

2. The Classifier *Ge*: Movement and Re-analysis

2.0 Introduction

This chapter is an examination of the status of the classifier *ge* in nominal and verbal environments. There are two types of (related) elements pronounced as *ge* in Mandarin Chinese. One is a general classifier which is commonly used to "type" or individuate a noun which follows it for purposes of counting. The other *ge* will be shown to be used to count the event denoted by the predicate (in which *ge* occurs) as a *single event*. While the first use of *ge* has long been known as the most general classifier in Mandarin, the second type of *ge* has not been investigated thoroughly in the literature. The discussion in this chapter will be focused on the second type of *ge*. Section 2.1 presents *ge* as the most general classifier for count nouns. Section 2.2 discusses the distribution and the semantic contribution of the event classifier *ge*. Section 2.3 presents the syntactic properties of the event classifier *ge*. Section 2.4 makes a proposal to structurally encode *ge* within the DP in a way which mirrors its central syntactic properties. Section 2.5 then argues for the grammaticalization of *ge* from a classifier to a determiner. Section 2.6 is a brief conclusion.

2.1 *Ge* as a General Classifier for Nouns

The most frequent use of *ge* is to serve as a classifier for its following noun. Mandarin nouns all behave like mass nouns in English in the respect that a classifier (or a measure word) is needed in counting. For example, to count "glasses" or

"water," one could use "a pair of glasses" and "two drops of water" in English. *Ge* is found to be the most general classifier for nouns. When *ge* occurs as a general noun classifier, it is preceded by a numeral and directly followed by a noun, as in (1):

- (1) a. wo you liang ge pingguo.
 I have two ge apple
 'I have two apples.'
- b. Zuotian si-le san ge ren.
 yesterday die-LE three ge person
 'Three people died yesterday.'

When the numeral preceding a classifier is "one," it is well-noted that this numeral can in fact be deleted, as shown in example (2):

- (2) wo chi-le (yi) ge juzi.
 I eat-LE (one) ge tangerine
 'I ate a tangerine.'

Ge as a noun classifier is defined as "individual classifier" by Chao (1968). The noun following *ge* is a count noun denoting an object which usually does not have big volume and has to be a separable entity in the physical world. That is, the entity is physically "bounded" in Allen's (1966) sense. The verbs that can occur with the noun classifier *ge* are diverse. Stative verbs (as in 1a), action verbs (as in 2) and achievement verbs (as in 1b) are all possible.

2.2 *Ge* as a Classifier for Events Denoted by the Predicates

The second use of *ge*, which constitutes the main focus of this chapter, is where it occurs preceded by a verb and followed by a bare noun, a classifier-measure string, an adjective, or a clause-like idiom. In what follows, this second *ge* will be shown to contribute to the aspectuality of the predicate and makes the denoted activity counted as a single event.

2.2.1 *Occurrence Between a Verb and Its Cognate Object*

Although in its most common use *ge* follows a numeral and introduces regular concrete count nouns, it may also occur between certain V-O *compounds*. In (3a), the object part of the compound is only licensed to occur when together with the verbal part of the compound. In (3b), the verbal part 'jump' can mean 'dance' only when it occurs with the object part. When *ge* occurs separating the verb and its object, the *ge*-O sequence functions like an "individuated" cognate object of the verb:

- (3) a. women qu you *ge* yong ba!
we go swim *ge* swim Prt
'Let's go for a swim (do a swimming)!'
- b. women zuotian qu na-jia wuting tiao-le *ge* wu.
we yesterday go that-CL club jump-LE *ge* dance
'We went to that club and did an activity of dancing.'

Some speakers even accept examples such as (4), in which *ge* intervenes between the verbal members of a V-V compound:

- (4) xue *ge* xi
 study *ge* study
 'do an activity of studying'

In these cases, it can be argued that *ge* is used to help count out a single event and cause the action to be interpreted as being telically bounded. For example, if *ge* is omitted in (3a), the interpretation of the verb *youyong* is as a simple unbounded action of "swimming." However, when *ge* occurs between the two syllables of "swim," (3a) in fact means to "do a swimming" (and there is a single swimming event). Similarly in (3b), *ge* allows in the interpretation of one dancing event. This event may consist of one dance or more than one dance; the main point is that *ge* helps count out the event as a whole.

Above in example (2) with nominal classifier *ge* it has been observed that the classifier is optionally able to appear *without* a preceding numeral, and that when this happens, the numeral "one" is implied. Consequently here where these V-O and V-V sequences occur with a 'bare' *ge* intervening, it can similarly be suggested that the numeral one is implied and that the occurrence of *ge* makes the action verb countable--as *one* event. Indeed, it is possible to insert the element yi 'one' in examples (3) and (4):

- (5) you yi ge yong
swim one ge swim
'do a swimming'
- (6) xue yi ge xi
study one ge study
'do an activity of studying'

