MORPHOLOGY OF NUMBER IN ENGLISH:
A COGNITIVE PERSPECTIVE

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ABSTRACT

In this paper the authors address morphology of English number in the cognitive perspective by showing how semantic changes originate in conceptual processes that exploit morphological forms of number to express a vast range of lexico-grammatical senses in the process of communication. In attempting to provide an account of this issue a cognitively-based theory of morphological representation is situated within a general context of cognitive linguistics. An account of morphological concept is presented, the process of morphological representation is modeled, factors, influencing the process of forming sense are singled out. Finally the authors lay special emphasis on the fact that the possibility of number forms to express variety of meanings is caused by conceptual processes which underlie the morphological representation.

Key words: English morphology, forms of number, model of morphological representation, morphological concept, cognitive mechanism, linguistic factors, integrative principle, configuration, abstraction

1. INTRODUCTION

The present article proposes a cognitive explanation of number morphology by examining conceptual processes that underlie English category of number and its forms when they express different senses in the process of communication. The following assumptions are taken into consideration.

As it is widely assumed in cognitive linguistics, language is an instrument for organizing, processing and conveying information. Thus the central idea is that language forms an integral part of human cognition. That's why it offers a window into cognitive function, providing insights into the nature, structure and organization of thoughts and ideas. Language is assumed to reflect patterns of thought, certain fundamental properties and design features of the human mind. It follows from this assumption that language structure cannot be studied without taking into account its cognitive basis.

From the perspective of cognitive linguistics conceptual and semantic levels are not identical but exist in constant interaction. This differentiation results in that semantics having two directions: towards the conceptual system and towards the language system and thus it performs the role of interface between a language and a conceptual system [1].

The human conceptual level is a single level of mental representation onto which and from which all peripheral information is mapped [2]. This level also serves as a universal basis of a language system and provides systematization, choice and combinability of linguistic signs to express certain thoughts and interpret them to understand different texts [3]. Conceptual level is not only the system of concepts, conceptual groups and classes but it's also the level of categorical meanings and senses. The importance of categorical senses is that they (but not single concepts) form a basis for grammatical (and also morphological) categories.

Cognitive linguistics sees linguistic meaning as a manifestation of conceptual structure and an

interpretation within the framework of a conceptual system as a whole [4].Two general observations seem to be relevant in this respect. A concept is dynamic and non-verbal by nature. It has a flexible structure, which, being in constant development, represents the results of a human cognition and is used in the process of speech-producing activity. The second is that not all the concepts have linguistic representation (verbalized). It allows basis to distinguish between verbalized and non-verbalized conceptual content and consequently between a concept as a mental unit, existing as a non-structured gestalt before its verbalization and a concept as a verbalized unit.

From this it follows that a concept exists in two modes (Figure 1.): as a knowledge unit and as a knowledge structure, indexed in linguistic forms [5].

With the above generalities in mind some theoretical issues regarding the process of morphological representation will be addressed further [see also 6].

2. METHOD

Adopting a fresh perspective we use conceptual-representative analysis as a newly-derived method of cognitive researches in linguistics [7]. This type of analysis implies further

Fig. 1. Two modes of concept

development of conceptual analysis and aims at investigating a concept's content and role of each linguistic level in its representation. Thus the analysis is done in two directions: from conceptual to linguistic content and vice versa.

3. MAIN PART

From a cognitive viewpoint morphology is argued to be treated in terms of morphological representation and morphological concept, which are developed within the framework of a theory of morphological representation [7]. Morphological representation presupposes a categorical way of structuring conceptual content through morphological categories and forms. It is generally agreed that the same experience may be conceptualized by speakers in different ways. Morphological categories in their turn conceptualize or construe the experience of the speaker in the world in certain ways. This appears to be very much in line with the central hypothesis of cognitive semantics that much of language – in particular grammatical inflections and constructions – can be described as encoding different conceptualizations of experience [8].

The most basic theoretical construct of morphological representation is a morphological concept. The latter is defined as a knowledge format represented by morphological categories and forms, on the one hand, and as a concept making a basis for morphological categories and realized in a discourse in the form of concrete grammatical meanings (e.g. grammatical tense, number, mood, etc.), on the other. Taken together, morphological concepts make a cognitive basis for a morphological representation in a language.

Next the stages of morphological representation will be examined in details. Conventionally morphological representation experiences some stages. The first stage of it is connected with the formation of morphological concepts.

