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HEDGING VS TOLERANCE IN PRESENTING THE SCIENTIFIC RESULT IN RESEARCH ARTICLES (BASED ON ENGLISH RESEARCH ARTICLES OF THE HUMANITIES FIELD)

E.L. SafronenkovaNorthern (Arctic) Federal University named after M.V. Lomonosov,
Arkhangelsk, Russian Federation

The present paper aims at analyzing the genre of the English research article which presents the findings of the investigation conducted by the writer(s) of the research and published in the peer-reviewed journal. Key notions applied to the English research article were discussed: hedging and tolerance. Tolerance is regarded as a property of a dialogue interaction oriented towards cooperation, mutual respect and understanding. A key function that hedging performs is to make the statements sound less categorical in order to protect the writer against possible criticism from the reader as well as to be polite and modest in relation to the addressee. Both devices are of communicative character and bear etiquette meanings. The results indicate that new scientific knowledge in the English research article is associated with tolerant expression of claims. Tolerance demonstrates a relationship between the writer and the reader and accomplishes a more receptive reader attitude to claims. Key linguistic choices used to bear the meaning of tolerance include: 1) nomination of the reader, 2) collective pronoun we, 3) imperative structures, 4) interrogative structures.

Keywords: research article, scientific result, hedging, tolerance, new knowledge

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ХЕДЖИНГ И ТОЛЕРАНТНОСТЬ В ПРЕДСТАВЛЕНИИ НАУЧНОГО РЕЗУЛЬТАТА В НАУЧНОЙ СТАТЬЕ (НА МАТЕРИАЛЕ АНГЛОЯЗЫЧНЫХ НАУЧНЫХ СТАТЕЙ ГУМАНИТАРНОГО ПРОФИЛЯ)

Е.Л. СафроненковаСеверный (Арктический) федеральный университет им. М.В.
Ломоносова, г. Архангельск, Российская Федерация

В статье анализируется жанр англоязычной научной статьи. Обсуждаются ключевые понятия, применимые к англоязычной научной статье, такие как хеджинг и толерантность. Толерантность соотносится с феноменом “hedging”, который изучается в зарубежной лингвистике и передает содержание и функции данного понятия в полном объеме. Толерантность рассматривается как свойство диалогического взаимодействия, ориентированного на сотрудничество, взаимоуважение и взаимопонимание. Главное назначение приема «хеджинг» в тексте – уменьшить категоричность высказывания для того, чтобы смягчить критику со стороны получателя текста, быть скромным и вежливым по отношению к адресату. Оба приема носят коммуникативный характер и имеют этикетное содержание. Анализ показал, что выражение нового научного знания связывается с толерантным изложением. Коммуникативная цель стратегии толерантности - диалогическое взаимодействие, ориентация субъекта речи на сотрудничество, взаимоуважение и взаимопонимание по отношению к читателю. Выделены средства выражения толерантности изложения: 1) номинацию читателя, 2) инклюзивное we, 3) императивные конструкции, 4) вопросительные конструкции в контактоустанавливающей функции.

Ключевые слова : научная статья, научный результат, хеджинг, толерантность, новое знание

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Introduction

There are a number of genres that circulate within the scientific community. However, it is the research article that is considered “a key product of the knowledge-manufacturing industry” [1]. Moreover, since English has become the international language of science and technology, research papers written in this language have become a rhetorical tool to access international scholarly community. To actively participate in the production of knowledge, both native and non-native researchers have to be able to write and read research articles in English. To do so, they need to be aware of, among other linguistic features, of the rhetorical conventions used in their fields of research.

The object of the present paper is the genre of the research article which presents the findings of the investigation conducted by the writer(s) of the research and published in the peer-reviewed journal. The study made use of corpora made up of research articles of linguistics, sociolinguistics and psycholinguistics (journals: Applied Linguistics, International Journal of Applied Linguistics, the Modern Language Journal, Journal of Sociolinguistics, Language in Society, Applied Psycholinguistics) published between 2000 and 2010 in English. To ensure a representative sample in the corpus of the present study, the size of the sample was 100 examples.

Research questions

The aim of the study is to reveal specifics of presenting scientific results in English research articles.

The following questions are addressed in the paper:

- 1) What are key features of new knowledge in general?
- 2) How are concepts of hedging and tolerance referred to presenting new knowledge in English research articles?
- 3) What lexical choices are characteristic of presenting new knowledge in English research articles?