2.2.2 Occurrence Between a Verb and an Indefinite Object

Ge can also directly occur between a verb and a regular non-cognate object nominal. This post-verbal nominal is usually indefinite and is often a bare noun, as in (7). The appropriate classifiers are *tiao* 'stip' for "fish" and *gen* 'stick' for "rope," as in (8). As in the examples in (3), it can be suggested that when *ge* comes in between the V-N sequence it functions to quantify over the predicate/event and results in a *single* buying event. Note that in (7a) there could be a single buying event of several pieces of rope, whereas in (8a) with the regular classifier *gen* for "rope," the interpretation is that only a single piece of rope is purchased. Similarly, in (7b) there could be a delivery of several fish, whereas in (8b) with the regular classifier *tiao* for "fish," the interpretation is that only a single fish is delivered. Consequently the use of *ge* might seem to relate more to the event/predicate than to the nominal:

- (7) a. wo qu mai ge sheng. (from Liu 1993)
 I go buy ge rope
 'Let me go do a rope-buying.'
- b. wo qu song ge yu.
 I go deliver ge fish
 'Let me go do a fish-delivering.'
- (8) a. wo qu mai gen sheng.
 I go buy CL rope
 'Let me go buy a rope.'
- b. wo qu song tiao yu.
 I go deliver CL fish
 'Let me go deliver a fish.'

Examples in (9) shows the occurrence of a locative/instrumental object introduced by *ge*:

- (9) a. women lai tiao ge sheng. (see also Liu 1993)
 we come jump ge rope
 'Let's do a rope-jumping.'
- b. women qu zou ge lu.
 we go walk ge road
 'Let's go take a walk (do a walking on the road).'

Here (9) is in contrast with (7) and (8). In (7) and (8) it is possible to have either the specific classifiers for specific nouns *or* the 'event' classifier *ge*, but examples with locative objects such as in (9) do *not* allow similar substitution of the specific classifiers for nouns, as shown in (10):

- (10) a. *women lai tiao gen sheng
 we come jump CL rope
 '*Let's jump one rope.'
- b. *women qu zou tiao lu.
 we go walk CL road
 '*Let's go walk on one road.'

From this it can be concluded that *ge* is *not* a simple replacement for more specific nominal classifiers and does not simply function to introduce a regular NP object. For example, in (9a) the sequence *tiao-sheng* 'jump-rope' *does* allow *ge* to introduce *sheng* 'rope,' but in (10a) it does not allow a regular classifier such as *gen* (which would be an appropriate classifier for *sheng* in other situations such as in 8a). There is consequently an important difference between *ge* and other classifiers whose function is to introduce and individuate simple NP objects.

Next, the post-verbal nominal following *ge* is often a numeral-measure phrase. This numeral-measure phrase can be an object of an action verb as in (11) or a duration/frequency phrase as in (12).

- (11) a. ta chi-le ge san wan fan
 he eat-LE *ge* three bowl rice
 'He did an eating of three bowls of rice.'
- b. ta xiang shang-tai chang *ge* san duan qur
 he want get-on-stage sing *ge* three session song
 'He wants to get on the stage and do a singing of three operas.'

- (12) a. women qu Bali wan-le ge liang tian.
 we go Paris play-LE ge two days
 'We went to Paris and did a two-day playing (a two-day trip).'
- b. qing ba zhe-ben shu zixinde kan ge wu bian.
 please BA this-CI book carefully read ge five time
 'Please do a five-time reading of this book carefully.'
- c. yundongyuan dao cao-chang pao-le ge san quan.
 athletes go exercise-filed run-LE ge three rounds
 'The athletes went to the track and did a three-lap running'

Comparing (11) and (12) with (13) and (14) it is found that when *ge* is used, the whole verb phrase is interpreted as "one" single event or "one group" of events. For example, in (11a), the inclusion of *ge* results in the interpretative effect that the eating of the three bowls of rice has to be understood to take place at one specific time, while in (13a), the three bowls of rice could be eaten at different meals.

- (13) a. chi-le san wan fan.
 eat-LE three bowl rice
 'ate three bowls of rice'
- b. chang san duan qur.
 sing three session song
 'sing three operas'

- (14) a. wan-le liang tian
 play-LE two days
 'played for two days'
- b. kan wu bian
 read five time
 'read five times'
- c. pao-le san quan
 run-LE three lap
 'ran three laps'

This single-event interpretation associated with the predicate can be highlighted by the interaction of quantified or plural NP subjects and *ge*-marked objects. Sentence (15) means Zhangsan ate three bowls of rice at one time and Lisi ate three bowls of rice at one time. Strictly speaking, although there may be two events involved, *ge* functions to set the boundary of the activity denoted by the *predicate*: for each person the three bowls of rice is necessarily consumed during one eating event.

- (15) Zhangsan he Lisi ge chi-le ge san wan fan.
 Zhangsan and Lisi each eat-LE *ge* three bowl rice
 'Zhangsan and Lisi each at one time ate three bowls of rice.'

2.2.3 *Ge* Introducing a Simple Resultative/Descriptive Adjective

Ge can also be used to follow an action verb and precede certain adjectives in an adverbial usage. As shown in (16), *ge* can be used to introduce a descriptive adjective, which otherwise can not follow the verb. This intervention of *ge* again results in the interpretation that a single event (of 'fast-running') occurred:

- (16) Pingchang kan-bu-chu-lai, zuotian de yundonghui ta dao pao-le
 in daily life can-not-see yesterday 's sports event he however run-LE
 ge kuai.
 GE fast
 'I can't see that in him in daily life, but he demonstrated a fast running
 in yesterday's sports meet.'

