

*Syvokin H. V.,**Candidate of Philological Science, Associate Professor,
Department of Foreign Languages
Odessa State Academy of Civil Engineering and Architecture**Kartel T. M.,**Candidate of Pedagogical Science, Associate Professor,
Department of Foreign Languages
Odessa State Academy of Civil Engineering and Architecture*

MEANS OF PERSUASION IN SCIENTIFIC TEXT

Summary. The work reads about the functional peculiarities of scientific texts. It has been demonstrated that the leading principle of influencing function execution. Means are involved.

Key words: scientific text, influence, modality, persuasion, attitude, predicativity, proposition.

Introduction. The relevance of this work is determined by the fact that now it is the English scientific text (ST) that is of great interest for the study of various functional aspects of language and speech. This is explained by the fact that the impact of science is now decisive for our entire life, and English is increasingly becoming the international language of scientific communication.

The purpose of this research is to study the functional characteristics of ST and to identify the nature of the gradation of the components of the modal-semantic field and the degree of reliability of ST.

The two most important functions of the language of science are the functions of communication and influence, the complex dialectical unity of which constitutes the essence of the communicative function (the function of communication or communication) in the broad sense of the word [1, p. 9].

The main function of the language, as the researchers note, is the informative function (representative, denotative, or cognitive) associated with the subject of the message. The language mark is especially well prepared and equipped precisely for the function of representation; this is most relevant to the language of science.

The second important function of the language of science is impact. First of all, the impact is associated with the communicative function. In contrast to the subject-practical and cognitive activity, the purpose of speech communication activity is not to change the product of the activity, but to influence the communication partner, that is, it manifests itself primarily social in nature [2, p. 33]. Impact is a complex function that integrates all functions that are updated in the text.

The main type of influence in ST should be considered persuasion. It is precisely in the desire to convince the reader that the pragmatic attitude of the author of a scientific text consists, and when speaking of the influence function of a scientific text, scientists usually mean exactly the function of persuasion. Other components of the impact function (order, suggestion, advice, etc.) are completely uncharacteristic for ST. Persuasion is associated primarily with the communicative function of the language, always carried out consciously and directed to the addressee of ST.

The purpose of any speech influence, including persuasion, is to induce the recipient of information to a certain understanding of certain things, namely, to the understanding that the author wants

[3, p. 65]. In this case, it would be natural to assume that the author of a scientific text seeks to convince the addressee of the truth of the information provided. If we ignore the conditions of sincerity, then the question of the truth of information in the ST will be associated only with the question of knowing the speaker of what is actually happening, that is, the question of the correspondence of the utterance to the reality from the point of view of the speaker. Consequently, the truth in our understanding of the term is always subjective and consistent with the concept of knowledge. In this regard, it seems legitimate to speak not about the reader's conviction of the truth of the transmitted information as the goal of the persuasion, but about the conviction of its authenticity, since authenticity (unlike truth) can be differently evaluated by the speaker.

In our study, we do not set ourselves the goal of establishing the correspondence of the content of STs to objective scientific truth; we will be interested only in the attitude of the author himself to the content of the statement. In the language, the assessment of the credibility of the message is related to the category of modality.

The category of modality most researchers differentiate according to various criteria. One of the leading aspects of differentiation is the opposition of objective and subjective modalities. The objective modality expresses the relation of the reported to reality in terms of reality (feasibility or fulfillment) and unreality (unrealization). The main means of forming an objective modality is the category of the verbal mood. On the basis of opposing reality / unreality of the attitude of utterance to reality, as noted by A.A. Zolotov, two main objectively modal meanings are distinguished – real (direct) and unreal (irreal, indirect, hypothetical, conjectural) modality [4, p. 141].

Research results. In our study, we do not set ourselves the goal of establishing the correspondence of the content of STs to objective scientific truth; we will be interested only in the attitude of the author himself to the content of the statement. This sphere of relations in the language is the content of subjective modality. The semantic basis of subjective modality is formed by the concept of evaluation in the broad sense of the word, including not only the logical (intellectual, rational) qualification of the communicated, but also various types of emotional (irrational) reaction.

