Texts of this genre have objectively documentary character and main features of scientific style, such as logicity, objectivity, objectiveness and fidelity that can be achieved by use of linguistic means.

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