STATEMENT OF OPINION

by Assoc. Prof. Dr. Petya Ivanova Nestorova
lecturer in the Language Training Centre
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of a dissertation for the award of the educational and scientific degree of **Doctor**

in the field of higher education **2. Humanities**

professional field **2.1. Philology**

doctoral program **General and Comparative Linguistics (Mathematical Linguistics)**

Author: *Hristina Nikolova Kukova*

Topic: *Formal description of perceptual and mental predicates in the Bulgarian language (removal of semantic ambiguity)*

Supervisor: *Prof. Dr. Radka Vlahova – Sofia University "St. Kliment Ohridski"*

By order of the director of the Institute for Bulgarian Language "Prof. Lubomir Andreychin" I have been appointed a member of the scientific jury for providing a procedure for the defence of a dissertation on the topic of *Formal description of perceptual and mental predicates in the Bulgarian language (removal of semantic ambiguity)* for obtaining the educational and scientific degree of Doctor in the field of higher education **2. Humanities**, professional field **2.1. Philology**, doctoral program **General and Comparative Linguistics (Mathematical Linguistics)**. The author of the dissertation is **Hristina Nikolova Kukova** – PhD student in full-time education in the Department of Computational Linguistics at the Institute for Bulgarian Language "Prof. Lubomir Andreychin" of the Bulgarian Academy of Sciences.

The set of materials on electronic media presented by the PhD student is in accordance with the requirements.

The topic of the dissertation is related to the long-term research activity of the colleagues from the Department of Computational Linguistics at IBL. The formal description of perceptual and mental predicates in the Bulgarian language (removal of semantic ambiguity) is a topical but also quite challenging subject, as it is related to different levels of research and work –

lexical, semantic, syntactic. The PhD student is expected to create a model for a formal description of this semantic class of predicates, which goes through serious analysis, selection of lexical material, classification, modelling of syntactic behaviour and formulating a framework that will result in its application. For a novice researcher, such as any PhD student, this comparison of linguistic levels could be very difficult and somewhat confusing, but Hristina Kukova has done an excellent job.

The dissertation has a classical structure with a coherent organization of the text: an introduction, four chapters, summaries and conclusions, guidelines for future work, contributions, a bibliography and two appendices.

The introduction outlines the object, goals, tasks, hypotheses on which the research is built, research methods, sources of excerpts, specifies the chosen terminology. In addition to these mandatory elements, the PhD student has included rich but concise information on the main structural features of the study, such as the methodological plan of research analysis, model of verb description for research purposes, data and methods of information retrieval, linguistic resources and plan of each chapter in the dissertation, which in my opinion makes the text more informative and which gives the impression of a very well thought out and executed study with responsibility for its details and specifics. In this way, the PhD student demonstrates, from the very beginning, her skills to build the parts of her text according to their main functions.

The second chapter and the first part of the third chapter constitute a literature review of the main theoretical research related to the topic of the dissertation. In them, Hristina Kukova shows excellent bibliographic awareness and ability to focus on the obligatory and necessary sources, on the basis of whose theoretical statements she will lay the foundations of her research. The PhD student handles scientific facts not only statistically but also analytically, while thoroughly researching the problems, presenting the views in the scientific literature, and then formulating her scientifically argued views.

In the second chapter, the author defines the meaning and ambiguity in fundamental terms, citing the opinions of leading linguists. She then unfolds theoretical research, presenting: the ambiguity associated with perception verbs, homonymy, monosemy and polysemy, the automatic removal of semantic ambiguity, the criteria for defining meanings, an overview of the approaches used in the automatic removal of semantic ambiguity.

The third chapter begins with a critical review of general classifications of predicates with a view to their correct typology, followed by presentation of principles and typologies in studies

of predicates for perception; then the PhD student selects and characterizes the features she applies in the further work. For a theoretical foundation of the classification and construction of semantic models of perceptual and mental predicates, the PhD student relies on the research of E. Paducheva, S. Moiseeva and A. Viberg.

The fourth chapter is entirely contributory with the description of the prototype meanings of the predicates and directions of the semantic derivation; study of lexical relations and the structure of the lexicon; detailed analysis of the ambiguity in the direction of mentality and social relations; typology of verbs from the point of view of the already formulated differential features; development of a typology of the main predicates in view of the typical arguments they join; listing of the possible non-prototype meanings of predicates with a focus on the generalization of their meanings in the cognitive sphere. Hristina Kukova systematizes the five types of senses and the general/neutral perception, on the basis of which she distinguishes five types of predicates through analysis and acceptance of basic differentiating features.