As V.Z. Panfilov notes, the opposition of objective and subjective modality is relative, since reality / unreality is estimated by the speaker and, therefore, this assessment is subjective, since it is actually only an assessment of the degree of knowledge of reality by the subject [5, p. 164]. Therefore, the subjective modality is often called an additional or secondary. The definition of subjective modality as additional or secondary, does not mean that its presence in the statement is not

necessary. Although there may well be no explicit means of expressing subjective modality, their very absence is meaningful.

The main explicit means of transferring the subjective modality are predicates of the propositional relation (installation) (hereinafter referred to as PPR). The concept of the propositional relation was introduced into the philosophical logic by B. Russell [6, p. 65]. Later it became widely used not only in logic, but also in linguistics. The PPR is a subclass of the more general class of second-order predicates and is contrasted within this class with inter-event predicates or qualifiers [7, p. 72]. In addition, our understanding of the subjective modality as an assessment allows us to include in it not only the modality expressed by the verbs of the modus, but also the modality expressed by the modal verbs that are part of the dictum part of the utterance.

PPR is sometimes called modus predicates, identifying the concepts of the propositional relation (software) and modus. N.D. Arutyunova writes that a propositional attitude is distinguished primarily by its ability to establish a connection between the speaker and the proposition, and the modus transfers the centrality to the postulated attitude of the speaker to the statement. Modus is usually understood as part of a statement expressing the speaker's attitude to the situation being described. The situation itself is described in the dictum part of the utterance, usually called the proposition. Proposition, as defined by M.V. Nikitin, is reduced to a generalized objectified diagram of relations in syntactic unit at the level of classes of arguments and predicates that are not localized in space and time [8, p. 595].

N.D. Arutyunova writes that the propositional attitude is distinguished primarily by its ability to establish a connection between the speaker and the proposition (which corresponds to the subjectively modal attitude), and the modus transfers the center of gravity to the postulated relation of the content of the statement to reality (objectively modal meaning of the statement) [9, p. 207].

According to S.A. Krylov, all types of modes with some reservations can be reduced to two main ones – epistemic and emotive, whose predicates constitute the core of the PPR class. Epistemic (mental, cognitive) PPR express a rational assessment by the speaker of the content of the statement. This includes predicates with the value of knowledge (ignorance) and opinions (doubts). Emotive predicates express an emotional assessment of the speaker's content of the statement. We will be interested only in epistemic PPR, since it is rational evaluation that represents the speaker's assessment of the authenticity of the statement's content. In the context of epistemic PPR, the speaker expresses his assessment of the conformity of the proposition with reality.

The speaker can assess the accuracy of his message as truth or probability. The truthfulness of the credibility of the speaker of his message will correspond to his knowledge, and the probabilistic one – to the opinion. The truth of the statement from the PPR of knowledge is primarily indicated by the semantics of these PPRs. Therefore, the use of the ST author in the statement of the PPR of truth accuracy carries out the conviction of the addressee, imposing a truth evaluation of the proposition on him. After all, the speaker's intention, his vision of the situation, his assessment of scientific information, as the author of this information, can be considered as the main argument in the dialogue with the reader.

The PPR knowledge in English ST can enter both information already known in the scientific world (old knowledge) and new, still unknown (new knowledge). The main purpose of ST is to post a new, unknown, from the point of view of the author, informa-

tion. However, no ST can do without old information, since new information is often presented against the background of already existing, systematized and generalized knowledge. Reported data are often well-known, generally accepted facts. But the author needs them as a background or as a detail of his description, and he quotes them, as it were. This opposition of new and well-known information in the ST finds its explicit expression in the meanings of the PPR of knowledge.

The verb "know" in an affirmative form, as a rule, introduces old information. In this case, the verb "know" most often is part of the main clause introducing the subordinate clause (that-clause).

In the scientific text of the PPR, the nobility is often used to repeat information already known in the scientific world in order to remind the recipient of it. Even if in fact this information is unknown to the addressee, the very fact of submitting it as old knowledge is intended to convince the addressee of its knownness. Characteristic of these cases is the presence in the modus part of adverbs (we know intuitively ..., we well know ...), emphasizing the prominence of the transmitted information. Thus, the conviction in the old knowledge is carried out due to the meaning of the PPR know, indicating the true assessment of the validity of the proposition.

