## Research article: A Constructional Account of Word Formation in Persian: Evidence from Compounding

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## Abstract

This paper is aimed at describing compound nouns and word formation in Persian from the standpoint of Cognitive Grammar (Langacker, 1991) and Construction Morphology (Booij, 2010). To this end, authors deny the existence of word formation rules as concatenation of morphemes and describe compound nouns from Langacker's usage-based model (Langacker, 2000), which includes word formation templates and hierarchical lexicon.

Our aim in this study is to present arguments in favor of construction morphology approach to word formation in Persian. Based on this analysis, compounds including exocentric and endocentric compounds are dominated by the following schemas in Persian lexicon. The schema in (1) is the schema for endocentric compounds like 'češm pezešk' (oculist). Exocentric compounds like naxon xošk (scrooge), are not compositional so they are represented as specific constructions with a fixed meaning as (2). The schemas in (1) and (2) pair a form with a specific meaning in the form of a morphological construction.

(1)  $[[X]_X [Y]_Y]_Z$  'Y with relation R to X' (2)  $[[X]_X [Y]_Y]_Z$  'FIXED MEANING'

It will be shown that a constructional approach to word formation and compounding in Persian leads to express more explicit generalizations on Persian word formation. The concept of construction as a traditional notion used in linguistic analyses and books is defined as a pairing of form and meaning. A construction is a syntactic pattern in which particular formal properties are associated with specific semantics that is not completely compositional, but yet predictable. For example, in linguistics we speak of the passive construction because sentences with passive meaning have a specific syntactic form that correlates with a specific passive meaning.

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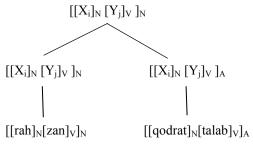
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In Goldberg (1995), it is argued that an entirely lexically-based, or bottom-up, approach fails to account for the full range of data in languages. Particular semantic structures together with their associated formal expression must be recognized as constructions independent of the lexical items which instantiate them. According to Construction Grammar, a distinct construction is defined to exist if one or more of its properties are not strictly predictable from knowledge of other constructions existing in the grammar.

In a constructional approach to word formation, we may dispense with the notion of rule, which is an operation on a base, but rather focus on the output of word formation processes or schemas. These schemas are general patterns which are dominating all existing complex words and are sources of new words. These new words/output of morphological operations are instantiations of morphological schemas and inherit all predictable properties of schemas. The main property of CM is based on the paradigmatic relationships between morphological schemas; in other words, the morphological structure of complex words is identified based on their paradigmatic relationships with other complex words. These schemas form part of a hierarchical lexicon in which schemas dominate individual complex words. By default, complex words inherit the information specified in schemas, but a particular piece of information may be overruled by an individual lexical item that instantiates a specific schema (Booij, 2010). In hierarchical lexicon, there are intermediate levels of generalizations. These are intermediate schemas between the individual words and the most abstract word formation schemas, expressing generalizations about subsets of complex words of a certain type (Booij, 2005). Lexicon has a hierarchical organization containing all levels of constructions, the most abstract schemas, intermediate constructions and finally concrete lexical items.

The following schemas in (3) and (4) show the construction associated with agentive compounds in Persian such as "rahzan" and diagram (5) shows the hierarchy of schemas.

 $\begin{array}{l} (3)[[X_i]_N \ [Y_j]_V \ ]_N`AGENT of ACTION_j on SEM_i` \\ (4) [[X_i]_N \ [Y_j]_V \ ]_A`AGENT of ACTION_j on SEM_i` \end{array}$ 



(5) hierarchy of schemas

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Synthetic compounds in (6) are formed in two steps. First, '*xod*' (self) is attached to the verbal stem to form a non-existing word and then -i is added to the bound verbal stem.

(6) xodkoši (suicide) xodsuzi (self-burning) xodzani (self-mutilation) xodsazi (foppishness)

The shared feature of these words is that all of them are formed by adding the suffix -i to a bound compound verbal stem as their base which forms a 'morphological construct' itself and takes the main role in larger construction in deriving synthetic compounds. From the constructionist standpoint, the following pattern in (7) forms a verbal construction which is the base of many derivations in Persian. We assume such morphological entity as a schema in the hierarchical lexicon and the output of such schema is a possible but non-existing word.

(7) [xod- [present stem]<sub>V</sub>]<sub>V</sub>

A compound stem/base in terms of CM hierarchical lexicon forms an intermediate stage in the formation of an even more complex word. This non-existing possible word is a bound compound verbal stem. In the next step, this schema plays the role of the base in deriving a new and more complex word with suffix -*i*. The schema is shown in (8):

(8) [[bound verbal stem]<sub>A</sub>-i]<sub>A</sub>

In the formation of these nouns an intermediate adjective like *xodsuz* or *xodkoš* is certainly a possible noun. Yet, we should not require the existence of this noun as a necessary intermediate step in the coining of these words. Based on CM, these two word formation templates are conflated with each other and by unification of these templates, compounding and derivation can occur at the same time. That is, we assume a unified template of the following form for such nouns:

(9)[*xod* [present stem]<sub>V</sub>-i]<sub>N</sub>

In sum, by representing word formation processes as constructional schemas that can be unified, it is possible to express that a multiply complex word can be derived in one step from a base word that is two degrees less complex.

In this paper, it is shown that a constructional account of compounding in Persian leads to expressing more explicit generalizations on Persian word formation. A number of arguments were presented to support the constructional analysis of word formation in Persian.

**Keywords:** Construction, Construction Morphology, Word Formation Templates, Hierarchical Lexicon, Persian