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**The Functioning of the Principles of Natural  
Morphology in the History of the Bulgarian Verbal System**

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## 1. The topic and purpose of the dissertation

In his work *Recent Achievements in Slavistics*, H. Tóth discusses two fundamental approaches to scientific knowledge: the first is based on the collection, organization, and examination of new data, while the second focuses on approaching known data with new methods. My dissertation falls into the latter category: an attempt to incorporate Natural Language Theory and available technical innovations into the historical examination of the Bulgarian verbal system, that is, the application of a completely new method to place existing, known data into a new light. By combining Natural Language Theory with accessible technical tools, I hope to gain a deeper understanding of language development and the changes occurring within it. My website created for this purpose is being continuously edited: its expandable verb database could also be useful for other research, helping with visualization and clarity in its current state, but most importantly, it can serve as a basis for future expansion of the research, potentially even into the area of phonology. The link to the website developed for my research is: <http://nat-principles.hu/>.

After a detailed presentation of the theory, I examine the historical changes in the following Bulgarian verbal categories, analysing the effects of the principles of Natural Morphology:

- verb classes (conjugation patterns)
- tenses: present, aorist, imperfect, perfect, pluperfect, simple and compound future, futurum praeteritum, futurum exactum, futurum exactum praeteritum
- verb *jesmь* > *сѣм*
- adjectival participles
- adverbial participles
- infinitive and supine
- imperative and conditional moods
- passive voice
- narrative verb forms
- *byti* as an auxiliary verb

## 2. Concerning Theory

Natural Morphology emerged in the latter half of the 1970s, with its theoretical foundations established by Wolfgang U. Dressler, Willi Mayerthaler, Oswald Panagl, and Wolfgang Ullrich Wurzel. This linguistic theory simultaneously examines changes in morphological systems both synchronically and diachronically. According to Natural Morphology, human language is a system of verbal signs that serves communicative and

cognitive functions, and its grammar is an open, dynamic, modular system. Within this system, Natural Morphology defines the concept of naturalness. The concept of naturalness is based on human perception and is related to markedness: something is considered more natural (less marked) if it is easier for the human brain to process. In this linguistic theory, naturalness is not a state but a relation: if A is natural, it means that A is more natural than B on a given scale. What is considered natural is what is intuitively “more normal”: it is relatively stable in the language’s history, determines the direction of mistakes in the language, is learned by children in the early stages of language acquisition, and is dominant in the given linguistic system. What seems normal to a speaker largely depends on the structure of the given language, i.e., the speaker’s own linguistic experience.

Natural Morphology has five main principles, of which three are system-independent (constructional iconicity, transparency and uniformity, phonetic iconicity) and two are system-dependent (system-congruity and class stability). When two or more of these five principles exert opposing effects within a language, the principle that ranks higher in the hierarchy always prevails. In this hierarchy, system-dependent principles are at the top, system-congruity being the most dominant, followed by class-stability, and then the system-independent principles in the following order: transparency and uniformity, constructional iconicity, and phonetic iconicity. In the dissertation, I examine system-congruity, class stability, transparency and uniformity, and constructional iconicity.

### **3. Results**

The most significant trend in the history of the Bulgarian language is that, as a result of changes at the typological level, the fundamental structural properties of the system also exhibit a changing trend, leading to a gradual shift in the language’s structure from synthetic to analytic over the course of many centuries. In non-uniform inflectional systems, there is always a tendency toward unity and organization, manifested through the gradual decomposition of morphological phenomena that do not align with the system. Such decompositions lead to the disappearance of more complex, non-functional distinctions from the inflectional system.

The changes observed in the verbal categories I have re-examined, which are documented in written linguistic records, clearly illustrate the principles of Natural Morphology.

The application of the principle of system-congruity is clearly visible in the grouping of Old Church Slavonic verbs. Although Old Church Slavonic verbs could initially be classified into five main groups based on thematic stems at the end of their roots, this has now been

reduced to three primary groups. The inflectional system has undoubtedly evolved in a direction where the already dominant elements have become even more dominant, showing a trend towards unity and organization. This tendency is not only realized through the unification of endings that denote different categories, but primarily through changes in the extramorphological properties.

For instance, regarding the present tense endings that express temporal orientation, it is likely that system-congruity prevented the widespread use of the *-m* ending in the first person singular category.

Changes in the aorist and imperfect also reflect the principle of system-congruity. The possibility of four different variations of aorist temporal orientation has progressively reduced, demonstrating a trend towards unity and organization. For example, the formation of aorist forms shows how an already dominant element in the system is reinforced, or conversely, how a group of elements with a dominant feature expands to include elements that previously exhibited different features. Changes in extramorphological properties have thus facilitated modifications in the fundamental structural properties of the system. The relationship between aorist and imperfect reflects the principle of system-congruity, but the clarification of their relationship still awaits resolution.

