A Minimalist View on the Syntax of BECOME[*]
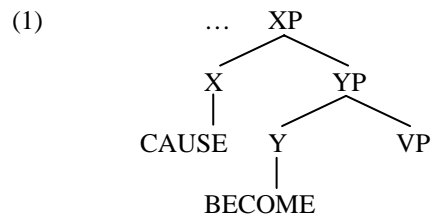
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1. Introduction

In his seminal study of lexical decomposition of English verbs, McCawley (1968) proposes that predicates in causative sentences are semantically complex, which can be decomposed into some semantic primitives like CAUSE and BECOME. For example, according to his proposal, the English verb *kill* can be resolved into components as CAUSE, BECOME, NOT and ALIVE. Under this approach, the semantic primitive BECOME is analyzed as an independent syntactic category in the argument structure.[1]

Over the past few years in the generative framework, the structure of the predicate has become more and more articulated, first with VP shells (Larson 1988), then with the theory of light verbs (Chomsky 1995). In some sense, the predicate is seen to be made up of syntactic segments in the argument structure. The subparts of the predicate correspond to semantic subparts of an event. An independent syntactic category that corresponds to the semantic primitive (or known as 'eventuality predicate') BECOME, for instance, Y in (1), has been proposed by Stechow (1996), Huang (1997), Ritter and Rosen (2000), Travis (2000), Lin (2001), Baker (2003), among others, in a similar vein, although the exact nature of this category may vary in their analyses.

(1)

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1. The discussion of BECOME in the semantics literature can be found in Dowty (1979), Parsons (1990), Levin and Rappaport (1995), and Stechow (1996).

In Hale and Keyser's (1993) analysis, BECOME is not treated as an independent syntactic category. They propose that causatives can be represented by the semantic relational structure in (2), in which the matrix event e_1 implicates the subordinate event e_2.

(2) $e_1 \rightarrow e_2$

Hale and Keyser (1993) further propose that the relational structure in (2) can be captured by a syntactic tree like (3), in which the upper V is an implicit causative, i.e. the matrix event e_1, while the lower VP is an implicit inchoative, i.e. the subordinate event e_2. The structure in (3) corresponds uniformly to the 'causal' relation by virtue of the syntactic relation itself and by virtue of the elementary notional type associated with the V category.

(3)   …   V'
                  ╱   ╲
              V   VP
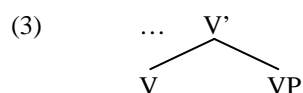
For the semantics of inchoatives (also applied to unaccusatives or achievements), Hale and Keyser (1993) propose that it is either a relation in which a dynamic event e implicates an interrelation r or a relation in which a dynamic event e implicates a state s, as in (4).

(4) $e \rightarrow r \,; e \rightarrow s$

Syntactically, PP and AP can be regarded as realizations of r and s, respectively, as shown in (5).

(5)   …   V'
                  ╱   ╲
   V   PP / AP
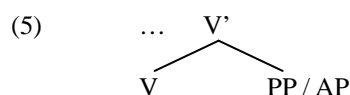
Hale and Keyser's (1993) trees are intended to be lexical representations in the lexicon (or known as 'l-syntax' in their framework). Following the spirit of Hale and Keyser (1993), Chomsky (1995) further claims that causatives have a VP shell structure like (3) while inchoatives (or unaccusatives) are simple VP structures like (5) in syntax. The upper V in (3) is known as the light verb v (Chomsky 1995), and the lower V in (3) and the V in (5) are roots (Chomsky 2000). Chomsky (2000) tries to distinguish the light verb phrase vP from an unaccusative/passive verbal phrase by saying that the former is a 'phase' while the latter is not a 'phase'.

Along these lines, no independent syntactic category corresponds to BECOME and inchoative predicates are simply bare.

Are inchoatives (or unaccusatives) bare VPs? Although Chomsky (1995, 2000) claims that inchoatives are bare, he (2001: 23) seems to allow a possibility of having a light verb *v* 'marking unaccusative/passive'. The bare VP analysis of inchoatives has been challenged by Legate (2003). In what follows, it will be argued that inchoatives are not bare VPs and there should be a functional category representing the eventuality predicate BECOME in the argument structure. The supporting evidence for the existence of a light verb phrase in inchoatives comes from Chinese.

## 2. BECOME as the head of *v*P: evidence from Chinese

Following the collective wisdom of the lexical decomposition approach in the syntactic literature (cf. McCawley 1968, among others) and semantic literature (cf. Dowty 1979, among others), I claim in this paper that the eventuality predicate BECOME forms an independent functional projection in the argument structure. More specifically, BECOME is the head of the light verb phrase *v*P in inchoatives. An inchoative predicate can be decomposed into BECOME and the root, which is informally sketched in (6). In this structure, the root of the predicate is the complement of *v*, namely VP, which denotes the resultant state, while the specifier of *v*P, namely XP, is interpreted as the 'affectee' (or known as 'affected patient') of the event. For the ease of our discussion, XP in the specifier of the light verb phrase headed by BECOME is called the subject of the inchoative predicate.