Method

Methods used for the analysis of the text corpus in the present study include pragmatic and semantic

analysis of linguistic units and text summarizing method.

The paper is structured as follows. Firstly, we discuss key features of new knowledge in general and particularly those of humanitarian scientific result. Secondly, we define the concepts of tolerance and hedging and consider their theoretical application for the English research article. Finally, we present the analysis of texts of research articles of linguistics, sociolinguistics and psycholinguistics (journals: Applied Linguistics, International Journal of Applied Linguistics, the Modern Language Journal, Journal of Sociolinguistics, Language in Society, Applied Psycholinguistics) published between 2000 and 2010 in English to reveal specifics of presenting scientific results.

Theoretical implications

Theoretical framework of the present paper is found in the following statements.

Scientific result in the Humanities differs from that of Natural sciences both in the quality of the knowledge increased and the procedures of its verification and evidence-provision. Pluralistic and individualistic in its nature humanitarian knowledge is associated with linguistic justification, i.e. knowledge is presented in textual form. Scientific result is embedded in the discourse in textual form [2, 3]. This means that humanitarian result should be structured in the way aiming at active position of another subject. The need of the scientific result to be fixed textually results from diversity of truth and cognitive consensus in verifying of the humanitarian truth. Scientific result, its textual form thus has to overcome a great number of various meanings, methods and theories.

The statement, which determines the logic of the further analysis is the following. Two aspects play a key role when we analyze a scientific text: cognition-centred and human-centred. A scientific text is the result of cognitive and communicative activities of the subject of science aimed at a specific object – facts and processes of actual reality. The structure of a scientific text contains main components both of the man’s scientific cognitive activity and scientific knowledge as its product. The content of a scientific text is verbalized knowledge. Therefore, the processes of text production in the scientific speech reflect cognitive mechanisms.



New knowledge is regarded as personified, i.e. generated by the writer(s) himself/themselves, scientific knowledge which is objectified in the text produced and dialectically opposed to the existent knowledge. So, new knowledge is heuristic and personalized [4, 5, 6]. New knowledge is to broaden and deepen the existent system of knowledge and be outstanding. Therefore, old knowledge is considered as the part of the scientific knowledge which had already existed in the system of existent knowledge and constituted the evaluative structure of the objective (earlier proved) facts by the time that new knowledge was produced [7].

Another theoretical implication that can be applied for the present study is based on two notions: hedging and tolerance.

The issue of speech interaction tolerance has been discussed by linguists with regard to different spheres of communication. Borrowed from the English language, this lexeme in the Russian language had two similar meanings – resilience and toleration. By the end of the 20th century the third meaning of this notion gains popularity, i.e. tolerance as a cultural, moral and ethical value.

When considering tolerance of speech communication, an active viewpoint of understanding the notion of tolerance should be noted. We support the definition of tolerance as a property of a dialogue oriented towards cooperation, mutual respect and understanding.

It seems that speech tolerance is about understanding (to a different extent) by an active subject (addresser) of his/her communicative partner (predecessor) as well as an intention to be understood by a probable reader or even a potential researcher. Since the direction of communication is different, the content of tolerance is different, and form is either explicit or implicit.

It is common knowledge that any scientific text is dialogue-oriented. As it performs a communicative function, the scientific text is a ‘breeding ground’ both for tolerance and intolerance of the writer towards predecessors, and contemporaries and the readers in general. In the text structure one can find a plentiful of means oriented polyfunctionally towards expressing tolerance of intersubject communication.

Taking into consideration dialogue-oriented character of the scientific text, one can discuss the conditions for demonstrating tolerance and intolerance of the writer in the process of communication. Tolerance is always opposed to bias, dogmatism, closed character of personality, group or community features (psychological, professional, religious, cultural, etc.) as well as properties of the object of cognition, for example,

advantages of the writer’s conception.

In a broader sense, tolerance is linked with transparency in science. V. Chernyavskaya provides analysis of factors that determine manifestation of tolerance in science. Science can be affected by two different factors – on the one hand, inner (intrascientific laws) of cognition, and outer, social factors, on the other hand. Cognitive factors may include rules of presenting the scientific result established in the scholarly community. These are governed by the logic of the cognitive process – progressive, successive, building a new segment of knowledge based on the prior one followed by evaluation, generalization and extension [8, 9].

When discussing the concept of tolerance with regard to speech communication, a similar meaning and functions can be traced in the notion of *hedging*.

