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## THE PROBLEM OF CLASSIFICATION IN LINGUISTICS

### XÜLASƏ

#### **Dilçilikdə kateqoriya problemi**

Məqalədə müxtəlif linqvistik təsnifatların əsasları araşdırılmış və kateqoriyaların mənə prinsipinə əsaslanaraq onun xüsusiyyətləri müəyyənləşdirilmişdir. Dilçilik ayrıca bir elm sahəsi hesab edilsə də, ədəbiyyatda təklif olunan kateqoriyalar mütləq şəkildə elmi təsnifatın tələblərinə cavab verə bilməz. Bu fikir xüsusilə mənaya əsaslanan kateqoriyalar üçün doğrudur, baxmayaraq ki, onlar linqvistik tədqiqatlar üçün vacibdir. Məqalədə aydınlaşdırılır ki, geniş spektrli dil hadisələri mənə baxımından müxtəlif çalarlara malik olsalar da, onlar vahid kateqoriyalar əsasında təsnif edilir, kateqoriya prinsipi və predmetləri vahid çərçivədə analiz edilərək, onların ümumi xarakteristika və səciyyəvi əlamətləri aşkara çıxarılır.

**Açar sözlər:** *kateqoriya, semantika, nitq hissələri, termin uyğunluğu.*

**Abstract:** It is no exaggeration to say that the first step in any academic field is the act of classification. Plants and animals, which are the subject of biology, are classified according to the similarity of their DNA, and the properties of elements, which are the basis of physics and chemistry, are organized according to the periodic table based on mass. Linguistics is no exception to the method of analyzing research subjects according to a certain classification. The most prominent classification in linguistics is the part of speech classification, which has been inherited from the time of Panini, who left behind a Sanskrit grammar book, and Thrax, who wrote Greek grammar. Even in current research books, it is common to define research subjects by verb categories such as perception verbs, psychological verbs, motion verbs, and thinking verbs, and there are also basic word orders such as SVO and SOV, and typological categories such as head marking/dependent marking.

However, classification criteria for all categories are not clear. For example, when considering the expression of movement in Azerbaijani, "batmaq" means "sink" and "sink" expresses the mode of movement. It can be difficult to make a judgment, as it may seem that the verb is not in the correct category. This leads to problems with classification, which is the beginning of scientific analysis, such as "Which category should this verb be placed in?" This leads to questions such as "Even though linguistics is premised on being a science, linguistics does not have any standards for classification in the first place," and "Although linguistics seems to follow the conventional classifications adopted in linguistics, isn't this just an intuitive semantic classification?" [4] Furthermore, this question develops into a more fundamental question, such as "If a classification is only applicable in a certain research field, it is a response to a theoretical requirement and does not reflect the state of language that linguistics should originally be targeting." Although linguistics is considered to be a branch of science, this question undermines the premise of linguistics as a science, and at the same time, it makes it unclear what the subject and purpose of the academic discipline of linguistics is.

The purpose of this paper is to question the validity of the various classifications used in linguistics, and in particular, to examine how classification based on meaning can be justified. As

will be discussed in detail in the following sections, there are scientific requirements that linguistics must meet if it is to be a science. In terms of the philosophy of science, we can ask whether a classification can be considered to reflect the nature of nature, or whether it is merely an artificial or technical thing necessary for theoretical requirements or research methods. In this question, the element of meaning of language is problematic and unavoidable. Although classification based on meaning is a common method in linguistics, its basis must still be questioned from the perspective of the scientific nature of linguistics, and if it is not scientific, how it can be justified must be considered.

As a specific analytical method, we will take a method of examining the research objectives behind the act of actually presenting categories or classification in linguistic publications or oral presentations [2].

### **1. Classification required in science**

Any criteria can be set for classification. For example, we know as a matter of common knowledge that the category of tulips includes flowers of various colors, not just red, white, and yellow. But why classify plants that are obviously different in color as the same plant? Wouldn't it be okay to classify sunflowers and dandelions, rapeseed flowers, and yellow tulips as one category?

In fact, there is no absolute reason to deny such classification by color. Although it may be rare nowadays, collecting plants of similar colors for the purpose of collecting pigments does not seem so strange and should be justified.

However, this classification based on color is usually justified only for a specific purpose and is not adopted when considering categories of objects. Classification based on botanical characteristics rather than color is usually considered to reflect the nature of nature, such as tulips, which are lilies, dandelions, which are Asteraceae, rapeseed flowers, which are Brassicaceae, and sunflowers, which are also Asteraceae but are distinguished at the subfamily level from dandelions. Here are some other examples. Elements are classified according to the periodic table based on mass, but from a different perspective they can also be classified as "materials that make up the human body" or "materials suitable for making nuclear reactors and aircraft bodies." Again, these classifications are not considered to reflect the properties of the materials. Categories such as "seafood," which groups together mammals, fish, and crustaceans, and "vegetables," "fruits," and "fruit-like vegetables," which are established as classifications for food production and distribution, are also administrative classifications established for human convenience and are not considered to be categories of the objects themselves.

