MORPHOLOGICAL AND SYNTACTIC MODELS OF TERM FORMATION: THEORETICAL AND PRACTICAL ANALYSIS

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ABSTRACT

This article investigates the issues of terminology and term formation, which constitute one of the most pressing directions in modern linguistics. The primary objective of the paper is to conduct a comparative-analytical study of the mechanisms of term formation in Uzbek and world linguistics through the lens of morphological and syntactic models. In the course of the research, the theoretical views of Uzbek, Russian, and Western linguists regarding terminological derivation were synthesized. The regularities underlying the emergence of terminological units were elucidated with examples, focusing on the phenomena of affixation, composition, and conversion within the morphological model, and word combinations within the syntactic model. Furthermore, the article determines the productivity level of each model in enriching the terminological system.

Keywords: terminology, morphological model, syntactic model, affixation, composition, terminological derivation, word combination.

INTRODUCTION

Language always evolves and grows with regard to its vocabulary owing to socioeconomic, cultural, and scientific and technical progress. Especially during the XXI century, scientific and technological development results in appearance of new notions and the creation of term systems for their reflection. In linguistics,

much attention is drawn to the problem of investigation of the genesis and structure of terms.

The terminological vocabulary differs from ordinary literary vocabulary due to its accuracy, monosemiancy pursuit, and absence of any emotional coloring. But terms do not fall from the sky, they arise based on the existing grammatical and derivational features of a particular language. According to the prominent linguist V. V. Vinogradov, terminology is the most flexible element of language and the first one to react to external stimuli since it is always linked to people's thought and scientific achievements (Vinogradov, 1977).

Much research has been done regarding national terminology and term formation processes during the period of independence of Uzbekistan. The process of term formation can be defined as terminological derivation and usually unfolds along with two main ways: morphological and syntactic. This paper will discuss the concept basis and main principles of these two types of derivation, their similarities and differences, and influence on the formation of Uzbek scientific language according to theoretical works by reputable scientists.

Since the times when terminology became a science, mechanisms of term formation have been extensively studied by scholars of the West and East alike. One of the main representatives of the Terminology School, E. Wüster (1979), researched terms in conjunction with concept systems and stressed the role of the potential inherent in language as being the foremost aspect in term creation. According to him, "a term is nothing else but a label for a definite concept. The label should be clear and short in its contents."

In Russian studies on linguistic theory and practice, the researcher V. M. Leychik was one of those who explored the topic of the term formation model. According to Leychik (2007), a term can be considered not just a linguistic, but a cognitive and culture-related concept. Highlighting the need for distinction between derivational processes in the formation of terms and in other cases, the

author showed the uniqueness of the specialization of morphemic elements involved in the creation of specialized vocabulary.

The question of terminology was raised by such researchers in Uzbek linguistics as S. Ibrohimov, H. Jamolxonov, and R. Doniyorov. For example, in researching the history of the development of terminology in the Uzbek language, R. Doniyorov (1977) proved that morphological ways prevailed both in historical epochs and in our times. Further, in the study of the system of word-formation in Uzbek linguistics, including the terminological component, in the era of Uzbekistan's independence, N. Maxmudov (2017) and the analytical linguist A. Hojiyev (2002) were successful.

With respect to word formation, according to A. Hojiyev (2002), the most productive model is affixation. In turn, in connection with syntactic models, N. Maxmudov (2017) emphasizes the difference between the semantic integrity and nominative function of term-word units from ordinary syntactic structures.

METHODOLOGY

This study used a systemic approach, component analysis, comparative-structural, and transformational methods. Materials gathered from the terminological systems of mathematics, physics, economics, medicine, and linguistics were categorized according to morphological and syntactic models. More than 500 terms actively used in Uzbek scientific and educational literature were selected as the object of research, and their formation patterns were analyzed statistically and functionally.

RESEARCH RESULTS AND ANALYSIS

1. Morphological Models of Term Formation

The morphological method is the process of creating new terms using morphemes (stems and affixes) available in the language, or by compounding stems. This method is exceptionally productive due to the agglutinative nature of the Uzbek language. Morphological term formation can be divided into the following sub-models:

A) Affixation (Term formation by means of suffixes)

In this model, special suffixes that impart a terminological meaning are attached to root or derived stems. Speaking about the nature of the affixation model in Uzbek linguistics, Sh. Rahmatullayev (2006) emphasizes that the semantic scope of suffixes narrows down within the framework of a term, taking on a precise functional character.

-lik / -lik (*Abstract concepts and field terms*): This affix is the most prolific in the Uzbek language and generates terms across various fields. For example: *tadbirkorlik* (entrepreneurship – economics), *tengsizlik* (inequality – mathematics), *kasallik* (disease – medicine), *ko'pma'nolilik* (polysemy – linguistics).

-chi (*Person and specialty terms*): Used to express the professional or practitioner of a specific field: *dasturchi* (programmer – IT), *tilshunos* (linguist – linguistics; here the Persian element *-shunos* also functions as an affixoid), *iqtisodchi* (economist – economics).

-ma (*Result or object of an action*): *ko'paytma* (product), *bo'linma* (quotient – mathematics), *qurilma* (device/installation – technology), *qo'llanma* (manual/handbook – pedagogy).

While studying affixation, the Western linguist L. Bauer (2003) writes: "Affixes are not just grammatical forms, but keys that open up a new conceptual field" (p. 45). In the Uzbek language as well, terminological affixes differ from general language suffixes by their high degree of interpretative nature.