A more frequently seen case is when the following adjective is a resultative adjective. The interpretation here may be that the activity depicted by the verb is carried out until the point is reached where the subject can be said to have the quality described by the adjective, as illustrated in (17) and (18):¹

- (17) a. ta xiang zai na-jia canting chi ge bao
 he want at that-CL restaurant eat *ge* stuffed
 'He wants to do a satisfying eating (keeping eating until
 stuffed) in that restaurant.'
- b. ta zai na-jia canting chi-le ge bao
 he at that-CL restaurant eat-LE *ge* stuffed
 'He did a satisfying eating (kept eating until stuffed) in that
 restaurant.'

¹ Here the *ge* construction exhibits interesting differences from resultative constructions in English where a resultative secondary predicate may only refer to an *object* (or to the subject of an *unaccusative* verb, i.e., an underlying object) but not to regular transitive/unergative subjects:

- (i) *John swam tired.
 (ii) John ran his horse tired.
 (iii) John arrived tired.
 (iv) John laughed *(himself) hoarse.

(18) wo mama hui ba wo ma *ge* gou
 I mother will BA me scold *ge* enough
 'My mother will do a satisfying scolding (keep cursing until enough)
 to me.'

(19) wo zuotian qu zhao ta, jieguo pu-le *ge* kong
 I yesterday go look-for him, in-the-end catch-LE *ge* empty
 'I went to visit him yesterday, but he wasn't home (didn't catch him)'

(20a) and (20b) are further examples of adjectives combining with *ge* in similar fashion:

(20) a. sha-le *ge* ganjing
 kill-LE *ge* clean
 'did a clean killing (killed everything)'
 b. shuo *ge* qingchu
 say *ge* clear
 'do a clear explanation'

In these cases, it might be suggested that *ge* intervenes in the middle of some kind of action-result *compound*. However, the examples in (21) indicate otherwise - without *ge* these sequences of verb-adjective would require some other elements such as a sentence-final *-le* (as in 21b) or other continuing elements (as in 21c) to make the sentences acceptable. The contrast in (22) shows that when the action and the result are separated, and where there consequently cannot be any V-Adj compounding, *ge* shows that it is able to license the following adjective as a legitimate post-verbal element.

- (21) a. *ta zai na-jia canting chi-bao.
 he at that-CL restaurant eat-full
- b. ta zai na-jia canting chi-bao le.
 he at that-CL restaurant eat-full le
 'He is already full from eating at that restaurant.'
- c. ta zai na-jia canting chi-bao cai lai de.
 he at that-CL restaurant eat-full then come Prt
 'He came here after he was full from eating at that restaurant.'
- (22) a. *ta chi-le bao.
 he eat-LE stuffed
- b. ta chi-le ge bao.
 he eat-LE ge stuffed
 'He had a completely satisfying eating.'

Concerning the use of *ge* with adjectives here, it can be suggested that *ge* in fact has an *aspect*-related function. Following ideas in Tenny (1987) and Borer (1994), it can be assumed that the occurrence of certain nominal objects may be necessary to make atelic activity predicates into telic bounded events, and that *ge* here critically functions to convert a non-nominal category into a nominal type which will result in such an interpretation (nominal elements 'measuring-out' an event and resulting in an event being bounded when the object is fully 'consumed'-- see Tenny (1987)/Borer (1994). The use of *ge* as a simple nominal classifier has

therefore become extended to a wider use and may now be used to convert elements of *adjectival* type into *nominal* type elements.²

A further peculiarity of the *ge*-construction is that when the adjective following *ge* can be made more complex by being combined with some kind of degree-type modifier, the expression with *ge* generally sounds better, as seen in (23) and (24). The modifier-head adjectives in these examples denote an extreme result or an extreme description.

- (23) a. he-le ge da-zui
drink-LE ge big-drunk
'did a completely drunk drinking'
- b. ?he-le ge zui
drink-LE ge drunk
'did a drunk drinking'

² In this way *ge* is somewhat similar in function to other numeral-classifier strings, as illustrated in the examples in (i). It seems that the presence of a numerically-quantified object is necessary in (i) to provide a natural measure and endpoint for the event (compare here (i) with (22) above):

- (i) a. *ta chi-le fan.
he eat-LE rice
'He ate.' (bad unless "rice" is in contrast to "noodle," for example)
- b. ta chi-le yi-wan fan.
he eat-Prf one-bowl rice
'He ate a bowl of rice.'

- (24) a. zou-le *ge* fei-kuai
 walk-LE *ge* fly-fast
 'did a as-fast-as-flying walking'
- b. ?zou-le *ge* kuai
 walk-LE *ge* fast
 'did a fast walk'

Concerning this effect of adding a 'modifier' to an adjective in (23a) vs. (23b) and (24a) vs. (24b), it can be argued that if the object is modified and in a certain way made more specific/identifiable then this enables it to function as a delimiter more easily, either providing an end-point or otherwise measuring out the event to make it telic. If the end-point is some kind of extreme (a 'big drunk') then the telic reading is all the more easy to license.