The notion of *hedging* comes from verb *to hedge* meaning *to be surrounded or enclosed by something*. The meaning of this word can also be referred to economic term *hedging* meaning *the activity of reducing the risk of losing money on shares, bonds, etc. that you own*. The core meaning of the economic term – ‘reducing risk’ can be found in the linguistic notion of hedging. The use of hedging as the linguistic term goes back to the works of G. Lakoff who first used the term to describe “words whose job is to make things more or less fuzzy” [10]. Further investigation of the term *hedging* resulted from such communicative strategies revealed as an attempt to conceal personal uncertainty of speakers, to reduce the probability of refutation, to be polite and modest to the reader.

A similar definition of *hedging* can be found in K. Hyland’s works: “Hedging is the expression of tentativeness and possibility in language use” [11]. The use of this linguistic term in academic writing has also been a subject of interest to such scientists as M. Clyne, R. Markkanen and H. Schroder, C. Marco and R. Mercer, J. Skelton, K. Hyland, etc.

K. Opitz defines hedges as lexical modifiers which mitigate and restrict phrases which the speaker operates to protect himself against possible criticism and/or false interpretation [12].

H. Schroder claims that hedges can be expressed by pronouns, impersonal and passive structures, modal verbs, particles as well as stylistic and rhetorical devices to express mitigation and politeness [13, 14].

S. Darian when studying linguistic features of hypothesis formulation in scientific writing states that hedges can belong to any part of speech. He illustrates this by nouns (*the view that*), functional nouns (*some feel that...*), verbs (*we infer...*), pronouns (*presumably*) and even articles (*the solution is...*).

He admits that “any linguistic unit can become a modifier depending on communicative context” [15].

However, in Russian linguistics the phenomenon of hedging has not been a matter of great concern. Hedging is defined as a discursive element which acts as linker between logical information presented in the text and factual interpretation by the writer.

The concept of hedging is multifunctional in scientific texts. According to M. Clyne, hedging performs two functions in the scientific text: “to make statements sound less categorical and to reduce the writer’s responsibility for the claims that he makes” [16].

R. Markkanen and H. Schroder assume that hedging is used in scientific writing “to mitigate the writer’s responsibility for the truth of the knowledge reported as well as to express the author’s attitude to the information stated” [17].

K. Hyland points out three aspects of hedges usage: “content-oriented, writer-oriented and reader-oriented” [18], [19]. Content-oriented hedges serve to present new knowledge fully, objectively and accurately. Writer-oriented hedges aim to shield the writer from the consequences of opposition by limiting personal commitment. Reader-oriented hedges are used to make contact with the reader. A potential reader of the scientific text is regarded as a judge who either accepts or rejects new knowledge. In this case hedged statements invite the reader to participate in the dialogue.

To summarize, let us consider common features of the concepts of tolerance in speech communication and hedging. Tolerance is regarded as a property of a dialogue interaction oriented towards cooperation, mutual respect and understanding. A key function that hedging performs is to make the statements sound less categorical in order to protect the writer against possible criticism from the reader as well as to be polite and modest in relation to the addressee. Both devices are of communicative character and bear etiquette meanings.

Results and Discussion

The data for this study consists of a text corpus of 50 published articles of leading journals (Applied Linguistics, International Journal of Applied Linguistics, the Modern Language Journal, Journal of Sociolinguistics, Language in Society, Applied Psycholinguistics). The articles were selected at random from current issues, ensuring that only those based on original data were chosen to facilitate a comparison of linguistic features.

The analysis shows that each text contains linguistic features used to present new scientific

knowledge in the English research article. It was found that new scientific knowledge is expressed by using the following means:

- linguistic units describing new scientific result as novel, original, outstanding;
- linguistic units nominating research procedures: analysis, comparison, modeling, observation, classification, etc.

The results reveal that the most frequently used means of pragmatic foregrounding of new knowledge include: 1) evaluative adjectives, adverbs: *newly, important, innovative, original*; 2) direct nomination: *solution, proposal, issue*; 3) lexical and grammatical means expressing hypothetical character of statements: *to suspect, to assume, presumably*.

Let us refer to the following examples: “*The most important results concern...*”, “*For the first time, we have been able to gain some insight into the freezing process...*”, “*This newly innovated use of never spread beyond the original context of reanalysis...*”, “*In order to resolve this conundrum, we propose a new solution...*”, “*The new proposal differs from the old null-aux hypothesis in critical ways...*”, “*We might suspect here that what we are dealing with is a general, unbounded process of ‘erosion’ from the left edge...*”, “*I assume that...*”, “*Presumably this is due to the fact...*”.

