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VERBAL WORD FORMS IN THE TEXTS OF SCIENTIFIC COMMUNICATION

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Abstract. The paper is devoted to the description of the comparison results of verbal forms functioning in the two text corpora of scientific communication, which are different as to their scientific subjects, with the aim to reveal the probable dependence of verb forms occurrence in the texts on the area of knowledge.

Keywords: finite verb form, frequency list, quantitative calculation, sublanguage, synthetic and analytical forms, text corpus.

Introduction.

In recent decades a gradual shift towards the study of the language variation, from language to speech, from standard to the usage, can be observed in linguistics [12]. The number of works, which are devoted to the analysis of speech units operating in the text corpora of different styles and allow to trace the process of the implementation of linguistic phenomena in general and verbal forms, in particular, is constantly increasing.

Using certain groups of verbal units as an example, such problems of modern linguistics as the problem of the definition of semantic roles, the problem of the

development of the meta-language descriptions of semantic roles, the problem of allocation of elementary components of semantic roles, etc. [1]; the problem of describing the semantic structure of verbal lexicon; the issue of learning grammar and semantic characteristics of the modal verb constructions in sublanguages technology; comparative analysis of verbal word forms in three functional styles involving linguistical statistical methods [3], etc. are highlighted. The material is based on the text corpora related to a variety of styles: the original texts from English and American literature of the XIX, XX, XXI centuries and a variety of modern texts (articles, interviews, etc.); texts of scientific communication [2]; scientific and fiction works and texts of journalistic functional style as well.

Goal of the research.

The purpose of this work is to compare verbal forms that occur in different text corpora of scientific functional style.

Results and discussion

As a material the authors use the text corpora of the sublanguages relating to scientific functional style, namely – "Heating Engineering" and "Acoustics". They are formed on the basis of the texts taken from British and American scientific and technical journals: IEEE Transactions on Power Apparatus and Systems, IEEE International Conference on Acoustics, Speech and Signal Processing, The Journal of the Acoustic society of America, and others.

Comparative description of tense, aspect and voice categories of the verbs extracted from the probabilistic and statistical models of "Heating Engineering" and "Acoustics and Ultrasound Equipment" subject areas in which they function, allows us to determine the integral and differential characteristics of two different text corpora as to the degree of verbal paradigm implementation.

The integral characteristics include the following.

1. The text corpus of "Heating Engineering" sublanguage and the text corpus of "Acoustics and Ultrasound Equipment" sublanguage as well showed the dominance of synthetic forms and the most frequently used in both cases turned out to be forms of the Present Indefinite Active.

2. As the obvious peculiarity of the texts of scientific communication is the focus on the object and the absence of the doer of the action, quantitative calculations of voice forms in both text corpora showed that the most frequently used form was the active voice, as the devices described in the texts (turbine systems, computers) are able to operate themselves and to be not only objects but also the subjects of the production processes.

3. An analysis of word forms as to their tense criteria determined the most frequently used tense forms. They turned out to be the forms of the present tenses. They made the majority of the units in both text corpora. The second place was occupied by the past tense forms, and the third by the future tense forms.

4. Quantitative analysis of different types of verb forms showed that in both cases the majority of the verb forms belong to the Indefinite group, a much smaller number of verb forms refers to the Perfect group, and the third place is taken by the Continuous group.

Despite the fact that both sublanguages belong to the language of scientific communication, they have significant differences in grammar and statistics.

1. There are significant differences in the implementation of the tense and voice paradigms in both cases. If "Heating Engineering" sublanguage uses almost all possible verb forms (14 units), the "Acoustics and Ultrasound Equipment" sublanguage uses only 8 of them.

2. As to statistics both text corpora reveal the difference in the numerical values. As the number of word usages in both cases is the same, the lack of grammatical forms in text corpus of "Acoustics and Ultrasound Equipment" is compensated by large numerical quantity in the analyzed text corpus. Compare: synthetic forms of "Heating Engineering" sublanguage contain 2640 and 3755 wordforms can be found in the texts of "Acoustics and Ultrasound Equipment" sublanguage; analytical forms of "Heating Engineering" corpus make 2393 units and there are 3194 of them in "Acoustics and Ultrasound Equipment" sublanguage. Word forms that are part of synthetic and analytical verb units have, respectively, lower (in "Heating Engineering" sublanguage) and higher (in "Acoustics and Ultrasound Equipment") frequency of usage.

Conclusions.

The results of the comparative analysis lead us to the conclusion that the texts which belong to the same functional style, have not only common, but also the distinctive characteristics that depend on the field of knowledge, which they describe.

Observations of the text corpora in the area of scientific communication [1;2; 3] showed that all text elements are interrelated and dependent on each other, and grammatical features can be explained from the standpoint of lexical meanings of the text units under research. It determines the next stage of the analysis of the verb forms described in the article where it will be possible to trace the dependence of the integral and differential parameters from the lexical peculiarities of verb forms in the text corpora of "Heating Engineering" and "Acoustics and Ultrasound Machines" sublanguages.

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