2.2.4 *Ge* Introducing an Idiom or Fixed Expression

In section 2.2.3 it was shown that the element introduced by *ge* can be an adjective, and the suggestion was made that *ge* may be functioning to provide an essentially nominal complement to the verb which precedes it. Here it can be noted that the element which is introduced into the VP via *ge* can actually also be a *clause-like idiom*, expressing the extreme result of some action.³ Again in such instances the preceding verb is an action verb and the *ge*-XP contributes to convert the predicate into an accomplishment:

³ These sequences are 'clause-like' in the sense that a full (and overt) argument structure is present.

- (25) a. pin ge ni-si-wo-huo
 fight ge you-die-I-live
 'make a terrible fight (aim to kill the other party)'
- b. nao-le ge ji-quan-bu-ning
 fuss-LE ge chicken-dog-not-peaceful
 'caused a big turmoil'
- c. wen ge shui-luo-shi-chu
 ask ge water-fall-rock-out
 'do a thorough interrogation until everything is clear'

2.2.5 Ge with *Perfective* but not *Imperfective* Aspect

There are also certain aspectual restrictions on *ge*-forms, and when the predicate has an overt aspect marker, as in (26) and (27), it is found that event classifier *ge* can co-occur with the *perfective* marker *-le* in (28), but not with the *imperfective* markers *zai* in (26) and *zhe* in (27). This may perhaps be because imperfective aspect markers function to focus on the internal stages of an event and event classifier *ge* objects are interpreted as constituting an unanalyzable single event with no visible internal stages, in this sense being more like instantaneous achievement-type predicates (see here Smith 1997 and chapter 6 for more discussion of the role of perfective/imperfective aspect). Such an unanalyzable single event property will also account for the fact that in *ge* objects which have numerals, such as (11/12/15) above, there can only be a single event interpretation and no possibility of a multiple event reading--the internal parts of a *ge* object are simply unavailable for individual interpretation/imperfective aspectual modification:

- (26) *Wo zheng zai die *ge* tou-po-xie-liu.
 I right at fall *ge* head-break-blood-flow
 '*I am right at falling so hard that I got a broken bleeding head.'
- (27) *Wo die-zhe *ge* tou-po-xie-liu.
 I fall-Dur *ge* head-break-blood-flow
 '*I am at the state of falling so hard that I got a broken bleeding head.'
- (28) Wo die-le *ge* tou-po-xie-liu.
 I fall-LE *ge* head-break-blood-flow
 'I had a fall so bad that I got a broken bleeding head.'

2.2.6 Apparent Constraints on Verb Selection

While it was noted that the noun classifier *ge* can occur with a stative verb, an action verb, or an achievement verb, most of the occurrences of the event classifier *ge* actually follow an *action* verb, and often it may *not* occur with a *stative* verb:

- (29) *Ta you-le *ge* san zhi bi.
 he have-LE *ge* three CL pen
 'He had three pens.'

This constraint on verb selection can be shown to be aspectual in nature. If the *ge*-XP is able to express an end point and make the whole VP as an identifiable event, even stative verbs are in fact permissible. For example, the stative verb "love" in (30), with the help of *ge*-XP, similarly expresses an identifiable event: the subject wants to have had "one" exciting romance. Once again it seems therefore that the *ge*-XP functions to change an atelic predicate into a telic predicate.

- (30) a. Ta xiangyao ai *ge* si-qu-huo-lai.
 ta want love *ge* die-go-live-come
 'He wants to experience an extreme romance.'
- b. Ta ai-le *ge* si-qu-huo-lai.
 ta love-LE *ge* die-go-live-come
 'He experienced an extreme romance.'

In addition to action verbs, certain achievement verbs can also occur with the event *ge*:

- (31) a. Ta xiang ba zhe jian shi wang *ge* ganganjingjing.
 he want ba this CL matter forget *ge* clean
 'He wants to forget this completely.'
- b. Zhe ci wenyi, cun-li de ren si-le *ge* jingguang.
 this CL plague village-in 's person die-LE *ge* bright-clean
 'The people in the village died out because of the plague.'

As achievement verbs by definition inherently encode end points, it might perhaps be incorrect to suggest that the *ge*-XP functions to make the predicate telic by specifying the end point of the action. The *ge*-XP in (31) might instead be said to *reinforce* the boundary of the event and make the event be perceived as a whole. However, without the *ge*-XP, the event boundary would in fact have to be expressed by some other means, for example by the use of a perfective aspect-marker as in (32a) and (32b):

- (32) a. Ta xiang ba zhe jian shi wang *(le).
 he want ba this CL matter forget le
 'He wants to forget this.'
- b. Zhe ci wenyi, cun-li de ren *(dou) si-guang *(le).
 this CL plague village-in 's person all die-clean le
 'The people in the village all died because of the plague.'

Consequently it may in fact be the case that the *ge*-XP also in these cases does function to delimit the predicate and make it telic. Elsewhere in Chinese it is found that verbs which would be classed as telic in English and other languages need to be overtly specified as bounded by the addition of an aspect-marker or resultative complement. For example, (33) is possible in Chinese, though not in English. With English a predicate like 'kill' plus past tense implies that the event depicted by the predicate did have a successful completion, whereas in Chinese it is not necessarily true. It is suggested here that *ge*-XP functions as one of the means that make a predicate telic.

