Realizing End Points: The Syntax and Semantics of Dutch ge and Mandarin le

Rint Sybesma and Guido Vanden Wyngaerd

0. Introduction

Sybesma (1997) and Vanden Wyngaerd (1996) independently make similar proposals concerning the structural positions of Mandarin Chinese le, generally referred to as a perfective particle, and the Dutch participial prefix ge, respectively. Rather than occupying some head position in the functional domain dominating the VP (e.g. Tense, Asp), ge and le are argued to be inside the VP. However, Vanden Wyngaerd (1996) mainly approached ge from a syntactic angle, and remained agnostic on the semantic contribution made by ge. Sybesma (1997), on the other hand, approached le from a semantic angle, but still faced a number of problems because, as we shall argue, the semantics he proposed was not fine-grained enough. The present paper is an attempt at developing both a semantically fine-grained and a syntactically coherent unified analysis of le and ge.

1. The semantics of le and ge

Activity verbs do not have a built-in end point, i.e. they are a-telic (Vendler 1967, Dowty 1979). Activities can be made telic by providing them with an end point. The end point can take the form of a resultative small clause or a cardinally bounded direct object (Verkuyl 1972; Tenny 1987; Hoekstra 1988).

(1) a Freddy will cry (the handkerchief wet)
   b Freddy is reading (books/the book about parenthood)

Consider (1a): used intransitively, the activity of crying could go on forever. However, with a resultative small clause added, the activity is provided with an end point—once the handkerchief is all wet, the crying event will terminate. Similarly in (1b): the activity of reading (books) has no pre-programmed end point, but the addition of a definite direct object provides it with such an end point: as soon as the book is finished, the reading will have reached its end point.

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The examples in (2) and (3) illustrate this phenomenon for Mandarin, the end point in (2) being a resultative small clause, and in (3) a definite direct object. The sentences in (2) and (3) also give us a handle on the semantic contribution made by the particle le, since Mandarin allows the construction of near-minimal pairs with le (the a-sentences) and without (the b and c-sentences). The proposal we wish to make here is that le indicates realization of the end point. That is, although in all sentences in (2) the activity of wiping has an end point (the moment the glass is dry), it is only in (2a) that it is explicitly stated that that end point has actually been reached. If we add an adverbial like zhengzai ‘in the process of, just’, as in the b-sentences, we set up the context in such a way that it implies non-realization of the end point: obviously, if Zhang San is still in the process of wiping the glass dry, he cannot have completed the dry-wiping event. Accordingly, le, which we argue to indicate realization, is excluded in such a context. Likewise, if the verb and its result complement are embedded under a verb like yao ‘want’, as in the c-sentences, the end point is available but not reached, so that le is again excluded.

(2) a Zhang San ca-gan-le boli
   ‘Zhang San has wiped the glass dry’

   Zhang San wipe-dry-LE glass

   b Zhang San zhengzai ca-gan-(*le) boli
   ‘Zhang San is wiping the glass dry’

   Zhang San in.process.of wipe-dry-LE glass

   c Zhang San yao ca-gan-(*le) boli
   ‘Zhang San wants to wipe the glass dry’

   Zhang San want wipe-dry-LE glass

(3) a Zhang San kan-le zhei-ben shu
   ‘Zhang San has read this book’

   Zhang San read-LE this-CL book

   b Zhang San zhengzai kan-(*le) zhei-ben shu
   ‘Zhang San is reading this book’

   Zhang San in.process.of read-LE this-CL book

   c Zhang San yao kan-(*le) zhei-ben shu
   ‘Zhang San wants to read this book’

   Zhang San want read-LE this-CL book

The same point can be illustrated with the following Dutch sentences, which are close translations of their Mandarin counterparts.

