The Nature of Semi-Lexical Categories and Prepositional Elements in English
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This study concerns verb particle combinations (VPCs) in English, which are expressions consisting of a verb and a particle.　VPCs are generally classified into at least two types: the aspectual VPCs (e.g. *dissolve up*, *glue up*, *pack up*, *wipe up*, etc.) and the idiomatic VPCs (e.g. *blow up*, *bring up*, *give up*, *throw up*, etc.) (e.g. Emonds (1985), Dehé (2002), Jackendoff (2002), Thim (2012)).　These two types of VPCs show behavioral contrasts.　Let us observe sentences (1a, b), which contain the aspectual VPC *drink up* and the idiomatic VPC *look up*, respectively:

(1)　　a.　　John drank up the beer.　(cf. John drank the beer.)
　　　　b.　　Mikey looked up the reference.　(cf. *Mikey looked the reference.)

Firstly, they differ in semantic compositionality.　In (1a), the meaning of *drink up* 'drink completely' is predictable from its constituents in that the meaning of *drink* does not change and *up* adds the aspectual meaning to it.　In (1b), by contrast, the meaning of *look up* 'consult' is idiomatic in that its overall meaning cannot be attributed to its parts.　Secondly, they differ as to whether the combination inherits its argument structure from the verb used therein.　The VPC *drink up* in (1a), along with the verb *drink*, takes the direct object *the beer*.　On the other hand, although the verb *look* itself does not take a direct object, the VPC *look up* in (1b) does.

In spite of these behavioral contrasts between (1a) and (1b), we can observe that both of the aspectual and idiomatic VPCs contain the same form *up*.　These observations lead one to wonder whether there are two (or more) distinct entries for *up* in the lexicon or there is no more than one entry.　If the latter is the case, what then makes it possible for the same form to appear in the two contrasting types of VPCs?　This paper aims to answer these questions within the framework of Emonds (2000).　Our answer is that there is no more than one *up* and the behavioral contrasts observed in the two types of VPCs follow as consequences of the grammatical status of particles and the differences in lexical insertion.　We will also show that our analysis can predict the existence of two types of prefixes.

Before starting our discussion, we first review the basic idea of Emonds' (2000) framework.　With the aim of revealing the relation between the lexicon and syntax, Emonds (2000) revisits the composition of the lexicon and proposes that the lexicon has two subparts: the Dictionary and the Syntacticon.　The former is a list for elements with purely semantic features *f*.　The latter is a list for elements

without *f*.   Emonds assumes that lexical categories of N, V, A, and P have *f*, and thus are stored in the Dictionary.   By contrast, since functional categories are assumed to be elements without *f*, they are listed in the Syntacticon.   Emonds (2000) further assumes that besides the well-known classification of lexical and functional categories, there is an in-between class of categories, which he calls semi-lexical or grammatical categories of N, V, A, and P (cf. Emonds (1985, 2001), see also Corver and van Riemsdijk (2001), Corver (2008)).   Those semi-lexical categories lack *f* and only have syntactic features F (e.g. ±ANIMATE, ±ACTIVITY, ±PATH).   Therefore, they are members of the Syntacticon.

In Emonds' (2000) model, elements in the Syntacticon such as affixes can undergo three different levels of insertion (see also Emonds (2005)).   The first level of insertion is called Deep Insertion, which takes place before syntactic derivations. Deep Insertion may accompany supplementation of *f*, so that derivational affixes which undergo this insertion can, for example, cause non-compositional meanings. The second level of insertion is called Syntactic Insertion, which happens after syntactic derivations and before Spell-Out.   Syntactic Insertion, unlike Deep Insertion, does not accompany supplementation of *f*, so that words with affixes derived by this insertion have compositional meanings.   The third insertion level is called PF Insertion.   This insertion takes place after Spell-Out.   The lexical items which do not contribute themselves to semantic interpretation are inserted at the stage of PF Insertion.   In other words, purely syntactic items undergo PF Insertion. For example, inflectional suffixes are purely syntactic.   Emonds (2000) assumes that LF-interpreted positions of φ features are on D or N head of DP and such features are "redundantly" realized on a verb by inflectional suffixes (cf. Emonds (1987)).   This means that the inflectional suffixes do not bear their own meanings. Therefore, inflectional suffixes undergo PF Insertion.

The point is that Emonds (2000) argues that items in the Syntacticon can contribute differently to interpretation according to the level of insertion.   In the light of this assumption, I argue that particles are prepositions without *f* (i.e. semi-lexical Ps), and that they are stored in the Syntacticon (cf. Emonds (1995)). The differences between lexical Ps and particles can be observed in the following contrasts:

(2)   a.   The salesman found (*in) John in.   (That is, John was in.)
      b.   The salesman took in John.   (*That is, John was in.)
(3)   a.   It was in that the salesman found John.
      b.   *It was in that the salesman took John.