In this way, classification is an act performed according to a certain purpose, and the purpose can be set in various ways. On the one hand, color may be used as a classification criterion for the purpose of collecting pigments, and vegetables may be divided into basic crops and others for the purpose of stabilizing the lives of the people. These are artificial classifications based on purposes set by humans for some reason. On the other hand, there are also classifications based on the desire to "know the object," based on the way the flower is attached or the shape of the stem, regardless of human convenience. These are natural classifications that are considered to reflect the properties of the object. Although there seems to be a clear difference between artificial classification and natural classification, the distinction between the two cannot be so clear because the classification is made through the eyes of humans. In both types of classification, what is classified is not the "essence of the object" but "the quality established by the relationship between us and the object" (cf. Condillac 1746, Part 1, Chapter 5, Section 3; Yamaguchi 2002: 82–93) [1]. Is it a classification made for convenience by humans for some reason, or a classification made in an attempt to understand nature? The distinction between natural classification and artificial classification is not self-evident in that it follows the "understanding" of humans. However, it is clear from the above examples that the classification required in scientific research is natural classification. In other words, with the aim of understanding the mechanisms of nature, some kind of operation is performed on the object, and the result is recognized as homogeneous (at least in terms of responding equally to the operation) and is a classification that meets scientific requirements.

So, in linguistics, what kind of quality is set between us and the subject when we perform the act of classification, and what kind of quality should be set? Needless to say, current linguistics is sometimes called "linguistic science," and research is being conducted on the premise that it is a science, or aspiring to be a science. Therefore, since language is considered to be an objectively existing research subject and linguistics claims to be a science, various classifications in linguistics should also aim for natural classification. Even if it is a "quality set between the subject and humans," the classification must be determined based on homogeneous and constant observation results based on certain operations, not arbitrarily or for the convenience of humans. Are the various classifications actually used in linguistics really natural classifications? In the next section, we will consider various examples. Note that the classification examples used in the examination will mainly be quoted from publications, but oral presentations or ongoing projects may also be cited, taking into account the relationship between the size of the subject to be examined and the space available. This is done solely for the sake of brevity, and similar classifications can be found in many other papers and books. Please note that these are by no means cited as typical examples.

### **1. Various aspects of classification in linguistics**

If we draw a line between natural classification and artificial classification, then if linguistics is oriented toward science, it is required to aim for natural classification. So, is the classification actually carried out in linguistics really natural classification, and is it necessary for describing and understanding language? What is the basis for classification? In this section, we will consider various examples.

#### **1.1. Classification not based on meaning - the existence of parts of speech**

As mentioned at the beginning, since Panini and Thrax, part-of-speech classification has been passed down since ancient times, and is an essential category in modern linguistics. However, what is the basis for part-of-speech classification? Intense definitions such as nouns representing the names of things, verbs representing actions, etc. do not guarantee classification. Such a definition is not something that should be done at the beginning, but is merely a note of a label that is attached to the result after performing the appropriate operation and observing the result.

So what guarantees the classification of parts of speech? Although there may be different views depending on the theoretical standpoint, it can be said that paradigmatic relations and syntagmatic relations play a central role in determining the classification of parts of speech. For example, suppose that a correct sentence in a language consists of three words (e.g. I like Lucy), and we are considering the rules that make the sentence correct. If there is a word that makes a correct sentence even when replaced with the first word, then that word can be considered to have homogeneity with the first word (e.g. You like Lucy). Naturally, this method can be done for the second and third words as well (e.g. I hit Lucy, I like Stefanie). Furthermore, when there is an observation that the sentence is no longer correct when the second and third words are swapped (e.g. \*I Lucy like), it can be used as a basis for the words to belong to different categories. Arranging words with the same properties does not make a sentence. Depending on how they are arranged, a sentence can be either correct or incorrect.

As mentioned above, the knowledge required to produce a correct sentence can be justified by paradigmatic and conjunctive relations, and because of its reliability, the classical parts-of-speech classification has been passed down unchanged to the present day. The names of the categories, such as noun and verb, are not important, and inorganic names such as Category A and Category B are acceptable.

In this way, as far as basic syntactic categories such as parts of speech are concerned, it can be considered that there is an observable and verifiable way to justify their existence. This idea is also valid when dealing with units beyond parts of speech. Let's compare the following sentences.

(1) a. Paul bought a book.

b. My friend bought a new book.

If (1a) is regularized based only on parts of speech information, it can be written as  $S \rightarrow N V D N$  (S: sentence, N: noun, V: verb, D: determiner). In light of the above-mentioned part-of-speech identification procedure, the first N can be replaced by other proper nouns, I, or he, so these can be

considered to form one category. The second verb, bought, can be replaced with read and found, and the sentence "I read/found a book" can be constructed, so it can be seen that bought, read, and found are in the same category. Similarly, a forms a category with the, and book can be replaced with pen, etc. As a result of such consideration, the correctness of the rule  $S \rightarrow N V D N$  can be confirmed.