(4) a Zhang San heeft het glas droog-ge-wreven
   ‘Zhang San has wiped the glass dry’

   Zhang San has the glass dry-GE-wiped

   b Zhang San droog-ge-wreven het glas
   ‘Zhang San has wiped the glass dry’

   Zhang San dry-GE-wiped the glass

   c Zhang San wil het glas droog-ge-wreven
   ‘Zhang San wants to wipe the glass dry’

   Zhang San wants to wipe the glass dry

   Zhang San wants to wipe the glass dry
b Zhang San is het glas aan het droogwrijven
Zhang San is the glass at the dry-wipe
‘Zhang San is wiping the glass dry’
c Zhang San wil het glas droogwrijven
Zhang San wants the glass dry-wipe
‘Zhang San wants to wipe the glass dry’

(5) a Zhang San heeft dit boek ge-lezen
Zhang San has this book GE-read
‘Zhang San has read this book’
b Zhang San is dit boek aan het lezen
Zhang San is this book at the read
‘Zhang San is reading this book’
c Zhang San wil dit boek lezen
Zhang San want this book read
‘Zhang San wants to read this book’

Although there is an end point in all the sentences in (4) and (5), it is only in the
a-examples that we are told that the end point has realized. In the same way this
effect was attributed to le in the Mandarin examples, we would like to claim that
the element ge that is prefixed to most past participles in Dutch is responsible for
it in Dutch (for the similar etymology of le and ge, see Sybesma 1995).
The semantic contribution made by ge/le can be summarized as in (6).

(6) Ge/le indicate realization. Without ge/le the end point may be present
(i.e. the event may be telic), but only with ge/le is it explicitly stated
that the end point has actually realized.

2. Analysis

The proposal we are about to make for the structural representation of ge/le draws
on the one made in Hoekstra (1988, 1993) to the effect that activity verbs, in
contrast to state verbs, can be telicized by adding a result denoting small clause
that is the complement of the matrix activity verb, as follows:

(7) [vp V [sc NP X ]] 

While this structure is straightforwardly applicable to sentences involving a
resultative small clause, such as those in (2) and (4), it does not appear to be
correct for sentences like (3) and (5), where there is just an object, but no
resultative predicate. However, Teun Hoekstra (class lectures 1990-1991) has
suggested that in these cases the predicate is empty, thus allowing a unification of
these two cases. His claim receives empirical support from Dutch, where it is almost always possible to find a non-empty counterpart to the empty resultative predicate. For example, a sentence like *hij las het boek* 'he read the book' has a variant involving the resultative particle *uit* 'out', given in (8a), which we assume underlies all sentences in which *lezen* 'read' is telic. That *uit* can independently be used as a predicate is shown by (8b). This claim is important because it entails that activities can only be made telic by a small clause, never by an NP alone.

(8) a Hij las [het boek (uit)]
    he    read [the book (out)]
    'He finished reading the book'

b Het boek is uit
    the book is out
    'The book is finished'

In making a distinction between adding an end point and adding the semantic aspect of realization, as in (6), we need a more complex structure than Hoekstra's (7). We therefore propose a complication of Hoekstra's structure, as detailed in (9), for those sentences that have either *ge* or *le*:

The verb is complemented by a small clause, XP, the head of which is *ge/le*, which means 'realized'. The head X (i.e. *ge/le*) is in turn complemented by a small clause YP, which contains [the glass dry] in cases like (2) and (4), and [the book *e*] in the cases (3) and (5). As a first step in the derivation, YP moves into SpecXP in order to enter into a qualification/predication relation with *ge/le* (Barbiers 1995). As a result, the interpretation arises that YP 'has realized', e.g. '[the glass dry] has realized'. This is why sentences with *ge/le* express realization of the end point. Naturally, if there is no *ge/le* there is no XP, and YP is the sole complement of V: the end point is there, but the realization aspect is not; this possibility is represented in (10) above.

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YP could also start out in the subject position of the XP so that the predication relation is there from the start. For the argument in this paper nothing hinges on this difference.
3. Problems of word order

The tree in (9) is the basic structure for both Mandarin phrases with *le* and Dutch phrases with *ge*. However, the surface order of phrases involving *le* and *ge* is entirely different. Taking into account the position of the surface object NP ("Obj" NP below), i.e., the subject of the resultative small clause YP, word order is as in (11a) in Dutch, whereas the Mandarin surface order is given in (11b).

