REVIEW

By Petya Nacheva Osenova, PhD
Professor at Sofia University "St. Kliment Ohridski"

of a dissertation submitted for the award of the educational and scientific degree "Doctor"

Field of Higher Education: 2. Humanities
Professional Field: 2.1. Philology
Doctoral Programme: "Contemporary Bulgarian Language", Department of Bulgarian Language, Faculty of Philology

Author: Krasilina Georgieva Kostova-Koleva

Title: The Bulgarian Compound-Complex Sentence – A Study of Structurographic Models and Syntactic Sketches

Academic Supervisor: Assoc. Prof. Petya Ivanova Nestorova, PhD, University of Plovdiv "Paisiy Hilendarski"

1. General Description of the Submitted Materials

By Order No. RD-22-2498 of 09 December 2025 of the Rector of the University of Plovdiv "Paisii Hilendarski" (UP), I have been appointed as a member of the academic jury for the defense procedure of a dissertation entitled "The Bulgarian Compound-Complex Sentence – A Study of Structurographic Models and Syntactic Sketches" for the award of the educational and scientific degree "Doctor" in the field of higher education 2. Humanities, professional field 2.1. Philology, doctoral programme "Contemporary Bulgarian Language". The author of the dissertation is Krasilina Georgieva Kostova-Koleva, a full-time doctoral candidate at the Department of Bulgarian Language, Faculty of Philology, with academic supervisor Assoc. Prof. Petya Ivanova Nestorova, PhD, Plovdiv University "Paisii Hilendarski".

The set of materials submitted electronically by Krasilina Georgieva Kostova-Koleva complies with Art. 36 (1) of the Regulations for the Development of the Academic Staff of UP and includes all documents required for the procedure.

The doctoral candidate has submitted a total of five (5) publications related to the topic of the dissertation.

2. Brief Biographical Data of the Doctoral Candidate

The doctoral candidate completed a Bachelor's degree in Bulgarian Philology at the University of Plovdiv "Paisii Hilendarski" in 2014. Subsequently, she obtained two Master degrees: one in "Contemporary Bulgarian Studies" at the same university (2016), and another in "Preschool and Primary School Pedagogy" at Trakia University, Stara Zagora (2017). Since 2016, Krasilina Koleva-Kostova has been working as a senior teacher of Bulgarian language and literature at T. Kableshkov Primary School, Plovdiv.

3. Relevance of the Topic and Adequacy of the Aims and Objectives

The formal description of language is consistently relevant in linguistics, mathematical linguistics, natural language processing, and education. In this respect, the topic of the dissertation is significant.

A detailed overview of the nature and classifications of the Compound-Complex sentence is presented. New classifications are proposed. A classical theoretical framework in syntactic research is employed to model the examined sentence types. A corpus has been created through which the validity of the theoretical approach is convincingly demonstrated. The data are appropriately visualized graphically. Using statistical methods, it is shown that syntactic relations can be quantified with respect to specific tasks. An important connection is established between the role of prosody and syntax.

4. Knowledge of the Problem Area

The doctoral candidate demonstrates in-depth knowledge of the issue of Compound-Complex sentences, examining them thoroughly from multiple perspectives. She adopts a creative approach to both the theoretical and empirical material under discussion. Krasilina Kostova-Koleva clearly articulates her own positions and provides sound arguments for each of them. She demonstrates independent thinking and mastery of the relevant terminology.

5. Research Methodology

Due to its interdisciplinary nature, the study successfully integrates several types of methodologies: generative-transformational linguistic theory with its associated formal descriptive apparatus, including visualization through tree structures; the comparative method in the literature review and analysis of scholarly data; statistical methods for the quantitative measurement of syntactic structures and the typicality of their occurrence; as well as the corpus-based method in the construction of the syntactic resource.