(Emonds (1995:9-11), with slight modifications)

The lexical P in (2a) can be related to objects as secondary predicates but the particle in (2b) cannot.   Besides, lexical Ps as in (3a) are, contra particles as in (3b), well-formed as the focus constituent in a cleft sentence.   I assume that these grammatical contrasts can be attributed to the presence or absence of f (i.e. lexical contents) in the morpheme.   That is, since the lexical P *in* has f, it takes on enough meaning (e.g. 'in a house or office,' in this case) to serve as a secondary predicate and a focus constituent.   By contrast, the particle *in* only has syntactic features F. As a result, it can be neither a secondary predicate nor a focus constituent.   On the basis of these differences, particles should be distinguished from lexical Ps.

    Since particles reside in the Syntacticon, their insertions at different levels are in principle possible.   Here, we show that it is from the multi-level insertion of particles that the behavioral contrasts of the two types of VPCs follow.   Recall that in Emonds' (2000) model, Syntactic Insertion of the elements in the Syntacticon results in compositional meanings while Deep Insertion can be a trigger of non-compositional meanings.   If this is on the right track, the particles in aspectual VPCs undergo Syntactic Insertion and those in idiomatic VPCs undergo Deep Insertion, since VPCs of the former type have compositional meanings while those of the latter have idiomatic meanings.   This difference in insertion levels between aspectual and idiomatic VPCs also accounts for the presence or absence of the change of the argument structure of a verb.   In aspectual VPCs, since the verbs select their arguments before their particles are inserted, they have the same argument structures as their verbs.   In idiomatic VPCs, in contrast, an argument is selected by the combination of a verb and a particle because the particle is inserted at the beginning of the derivation.   As a result, idiomatic VPCs do not inherit the argument structures from the verbs.

    We may extend our analysis of VPCs to prefixes considering the complementary distribution between particles and verbal prefixes as in (4):

(4)   a.   Let's rebuild (*up) our defenses.   (Emonds (2005:259))
       b.   He resold (*out) his friend.   (Keyser and Roeper (1992:92))

On the basis of this complementarity, Emonds (2005:259) considers that the syntactic features of those prefixes occupy the same position as those of particles, i.e. a post-verbal complement, where they are interpreted.   This suggests that the position where prefixes are interpreted differs from the position where they are

realized.   That is, prefixes just realize the features in the post-verbal position and do not have their own meanings.   Thus, they undergo PF Insertion.   This situation is in parallel with the case of realization of φ features by inflectional affixes.

While basically following Emonds' analysis of verbal prefixes, we also argue that some prefixes undergo Deep Insertion.   This proposal is verified given the prefixes that affect the argument structures of their verbal base.   Such prefixes are called "internal prefixes" (Di Sciullo (1997)), which are exemplified by *be-* and *out-* in (5):

(5)   {besmile / *smile} someone, {bedwell / *dwell} the village, {outrun / *run} someone, {outlast / *last} someone   (Nagano (2011:74-75))

Recall that in Emonds' (2000) model, affixes that cause the change of the argument structures are inserted at the level of Deep Insertion.   If so, internal prefixes such as *be-* and *out-* in (5) should undergo Deep Insertion.

If Deep Insertion, as well as PF Insertion, is possible for prefixes, we predict that a phonologically identical prefix may serve as an internal prefix in some cases while it may not in other cases.   This prediction is borne out.   Observe the examples in (6) and (7):

(6)   a.   John {shipped / reshipped} his prizes.
      b.   John {*thought / rethought} the problem.
            ((6a): Keyser and Roeper (1992), (6b): Carlson and Roeper (1980:131))
(7)   a.   John {heated / overheated} the room   (cf. Yumoto (1997:186))
      b.   John {ate / *overate} apples   (cf. Yumoto (1997:191))

The prefixes in the (a)-examples, unlike those in the (b)-examples, do not affect the argument structures of their verbal bases.   These examples give us justification for assuming multi-level insertions of prefixes; in the former cases, the prefixes are realized by PF Insertion, while in the latter cases prefixes undergo Deep Insertion.

In sum, we have proposed within the framework of Emonds (2000) that particles are semi-lexical Ps and thus they are Syntacticon elements.   This proposal suggests that particles may undergo multi-level insertions.   As a consequence, the contrasts of the two types of VPCs naturally follow.   We have also shown that as with particles, prefixes can undergo multi-level insertions as well.   This analysis correctly captures the fact that there are two types of prefixes.