The message of new knowledge in ST takes place with the help of the PPR knowledge, which, however, is characteristic of the new – the old one is opposed by the PPR know. Following P.K. Ryabtseva, we call this group of PPR cognitives [10]. In general, cognitives describe a variety of information processes of perception, receiving, mental processing, transfer and storage of knowledge. Cognitive attitudes include verbs with the meaning of detecting, discovering, showing, investigating, describing, communicating, understanding, and others.

As cognitives, manifesting the truth assessment of the credibility of the speaker of his message, the following PPR groups are most commonly used:

1) finite verbs: check, document, estimate, conclude, show, reveal, document, estimate, infer, investigate, tell, determine, state, explain, explain, suggest out, report, follow, note, appreciate, analyze, describe, signal, characterize, explore;

2) nouns: fact, evidence, finding, observation, conclusion, indication. As for nouns, they are not always referred to as PP, since the subject of the modus in these cases, as a rule, does not find an explicit expression.

Such instances of the expression of a mode predicate are sometimes called transitive to propositional attitudes or impersonal modalities, as opposed to personal, expressed verbs [11, p. 14]. Nevertheless, despite the formal inexpressiveness of the subject of the modus, these predicates always convey the attitude of the author. In addition, some of these nouns can be combined with the possessive pronouns my / our (my findings, our observations).

An important point, which plays a large role in convincing the addressee of the truth of the reported information, is an explicitation in the semantics of cognitives indicating the source of new knowledge. Depending on these sources of knowledge in the group of cognitives, there are three subgroups: 1) perceptual cognitives, 2) mental cognitives, 3) communicative cognitives.

The direct experience as a source of knowledge is demonstrated by the semantics of perceptual cognitives. These PPR describe the situation of empirical knowledge replenishment. The semantics of mental cognitives testifies to excretory knowledge. The third source of knowledge is the so-called knowledge of second-hand, that is, obtained in the learning process, from conversations, from

books, etc. On the knowledge of “second-hand” is communicated through communicative cognitives.

It must be emphasized that between the three groups of cognitives that indicate the source of knowledge, as our material shows, there are no clear boundaries. Thus, output knowledge in ST can be transmitted not only by mental, but also perceptual cognitives, indicating that the conclusion is based on a generalization of the results of the experiment. For the addressee, it often does not matter whether the research was conducted and whether the conclusion was made by the author himself, or the author uses other people’s data (we are not talking about scientific controversy). Data obtained from second-hand, in their status may not differ from that obtained by the author, and in the text only a footnote can indicate the source of information. In addition, second-hand information is always critically interpreted by the author of ST, before he incorporates it into the fund of his own knowledge.

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Despite the different status of the PPR, introducing the old and new knowledge, the semantics of these PPR itself primarily indicates the truthfulness of the statement. However, ST communicates not only the speaker’s knowledge, but also his opinions: assumptions, hypotheses, predictions, guesses. In this case, the author does not have complete confidence in the truth of the proposition and suggests that a different opinion, a different point of view, is possible. The large role of this kind of propositions, manifesting the probable authenticity in ST, is explained by the peculiarity of scientific activity. The statement of assumptions, guesses, forecasts, etc., filling temporary gaps in the scientific picture of the world, contributes to the change of attitudes of the addressee and contributes to the evolution of scientific thought. The need for hypotheses, assumptions arises in science, when the connection between phenomena is unclear, their cause, although many circumstances are known that preceded or accompanied them, when according to some characteristics of the present it is necessary to restore the picture of the past or on the basis of the past and present to draw a conclusion about the future development of the phenomenon.

However, when presenting his opinions, the author of ST also seeks to convince the addressee of their authenticity, seeks to achieve acceptance by their addressee. Therefore, the truth of information is not the only content of a predicate to convince in ST. The author of ST often convinces the addressee of the acceptability, possibility, presumptiveness of one or another idea of the state of affairs in the world. Positions with the value of assumptions, opinions convey not probability, but probabilistic assessment of reliability.

In Ukrainian linguistics, PPR has adopted the division of opinions, which are actualizers of probabilistic reliability, into two groups: categorical validity of PPR and problematic validity of PPR. This division of PPR with probabilistic assessment of reliability into two groups is mainly due to the fact that each of these groups is distinguished by its peculiarity in the implementation of the persuasion function in the scientific text. However, both problematic and categorical degrees of confidence, expressing the subjective modality of the statement and characteristic of the PPR opinions, opposed to the truthfulness inherent in the PPR knowledge.