Our hypothesis is that they are formed on the basis of the concepts which already exist in the conceptual system. These concepts (primary ones) have an important and salient position in the conceptual system, they determine the existence of the latter. In cognitive linguistics tradition they are usually termed fundamental concepts. These are such concepts as TIME, QUANTITY, SPACE, RELATION, etc.

The cognitive mechanism which serves to form morphological concepts is that of abstraction. Under its influence the most generalized characteristics in the structure of primary concept are abstracted from the concrete ones and create a new concept (morphological concept). The latter may be treated as a secondary concept in this case.
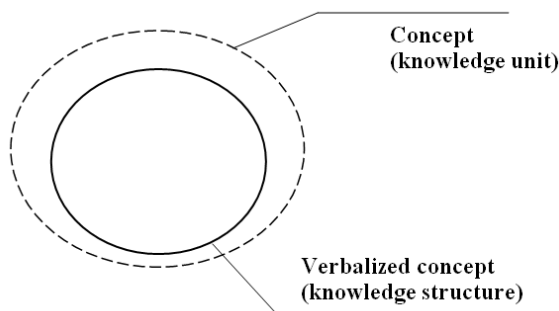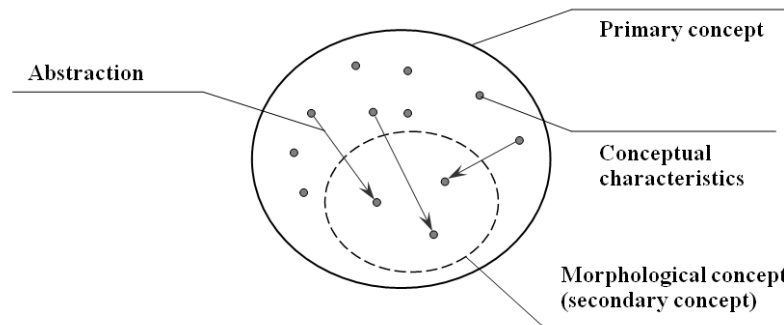
Fig. 2. Formation of morphological concepts

As sketched in Figure 2 it is embedded into the structure of the primary concept. As a result, characteristics, which are the most important for the language, are encoded.

Accordingly, the content of morphological concepts is highly abstract. It results in generalized character of grammatical meanings conveyed by morphological forms. Morphological concepts can be treated as classifying ones because they are oriented to the language system but not the world around us, coding the way the language maps the world. It gives the right to assume that morphology conceptualizes linguistic knowledge.

There is no an ambiguous definite correlation between a fundamental concept and a morphological concept. One fundamental concept may cause appearance to more than one morphological concept. E.g., fundamental concept QUANTITY gives rise to morphological concepts NUMBER and MEASURE OF PROPERTY. An instance of such correlation is shown abstractly in Figure 3.
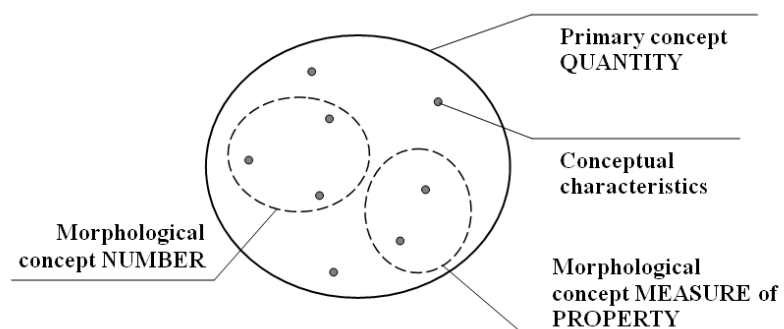

Fig. 3. Correlation between primary and morphological concepts

From this it is concluded that the process of forming morphological concept is based on a reorganization at conceptual level with the help of such cognitive mechanism as abstraction. This mechanism of human cognition is used to modify the concept already existing in the conceptual system and create a new one, linguistic by nature, a morphological concept. And the way this is done is reflected at the linguistic level. Being rather abstract by nature a morphological concept presents gestalt itself, generalized and abstract conceptual characteristics of which demand further concretization. The latter becomes possible only in interaction with different linguistic factors in the process of morphological representation. So far we have established that the essence of morphological concept is that being represented morphologically its content is revealed in interaction with other factors in the process of morphological representation.

On the second stage morphological forms activate the main characteristics in the content of morphological concepts. As a result, generalized morphological senses are formed. Because of their generalized character these senses require further concretization. Evans and Green [9] propose that elements of grammatical subsystem perform a structuring function providing schematic meaning.