- (33) Zuotian Zhangsan sha Lisi, keshi mei sha-si.
 yesterday Zhangsan kill Lisi, but not kill-dead
 'Yesterday Zhangsan killed Lisi, but Zhangsan didn't kill Lisi.'

2.3 Syntactic Properties

2.3.1 Event *Ge* Introducing a Non-predicational Adjective

Here I would like to note a further restriction on the event *ge* which can be observed when *ge* combines with adjectives. Basically it is found that the adjective cannot be

in 'predicational' form but rather must be 'bare'.⁴ When adjectives occur as predicates in declarative sentences in Chinese, they are accompanied by a modifier such as hen 'very' or tai 'too' as in (34), whereas when they occur attributively they appear bare, as in (35):⁵

- (34) a. Ta hen piaoliang.
 ta very pretty
 'she is very pretty.'
- b. Zhe-ge fangzi tai jiu.
 this-CL house too old
 'This house is too old.'

- (35) xin shu
 new book
 'new books'⁶

Turning to *ge*-forms it is found that adjectives which occur following *ge* *cannot* be modified by hen 'very' or tai 'too,' as shown in (36).⁷

⁴ Note that earlier it was observed that sometimes an adjective is more natural with *ge* if it is however combined with another element indicating high/extreme degree of the adjective, as in examples (23) and (24). This kind of modification does not result in predicational forms, unlike the use of *hen* and *tai* attempted in (36) and so still leaves the adjectives 'bare' in a certain sense.

⁵ Note that the use of hen does not *necessarily* result in an interpretation of 'very' but appears to be necessary to fulfill some rather unclear structural requirement that the pre-adjectival position be filled by some overt element in clauses.

⁶ If *hen* 'very' is added to the adjective, the element *de* must also occur, indicating that this is a relative clause structure and a predication, e.g.:

- (i) hen xin *(de) shu
 very new DE book
 'books that are very new'

⁷ Compare (36) to the sentences with the resultative *de* in (i).

- (36) a. *shuo-le *ge* hen qingchu
 say-LE *ge* very clear
 b. *chi-le *ge* tai bao
 eat-LE *ge* too full

Secondly, there is a further restriction found in adjectival reduplication forms. Chinese allows for bisyllabic adjectival reduplication in two basic forms commonly referred to as the AABB Form and the ABAB form. The AABB reduplication form is referred to as the 'vivid' adjectival form which expresses an extreme description, while an ABAB reduplication is said to be predicational reduplication and is shown to occur in standard predicate type positions in (37) (see e.g. Chao 1968):

- (37) a. Mingtian women chuqu tongkuaitongkuai.
 tomorrow we go out enjoy
 'Let's go out and enjoy ourselves tomorrow.'
 b. Jintian ni hua-yixia-zhuang, rang ziji piaoliangpiaoliang.
 today you put one makeup let self beautify
 'Why don't you put on makeup and make yourself look
 beautiful today.'

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- (i) a. shuo de hen qingchu
 say de very clear
 'said it very clearly.'
 b. chi de tai bao
 eat de too full
 'eat too full'

Resultative *de* selects for a complement which may be instantiated by a predicational adjective here, this contrasting with *ge* which cannot introduce predicational form adjectives.

In the *ge*-construction it is found that adjectives may be reduplicated according to the AABB pattern but not the ABAB predicational pattern as shown in examples in (38) and (39):

- (38) a. chi *ge* tongtongkuaikuai
 eat *ge* over-enjoyed
 'do a completely satisfying eating'
- b. daban *ge* piaopiaoliangliang
 dress-up *ge* beautiful
 'dressed up to be completely beautiful'
- (39) a. *chi *ge* tongkuaitongkuai
 eat *ge* over-enjoy
 'ate until satisfied'
- b. *daban *ge* piaoliangpiaoliang
 dress-up *ge* beautify
 'dressed up beautifully'

A third restriction on the combination of *ge* with adjectives is that the adjective following *ge* can not be syntactically negated. As shown in (40a), *ge* can not introduce an adjective which is syntactically negated by *bu* 'not.'⁸

- (40) *shuo-le *ge* bu qingchu
 say-LE *ge* not clearly
 'say (it) not clearly.'

⁸ Compare (40) the sentence with the resultative *de*.

(i) Ta shuo de bu qingchu.
 he say de not clearly
 'He said it unclearly (He did not say it clearly).'

However, if the negation is part of a fixed negative adjective, as in (41), it is a legitimate item to follow *ge*. Being able to be syntactically negated is another characteristic of a syntactic predicate, so again there is evidence that a predicational adjective cannot follow *ge*.

- (41) shuo-le *ge* bu-qing-bu-chu
say-LE *ge* not-clearly
'make a vague statement'

Lastly, the adjective following *ge* can not be A-not-A questioned. As shown in (42), *ge*-sentences cannot be made into an A-not-A question by questioning the adjective.⁹ This is another predicational characteristic that the adjective selected by *ge* is lacking.

- (42) *Ta shuo *ge* qing-bu-qing-chu?
he say *ge* clear-not-clear
'Did he make it clear?'

