

On the Semantics of Prepositional Prefixes in English

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1. Introduction

In English, there are some prefixes whose phonological forms are identical to prepositions. Isono, Wakamatsu, and Naya (2017) refer to these prefixes as prepositional prefixes. *Over-* is a typical example of prepositional prefixes.

- (1) a. overfly the territory
b. fly over the territory

(Iwata (2004:273))

As shown in (1a), the complex verb *overfly*, which consists of the prefix *over-* and the verb *fly*, can be paraphrased with the base verb and prepositional phrase including *over*, as seen in (1b). This paraphrase may show that prepositional prefixes are prefixal uses of prepositions. There are, however, some cases where complex verbs with prepositional prefixes cannot be paraphrased with prepositions of verb particles.

- (2) a. overheat the room
b. heat (*over) the room (*over)

(Kaga (2007:133))

The examples above show that the complex verb *overheat* cannot be paraphrased either with preposition or verb particle. The prefix *over-* in (2) has ‘excess’ sense and the ‘excess’ sense seems to be associated only with the prefix. Iwata (2004) argues that the prefix *over-* is an independent lexical entry from the preposition *over* because the polysemous network of the prefix *over-* is different from that of the preposition *over*.

This paper aims to show the systematic relation between the prefix *over-* and the preposition *over*, based on Booij’s (2010) Construction Morphology. This framework enables us (i) to assume a systematic relation between the prefix and the preposition, and (ii) to account for the difference between them. I argue that the prefix *over-* and the preposition *over* share the basic semantics because they belong to the same lexical entry. Moreover, the ‘excess’ sense of the prefix *over-* is related to [*over-* V(erb)] construction, rather than *over-* itself.

This paper is organized as follows. Section 2 briefly introduces the theoretical framework of Construction Morphology. Section 3 analyzes the prefix

over- based on Construction Morphology. Section 4 provides a conclusion.

2. Theoretical Framework

This section briefly introduces the theoretical framework, Construction Morphology. In the following subsections, I will illustrate three relevant notions: hierarchical lexicon, default inheritance, and constructional idioms, respectively. The first notion, hierarchical lexicon is involved in the idea that grammatical knowledge of a language user is represented as the lexicon organized systematically. The second notion, default inheritance, deals with the relation among constructions. The third notion, constructional idioms, is resulted from combination of hierarchical nature of the lexicon and the system of default inheritance.

2.1. The Hierarchical Lexicon

As a version of construction grammars, Construction Morphology attempts to show that all the grammatical knowledge is accounted for by assuming a certain number of constructions listed in the lexicon. Constructions are basically defined as form-meaning pairings. When some constructions share a part of formal pattern and the part corresponds to a set of semantic properties, we may assume an abstract construction including one or more variables. Variables, namely an unspecified part in a construction, are replaced with another construction to form a concrete level construction. Then, we have two levels of constructions. The abstract construction may be further grouped with other abstract constructions. Therefore, the lexicon is assumed to have hierarchical nature.

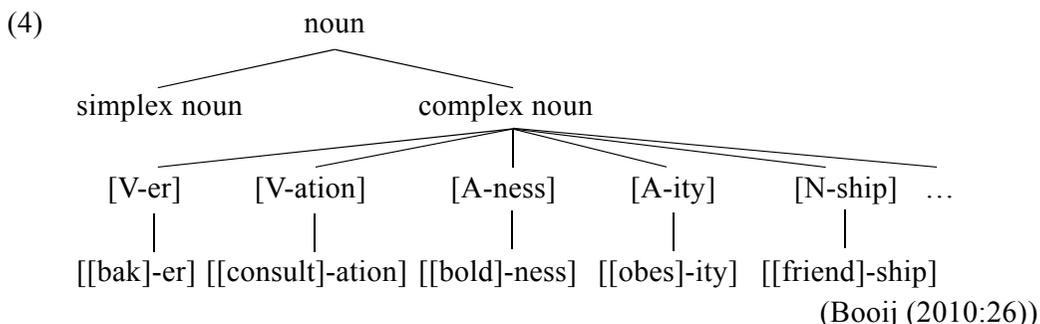
A construction is represented with formal side in the left side and the semantic side in the right, connected by a two-way arrow between them. For example, the derivation of an agent noun from a verb is represented as in (3):

$$(3) \quad [[x]_V \text{er}]_N \leftrightarrow [\text{one who Vs}] \quad (\text{Booij (2010:2), with modification})$$

In the formal side, it is shown that a given verb replaces the variable [x] and is combined with *er* in the right. The form as a whole behaves as a noun. In the semantic side, the noun refers to a kind of person who performs the action indicated by the verb. As Construction Morphology adopts lexeme-based view, the derivational suffix *-er* is regarded as a part of the formal pattern, not a morpheme. In other words, morphological processes are represented as combination of patterns and lexemes, and both morphological patterns and lexemes are constructions.