(6)   …   *v*P
           ╱   ╲
        XP   *v*'
                    ╱   ╲
                BECOME   VP
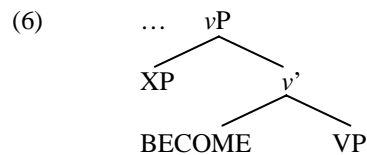
It is argued that the structure proposed in (6) is supported empirically by the data from Chinese. If the subject *ta* 'he' in (7) is interpreted as the patient, the sentence can be analyzed as a so-called 'pseudo-passive' (Cheng and Huang 1994). In fact, the subject *ta* 'he' in (7) can also be interpreted as the agent. According to this reading, there should be a null object referring to somebody as the patient in the discourse. Such an ambiguity is avoided if the subject is followed by *gei*. (8) has only one reading and *ta* 'he' should be interpreted as the subject of the inchoative predicate, i.e. the patient, not the agent.

(7)   Ta dashang-le.
      he hurt-Perf
      'He was hurt / He hurt somebody.'
(8)   Ta **gei**   dashang-le.
      he BECOME hurt-Perf
      'He got hurt.'

What is *gei* in (8)? This word is cognate with the ditransitive verb *gei* 'give' while it has already become grammaticalized as a functional morpheme that reinforces the affectedness reading (Tang 2001).[2] I assume that *gei* in (8) is an overt realization of BECOME and *ta* 'he' raises to the specifier of *v*P from the object position. That is why *gei* is glossed as 'BECOME' in all the examples in this paper. The partial derivation of (8) is represented in (9).

(9)
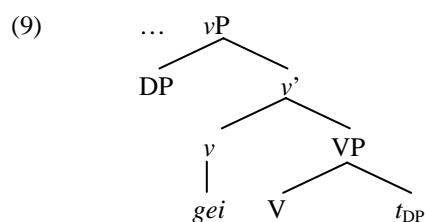
The grammaticality of (10) shows that (8) can be 'embedded' in a causative. The bracketed constituent can be considered to be the embedded inchoative predicate. Sentences like (10) are also known as the '*ba*-construction' or the 'disposal construction' in the literature (Wang 1955, Chao 1968, Li and Thompson 1981).

(10) Wo ba   [ta **gei**   dashang-le].
      I   CAUSE he BECOME hurt-Perf
      'I hurt him.'

I assume with Huang (1992, 1997), Sybesma (1999), Lin (2001), Li (2006), among others that *ba* is an overt realization of the eventuality predicate CAUSE and is the head of a light verb phrase. When the light verb phrase headed by *ba* is introduced and merged with an inchoative, i.e. the

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2.   In sentences like (8), *gei* is treated as a 'passive marker' by traditional Chinese grammarians like Zhu (1982) and some generative grammarians like Shi (1997). See Tang (2001) for a discussion arguing against labeling *gei* as a passive marker in such sentences.

light verb phrase headed by *gei*, a causative is derived, depicted in (11), assuming that light verb phrases can be stacked. The specifier of the upper *v*P, namely NP1, is the subject of the causative predicate and interpreted as the causer while the specifier of the lower *v*P, namely NP2, is still the subject of the inchoative predicate and interpreted as the affectee. Along these lines, the so-called unaccusative-causative alternation, i.e. the alternation of (8) and (10), can be nicely captured.

(11)   …   *v*P

         NP1   *v*'

              CAUSE   *v*P

                      NP2   *v*'
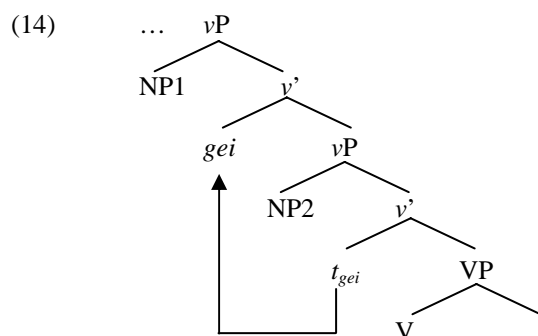
                      BECOME   VP
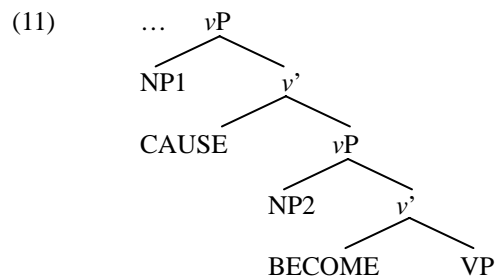
(10) and the sentence without *gei* in (12) are almost regarded as paraphrases, according to native speakers' ears, except that a special emphasis seems to be placed on the affectedness reading in (12). The major difference between (10) and (12) lies on the morphology of the lower *v*, i.e. BECOME: overt in (10) and null in (12).[3] It has been observed in the literature that the object following *ba* is an affected argument, which is the participant affected by the event (Cheng 1988, Li 2006, among others). The overt realization of BECOME as *gei* in (10) has the effect of strengthening the disposal function of *ba* (Li and Thompson 1981) and reinforcing the meaning of affectedness in the causatives (Tang 2001).

