MEETING ABSTRACT

Psychology of Discourse: New Trends and Achievements

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Abstract: The topic "Psychology of discourse: new trends and achievements" was discussed at the meeting of the scientific seminar "The achievement of world psychological science in 2020-2022", held in IP RAS on May 16, 2022. Current trends and directions of research were considered, from which the main attention was paid to promising developments in the field of communicative impact and new methods of studying of the social networks content.
Keywords: Psychology of Discourse, New Trends.

1. Introduction

At the beginning of the meeting N.D. Pavlova, Doctor of Psychological Sciences, Head of Laboratory of Psychology of Speech and Psycholinguistics IP RAS delivered her presentation. In her message, "Discourse of the Information Society: Trends and Prospects for Research", she dwelled on the research facilities, which developed in the trend of the discursive approach and largely determined the current innovations. The traditions of interdisciplinary interaction of psychologists, linguists, sociologists, philosophers, fruitful connection of artificial intelligence approaches to this complex were noted. The growing attention of researchers to the diversity of social contexts and communicative situations, the psychological characteristics of the subjects of communication was emphasized, which prepared the ground for studying the types of discourse, those are spreading in connection with the new information technologies. As an important trend associated with the requests of practice an appeal to the nonverbal components of the discourse, the shades of meaning that refers to the elements of the social and cultural context was analyzed. Among the current trends the growing interest in speech intentionality, reflecting the significance of the inclusion in the online communication of millions of people with their goals, desires, and needs was specified. At the same time, new opportunities for communication and joint activity of people have focused the attention of researchers on the ability of discourse to adapt to the requirements of the situation, various communication strategies and tactics.

Speaking about the current stage of development of research, N.D. Pavlova identified a number of priority areas of scientific search. Among them are studies of discourse related to information technologies, the formation of social networks and Internet communities. With the development of the Internet, the task of conducting large-scale corpus studies of emotional, cognitive, motivational and other personal manifestations in discourse has become real. Approaches to describing the process of interaction

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DOI: 10.38098/nsom_2022_02_01_07

between interlocutors, strategies and tactics, which serve for the achievement of communicational goals received a new impulse. At the same time, it was emphasized that in the conditions of constant modification of the forms of influence, the most important are the studies of the influence of discourse on man and society. The issues of the effectiveness of the impact, its social effects, and the possibility of confrontation with negative influences come to the fore. Not less significant is the area of methodological developments that contribute to the creation of tools for automatic processing of texts and speech materials.

The achievements of the recent years in the study of communicative impact and the new possibilities of content analysis were devoted to the reports of employees of the laboratory of the psychology of speech and psycholinguistics IP RAS V.V. Latinov, N.A. Almayev and O.V. Murasheva.

The Leading researcher of IP RAS, V.V. Latinov, PhD, characterized the features of the scientific situation in the psychology of persuasion and formulated the main drivers of modern research in this scientific field. Considerable attention in his report was paid to such an actively studied topic in recent years as a personalized persuasion. The appeal to this topic is caused by both the logic of the development of psychological knowledge and the requests of social practice. Three main directions of personalized persuasion were characterized: subject-object, context-object, and the means-object. The direction associated with the "adjustment" of means of persuasion to the psychological characteristics of a person or group on which it is directed was considered in more detail. Eight groups of psychological characteristics were identified - the grounds for personalized persuasion: the psychological state of a person, the features of his(her) goals and motivation, cognitive characteristics, features of the structure of attitudes, social identity, cultural characteristics, personality traits, subjective vulnerability to tactics of persuasion. Factors affecting the effectiveness of personalized persuasion were considered. On the example of specific studies, the effectiveness of personalized persuasion has been demonstrated. So, in the work (Zarouali et al., 2020), a personalized persuasion made it possible to increase the effectiveness of political advertising via social networks. Its greatest effectiveness was achieved in the case of coincidence of the personality type of the object of influence and the option of an advertising message being addressed to specific personality traits.

V.V. Latinov emphasized that the development of the "big data" industry opens up new prospects in the study of communicative effects. There is an opportunity to study the persuasion in conditions of real life on the material of multimillion samples of respondents. For example, in the work (Ajzenman et al., 2020), the fact of the influence of the "Covid-dissident" behavior of the Brazilian President Jair Messias Bolsonaro on the execution of Brazilians of social distance measures was recorded (geolocation data used 60 million mobile phones of the inhabitants of Brazil). After the "Covid-dissident" speeches of the Brazilian president in those regions where he enjoyed the support of the population, the implementation of social distance measures worsened. The influence of officials on the behavior of the population in the Covid-19 pandemic situation was also demonstrated in the work (Grossman et al., 2020). The correlation of messages via Twitter of the US Governors on the need to comply with COVID-19 prevention measures ("staying at home") with the geolocation of residents of 3,100 US districts (mobile phones) showed a significant decrease in the mobility of the population after the messages of the governors.