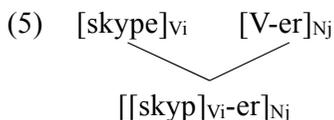
Morphological constructions are not listed in the lexicon in isolation. Rather, they are linked together and form a hierarchical network. For example,

English complex nouns are listed in the lexicon as in (4):



The diagram in (4) shows that derivational patterns are listed in a hierarchical fashion. For example, the word *baker* is dominated by a schematic construction [V-er]. The term “schematic” used here means that a construction contains a variable in it. The semantic property of *baker* that it refers to a person is inherited from the schematic construction. Similarly, *consultation* refers to an event because the schematic construction [V-ation] has the property of referring to an event.

A word inherits semantic and formal properties not only from the schema, but also from the constant that replaces the variable. For example, a newly coined noun *skyper* inherits lexical meaning and the phonological form from the verb *skype*.



The operation like (5) is called unification, that is to replace the variable in the schematic construction with a specific word. The co-indexations *i* and *j* show that each property is inherited. The formal and semantic properties of the noun *skyper* are determined by the two constructions; [skype] and [V-er]. Henceforth, I refer to such verbs that take part in unification as input verbs. The process of unification accounts for the word formation based on the assumption of constructions.

2.2. Default Inheritance

We have seen that properties of a construction are inherited in various ways. One of the ways is to inherit from a relatively more schematic construction. Another is to inherit from a construction which replaces the variable, namely input

word in a given unification process. In this subsection, I introduce a notion called default inheritance, which means that inherited properties can be overridden in a concrete level. Booij (2010) instantiates default inheritance with compound nouns in Dutch. A noun in Dutch has a grammatical gender either common gender or neuter gender. Grammatical gender of compound noun is generally the same as that of the right constituent. It is in accordance with well-known Williams's Right-hand Head Rule (Williams (1981)). This generalization is represented in Construction Morphology as in (6):

$$(6) [a [b]_{Y_j}]_{Y_i} \leftrightarrow [\text{SEM } [\text{SEM}]_j]_i \quad (\text{Booij (2010:28)})$$

This representation shows that the category and the properties are inherited from the right constituent. Grammatical gender is a kind of formal feature, so it is naturally predicted that the gender of a compound noun corresponds to the right constituent. However, there are some compound nouns whose gender is different from that of the head.

<p>(7) <i>Common Gender</i></p> <p>spleet-oog 'lit. split-eye, Asian person'</p> <p>appel-moes 'apple sauce'</p>	<p><i>Neuter Gender</i></p> <p>oog 'eye'</p> <p>moes 'pulp'</p>
(Booij (2010:28))	

It may seem natural for *spleet-oog* to have the different gender from *oog* because the compound refers to a person, not an eye. However, even when the semantic properties are inherited from the right constituent, the gender can differ. This phenomenon is well-captured by assuming default inheritance: The gender feature is normally inherited from the right constituent but can be overridden at the level of a concrete word.

2.3. *Constructional Idioms*

I introduce a notion constructional idiom, which refers to a partly filled schematic construction with a different meaning from that of the dominating construction. It is not additional idea, but a straight-forward prediction given the assumptions hierarchical lexicon and default inheritance. A construction may have more than one variable and dominates partly specified construction. Besides, the semantic property may be specified each of the levels of schematicity. Dutch intensifying expressions are typical instances.

- (8) a. ber-e ‘bear’ bere-sterk ‘very strong,’ bere-gezellig ‘very cozy’
 b. dol ‘mad’ dol-blij ‘very happy,’ dol-gelukkig ‘very happy’
 c. kots ‘vomit’ kots-misselijk ‘very sick,’ kots-beu ‘very tired of’
 (Booij (2010:56))

The expression *bere-sterk* can be interpreted as ‘strong like a bear’ but it is difficult to relate coziness to a bear. All these expressions *bere*, *dol*, and *kots* in those examples in (8) seem to serve merely as an intensifier rather than bringing some lexical meanings. This phenomenon is accounted for in the framework of Construction Morphology as follows: The compound construction in (9) contains two variables in it. Then, the left constituent is specified, resulting in constructional idioms in (10).

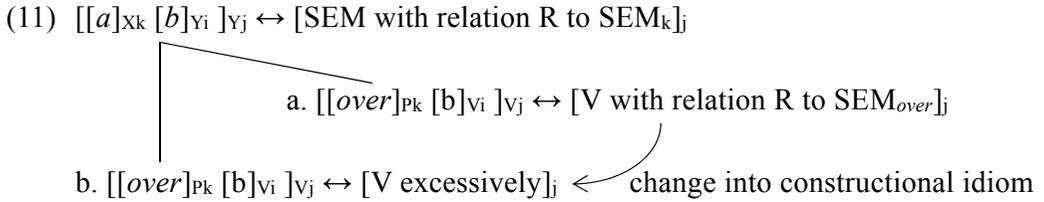
- (9) $[[a]_{X_k} [b]_{Y_i}]_{Y_j} \leftrightarrow [\text{SEM with relation R to SEM}_k]_j$
 (Booij (2010:18), with modification)
- (10) a. $[[\text{bere}]_N [X]_{A_i}]_{A_j} \leftrightarrow [\text{very SEM}_i]_j$
 b. $[[\text{dol}]_A [X]_{A_i}]_{A_j} \leftrightarrow [\text{very SEM}_i]_j$
 c. $[[\text{kots}]_V [X]_{A_i}]_{A_j} \leftrightarrow [\text{very SEM}_i]_j$
 (Booij (2010:57))

The construction in (9) shows that the left constituent is of any type and the category of the compound corresponds to the right constituent. The semantic side shows that the right constituent serves as the semantic head of the compound. The left constituent is a kind of modifier. Next, the constructional idioms in (10) show that the left constituents lose their lexical meanings and serve as a part of the patterns with intensifying function.