Statements with a modus of opinion of categorical authenticity unite statements, in the meaning of PPR, which expresses

the speaker’s full confidence in the truth of the reported information. The means of expression of PPR of categorical validity are not limited by a special variety. The PPR of this group can only be expressed by predicative adjectives and modal words: surely, certainly, of course, indeed, naturally, undoubtedly, clearly, obviously, it is evident (apparent, clear etc.).

Thanks to the predicates of categorical authenticity, the author not only expresses his confidence in the truth of the reported information, but also has an impact on the addressee, as it sets the latter’s reaction to the unconditional acceptance of the reported information.

Depending on the meaning of the modal words of categorical authenticity, they can be divided into two groups. One has the ability not only to introduce a proposition of opinion, but also to be used in propositions of knowledge for the expression of true authenticity. This includes modal words and phrases in fact, of course, indeed, naturally, actually. These modal words indicate the absolutely reliable nature of the information from the point of view of the speaker, and therefore their meaning is not characterized by the variability of the reliability assessment. These PPR cannot be graduated on a scale of probability, since they do not form one semantic series with PPR, which would represent a continuum of values from a low to a high degree of probability.

The modal words of the first group occur in a situation where the conclusion, confirmed by the actual state of affairs, becomes knowledge, and thus the knowledge coincides with the logically expected one. With regard to the difference between the statements with categorical validity of PPR and problematic validity of PPR, it is that the latter report knowledge of an objective fact, while the former means that knowledge of an objective fact corresponds to the logically expected, that is, the opinion of the author, based on the available assumptions.

The second group of modal words has only the meaning of opinion and can only be used to express probabilistic confidence with propositions of opinion. These modal words express a high degree of probability. They are characterized by the predominance of the subjective-psychological meaning of confidence and persuasion. These include the modal words certainly, clearly, undoubtedly, clearly, surely, evidently, no doubt. These modal words are an indisputable means of persuasion the addressee of the accuracy of the information by indicating that this state of affairs is not unexpected, which is as it should be. Considered categorical validity of PPR indicates the author’s confidence in the reported, his persuasion in the accuracy of the information. The communicative intention of the author is to make the addressee believe in the accuracy of the message. Given this circumstance, such statements are sometimes unfoundedly attributed with a true evaluation of the proposition [12]. However, these statements, in contrast to the truth, are characterized by a probabilistic assessment of the accuracy of the proposition and occupy a place covered by the zone highly probable on a probabilistic confidence scale: obviousness, certainty.

Both groups of modal words discussed above with a value of categorical confidence are markers of the statement. Modal words like surely, of course, certainly are specialized means of expressing the speech action of an assertion. They expressly call the attitude of the speaker to the event nomination.

In contrast to the PPR, the categorical authenticity of the PPR with a modus of opinion, conveying the value of problematic authenticity, unites statements, the meaning of which is expressed (to a weak or strong degree) doubt, indicating the speaker’s absence

of complete confidence in the truth of the message, the assumption of a different opinion, points of view.

Problematic validity of PPR are characterized by a much greater variety of means of expression than categorical validity of PPR. It can be:

1) verbs, including: a) full-valued think, believe, suppose, consider, imply, expect, anticipate, hypothesize, suspect, estimate, suggest, predict, etc.; b) connective seem, appear; c) modal with epistemic meaning assumptions: may, might, can, could, must and the verb seem;

2) predicative adjectives in the construction with the impersonal it and the connected verb: it is possible, probable, likely, conceivable, doubtful, debatable, seen, etc.;

3) modal words: perhaps, possibly, probably, conceivably, presumably, apparently, and so on;

4) nouns: assumption, hypothesis, suggestion, theory, probability, belief, opinion, etc.

Conclusions. Expressions of opinion with the value of problematic credibility are very characteristic of a scientific style of speech. This is explained by the fact that, along with a statement of the provisions, the truth of which is established by the author of ST in the course of research, experiment, logical proof, calculations, as well as by other researchers, references to the works of which are given in ST and whose data do not cause doubts in the author, very often in ST there is a statement of possible, probable statements, explanations, theories, hypotheses, the truth of which has not yet been established, which need substantiation, proof, further research, verification. These hypotheses, assumptions fill temporary gaps in the scientific picture of the world and in the further course of development of science or are discarded as unreliable, or remain hypotheses if it is impossible to provide sufficiently reliable evidence (which is often found in describing historical events when the connection with the actual state of affairs is lost), or pass into the category of reliable knowledge. Without the statement of hypotheses, the assumptions of the evolution of scientific thought would be impossible.