Presenting a new scientific result is accompanied by characterizing of the research procedure. Linguistic analysis has indicated that this is done by 1) nominating approaches, methods, ways of obtaining new knowledge that is to say analysis, synthesis, observation, typology, modeling, etc., 2) nominating forms of cognition – empirical or theoretical, 3) modal relations of obligation, importance, reasonability, preference of those communicative and cognitive actions that the writer chooses.

Cf. the following examples in the above mentioned contexts: “*The **analysis** of head and phrasal genitives is **crucial** to an understanding of the single genitive, to which we now turn...*”, “*I will conclude this section, however, by noting a **potential advantage** for the phonological line of argument...*”, “*In order to obtain full data on the frequency of the various types of negative inversion..., I carried out **an exhaustive search** of the corpora described in section 1...*” *The article has thus revealed that **studying the individual mechanisms** involved gives us more **profound insights** into the process of language change...*”, *Nominal AICs **may shed some useful light...***”, “*This **method may also prove useful** for exploring the behaviour of...*”

Moreover, presenting new scientific knowledge in the English research article is associated with



tolerant expression of claims, that is aimed at structuring a relationship between the writer and the reader and accomplishing a more receptive reader attitude to claims.

The results show that the writer's tolerance when presenting new scientific results is expressed by the following linguistic means: 1) nomination of the reader: *the reader(s), readership, the colleague, the addressee, scholars*, 2) collective pronoun *we*, 3) imperative structures: *let us consider, let us discuss, let us presume, it should be borne in mind, it is important to note, it is essential to bear in mind*, 4) interrogative structures.

Let us illustrate the above mentioned claims by the examples from the corpus:

Nomination of the reader

"Hopefully future research by interested scholars will be able to recover the formal mechanisms whereby propositus gender could have been grammaticalized as discourse indexicality for some of the cases."

"For the purposes of the present discussion the reader should be aware that the distinction between relation social deixis and absolute social deixis is a distinction between two-place and one-place nonreferential social indexicals, respectively."

The examples show that orientation to the reader who is interested in the issue under discussion and possesses some knowledge is realized through evaluative word-combinations *interested scholars* and predicates *the reader should be aware*.

Collective pronoun *we*

"For the analysis of language displays in public, these considerations invite us to look beyond a distributional account of "which languages appear where", to identify the ideological presuppositions according to which particular display types were and are rationalized."

"As we will see shortly, this assumption-denying function is important for understanding some of the contexts in which quantifier never cannot be used felicitously."

Use of inclusive pronoun *we* allows to construct

a shared context with the reader, thus interlocutors are assumed as rational colleagues. Semantics of the verbs that are combined with pronoun *we*, is of crucial importance when characterizing addressee-based relations. The analysis has revealed that verbs bearing cognitive meanings are widely used. These highlight that the writer and the reader share the same level of knowledge and experience, for example, *to see, to look, to know, to consider*.

Imperative structures

"Let us first consider the situation where only the Match constraints in (18) are active."

"Observe how the morphology of the teller changes as his gaze – indicated in the transcript with arrows – moves back and forth from his brother to his daughter."

"It must be emphasized that the indexical link between language and ethnicity in interaction (Ochs 1992) is not always obvious and straightforward."

Imperative structures are used to urge the reader to make joint cognitive and communicative moves. Mental and verbal verbs are exploited by the writer to appeal to the reader's memory (*to recall, to remember*), imagination (*to assume, to imagine*), attention (*to note, to notice, to look, to observe*); to urge the reader to mental actions (*to analyze, to consider*), to involve the reader in logical actions (*to conclude, to draw a conclusion*). Actually, however, all these lexical choices reveal the writer's own cognitive actions.

Interrogative structures

"What drives the choice between single genitive and multiple genitive? In examples like (1), where neither coordinate is a personal pronoun, semantic factors are typically invoked."

"Are we to read any significance into the fact that, of all levels, it is the foot that figures most prominently in the segmental patterns investigated above? The answer, I think, is yes."

Interrogative structures function as a tool of changing the addressee's viewpoint in the direction desired by the writer and persuading the reader in the validity of new knowledge.

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THE AUTHORS / СВЕДЕНИЯ ОБ АВТОРАХ

Safronenkova Elena L.

Сафроненкова Елена Леонидовна

E-mail: lendar84@rambler.ru