(11) a "Obj" NP Y—X—V: het glas droog-ge-veegd 
the glass dry-GE-wiped

   b V—Y—X "Obj" NP: ca-gan-le boli 
   wipe-dry-LE glass

For Dutch the derivation from (9) to (11a) is quite straightforward. It involves the following steps: (a) *ge* head-raises to get prefixed to V; (b) the NP contained in YP (e.g., *het glas* ‘the glass’ in (4a), the “Obj” NP) raises to a specifier position to the left of V (possibly SpecAgrOP); (c) the predicate contained in YP (droog ‘dry’) raises to a position to the left of VP: we are not sure what exactly this position is; Koster (1993) argues that it is the head of a projection called PredP.

The derivation for Mandarin is much more complicated. Sybesma (1992) argues that the sequence V—Y—X (i.e. ca-gan-le ‘wipe-dry-LE’) ends up as a complex head, both X and Y incorporating into V. However, it is hard to see how this can be implemented in (9) in a way that is permitted by current theories (it would involve movement out of a phrase in Spec, and rely on right-adjunction, which is incompatible with Kayne 1994). Sybesma (1992) derives the order in (11b) by adjoining the “Obj” NP to VP, and moving the complex head V—Y—X into the head of a projection (dubbed CAUSP) immediately dominating the VP.

4. *be*, *ver* and *ont* in Dutch: the problem

In (6) it is stated that *ge/-le* indicates the realization of the pre-programmed end point of the event. However, there appear to be sentences in Dutch which, despite the absence of *ge*, do have the meaning aspect of realization. Consider the following examples, involving verbs that begin with the unstressed particle *be*.

(12) a Ik be-plant de tuin (met tulpen) 
I BE-plant the garden (with tulips) 
‘I plant the garden (with tulips)’

   b Ik heb de tuin be-plant (met tulpen) 
   I have the garden BE-planted (with tulips) 
   ‘I have planted the garden (with tulips)’
Whereas (12a) seems well behaved in the sense that it is telic without realization, (12b) clearly implies realization, despite the absence of *ge.

Let us have a brief look at the semantics and syntax of *be. First, Hoekstra, Lansu and Westerduin (1987) have observed that distributionally *be behaves like the unsuspected resultative predicate *vol ‘full’.

(13) a *dat ik de tuin plant
that I the garden plant
b dat ik de tuin vol plant (met narcissen)
that I the garden full plant (with daffodils)
c dat ik de tuin be-plant (met narcissen)
that I the garden BE-plant (with daffodils)
d *dat ik de tuin vol-be-plant (met narcissen)
that I the garden full-BE-plant (with daffodils)
‘that I plant the garden with daffodils’

On the basis of the fact that *be and *vol ‘full’ in (13) are in complementary distribution, Hoekstra et. al. conclude that *vol ‘full’ and *be are one and the same: both indicate that the garden is totally affected, and both provide an end point, thus making the planting activity telic. Consequently, both of these elements also occupy the same position, i.e., they are the head of a result denoting small clause. In terms of our tree in (9), they both would occupy the Y position.

But *be has a number of properties which separate it from resultative predicates like *vol, too. First, *be is unstressable, whereas *vol can bear stress. Second, *be is inseparable from the verbal stem, whereas other result denoting predicates may be separated from the verb in verb second and verb raising contexts. Examples include *droog ‘dry’ in (4), *uit ‘out’ in (8a) and *vol ‘ful’ in (13b). The inseparability of *be is illustrated in (14b), whose grammatical variant is (12a).