Problematic authenticity is always associated with a certain degree of uncertainty, which speaks in doubt about the truth of the statement, in the absence of the speaker having a sufficiently reliable argument confirming the truth of the statement.

The analysis of problematic validity of PPR. Allows you to divide them into several groups:

1. PPR doubt: doubtful;

2. PPR beliefs: think, believe, suppose, consider, seem, appear, opinion;

3. PPR assumptions: perhaps, possibly, probably, conceivably, may, might, could, must, presumably, assume, assumption;

4. PPR probabilities: suggest, likely, probably, probability, theory;

5. PPR forecasting: anticipate, hypothesize, predict, expect, suspect, hypothesis.

The five problematic validity of PPR we have identified, together with the two categorical validity of PPR designated in the zone of highly probable reliability (obviousness and certainty), form a scale with a gradation of values of the sign of probability, since each subsequent group has a stronger value of this sign. This proba-

bility scale is close to the classification of the corresponding modal words of the English language proposed by B.E. Zernov [13, p. 87]. Depending on the strength of the sign, the probability of problematic validity of PPR and categorical validity of PPR function of influence is carried out in different ways. It is important to note that the degree of expression of probabilistic reliability is influenced by the subjective interpretation of the state of affairs by the author, and not by the mandatory logical weight of the premises.

In conclusion, we note that having examined various aspects of the impact of a scientific text, we stated that its main type is the persuasion of the direct addressee of ST in the authenticity of what it reports.

References:

1. Чайковская М.С. Текст как сообщение и воздействие. М., 1986.
2. Третьякова Т.П. Английские речевые стереотипы: функционально-семантический аспект. СПб., 1995.
3. Клаус Г. Сила слова. Гносеологический и прагматический анализ языка. М., 1967.
4. Золотова Г.А. Очерк функционального синтаксиса русского языка. М., 1973.
5. Панфилов В. Гносеологические аспекты философских проблем языкознания. М., 1982.
6. Russel B. On Inquiry into Meaning and Truth. London, 1940.
7. Крылов С.А. О содержании термина предикаты пропозициональной установки. Пропозициональные предикаты в логическом и лингвистическом аспекте: Тезисы докладов рабочего совещания. М., 1987. С. 71–74.
8. Никитин М.В. Курс лингвистической семантики. СПб., 1996.
9. Арутюнова Н.Д. Типы языковых значений: Оценка. Событие. Факт. М., 1988.
10. Рябцева Н.К. Противопоставления в классе когнитивов. прагматика и проблемы интенциональности. М., 1988. С. 225–243.
11. Демина Л.А. Парадоксы неререференциальности. Логический анализ языка. Противоречивость и аномальность текста / отв. ред. Н.Д. Арутюнова. М., 1990. С. 10–20.
12. Dijk T.A. van. Some Aspects of Text Grammar: A Study in Theoretical Linguistics and Poetics. The Hague; Paris; Mouton, 1972.
13. Зернов Б.Е. Модальные слова. Теоретическая грамматика английского языка / ред. В.В. Буракова. Л., 1983. С. 86–91.

Сивокін Г. В., Картель Т. М. Засоби переконання в науковому тексті

Анотація. Робота присвячена дослідженню функціональних особливостей наукового тексту. Показано, що основним аспектом реалізації функції впливу є переконання. Проаналізовано засоби реалізації функції переконання в науковому тексті.

Ключові слова: науковий текст, вплив, переконання, модальність, предикативність, пропозиція.

Сивоконь А. В., Картель Т. Н. Средства убеждения в научном тексте

Аннотация. Работа посвящена исследованию функциональных особенностей научного текста. Показано, что основным аспектом реализации функции воздействия является убеждение. Проанализировано средства реализации функции убеждения в научном тексте.

Ключевые слова: научный текст, воздействие, убеждение, модальность, предикативность, пропозиция.