Here we come to the description of the next stage of morphological representation, which is connected with the concretization of generalized senses. This concretization is revealed on the sentence-utterance level in interaction with linguistic factors. Here we must identify the factors that influence or may be even determine the process of forming sense when we analyze morphological representation. Below a look at three such factors will be taken: (1) semantic, (2) syntactic, (3) contextual.

The most central factor is a semantic one. It presupposes taking into consideration the semantics of lexical units that take on this or that morphological category. As it is known, in real functioning the possibility of the words to take on this or that morphological category depends on their semantics. E.g., only qualitative adjectives are used in superlative and comparative degrees, only concrete nouns take on the category of number. The next two factors playing a role in concretization of generalized morphological senses are syntactic and contextual. The syntactic one is connected with the syntactic structure of the sentence, the contextual – with the context of the whole sentence.

The necessity of taking into consideration such factors is explained by the fact that the process of sense formation is always integrative. This general idea appears to be very much in line with prof. Boldyrev's factors of functional categorization and the idea of integrity worked out in the functional and semiological approach [10]. And integrative principle is considered to be a central principle of morphological representation.

Being activated, the morphological concept, in its turn, activates a primary concept. In the content of the latter, under the influence of the linguistic factors already mentioned, additional characteristics are profiled. In some cases linguistic factors may also activate some adjoining concepts. These processes are shown in Figure 4.
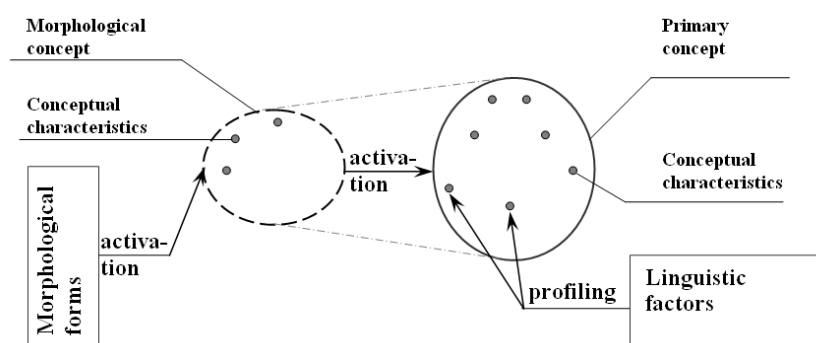

Fig. 4. The third stage of morphological representation

The final stage is connected with the configuration of the conceptual content. It means that activated characteristics of the morphological concept in combination with the profiled characteristics of the primary concept finally result in the formation of concrete lexico-grammatical senses which are revealed in the process of communication. Figure 5 summarizes our evidence regarding formation of lexico-grammatical senses in the process of morphological representation.
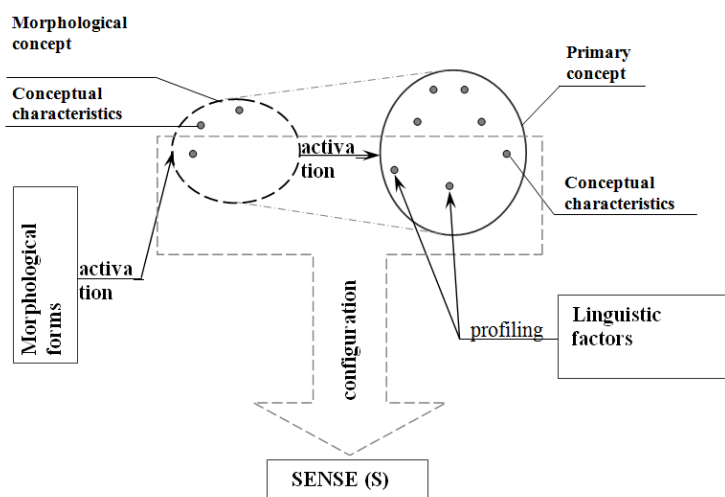

Fig. 5. Formation of lexico-grammatical senses

Further morphology of English number will be analyzed in the perspective of morphological representation. On the first stage the morphological concept NUMBER is formed. It's formed on the basis of the primary concept QUANTITY from which characteristic "quantitative notion" is abstracted. This characteristic causes the appearance of morphological concept NUMBER and is revealed in its

characteristics "plurality" and "singularity". Concept NUMBER is treated as a cognitive basis for the same name morphological category. Now the process will be illustrated on the basis of plural forms of nouns (Figure 6).