I would like to suggest that all of these restrictions are actually rather typical of nominalization forms in certain languages and may be explained if it is assumed that (a) *ge* is functioning as a nominalizer (a categorization in fact suggested in S. Lü 1984), and (b) *ge* selects for a complement which is syntactically 'less' than a full clausal predicate.

⁹ Compare *ge* in (42) to the resultative *de*:

- (i) Ta shuo de qing-bu-qing-chu?
he say de clear-not-clear
'Did he make it clear?'

Specifically concerning point (b), it has been noted that in languages such as Korean there is variation in the type of predicate constituent selected by different nominalizers. Following initial work in Yoon (1990), Lapointe & Nielsen (1996) show that Korean 'Type II' and 'Type III' nominalizations have certain critically different clusters of properties. The nominalizer in the former selects for a full clausal complement which has an overt tense morpheme, a nominative subject and allows for sentential negation, sentential adverbs and clause-internal scrambling. The nominalizer in the latter however seems to select for a more restricted constituent which does not allow scrambling, negation, sentential adverbs, nominative subjects or tense/aux elements (subjects instead occur in genitive case). Such a contrastive patterning can be captured quite simply if it is assumed that the Type II nominalization involves selection by the nominalizer of a TP-level constituent, whereas in Type III nominalizations the nominalizer selects a VP-type level constituent.

Returning to Chinese, with *ge* one finds that although a predicate may be selected and even project its arguments (as in the idiom cases in 25), there are certain syntactic properties associated with full regular clauses which may not occur in the predicate sequence following *ge*, e.g., clausal negation and A-not-A question forms.¹⁰ Such syntactic properties, and possibly also the type of reduplication found

¹⁰ Note that the negative element *bu* in (41) occurs in a frozen expression and therefore is not part of the process of a syntactic negation, while (40) is a case of syntactic negation. I assume that syntactic negation in examples such as (40) involves a clausal structure. According to Cinque (1999), clausal negation can occur in different positions cross-linguistically. It is therefore not unreasonable to find two or more clausal negative elements co-occurring in one sentence:

with predicational adjectives noted, may all be assumed to require a certain minimal amount of clausal structure in order to be licensed. For example, clausal negation would occur located in the functional part of a clause and not low down within VP/AdjP, and A-not-A forms arguably require the presence of a Q-morpheme in I, hence the functional projection IP, etc. This absence of clausal negation, A-not-A questions and predicational adjectival reduplication can consequently be suggested to indicate that the functional structure necessary to support such properties is also absent, in a way which is rather similar to Korean Type III nominalizations. Similar to Korean Type III nominalizations, I would therefore now like to suggest that *ge* is in fact a nominalizer which takes as a potential complement simply a bare predicate (maybe an AdjP) without allowing any of the higher clausal functional projections which would be necessary to support negation, A-not-A and predicational reduplication, etc.¹¹

-
- (i) Ta meiyou bu xiang qu. (p.c., Audrey Li)
 he didn't not want go
 'He didn't not want to go.'

The argument here is that the XP following *ge* can not be a clausal structure. Different negative items can occur as long as it does not involve a process of syntactic negation (and hence a clausal structure). For example, the negative item *mei* can also occur in the frozen expression following *ge* in (ii):

- (ii) Ta shuo-le ge mei-wan-mei-liao.
 he speak-LE GE not-end-not-finish
 'He made an endless talk.'

¹¹ Given the well-formedness of (41) one might have to assume that some instances of negation may in fact be combined with other elements *in the lexicon*. This is a position which has actually frequently been adopted in the past, for example by certain authors working on negative auxiliary elements such as English can't, won't, etc. (in Zwicky 1977), or Cantonese mo = mei + yau in (Matthews & Yip 1994).

2.3.2 Event *Ge* Licensing an Extra Argument

Thus far we have seen sequences of a verb followed immediately by *ge* and some other element. However, elsewhere it is also possible to find sequences of [verb + (in-)direct object + *ge*-object], i.e., the *ge*-XP can also follow an object of the verb.¹² These sentences are more acceptable to speakers from Mainland China; the examples in (43) are cited from novels written by writers from Mainland China, recorded in Fang Li (1993).

¹² Objects occurring between the verb and *ge* are however rather uncommon, it being usually preferred to position them pre-verbally licensed by *ba* as in (i):

- (i) wo ba ta da-le ge ban-si
 I BA he hit-Asp GE half-dead
 'I hit him half-dead.'

- (43) a. ta da-le wo *ge* ban-si.
 he hit-LE I *ge* half-dead
 'He hit me to the extent that I almost died.' (Wang Meng's
 <Qingchunmeng> [Youth dreams])
- b. da ni *ge* tou-po-xue-liu
 hit you *ge* head-break-blood-flow
 'hit you until you have a broken bleeding head' (Wang Shuo's
 <Wo Shi Ni Baba> [I am your father])
- c. Bie yiwei nimen shi nusheng, fan-le gui zhaoyang da nimen *ge*
 don't assume you are girls, violate rule same hit you *ge*
 si-jiao-chao-tian.
 four-foot-face-sky
 'Don't just assume you are girls. I will still hit you to the
 extent that you all fall down on you back, if you break the
 rules.' (Wang Meng's <Qingchunmeng> [Youth dreams])
- d. Er guniang cui-le baba yi *ge* man-lian-hua.
 two miss spit-LE father one *ge* full-face-messy
 'The second daughter spit at her father to the extent that his
 face got all messy.' (Lao She's <Liutunde> [Women from the
 Willow Village])

As is well-known, in Chinese it is generally not possible to have two discrete elements following the verb, unless one of these is a frequency complement as in (44):

- (44) wo qu-guo Beijing hen-duo-ci
 I go-Exp Beijing many times
 'I have been to Beijing many times.'