B) Composition (Term formation through word compounding)

The model of composition or compound words constitutes an important component of the morphological method. Through this model, two independent stems combine to signify a single terminological concept.

To'g'ri chiziq (straight line – mathematics)

Yurak-qon tomir (cardiovascular – medicine)

Issiqlik elektr stansiyasi (thermal power plant – energetics)

The Russian terminologist K. Ya. Averbux (2006) refers to terms formed by composition as "condensed syntactic models." That is, a concept that would otherwise need to be expressed by a long word combination in the language assumes a compact form of expression. For instance, the term *dunyoqarash* (worldview – philosophy) is a calque of the German term *Weltanschauung* and serves as a vivid example of the composition model.

2. Syntactic Models of Term Formation

"Syntactic method implies the use of the combination of two or more independent words on the basis of some grammatical relations (governance, juxtaposition, agreement) for the formation of a unified complex notion, or in other words, a notion-word combination. With the development of modern science when concepts become ever more complicated, the syntactic principle of word formation occupies a dominant position among all languages of the world, including Uzbek."

"The difference between the syntactic method and other word formation means consists in the stability and semantic indivisibility of notion-word combinations," say N. Maxmudov and A. Nurmonov (1995).

Syntactic terminological models primarily consist of the following constructions:

A) Adjective + Noun model (Based on an adpositional/attributive connection)

This model is the most widespread syntactic model in the Uzbek language. The first component modifies the sign, type, or property of the second component:

Xalqaro huquq (International law – legal)

Sun'iy intellekt (Artificial intelligence – IT)

Yadro fizikasi (Nuclear physics – physics; though this is a noun+noun model, it functions on an attributive basis)

Nisbiylik nazariyya (Theory of relativity – physics)

As noted by the Western researcher J. Sager (1990): "Syntactic terms mainly serve to express a conceptual hierarchy. In it, the head word indicates the general

genus, while the modifying word shows the specific characteristic of the species (*differentia specifica*)" (p. 92). For example, *kompyuter* (computer) is the general genus, while *shaxsiy kompyuter* (personal computer) and *kvant kompyuteri* (quantum computer) show the specific characteristics of the species.

B) Noun + Noun model (Genitive or possessive relation, or juxtaposition)

In this model, the connection between the components is intrinsic, and often the genitive case ending or the possessive suffix may drop out (remaining in a covert/implicit form):

Tilshunoslik kafedrasi (Department of Linguistics)

Bozor iqtisodiyoti (Market economy)

Eski o‘zbek yozuvi (Old Uzbek writing/script)

Comparative Analysis of Morphological and Syntactic Models

The models identified during the research process and their share in terminology can be illustrated through the following table:

Model Type	Formation Method	Level of Productivity	Main Fields	Examples
Morphological	Affixation	High	Chemistry, Biology, Linguistics	*Eruvchanlik* (solubility), *kelishik* (case), *to‘lqinlanish* (undulation/waving)
Morphological	Composition	Medium	Technology, Geography, Philosophy	*Suvombor* (reservoir), *dunyoqarash* (worldview), *yarimo‘tkazgich* (semiconductor)

Syntactic	**Noun + Noun**	**High**	**Medicine, Law**	***Yurak yetishmovchiligi* (heart failure), *jinoyat kodeksi* (criminal code)**

As can be seen from this table, syntactic models are growing dynamically in modern scientific terminology (especially in the fields of IT and economics). The primary reason for this is that newly discovered phenomena are so multifaceted that they cannot be expressed by a single word alone.

DISCUSSION

The interdependence between morphological and syntactic models constitutes one of the debatable questions in linguistics. Linguists (such as A. Hojiyev) who proceed from the law of internal economy inherent in the language choose the morphological model (terms comprising one word). This preference is based on the fact that such terms are convenient to apply in communication without putting additional load on the text.

Nevertheless, speaking about linguistic phenomena from the point of view of modern cognitive linguistics, it should be noted that word-formation is a process through which people classify knowledge stored in their brains. Syntactic models reflect the complexity of human thinking better than morphological ones. So, for instance, the term “digital transformation” (raqamli transformatsiya) is a complex cognitive concept representing the era of economy and technology.

Although the emergence of new syntactic terminology in Uzbek linguistics is a good trend, at the same time, some disproportions begin to emerge within the Uzbek language due to this fact. As the outcome of word-by-word (calque) translation of many terms from the English language, artificial terms alien to the nature of the Uzbek language start to emerge. This is why it is necessary to adjust the syntactic patterns in accordance with the syntactical peculiarities of the national language (Maxmudov, 2017).

CONCLUSION

In conclusion, the morphological and syntactic models of term formation are the two primary pathways that enrich the vocabulary of the Uzbek scientific language. The analysis conducted allows for the following conclusions:

1. The **morphological model** fully corresponds to the agglutinative nature of the Uzbek language. The affixation method still possesses stable and creative capabilities in creating the terminology of fundamental sciences. Especially, affixes like *-lik*, *-ma*, and *-dosh* are leading in expressing new concepts in a compact form.

2. The **syntactic model** is a product of the modern era of global integration and information technologies. The *Adjective+Noun* and *Noun+Noun* patterns demonstrate the highest productivity in expressing complex interdisciplinary concepts.

3. To regulate terminological derivation, it is necessary to take into account not only the structural regularities of the language but also cognitive and pragmatic factors. The stability of the national terminosystem is determined by the harmonious, balanced use of these two models in the language.

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