On the second stage plural forms of the noun activate morphological concept NUMBER and characteristic "plurality" in its content. As a result corresponding morphological sense "plurality" is formed. Being rather generalized, it requires concretization that is achieved by using of semantic and contextual factors in the process of communication. As a result the following lexico-grammatical senses are formed: discrete plurality, qualitative plurality, representative plurality, dual plurality, concrete plurality, joint plurality, partitive plurality, spatial plurality.
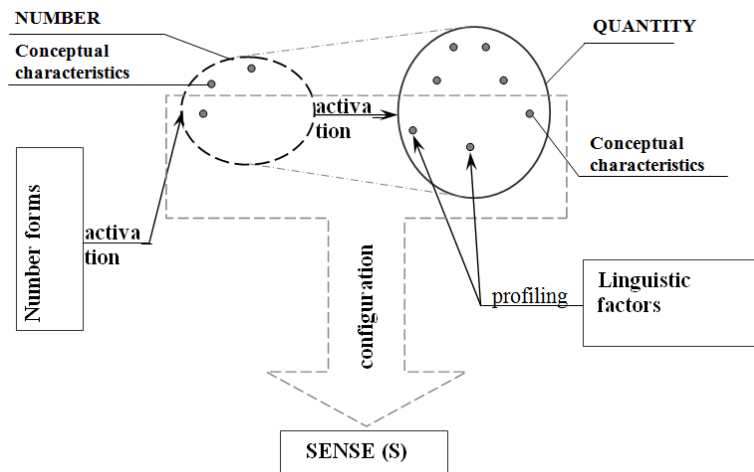

Fig. 6. *The process of forming lexico-grammatical senses*
on the basis of number forms of nouns

Now the formation of one of these senses will be shown in details. When forming the sense "discrete plurality" the plural forms of the noun activate morphological concept NUMBER and the characteristic "plurality" in its content. This leads to the formation of the corresponding generalized morphological sense "plurality". Then the latter is concretized under the influence of semantic and contextual factors. Semantic factor reveals itself in that only nouns of concrete semantics are used in these cases. Contextual factor is connected with the existence of adverbial modifiers pointing to the discrecity and numerals in the structure of the sentence. These factors activate the primary concept QUANTITY and profile characteristic "discrecity" in its content. The combination of two characteristics "discrecity" and "plurality" in the process of configuration forms the analyzed sense. The process is illustrated by the following examples and presented in Figure 7.

The man moved slowly about dropping **cakes** *from* _various_ **dishes** _one by one_ *into a paper bag.*
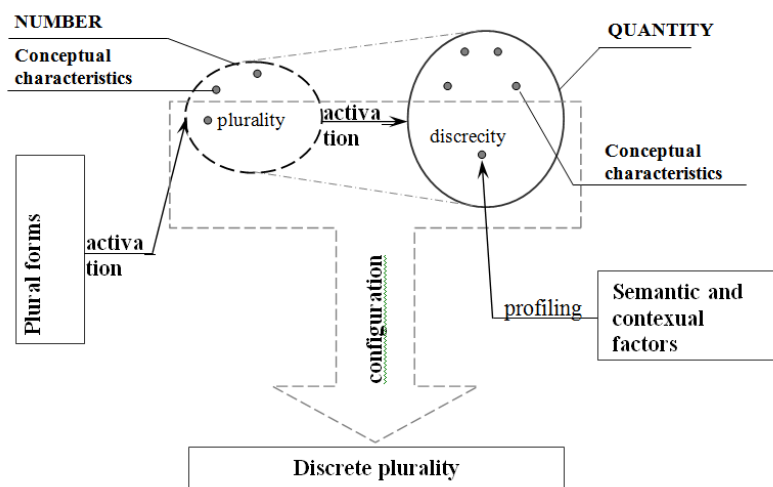*There were* _four_ **bedrooms**, *all unoccupied.*

Fig. 7. *Formation of the sense "discrete plurality"*

4. CONCLUSION

A cognitive perspective on English number appears to demonstrate that senses can be affected by the conceptual modifications which lead to configuration of conceptual content in order to meet changing communicative and cognitive needs. Morphological forms of number express various senses relying on general cognitive mechanisms like abstraction, profiling, configuration. The cognitive basis of number forms use is exploitation of encyclopedic knowledge in its interaction with linguistic knowledge.

5. RESULTS

In this article we have presented a cognitive overview of English number. In our approach we have laid special emphasis on the fact that the possibility for morphological forms to express different senses in the process of communication is caused by conceptual processes which underlie the morphological representation as a categorical way of structuring conceptual content. The analysis of number morphology on cognitive grounds has allowed us to account for some properties of morphological categories using the theory of morphological representation developed in cognitive linguistics.

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