6. Characteristics and Evaluation of the Dissertation

The dissertation comprises 442 pages. It consists of an introduction, three chapters, findings and conclusion, bibliography, a list of excerpted sources, and three appendices. The bibliography includes over 100 bibliographic entries, exclusively by Bulgarian authors. Among them, I note the absence—and consequently the lack of discussion—of certain published works on syntax that also present structural models of Bulgarian. These include works authored or co-authored by me: "Formal Grammar of Bulgarian" (Osenova & Simov 2007), "Noun Phrases in Bulgarian" (Osenova 2009), and "Grammatical Modeling of Bulgarian" (Osenova 2016). The first book presents a constituent model of Bulgarian phrases and sentences. The second discusses concepts such as 'weight' and 'recursiveness' of the noun phrase (pp. 74–84). The third presents both constituent and dependency models of Bulgarian sentences.

The introduction presents the generative-oriented context of the study, as well as its object (scope and depth of the Compound-Complex sentence) and subject (the so-called syntactic sketches and structurographic models of these sentences). The employed concepts are clarified, including the notion of the *period* as a type of Compound-Complex sentence. The research methods are presented accurately. The author sets two main objectives: (1) to examine the quantitative parameters of Compound-Complex sentences, demonstrated through works by selected Bulgarian authors; and (2) to classify these sentences. It is clearly stated that the analysis is primarily based on P. Barkalova's theoretical assumptions concerning complex sentences. Twenty-three research tasks are formulated, which in my view could have been consolidated; however, they clearly demonstrate the multifaceted steps required to complete the study—ranging from theoretical groundwork and data excerpting to work with speech systems (Praat), linguistic modeling, statistics, stylistics, and more.

Chapter One "The Complex Sentence and the Term 'Period' in the Bulgarian Syntactic Tradition" provides a detailed diachronic overview of the nature of the Compound-Complex sentence. The first part traces the theoretical description of this sentence type from the Bulgarian National Revival to the present day. The second part focuses on the concept of the "period," comparing it with the term "Compound-Complex sentence." The doctoral candidate adopts the view that the period constitutes a type of Compound-Complex sentence. In my opinion, this represents a serious contribution, as the concept of the "period" is not widely used in Bulgarian grammatical tradition, including in school education.

Chapter Two "Theoretical Framework of the Study" presents the foundational theoretical model of the dissertation - the generative-transformational model of N. Chomsky, first localized for Bulgarian in the 1980s (and subsequently refined) by Y.

Penchev. The doctoral candidate investigates the quantitative characteristics of Compound-Complex sentences (scope, depth, number of main clauses, number of subordinate and co-subordinate clauses, types of relations among the simple sentences constituting the Compound-Complex sentence, etc.; p. 82). The applicability of the study is demonstrated through the application of these parameters to specific works of Bulgarian literature by Y. Yovkov and Y. Radichkov. It is convincingly shown that the examined characteristics accurately describe the structural features of the texts. A significant contribution lies not only in the description of the quantitative characteristics of Compound-Complex sentences but also in the established connection with the prosodic behavior of their components. Mark Steedman also shows the connection between syntactic representation and intonational phonology (Steedman, Mark 2001: The Syntactic process (Language, Speech and Communication, MIT Press), and instead of traditional syntactically conditioned constituents, he distinguishes a special type of constituents conditioned by prosody. I believe that the choice of the theory of government and binding is very appropriate and that the candidate has done a brilliant job of understanding and applying the conceptual apparatus. At the same time, I would like to emphasize that every theory in grammar is generative because it sets rules for creating syntactic structures. In addition, there are other linguistic theories that apply mathematical and logical models to describe language. I should also mention that ultimately the more successful as a formal universal model with better results and closer to human cognitive states are the dependent theories. Regarding the constituent tree (p. 113), it is important to mention that it is a type of graph (p. 114) (namely a directed graph). Ideally, the connecting features do not intersect, but in reality, in languages with relatively free word order, such as Bulgarian, they do intersect. Therefore, it is good for the theory to take into account and model such cases. The doctoral candidate uses as a basis P. Barkalova's research on structurography as a visual projection of constituent rules. I congratulate the doctoral candidate for the classification of complex compound sentences into periodic and non-periodic, as well as for the arguments related to it. Regardless of whether we agree or not with such a classification, the important thing is that it presents a certain model of language. The candidate shows that she can work professionally with linguistic data both at an empirical and a theoretical-generalizing level. I also support the approach adopted by P. Barkalova to use clear tests and rules for defining the components of the sentence, as well as the types of sentences.