(12)   Wo ba   ta dashang-le.
       I   CAUSE he hurt-Perf
       'I hurt him.'

If CAUSE is null, *gei* raises to CAUSE, as in (13) (cf. Tsai 2005). The derivation is depicted in (14). Under this interpretation, (12) and (13) are basically the same.[4]
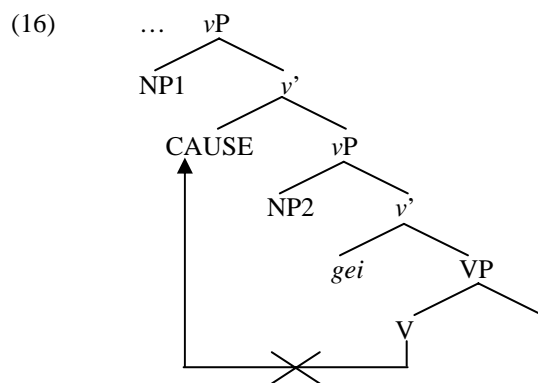
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3.   Given that Chinese has V-to-*v* movement when *v* is null (Huang 1992, 1997), the verb should undergo movement to the lower *v* in (12).

4.   (13) is ambiguous and may be interpreted as a (long) passive sentence meaning 'I got hurt by him.' In this case, *gei* is not derived from BECOME-to-CAUSE movement and should have a different structure. See Huang (1999) and Tang

(13) Wo gei   ta dashang-le.
      I   CAUSE he hurt-Perf
      'I hurt him.'

(14)   …   *v*P
          /   \
       NP1   *v'*
                    /   \
                gei   *v*P
                 ↑   /   \
                      NP2   *v'*
                              /   \
                         t~gei~   VP
                                       /   \
                                      V

The ungrammaticality of (15) and its derivation in (16) clearly show that *gei* blocks the movement of the verb if it does not raise to CAUSE and remains within the lower *v*P, inducing an intervention effect or a minimality effect.

(15) Wo dashang-le ta (*gei).
      I   hurt-Perf   he   BECOME
      'I hurt him.'

(16)   …   *v*P
          /   \
       NP1   *v'*
                    /   \
               CAUSE   *v*P
                 ↑   /   \
                     NP2   *v'*
                              /   \
                         gei   VP
                                      /   \
                                     V

In sum, it is argued that the eventuality predicate BECOME can be

phonetically realized as *gei* in Chinese inchoatives and causatives. The function of *gei* is for reinforcing the affectedness meaning. Syntactically, *gei* is the head of a light verb phrase *v*P. This functional morpheme can undergo movement by itself and can intervene to bar raising of the verb, inducing a minimality effect. Hence, it is reasonable to believe that BECOME is an independent functional category in the argument structure.

3. The EPP feature of BECOME

Recall that I have proposed that the affectee is originally merged with the verb as the object and then raises to the specifier of the light verb phrase *v*P headed by BECOME, as shown in the tree diagram in (9). What is the motivation of such object raising in the inchoatives?

First of all, based on a theory internal consideration, object raising in the inchoatives should not be driven by Case. According to Chomsky (2000), structural Case is taken to be a reflex of an uninterpretable ϕ-set and erases under matching with the probe, namely Agree. Long-distance agreement without raising to the specifier is permitted. The matching pair does not necessarily induce movement and thus Case assignment is divorced from movement.[5]

Secondly, unaccusative verbs do not license a structural Case on their complements, according to Belletti (1988). Along these lines, the light verb BECOME in inchoative/unaccusatives should not enter into Case/agreement, hence a 'defective' light verb, in the sense of Chomsky (2001, 2004). Alternatively, the inchoatives could be treated on a par with participial passives. If that is the case, the light verb in participial passives cannot assign Case to the object as it lacks the structural Case assignment property (Chomsky 2001).[6] In any event, we have every reason to believe that the possibility of object raising driven by Case assignment in the inchoatives should be precluded.[7]