(14) a Ik plant de tuin vol (met narcissen)
I plant the garden full (with daffodils)
b *Ik plant de tuin be (met narcissen)
I plant the garden BE (with daffodils)

A third difference between *be and resultative predicates like *vol is that *be is incompatible with *ge:

(15) a *be-ge-plant, *ge-be-plant
b vol-ge-plant

The case of *be is not an isolated one, but exemplary for a whole class; other examples include ver in verdrinken ‘drown’ and verdwijnen ‘disappear’, ont in
onthouden ‘remember’ and ontdekken ‘discover’; ge itself acts as inseparable particle in words like gedenken ‘commemorate’, geloven ‘believe’ and gebeuren ‘happen’. The elements ver, ont, and ge share the three properties just listed for be. We will return to this below, when we discuss alternations between certain particles and adjectival resultative predicates (also, see note 3 below).

The problem we have to address is that the distribution of be with respect to vol ‘full’ (i.e. (13)) suggests that, in reference to the tree in (9), be is in Y, whereas its distribution with respect to ge (i.e. (15a)) suggests that be is in X. The idea that ge and be occupy the same position (defended in Vanden Wyngaerd 1996) also faces the problem that be, unlike ge, does not necessarily express realization. This brings us back to (12b), which involved realization but no ge. We shall henceforth assume that be is in Y; given this assumption, the problem can be formulated as follows: why cannot we have ge in X when Y contains be, whereas we can have ge in X if elements like vol ‘full’ occupy Y? Before discussing this question any further, we will turn to a similar problem in Mandarin.

5. The Mandarin hint at a solution

Consider the following sentences:

(16) a Zhang San mai-le ta-de zhu
   Zhang San sell-LE his pigs
   ‘Zhang San sold his pigs’
 b Na ni jiu ba ta mai-le ba!
   then you then BA it sell-LE BA
   ‘If that’s the case then sell it!’
 c Zhang San zhengzai mai-le ta-de zhu
   Zhang San in.process.of sell-LE his pigs
   ‘Zhang San is selling his pigs’
 d Zhang San yao mai-le ta-de zhu
   Zhang San want sell-LE his pigs
   ‘Zhang San wants to sell his pigs’

(17) a Zhang San wang-le wo-de mingzi
   Zhang San forget-LE my name
   ‘Zhang San forgot my name’
 b Zhang San lao wang-le wo-de mingzi
   Zhang San always forget-LE my name
   ‘Zhang San always forgets my name’
 c Bu yao wang-le wo-de mingzi!
   not want forget-LE my name
   ‘Don’t forget my name!’
In (6) we stated that with *ge*/*le* we explicitly express that the end point has realized. In (12b) we saw a Dutch example showing that in some cases, particularly in cases involving inseparable particles, we have realization without *ge*. What we see in the Mandarin examples in (16b,c,d) and (17b,c) is that we have no realization, despite the presence of *le*.

It turns out that Mandarin has two different *les*: one *le* we may call 'realization *le*', the other 'end point *le*'. Realization *le* is the *le* we saw in (2a) and (3a), and which we assigned to the head position of XP in (9). End point *le*, on the other hand, is the *le* in (16b,c,d) and (17b,c); in the tree in (9) it would be the head of YP, on a par with *gan* 'dry' in (2). There are two reasons for believing that this analysis is correct. The first is that *le* in (16) and (17), just like *gan* 'dry', can occur in the complement of a modal verb like *yao* 'want', with adverbs like *zhengzai* 'in the process of' and *lao* 'always', whereas realization *le* cannot occur in such contexts (see (2) and (3) above). The second reason is that, unlike realization *le*, end point *le* is lexically selective: it only occurs with certain verbs but not others. For example, it is found with *mai* 'sell' and *wang* 'forget' in (16) and (17), but not with *kan* 'read' in (3). With *wang* 'forget', *le* (or another resultative particle) is even obligatory. It is probably no coincidence that some of the Mandarin verbs permitting end point *le* translate as prefixal verbs in Dutch (e.g. *ver-kopen* 'sell' and *ver-geten* 'forget').