Chapter Three "Statistical Modeling of the Corpus Resource. Results" presents the applied outcomes of the research. The creation of a linguistic resource, particularly one containing syntactic information, is far from trivial. The doctoral candidate presents the resource she has developed, consisting of Compound-Complex sentences together with their syntactic sketches. While linguistic modeling, including visual representation, is not new in linguistics, the presentation of both qualitative and quantitative parameters of linguistic units carries substantial innovative potential. The application of statistical methods to examine sentence scope and depth is a further contribution of the study. As a specialist who has developed a resource computer grammar for Bulgarian, I can say that the automatic analyses of a single sentence can be numerous, depending on the grammatical rules applied. The reduction of artificial analyses is most often done through discriminative procedures, in which certain parts of the rules are manipulated. The contribution of the present work is also in the application of statistical methods in examining the scope and depth of the type of sentences under consideration. Such information is indeed quite useful from a cognitive point of view, i.e. how many units can be combined linearly and how hierarchical a unit can be. Comparisons between authors and works are very interesting and informative. They set directions for future research. The methods that were developed by colleagues and used for the purposes of this work are correctly indicated, as are the colleagues who assisted with the statistical analyses. I think that even just on the obtained results, a whole new dissertation could be written. Through the comparative analysis of the syntactic structures of the two authors, stable trends and fluctuations become clearer. It is also important that checks have been made for the statistical significance of the results. This chapter proposes another type of classification of complex mixed sentences – linear, deep and combined. On page 242 it is stated that so far, such a study of Bulgarian sentences as syntactic trees has not been done for Bulgarian. It would be good to clarify exactly what type of research has not been done, because in principle, similar studies have been done for our language.

The conclusion summarizes the main findings of the dissertation, which represent the result of the doctoral candidate's long-term research efforts. To date, Compound-Complex sentences have not been examined in such a comprehensive, formal manner, supported by rich statistical and corpus data. I would recommend that this part indicate more directly to what extent the tasks set in the introduction have been solved.

7. Contributions and Significance of the Dissertation

The dissertation demonstrates clearly defined theoretical and applied contributions. From a theoretical perspective, Compound-Complex sentences in Bulgarian are described through an appropriate linguistic model and visualized via structurographic representations, enabling a comprehensive syntactic analysis. New classifications of this sentence type are proposed, along with statistical procedures for measuring sentence scope and depth. From an applied perspective, comparisons are made between syntactic structures in selected works by Bulgarian authors within a specialized corpus, revealing trends in syntactic development that would not be observable without quantitative analysis. The proposed approaches have also been verified through relevant appropriate tests. The results are applicable in education, including teaching Bulgarian as a foreign language, as well as in linguistic typology and natural language processing.

8. Assessment of the Publications Related to the Dissertation

The doctoral candidate has submitted five publications, three co-authored and two self-authored, all in Bulgarian. The three co-authored publications were published in the Proceedings of the Annual International Conference of IBL-BAS, and are indexed in Web of Science. The two single-authored publications appeared in the journal "Bulgarian Language" and in the Proceedings of the Annual Conference for Students and Young Scholars in Plovdiv. All publications are directly related to the dissertation topic.

The theory of government and binding, described for Bulgarian by Y. Penchev (Penchev 1993), is applied throughout. The two self-authored articles focus respectively on the rhythmic-intonational patterns of copulative subordinate clauses and on the scope and depth of the complex compound sentence. The first of them presents an empirical study in the context of the few similar studies, reaching the conclusion that there is a difference in the intonation of subordinate clauses introduced with conjunctions and with proper conjunctions. The second article uses P. Barkalova's methodology, called 'sentence structurography', which is applied to works by two Bulgarian authors - Emilian Stanev