The study used 342 synonym sets containing 1253 WordNet literals, presented in Bulgarian, which ensures that the conclusions are relevant and the result covers all perceptual verbs in Bulgarian. Their semantic scope, their realization in different contexts and the system features, which characterize the representatives of this group, are analyzed. The main part of the language material is compared with the Dictionary of the Bulgarian language and the meanings of the considered predicates presented in it.

The PhD student expands the description of the semantic class of perceptual predicates with the study of mental and other semantic subsets of predicates that intersect with perceptual ones such as periphery (they will probably always be periphery in someone's semantic set, as they are in nonspecific use). Hristina Kukova addresses this topic quite correctly and in my opinion, this enriches the observations and conclusions in the dissertation, although it is not its focus. It can be the basis for future research already in the field of mental and other predicates. I believe that the PhD student has sought thoroughness and completeness of her research with the inclusion of this subtopic. In the field of semantics, it is always difficult to work with certainty, but the results are commendable, extremely useful and contributing to Bulgarian linguistics.

Chapter five is also contributory to the present study by analyzing the syntactic realizations of predicates of perception, as well as the behaviour of their arguments in different meanings, semantic roles, the environment of different types of meanings in the frame theory: frame elements, semantic constraints and syntactic combinatorics. Thus, the PhD student builds

the model of syntactic-semantic behaviour of the studied predicates, which is to be applied in order to remove the semantic ambiguity in automatic text processing. She also builds a database that contains the basic syntactic models that determine the mental basis of sentences with this type of verb. The analysis of the data is based on the theoretical observations underlying the descriptions of FrameNet, as well as on the conceptual basis of the Bulgarian FrameNet. The attempt to align WordNet and FrameNet in the field of perceptual predicates also involves a lot of work without the help of automatic data processing.

Hristina Kukova advances topics for future work as a continuation of her research in the dissertation. This once again proves the maturity of her work, as well as the fact that she has rationalized her research work analytically and critically, and the achieved results are the outcome of hard work and successful scientific pursuit.

The dissertation has a number of contributions that the PhD student has determined accurately and conscientiously and which I fully support.

Both appendices represent the essence of the scientific results of the dissection. They are an extremely valuable source of information about the established models, as well as for aligning the meanings in the Dictionary of the Bulgarian Language and in WordNet.

The PhD student participates in the competition with eight publications – four co-authored and four independent. The topics are related to the various stages of the dissertation work, as well as to other research of the PhD student in the field of computational linguistics. The abstract is developed according to the requirements and accurately summarizes the individual chapters of the dissertation, correctly presenting the main observations and results that the PhD student has reached.

The results of the research confirm the established hypotheses; other scientific facts are further developed and clarified. The conclusions and summaries in the dissertation are the personal contribution of the author. The whole dissertation convincingly demonstrates her in-depth work with the scientific literature on the subject.

In conclusion, I will say with satisfaction that Hristina Kukova handles the theoretical apparatus accurately and competently, and is able to extract the necessary information from various scientific studies, approaching it analytically and critically. This proves the established qualities of a person who has mastered the ability to use scientific facts, to use them for their own purposes to support their ideas, to successfully formulate summaries and conclusions on this basis. The coherent and logical sequence of the individual parts, the clear and orderly

I recommend that the PhD student publish her dissertation. In my opinion, this study should gain popularity and reach linguists who are interested in these problems in Bulgaria and abroad.

CONCLUSION

The dissertation *contains scientific and scientific-applied results, which represent an original contribution to science* and *meet all* the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Regulation on the Application of ADASRB, the Regulation on the Terms and Conditions for Obtaining Scientific Degrees and Holding Academic Positions at BAS, the Regulation on the Terms and Conditions for Obtaining Scientific Degrees and Holding Academic Positions at the Institute for Bulgarian Language "Prof. Lubomir Andreychin" – BAS. The presented materials and dissertation results **fully** comply with the requirements of the Institute for Bulgarian Language.

The dissertation shows that the PhD student Hristina Kukova **possesses** in-depth theoretical knowledge and professional skills in the scientific specialty 05.04.11. *General and comparative linguistics (mathematical linguistics)*, **demonstrating** qualities and skills for independent research.

Due to the stated statement of opinion, I confidently give my *positive assessment* of the conducted research presented by the dissertation, the abstract, the achieved results and contributions, and I **suggest that the esteemed scientific jury award the educational and scientific degree of Doctor** to Christina Kukova in the field of higher education 2. Humanities, professional field **2.1. Philology**, doctoral program **General and Comparative Linguistics (Mathematical Linguistics)**.

13.05.2022   **Statement of opinion prepared by**: ....

Plovdiv   Assoc. Prof. Dr. Petya Nestorova