When we look at the Mandarin sentences in (2a), (3a), (16) and (17) and label the different constituents according to the labels used in the tree in (9), we can make the following chart:

(18) V X Y
    a  V  le  *gan* 'dry' (2a)
    b  V  le  ø      (3a)
    c  V  ø   le      (16), (17)

This chart expresses that in (2a) both slots are filled: there is an 'end point element' in Y, *gan* 'dry', and there is the 'realization element', *le*. In (3a), the 'end point element' in Y is phonologically empty (see (8)) and the head X is filled with realization *le*. Finally, (16) and (17) involve end point *le*, rather than realization *le* (after all, in (16b,c,d) and (17b,c) we have *le* but no realization) and the X position for realization *le* is phonologically empty. The reason for the impossibility of two *les* lies, we claim, in the phonology.

(19) Unstressed suffixes must not be adjacent

Chao (1968:247) claims that the ban on *le le* is a case of haploLOGY, i.e. avoidance of a repetition of identical syllables. This is presumably too simple a statement, as stress and tone can be shown to play a role in this, as well as the question
whether the elements involved have a comparable morphological status (e.g. as an affix, etc.), but reasons of space prevent us from discussing this issue here.

Let us now return to the Dutch sentences in (12). Taking (4a) and (5a) into consideration as well, we can draw up a chart similar to the one in (18).

(20) V X Y
    a V ge droog ‘dry’ (4a)
    b V ge Ø (5a)
    c V Ø “ge” (12a)

In (4a), both the end point element in Y and the realization element in X are present. Next, in (20b) the end point slot is phonologically empty, but the realization slot is not. Finally, what we see in (20c) is also similar to what we saw in (18c): the realization slot is empty, while the end point slot is not. The reason for this is similar to the reason why it must be empty in Mandarin.

(21) Unstressed prefixes must not be adjacent

The end point slot Y in (20c) is filled by “ge”. This “ge” represents the class of morphemes like be, ver, and ont, as well as ge in geloven ‘believe’ and gedenken ‘commemorate’. In fact, “ge” stands for all the elements that may contribute an end point, but that differ from vol ‘full’ with respect to the three properties discussed below (13), i.e. stresslessness, inseparability, and incompatibility with ge. These three properties are, in essence, phonological, we argue, and the latter of the three is accounted for by the rule in (21). Variants of this rule have in fact been proposed by Schultink (1973), De Haas (1990) and Don (1993). Schultink’s rule is in turn an elaboration of a rule proposed by Kiparsky (1966) for German; Kiparsky shows that the distribution of ge in German in conditioned by phonological factors, to the effect that ge is absent if the first syllable of the verb is unstressed (e.g. probiéren-probiért ‘try-tried’; the accent marks stress). In contrast to the German rule, the Dutch rule is sensitive to the morphological status of the first syllable.

An approach to the distribution of ge in phonological terms receives confirmation from the class of particle verbs in Dutch, i.e. verbs consisting of a verbal stem and a particle (mostly homophonous with prepositions), like uit-lezen ‘finish reading’ (see (8)), af-slachten ‘slaughter off’. We assume that the particle invariably occupies the Y position in (9), just like be and vol ‘full’. Particle verbs can be divided in two classes: in one class, the particle is stressed and can get separated from the verb in verb second environments (cf. vol ‘full’ in (14a)), and they are compatible with ge (cf. (15b)). In the other class, the particle is like be: it is unstressed, never gets separated from the verb, and is incompatible with ge. This difference gives rise to minimal pairs like voorkómen ‘prevent’, with an
inseparable particle, vs. *vóórkommen ‘exist’, where the particle is separable. Certain verbs vary according to the speaker, like *overhalen ‘convince’ (also doorstrepen ‘strike through’, *aanzien ‘consider’).