In his speech the leading researcher of IP RAS, Doctor of Psychological Sciences, Almayev N.A. outlined the main stages in

the development of computer linguistics over the past 20 years and concentrated on the possible use of these technologies for the content analysis in psychological purposes. The development of computer linguistics is based on the replacement of words with digital values. Even unambiguous compliance with the words of any arbitrary numbers allows to solve such statistical problems as frequency/uniqueness of words, the similarity of one document to another, etc. The community of scientists and developers soon realized that in this way the most diverse information related to both semantics and syntax of words can be encoded in digital form. So the words turned into multidimensional vectors, and the corresponding process was called "vectorisation". Success in solving the problems of computer linguistics depends on how large are the corpora of the texts being vectorized. The larger are the corpora, the more adequately the information about the words and their connections is presented by them. The values of the vectors change during machine learning so that on the basis of the inputed words it is possible to predict their most likely continuations. This process is called "pre training". In a relatively early GloVe model, each vector corresponded to each word, there was no opportunity to choose a more suitable meaning based on the context. In the ELMo model, such an opportunity appeared on the basis of calculating the vectors of entire sentences. A significant step forward was the technology of transformers and the BERT (Bidirectional Embedding Representations from Transformers) model based on them. This model allows to select the most suitable word basing on the context. The most developed contemporary computer linguistics model is GPT3. It is used mainly to create bots, continuing texts and their summarisation. However, its volume is so large that it can function only in cloud services. N.A.Almayev emphasized that the solution of the problems of syntax is well implemented in almost all of the contemporary models, moreover, the analysis of sentences is also used to determine authorship and even for the search of psychological correlates of various ways to build phrases. Nevertheless, in general, content analysis in psychology remains, in his opinion, analysis of the individual unconnected words and, thereby, is the analyses of incoherent contents. Indeed, as already Aristotle noted, the connection of the contents in speech occurs as a result of the statement, respectively, the statements, and not individual words, should serve as the units for analysis of content. This important point is constantly overlooked both during content analysis when searching on the Internet and when teaching neural networks to recognize and sort texts.

Speech by the senior research co-worker O.V. Murasheva, PhD was devoted to the presentation of the results of empirical research, demonstrating the possibility of analyzing texts using contemporary computer linguistics technologies. The study of socially significant phenomena that are expressed in discourse and narratives of a significant number of people requires processing of the impressive volumes of textual information. It was shown that the research task in machine learning is the thematic analysis, with the purpose of the reduction of variables. Correspondingly, the application of statistical methods to the texts that provide decrease in the number of variables similar to factor and cluster analyzes, but adapted for text messages, is relevant. The best, most stable results among such methods are provided by the Latent Dirichlet Allocation (LDA). The presented study (Almayev, Murasheva, 2022) is based on the discussions in the blogs of three different users of LiveJournal for November 2021 selected by the tags «Coronavirus», «Covid-19». They were loaded from the Internet and only comments were processed, but not the initial texts of the bloggers. For each topic, the main terms were presented in the form of two words (bigrams) with a relative weight of this bigram in a selected

topic. As a result, it was possible to find out that LDA can be applied to the task of thematic analysis of discussions: the method is sufficient for primary familiarization with the texts without reading the textual base by the researcher. With the help of LDA, it was possible to release themes relevant to the corpus that generally retain their uniqueness, regardless of the initially established amount of topics in LDA. Thanks to the separate unambiguous bigrams, the meaningful for the human identification of topics can be created on their basis/ they may be used in recommenders and automatic summaries. At the same time, separate meaningful judgments with this approach are interspersed with a huge amount of "empty breed" - meaningless random bigrams that are not interpreted outside the context of the sentence (subjects without predicates, predicates without subjects). It should be emphasized that the search for thematic contents on the Internet is happening, and neural networks are also trained in a similar way. A similar approach with similar results is implemented in a number of other studies (Hamed, Jelodar et al. 2021). However, the authors do not see the problem in this, which may be partially justified in analytical languages with their stable words order (English, Chinese), where random pair of words with a much greater probability is a statement. In the Russian language (synthetic) with its almost arbitrary words order the transition to judgments seems to be especially relevant. O.V. Murasheva pointed out that for the further semantic filling of this technique, it seems appropriate to include the level of syntactic analysis of the sentence in the first stage of text processing - tokenization, and transmit to further vectorization of the collection of judgments (bigrams related to the subject-predicate pair). According to the speaker, this is not so difficult to implement due to the fact that syntax is "stitched" in the pre trained corpora of the Russian texts. A sentence is grammatically parsed, ligaments "subject-predicate" are allocated, their vectors are summed and then the vectors of these pairs are analyzed. A similar method of analyzing texts allows us to solve the problem of meaningless, random bigrams already at the most basic level.

Therefore, the results presented in the reports of the participants of the seminar "Psychology of Discourse: New Trends and Achievements" indicate significant progress that was achieved in the field of studying communicative impact and the development of new methods of analysis of the social media Internet content.

Highlight

- A new stage in the development of the discursive approach is associated with modern information technologies and the consideration of the types of discourse that are widely used.
- Content analysis in psychology remains analysis of the individual unconnected words.
- The statements, not individual words, should serve as the units for analysis of content.
- Solution of the problems of syntax is well implemented in almost all of the contemporary models.
- Separate meaningful judgments are interspersed with a huge amount of «empty breed» - meaningless random bigrams.
- The greatest effectiveness of the impact was achieved if the variant of the advertising message coincided with the personal characteristics of the object of influence.
- The correlation of messages via Twitter of the US Governors on the need to comply with COVID-19 prevention measures ("staying at home") with the geolocation of residents of 3,100 US districts showed a significant decrease in the mobility of the population.