Consequently, filling the subject of the inchoatives, i.e. the specifier of the light verb phrase headed by BECOME, should not be for Case; instead, it is for a feature assigned to the edge position in the peripheral configuration, which can be dubbed as the 'EPP feature' (Chomsky 2000,

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5. Notice that Chomsky's (2000) view of Case assignment without movement departs from his feature checking theory (Chomsky 1995).
6. Chomsky (2001) assumes that there is a light verb in participial passives labeled as 'Prt', which we may simply take to be a syntactic realization of BECOME.
7. For Case assignment, the raised object in question will have to be associated with a still higher functional category, for example T (as in unaccusative sentences) or *v* (as in causative sentences).

2001) or the 'OCC feature' (Chomsky 2004). The specifier of the light verb phrase headed by BECOME, i.e. the subject of the inchoatives, is regarded as the peripheral EPP position.[8] Following Chomsky (2000, 2001, 2004), I assume that the EPP feature contributes to an outcome at the LF interface, such as some 'surface' interpretation. If object raising applies in the inchoatives, the surface semantic role, for instance, affectedness, is determined by the edge position occupied by the raised object.

There are two possible strategies satisfying the EPP of BECOME: either by Internal Merge (also known as 'movement' or 'object raising' in our previous discussion) like (17) or by External Merge like (18). In (17), the affectee *tade tui* 'his leg' is originally merged with the verb and raises to the subject of the inchoative by Internal Merge. The sentence in (18) is also known as a 'retained object construction' in the literature, in which the object *tui* 'leg' is retained in the original position.[9] What occupies the peripheral EPP position is *ta* 'he', which eventually receives the 'surface' interpretation and is interpreted as the affectee.

(17) **Tade tui**$_i$ gei   dashang-le t_i.
        his   leg BECOME hurt-Perf
        'His leg was hurt.'
(18) **Ta** gei   dashang-le tui.
        he BECOME hurt-Perf   leg
        'He had his leg hurt.'

The following sentences show that the two strategies to satisfy the EPP feature of BECOME can also be found in causatives in which an inchoative predicate (=the bracketed constituent in (19) and (20)) is embedded under the causative light verb CAUSE. On a par with (17) and (18), the peripheral EPP positions of BECOME in (19) and (20) are satisfied by Internal Merge and External Merge, respectively.

(19) Wo ba   [**tade tui**$_i$ gei   dashang-le t_i].
        I   CAUSE his   leg BECOME hurt-Perf
        'I hurt his leg.'
(20) Wo ba   [**ta** gei   dashang-le tui].
        I   CAUSE he BECOME hurt-Perf   leg
        'I hurt his leg.'

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8.   'Defective' categories like *v* (=BECOME) do not necessarily lack the EPP feature (cf. Chomsky 2001).
9.   The 'retained' object receives an inherent Case, perhaps partitive (Tang 2004), which should be assigned by V, not *v* (Chomsky 2000: fn 8).

Notice that the subject of the inchoatives cannot be omitted. For example, the inchoative verbal phrase headed by *gei* in (21) presumably lacks the specifier position (cf. (19)).

(21) *Wo ba   [gei   dashang-le tade tui].
      I   CAUSE BECOME hurt   his   leg
      'I hurt his leg.'

As noted by Chomsky (2004), the extra EPP position is 'optional' and optimally the EPP feature should be available only when it contributes to an outcome at the LF interface that is not otherwise expressible, the basic Fox-Reinhart intuition about optionality. The ungrammaticality of (21) suggests that the EPP feature of BECOME is not optional. In other words, the EPP feature is always there that makes the subject of the inchoatives available, contributing to some semantic outcome at the LF interface, i.e. affectedness.[10]

4. Conclusion

It has been argued in this paper that inchoatives are not bare VPs. There should be a light verb *v* representing the eventuality predicate BECOME in the argument structure, which bears the EPP feature that requires a peripheral EPP position associated with affectedness. It is my hope that the present study can shed light on the syntax of inchoative predicates under the lexical decomposition approach, leading to a deeper understanding of the architecture of argument structure in general.

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10. It seems not easy to answer the question of whether the inchoative/unaccusative verbal phrases are 'phases', depending on how the notions like 'phase', 'strong phase', and 'weak phase' are defined. Chomsky (2000) says no because inchoative verbal phrases lack ϕ-features and do not enter into Case/agreement while he claims that they are 'weak phases' as they are '"weak" verbal configurations lacking external argument' (Chomsky 2001: 12) and do not qualify for Spell-Out (Chomsky 2004: 124). See Boeckx and Grohmann (2004) for problems regarding 'phases'.

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