

Semantic characteristics of recursive compounds

In this paper I propose a structure for recursive compounds, such as peanut butter sandwich in Phase Theory (Chomsky 2008). I propose that a root without a categorial feature is merged with a category-determining feature (Marantz 2007) in the narrow syntax and another root is merged to form a compound word. I also argue that another root without categorial feature is merged to form a right-branching recursive compound. On the other hand, a linking element is there for the sake of asymmetry (cf. Okubo 2014): it checks the head of the two-member compound and another [$\sqrt{\text{ROOT } n}$] can be merged. As a result the final categorising nominal head is the head of the whole compound word.

1. Introduction

Recursion of words or phrase is a fundamental property of human language that potentially differentiates human language both from other human cognitive domains and known communication systems in animals (Hauser, Chomsky, Fitch 2002). In this paper I define it is a phenomenon of embedding structures within structures in cyclic fashion to create words or phrases, as complex and long as we like. The followings are examples from English (1-2), Mainland Scandinavian (3-4) and Japanese (5-6).

(1) [mail [delivery service]]

‘delivery service of mails‘

(2) [[chocolate chip] cookie]

‘cookie cooked with flakes of chocolate‘

(3) [barn-[bok-klub]]

[child-[book-club]]

‘book club for children‘

(4) [[röd-vins-s]-flaska]

[[red-wine-LE]-bottle]

‘bottle for red wine‘

(5) [doitsu [bungaku kyookai]]

[Germany [literature association]]

‘literature association in Germany‘

(6) [[nyuugaku shiken] taisaku]

[[entrance exam] study]

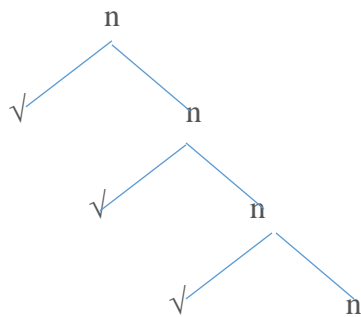
‘study for entrance exam‘

The interpretation of the whole compounds, is, for example, *book club for children*, not *club for children's books* in (5). This recursive compound is called right-branching recursive compounds. In contrast, in the examples (2,4,6) the modifier at the right hand expands the already-made compound. This type is called left-branching recursive compounds.

2. Proposed Structure

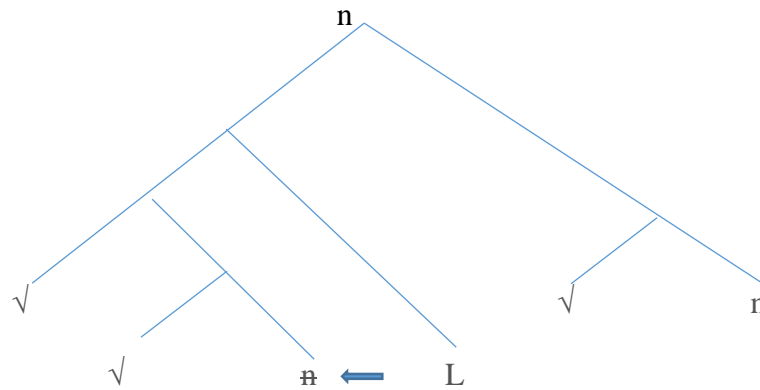
According to Miyagawa & Nóbrega (2015) merge is the recursive operation of the language faculty. I follow this claim and use Phase Theory (Chomsky 2008, Marantz 1997) for a structure of compounds. I propose structures for right-branching and left-branching recursive compounds in Phase Theory.

(7)



The structure (7) is derived as follows. Once the two-member compound is derived, another derivation can take place. Another root without any features is merged. This is the derivation of the right-branching recursive compounds, like (1,3,5). If one assumes that both constituents of the compound are merged with category-defining element, the LF does not see which element is the head, and the derivation crashes at the LF level. So in my proposed structure, only one root is merged with a category-defining head, turning the root into an *n*. This is labelling in terms of Chomsky (2008). The head of the whole compound is the category-defining element. The whole compound is transferred to the interpretational representation and spelled out as a phase (Chomsky 2008).

(9)



For left-branching recursive compounds, there is a linking element in left-branching recursive compounds, phonetically realised in Mainland Scandinavian but not in Japanese or English (see (4)). I propose that the linking element has an uninterpretable feature (cf. Okubo 2014) and checks the category-defining feature. The resulting structure is sent to the interpretational component and spelled out as phase.

The resulting structure is merged with another root, which is merged with a category-defining head in parallel. As a result the head of the whole compound is the right-most category-defining head and this compound is transferred to the interpretational representation and spelled out as phase.

3. Conclusion

In this paper, the author proposed a structure for recursive compounds in Phase Theory. If the linking morpheme does not check the categorical features of the non-head, the structure will be impossible, having two heads. Thus, in the languages without recursive compounding, there is no linking element. Assuming that the two-member is a

phase we can capture the word-like accent characteristic, as opposed to phrase-like right-branching recursive compounds.

References

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