Normally if an element such as a descriptive or resultative complement occurs and the object of the verb is overt, the verb must be repeated to license the object:

- (45) *Zhangsan da erzi de ban-si
Zhangsan hit son DE half-dead
- (46) Zhangsan da erzi da de ban-si
Zhangsan hit son hit DE half-dead
'Zhangsan beat his son until he was half-dead.'

However, it is found that a *ge*-XP may in fact co-occur with an overt object DP as in

(47), in direct contrast to the non-*ge* resultative structure (45):

- (47) Zhangsan da-le erzi *ge* bansi.
Zhangsan hit-LE. son *ge* half-dead
'Zhangsan hit his son to the extent that his son almost died.'

Such a structure with two elements following the verb in fact appears very similar to double object constructions (DOCs), roughly shown as (48).

- (48) a. V + NP Object + *ge*-XP *ge-construction*
b. V + Object 1 + Object 2 *DOC*

According to Li and Thompson (1981), an important characteristic of the double object construction in Chinese is that Object1 which directly follows the verb is always either an animate noun or an institution name, this being illustrated in (49).

- (49) a. Wo song-le ta yi ben shu.
 I give-LE he one CL book
 'I gave him a book.'
- b. Tamen huan-le yinhang yi bi daikuan.
 They return-LE bank one CL loan
 'They returned a loan to the bank.'
- c. *Ta song-le xinjia yixie jiaju.
 he give-LE new-house some furniture

Interestingly, *ge*-sentences seem to exhibit the same constraint on the object, as shown in (50), the (c) example is unacceptable because the direct object yifu is inanimate:¹³

¹³ An explanation of the animacy patterns in DOCs put forward in Kayne (1994) suggests that the fact that the indirect object in DOCs must always be +animate (or an institution) is because the indirect object comes to be in *possession* of the direct object in DOCs. The evidence from the *ge*-construction here might seem to indicate that such a generalization may not be entirely correct--basically a parallel [+animate] constraint characterizes both DOCs and the *ge*-construction, but there is no possession relation arising in the latter syntactic forms. However, note that in 'di-transitive' *ge* constructions such as (50) the result depicted by the *ge*-XP always predicates of the NP following the verb rather than the subject of the sentence. In order to explain this, one might assume that the post-verbal NP and the *ge*-XP form a single small clause-type constituent with the *ge*-XP naturally predicating of the post-verbal NP as the small clause subject. Such an analysis would then actually come to resemble the small clause-type analysis of indirect object and direct object proposed by Kayne.

- (50) a. ta xiangyao xia wo *ge* hun-fei-po-san
 he want frighten I *ge* soul-fly-spirit-scatter
 'frighten me until my soul and spirit leave my body'
- b. Naxie ren wei-le yiyuan yi *ge*
 Those people surround-LE hospital one *ge*
 shui-xie-bu-tong.
 water-leak-not-through
 'Those people surrounded the hospital to the extent that
 nothing can get through in the hospital.'
- c. *Ta xi-le yifu *ge* ganganjingjing.
 he wash-LE clothes *ge* clean

One might suggest that the occurrence of two overt DPs post-verbally in DOCs is permitted because the indirect object can be licensed via incorporation into the verb (cf. chapter 4 and Audrey Li 1990), leaving the direct object to receive the verb's structural accusative case. The same incorporation process might then be taken to be responsible for the well-formedness of sentences with a post-verbal direct object and a *ge*-DP.^{14 15}

¹⁴ A second possible explanation might be that the *ge*-XP is always non-specific indefinite and hence can be licensed via some kind of inherent partitive case.

¹⁵ Elsewhere however the parallelism in behavior between DOCs and di-transitive *ge*-forms diverges somewhat. Specifically the object directly following the verb exhibits differences in the two constructions in its ability to undergo *movement*. Whereas the object following the verb can be topicalized in both constructions and also ba-raised or bei-raised in *ge*-sentences, object 1 in the double object construction cannot occur raised with either ba or bei:

- (i) a. Nei-ge-ren, wo da-le *ge* bansi.
 he I hit-Prf *ge* half-dead
 'Him, I hit him until he almost died.'
- b. ?Nei-ge-ren, wo song-le yi-ben-shu.
 he I send-Prf one-CL-book
 'Him, I gave a book.'

2.3.3 *Ge* Licensing the Expletive 'It'

Here we note a last interesting aspect of the *ge* paradigm: its occurrence with ta in object expletive contexts. Lin (1993) shows that expletive ta can often co-occur with object DPs and suggests that an expletive-associative chain is formed between ta and the real argument DP, the argument raising to replace ta in SpecAgrOP at LF. (51) illustrates this use of ta with an object associate:

- (51) wo kan-le ta san-ben-xiaoshuo
I read it one-CL-novel
'I read three novels (at one time).'