(22) a We overhalen ze nog
b We halen ze nog over
we get them yet over
‘We’ll convince them yet’

The particle is unstressed and inseparable in the second author’s speech (Southern Standard Dutch), but stressed and separable for the first author (Standard Dutch). The participle is *overhaald, without ge, for the second author, whereas for the first author the past partciple has ge: *overgehaald. Semantically, however, there is no discernible difference between overhalen and overhalen. As a consequence, we would want to say that they have the same structure. The only difference between (22a) and (22b) is phonological, i.e., whether the particle is stressed or not. This difference affects the way in which the participle is formed. This case, then, supports our contention that phonological factors govern the distribution of ge.3

Rule (21) also reserves a role for morphology. As we saw above, unlike German, Dutch is sensitive to the status of the first syllable of a verb in case it is unstressed: ge is only banned if the verb is synchronically morphologically complex. A verb like vernissen ‘varnish’ has an unstressed ver as its first syllable, but because it is not a prefix, the past participle has ge (ge-vernist ‘varnished’); etymological evidence supports this claim (German firsissen). Morphological sensitivity might also explain why nominalizations with ge are fine with verbs that do not get ge in their participle, e.g. ge-be-taal ‘paying’ vs. *ge-be-taald ‘paid’ (see Don 1993:165 and De Haas 1990 for discussion of this problem).

6. Problems solved

The analysis of ge and le presented here solves certain problems we were left with in Vanden Wyngaerd (1996) and Sybesma (1997), but also raises new ones.

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3 Support for this claim comes from the fact that the distinction between bound and free morphemes cuts across the distinction between stressed and unstressed elements. Ge is always incompatible with unstressed prefixes (cf. (21)). This was shown for prepositions, which are free morphemes but can be stressless and incompatible with ge. In contrast, bound morphemes like her ‘re’ and ont ‘dis’ can at times bear stress (hégroeperen ‘regroup’, óntmythologiseren ‘de-mythologize’), in which case the participle is formed with ge (ge-hér-groepeerd or her-ge-groepeerd; ge-ont-mythologiseerd; Schultink 1973; Van Haeringen 1965). With adjectival resultative particles the situation is the reverse, i.e., most are stressed, but sometimes they are not, as with vol ‘full’ in voldoen ‘satisfy’ (participle vol-daan), as opposed to voldoen ‘fill up’ (participle vol-ge-daan).
One of the problems solved for Dutch is the status of be and its relation to ge and realization. As to Mandarin, the analysis of le in Sybesma (1997) stated that le is always the head of a resultative small clause, and that it is always the most deeply embedded one. Thus, the structure underlying (16a) was argued to be the one in (23), whereas the underlying structure for (2a) proposed there is given in (24).

In this analysis, le is a resultative predicate on a par with gan ‘dry’; (25) is interpreted as follows: there is a wiping event, which results in a drying event. The latter, however, is itself atelic, adjectives being dynamic in Mandarin, so that yet another resultative predicate can be added, boli le ‘the glass finished/complete’. A problem associated with this approach is that there is no reason why the embedding in (24) could not be recursive indefinitely. Given that le is a resultative predicate, and given that combinations of two resultative predicates as in (24) are possible, there appears to be no reason why a combination of three resultative predicates should not be possible as well. The problem is illustrated in (25).

Although it may be possible to rule (25c) out using Case or theta theory, a more principled solution would be welcome. The structure in (9) is useful here, in that it makes a principled distinction between an end point and the realization thereof.

Another problem for Sybesma’s (1997) analysis of le is that all instances of le are treated the same: there is no principled difference between the le in (23) and the one in (24), except for the depth of embedding. This analysis cannot explain the fact that le cannot occur in (2b,c) while it is allowed in (16b,c,d). Also, the
difference between the sentences in (3) and those in (16) is hard to explain: all would have the structure in (23). The structure argued for here at least makes a difference between the le in (3a) and the one in (16a).

7. Conclusion

We have attempted to show that Dutch ge and Mandarin le are semantically identical, indicating the realisation of an end point. A problem for this analysis involved the fact that both le and ge may have a second function shared by other resultative predicates, viz. that of providing an end point. Once these cases are factored out, it becomes possible to develop both a coherent and unified semantic and syntactic analysis of le/ge. Evidence was provided lending credence to the claim that existing co-occurrence restrictions on le/ge on the one hand and other unstressed particles on the other are to be attributed to constraints of a phonological nature.

References

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