Even before their disappearance, changes affecting the adjectival participles also illustrate the principle of system-congruity. In their case, the dominance of certain features, as well as chain reactions induced by changes in the five inflectional classes, affect the formation of adjectival participles. For example, when the ending *-ę* replaces the masculine singular nominative *-y* in present tense active participles derived from verbs of classes I, II, and V, which were previously found in class III and IV verbs. This change is also part of the trend towards unity and organization. Similarly, the replacement of the supine by the infinitive also reflects this tendency. The preservation of imperative forms for the second person singular and plural also raises questions about system congruence.

The principle of inflectional class stability, ranking second in the hierarchy after system-congruity, significantly influences the direction of morphological changes. Inflectional classes and paradigms are governed by implicativity. The reclassification of inflectional classes in Old Church Slavonic was greatly influenced by this principle. The disappearance of the intervocalic */j/* altered extramorphological properties, leading to a reduction in the number of inflectional classes. The changed paradigm structure resulted in the disappearance of less stable inflectional classes.

Regarding the present tense, class stability might have implied the widespread use of the *-m* ending in the first person singular, but as mentioned, system-congruity prevented the permanent incorporation of this change into the language.

Regarding the aorist, a similar conclusion can be reached as to the rearrangement of verb classes: the implicative scheme becomes more unified and clearer, with verbs in unstable inflectional classes consolidated into a single stable class, facilitated by changes in extramorphological properties. The aorist and imperfect endings now overlap in four cases, except for the second and third person singular. According to the principle of inflectional class stability, the aorist and imperfect situation cannot remain unchanged: eventually, either the semantic differences between them should diminish or the phonological differences should become more pronounced, with potential opportunities arising from further extramorphological changes.

Changes in adjectival participles also reflect the principle of classes stability, such as the spread of the *-a/ja* ending in feminine singular nominative forms of present tense active participles, or the tendency for endings indicating the same semantic categories to have identical phonetic features.

The diversity of auxiliary verbs used for future tense in Old Church Slavonic, according to the principles of Natural Morphology, could not have maintained a long-lasting validity. The stability of inflectional classes suggests that it is not always justified for a category with the same temporal reference to use two different auxiliary verbs for declarative/interrogative and negative forms, as this results in less clarity in the implicative scheme.

Regarding imperative mood in modern Bulgarian, the principle of inflectional class stability is yet to be fully realized. From the perspective of Natural Morphology, it is sufficient to express the second person singular and plural categories with one form, and the shift towards analyticism at the typological level aims at the disappearance of the synthetic form in other persons. This would also fulfil the principle of stability of inflectional classes, as the paradigm scheme would become unified, though this has not yet occurred.

From the perspective of constructional iconicity (or diagrammaticity), verb endings are generally iconic. This principle's significance would increase in a subsequent phase of the research, which would involve incorporating the other two principles proposed by Wheeler and examining how they function in the development of the Bulgarian verbal system, focusing on markedness in syncretism, syncretism patterns, avoidance of counter-iconicity, and the diagrammaticity of endings.

The next principle in the hierarchy is that of uniformity and transparency. In my impression, this is the principle most clearly interpretable and observable. In some cases, it is evident that the effort to avoid homonymy is a significant influencing factor, such as in the change of stress after the spread of the infinitive suffix *-ova*. The principle of uniformity would act as a hindrance in the spread of the *-m* ending in the first person singular in present tense, but since the principle of class stability, which might have induced the change, ranks higher in the hierarchy, it could have overridden the principle of uniformity. In this case, however, the principle of system-congruity (the most dominant one) also operated in harmony with the principle of uniformity, leading to the non-spread of the *-m* ending in the first person singular of present tense. The simplification of the aorist and the reduction of variation options also reflect the tendency to avoid homonymy. Examples of efforts to avoid homonymy in the relationship between aorist and imperfect can be seen, but in modern Bulgarian, the situation is completely contrary to the principle of uniformity, as four out of six forms are identical. The influence of the principle of uniformity is also evident in adjectival participles, such as when the ending *-e* becomes widespread in the masculine singular nominative forms of present tense active participles derived from all verb classes, or when the *-a/ja* ending spreads in the feminine singular nominative forms. The reduction in the number of auxiliary verbs for expressing future tense and the spread of the particle *уѐ* also align with the principle of uniformity.

#### **4. About the Website**

The purpose of the program written for this paper is primarily visualization in order to facilitate easier comprehension. My main objective was to create an editable database. The database is open: elements can be manually added or deleted, and they can also be edited to correct any potential errors later on, allowing the content to be expanded indefinitely. A key aspect of setting up this database was that its structure itself should embody the morphological features of the Bulgarian verbal system: the relationships between the elements of the database model the system's regularities on their own. The database consists of elements for which the same system of rules operates as in the language.