3. Analysis

3.1. Proposals

Based on Construction Morphology, I analyze the prefixal use of *over*. First, I regard the pattern [*over*-V] as an instance of compound construction because the right constituent, namely the verb, serves as the head both formally and semantically. The idea of regarding verbs with P(reposition)-V(erb) patterns as compounds is also supported by Isono, Wakamatsu, and Naya’s (2017) and Nagano’s (2013) studies. Second, given Iwata’s (2004) argument, the prefixal use of *over* with ‘excess’ sense should be seen as a constructional idiom. The configuration of my proposals is given in (11):



The general compound construction at the top of the diagram dominates two types of schematic constructions. One, shown in (11a), is a compound construction with *over* specified as its left constituent. The other, shown in (11b), is the constructional idiom resulted from (11a) and is associated with the sense ‘excess.’

This analysis accounts for the fact that the prefix use of *over* is both related to the prepositional counterpart and different from it. The relation between the prepositional use and the prefix use is licensed because the formal and semantic properties are inherited from the input *over* to the compound construction. The prefix use of *over* has a different polysemous network from that of the prepositional use because the ‘excess’ sense is the original meaning of the construction idiom [over- V].

3.2. Evidence

Proposals shown in the last subsection predict that *over-verb* forms of compound type diachronically precede those of constructional idiom type. That is, if the constructional idiom [over- V] results from the compound form, the constructional idiom should be established after [over- V] compound has become a convention. I sampled 489 complex verbs in *over-V* pattern. I judged a usage of a verb to have ‘excess’ sense when the definition includes “excessively,” or comparative expression. ‘Spatial’ uses are the rest, including temporal and other metaphorical uses. My observation is on two viewpoints. One is the year of first occurrence. It is important because if the constructional idiom with ‘excess’ sense is oriented in the general compound type, verbs in ‘excess’ sense appear relatively late. The other viewpoint is the current status. If the morphological status of the two types of *over-Vs* are different, the ratio of “rare” instances should be different. I judged a usage is “rare” when the entry is marked “obsolete,” “(now) rare,” and “(chiefly) in poetry.” The reason I include the state of “in poetry” to the “rare” class is that poetry is a special register, where old or unnatural expression may be used. The result is shown in (12):

(12)	<i>The year of first occurrence</i>									<i>Total</i>	<i>“Rare”</i>
	OE-	13c-	14c-	15c-	16c-	17c-	18c-	19c-	20c		
‘spatial’	45	2	20	38	46	40	5	32	2	230	174 (75.7%)
‘excess’	9	2	14	19	40	53	21	62	38	259	69 (26.6%)

First, in terms of the first occurrence, a number of verbs with ‘spatial’ uses already occurred in Old English (OE, for short). On the other hand, verbs with ‘excess’ sense are relatively rare in the age and increase rapidly after 16c(entury). Moreover, verbs with ‘excess’ sense are still newly created in recent years, whereas the ‘spatial’ use does not take part in creating verbs in 20c. *Over-V* pattern with ‘excess’ sense still takes part in creating a new word. See the following example:

- (13) *overtweetv* ‘to tweet excessively on Twitter, to the point that your followers’ feed pages are blanketed with little else but your own updates’
 (<https://www.urbandictionary.com/define.php?term=overtweet>)

Example (13) is taken from a web dictionary for contemporary urban English. The word *overtweet* is related to a webservice called Twitter, undoubtedly a newly coined word.

Second, the ratio of “rare” instances also shows the different morphological status of *over-Vs* with ‘excess’ sense and those with ‘spatial’ sense. Most of the verbs with ‘spatial’ sense got to the “rare” state in recent years, whereas most of ones with ‘excess’ are still in use. This indicates that the two types of *over-V* construction have a different morphological status in current years.

4. Conclusion

I have proposed a consistent analysis of the prefix use of the preposition *over*, based on the framework of Construction Morphology. The prefix is in relation with the prepositional use because it does belong to the same lexical entry as the preposition. *Over-* with the ‘spatial’ sense takes part in word formation as a left constituent of the compound construction. On the other hand, it has a different polysemous network because there is a constructional idiom resulting from the general compound construction. The ‘excess’ sense is an original meaning of constructional idiom [over-V]. I would like to leave it for future research whether my analysis can be further applied to other prepositional prefixes.

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