However, this rule, which is composed only of part-of-speech information, cannot be applied to (1b). If this sentence were to be regulated only by parts of speech, it would become  $S \rightarrow D N V D A N$  (A: adjective), but this not only does not fully capture the intuitive similarity we have between (1a) and (1b), but even if a rule were set based on this idea, it is expected that almost as many rules would be needed as there are sentences. Therefore, it is necessary to recognize the homogeneity between Paul and my friend, and between a book and a new book. In other words, it is necessary to set up a phrase that goes beyond words. Here again, it is thought that the existence of the rule can be justified by going through a procedure similar to that for identifying parts of speech. Since the grammaticality of (1a) can be maintained even if Paul is replaced by my friend and a book by a new book with an adjective, a unit called a noun phrase can be established.

The eight parts of speech classification inherited from Thrax consists of nouns, pronouns, verbs, adjectives, adverbs, conjunctions, prepositions, and interjections. Depending on how they are divided, there may be ten parts of speech, and articles may be used instead of interjections, and there may be differences depending on the circumstances of individual languages, but the idea of eight or ten parts of speech has been inherited. And because this major classification alone is not sufficient, subclassifications are usually established. Nouns can be divided into proper nouns and common nouns, those that can be pluralized and those that cannot, and gender such as masculine/feminine/neuter. Pronouns are also classified according to morphological and syntactic criteria, such as when they function as subjects, when they are used as direct object complements, and when they are used as indirect object complements. Naturally, members of a lower category share the properties that define the higher category, and are subdivided according to the characteristics necessary to recognize the lower category [3].

There is no scientific problem with this procedure for setting classifications. The categories are based on homogeneity, which can be set by certain operations in sentences and the results of observation, and can be said to be natural classifications based on scientific methods.

However, if a classification procedure based on syntactic distribution is used, it may be problematic that there are many words that straddle two categories. Let's consider the following example.

- (2) a. He walked in the room.
  - b. He walked in with a handgun strapped to his waist.
- (Mail Online News, Dec 28, 2012)

If we start from the point where the category of noun phrase has already been identified, then in (2a) is treated as a preposition because it is followed by the noun phrase the room. On the other hand, in (2b) is not followed by a noun phrase, so based on distribution, it is judged to be an adverb that gives direction to the movement expressed by the verb.<sup>1</sup> The question here is whether it makes sense to ask "What is the real category of in?" Or, how valid is it to use criteria that classify a form into two separate categories?

In fact, this seems to be just a pseudo-question. When used as a to-infinitive, the verb functions as a noun, and when used as a participle, it functions as an adjective. Adjectives do not just modify nouns; some are predicated with a copula and some are not, and some are used as nouns with an article and some are not; there are adjectives that appear in different syntactic environments. This means that one form can appear in various distributions and perform multiple functions, and this in itself is not surprising. A symbol can act like an adverb in one linguistic environment and be used as a noun in another. Symbols with the same phonetic form simply appear in multiple positions. In the first place, attempts to identify parts of speech based on syntactic distributions such as paradigmatic and copulatory relations do not directly classify the linguistic symbols themselves, but classify them based on their function in a sentence, which is based on their distribution. Asking

"what part of speech is a certain form really?" makes explicit the criterion of "function in a sentence," which is the basis for this classification [5].

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### ***Проблема категорий в лингвистике Резюме***

Цель данной статьи — изучить основы различных лингвистических классификаций и обсудить, как можно объяснить категории на основе принципа значения. Хотя лингвистика считается отдельной областью науки, предлагаемые в литературе категории не обязательно могут отвечать требованиям научной классификации. Эта идея особенно верна для категорий, основанных на значении, хотя они важны для лингвистических исследований. Обеспечивает ли это достоверность семантических категорий, таких как классы глаголов? В данной статье утверждается, что, хотя широкий круг языковых явлений имеет различные смысловые нюансы, они классифицируются на основе единых категорий, поскольку категориальный принцип анализирует объекты в единых рамках и выявляет их общие характеристики и характерные черты.

**Ключевые слова:** категория, семантика, части речи, сопоставление терминов

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### ***The problem of categories in linguistics Summary***

The purpose of this article is to explore the basics of various linguistic classifications and discuss how categories can be explained based on the principle of meaning. Although linguistics is considered a separate field of science, the categories proposed in the literature may not necessarily meet the requirements of scientific classification. This idea is especially true for meaning-based categories, although they are important for linguistic research. Does this provide validity to semantic categories such as verb classes? This article argues that although a wide range of linguistic phenomena have different semantic nuances, they are classified on the basis of common categories, since the categorical principle analyzes objects within a single framework and identifies their common characteristics and characteristic features.

**Keywords:** *category, semantics, parts of speech, comparison of terms*

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