and Yordan Yovkov. The article co-authored with Petya Barkalova in 2021, "On the Nature and Definition of the Complex Compound Sentence," presents an analysis of the Bulgarian complex compound sentence, conducted through structuralist procedures. The co-authored article from 2022 "The Structural Potential of the Bulgarian Complex Sentence. The Contribution of Statistical Prognostic Methods" demonstrates a strong interdisciplinary idea. A number of quantitative characteristics of complex sentences are studied, with the focus on four of them – scope, depth, number of main and number of subordinate clauses. In the co-authored article from 2023 "Extended scope of syntactic analysis through structography and statistical predictive methods", statistical predictive methods based on tree-like syntactic structures are presented. These methods allow us to describe the peculiarities of the style of different Bulgarian authors. In this case, these are Y. Yovkov, Em. Stanev and Y. Radichkov. The introduction of a mathematical approach enriches the analysis of syntactic structures.

The contribution of the doctoral candidate to these articles is in the conceptualization and application of the theoretical framework to the analysis of the sentences and their graphical representation. There is no information about the citations of the mentioned articles.

9. Personal Contribution of the Doctoral Candidate

I consider that the doctoral candidate accurately reflects her individual research contributions both in the dissertation and in the resume. Where established methodologies are used, their parameters are specified precisely; where methodological assistance was required - primarily in statistics - this is also clearly indicated. The work of Krasilina Kostova-Koleva is original and authorial; all views, analyses, and conclusions are her own.

10. Dissertation Abstract

The abstract consists of 32 pages and fully meets the requirements for this academic genre. It accurately reflects the main results of the dissertation and includes a sufficient number of illustrative tables and examples. The contributions of the dissertation are clearly outlined.

The contributions of the dissertation are correctly stated. There are seven of them and they relate to both the subject of research and the interdisciplinary methodology, as well as the resources and analyses obtained.

11. Critical Remarks and Recommendations

In my view, the content is overly fragmented into subsections. For improved readability, consolidation would be advisable.

I also have a minor remark concerning the formulation of Contribution No. 7, It is said there that "The created structural models of sample sentences for the first time present the Bulgarian complex compound sentence as a graph with clearly visible predicative connections and a recursive structure. Through them, the structural possibilities of the Bulgarian language and its recursive nature are revealed."

I would note that recursion is a fundamental feature of all languages. The recursive nature of the Bulgarian language is revealed even at the level of phrases, cf. the nice big black board (see my note above about missing literature in the bibliography of the work).

I recommend that the doctoral candidate study more grammatical literature on the Bulgarian language and comment on it in the study. It would also be useful for her to familiarize herself with the works of Chomsky and his followers, also in the original.

Another recommendation is that her subsequent publications be made in other forums and in other journals, in order to achieve even greater breadth of the results in the dissertation.

12. Personal Impressions

I do not know the doctoral candidate personally and therefore have no prior personal impressions.

13. Recommendations for Future Use of the Dissertation Results

In my opinion, the results of the study possess strong theoretical value and substantial applied potential. From a theoretical standpoint, the interdisciplinary approach opens promising avenues for the study of grammar and style in Bulgarian literary authors. From an applied perspective, the research can contribute to a better understanding of syntactic relations in both - school and university education, appropriately adapted to the learners' level.

CONCLUSION

The dissertation contains scientific, applied-scientific, and applied results that represent an original contribution to scholarship and comply with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the relevant regulations of the University of Plovdiv "Paisii Hilendarski".

The dissertation demonstrates that the doctoral candidate Krasilina Georgieva Kostova-Koleva possesses in-depth theoretical knowledge and professional skills in the scientific field of "Contemporary Bulgarian Language" and shows the capacity for independent scholarly research.

On the basis of the above, I confidently give a positive evaluation of the conducted research and propose that the esteemed academic jury award the educational and scientific degree "Doctor" to Krasilina Georgieva Kostova-Koleva in the field of higher education 2. Humanities, professional field 2.1. Philology, doctoral programme "Contemporary Bulgarian Language".

30.01.2026   Reviewer: ....
                                              (signature)

                                  Prof. Petya Osenova, PhD