Here it can be shown that *ge*-XPs may also often co-occur with the expletive ta 'it' (called by Lin 1993 as an expletive object). The element introduced by *ge* can be either an adjective or an indefinite nominal which is a measure phrase (or more marginally a bare noun), as shown in (52):

-
- (ii) a. Wo ba ta da-le *ge* ban-si.
I ba him hit-Prf *ge* half-dead
'I hit him until he almost died.'
b. *Wo ba ta song-le yi-ben-shu.
I ba him send-Prf one-CL-book
'I gave him a book.'
- (iii) a. Ta bei wo da-le *ge* ban-si.
he bei I hit-Prf *ge* half-dead
'He was hit by me and he almost died because of it.'
b. *Ta bei wo song-le yi-ben-shu.
he bei I send-Prf one-CL-book
'He was given a book by me.'

Both *ba*-constructions and *bei*-constructions involve affectedness of the theme or the patient. In the double object construction, what is affected is the direct object (i.e., the book in the examples), not the indirect object. I assume that it is the affectedness effect which in fact prevents the indirect object of a di-transitive verb from being *ba*- or *bei*-preposed. In the di-transitive *ge*-construction by way of contrast, the NP following the verb is affected and so can be ba-/bei-preposed. Consequently the syntactic parallelsim between DOCs and di-transitive *ge*-forms still holds.

- (52) a. chi ta *ge* tongkuai
 eat it *ge* satisfied
 'have a satisfying eating'
- b. pao ta *ge* san quan
 run it *ge* three CL-rounds
 'do a three-lap running'
- c. ??tiao ta *ge* wu
 dance it *ge* dance
 'do an activity of dancing'

What is important to note is that ta in these object expletive structures always requires a *DP* associate. This therefore implies that *ge* is crucially functioning to provide a nominal DP expression in the event *ge* construction, sometimes converting non-nominal categories (such as adjectives) into DP elements. Secondly ta has been noted by Lin to tolerate only DP associates which are headed by *weak* determiners such as *ji-CL* ('several N') and *yi-xie* ('some NP'), but not *nei-CL* ('that NP') or *mei-CL* ('every NP'):

- (53) wo yao kan ta ji-ben/yi-xie lishi-xiaoshuo
 I want look it few/some history novel
 'I want to read a few/some history novels.'
- (54) *wo yao kan ta nei-ben/mei-ben lishi-xiao-shuo
 I want look it few/some history novel
 'I want to read that/every history novel.'

This would seem to indicate that the *ge*-headed nominals must also be DPs with some weak determiner element in the D-head position.^{16 17}

2.4 The Proposal - *Ge* as a Weak Unselective Determiner in D^0

Having provided a characterization of a number of restrictions and patterns found with what has been referred to loosely as 'event *ge*,' I would now like to argue that the evidence presented would all seem to indicate a single solution: the element *ge* is currently used not only as a regular numeral classifier, but also now as a *weak unselective determiner* with a non-specific indefinite specification. It will be discussed that this element is similar in certain respects to the unselective determiners reported to exist in Salish languages by Davis and Matthewson (1997), and it also bears similarities with a certain use of Cantonese classifiers reported by Cheng & Sybesma (1998) and Audrey Li (1998).

¹⁶ Lin (1993) and Borer (1994) essentially both assume that the DP-object-associate raises to SpecAgrO/AspP at LF. For Borer this has the effect of inducing a telic reading, activating the Asp-head which is associated with telicity.

¹⁷ Note that when *ge* is not present, only the (b) example in (52) survives, as shown in (i).

- (i) a. *chi ta tongkuai
eat it satisfied
'ate until fully satisfied'
b. pao ta san quan
run it three CL-rounds
'do a three rounds of running'
c. *tiao ta wu
dance it dance
'do a dancing'

This is because the expletive ta requires a weakly-quantified DP associate, as noted. Where *ge* is present, this provides the necessary type of DP object associate for ta, but when it is removed only (b) remains a weakly-quantified DP; (a) and (c) can be suggested to unacceptable because tongkuai and wu are interpreted as verbal/non-nominal and hence of the wrong categorial type to constitute associates for ta.

2.4.1 As a Nominalizer

In order to reach the conclusion above, a brief review of the patterning observed in section 2.2 will be helpful. It was observed in Section 2.2 that the element *ge* may occur preceding nouns which are *already* quantified by numeral-classifier expressions, as for example in (55):

- (55) he ge san-ping jiu (see also 11 and 12)
drink ge three-CL wine
'drink three bottles of beer at one time'

It was also significantly shown that *ge* may occur introducing not only elements which are clearly nominal (as in 55), but also other XP-types which may not be nominal at all, a common case being *adjectives* as in (56a), but also clause-like idiom expressions as in (56b) and sub-parts of V-V compounds as in (56c):

- (56) a. chi ge bao (see also 17)
eat ge full
'do a satisfying eating'
- b. wen ge shui-luo-shi-chu (= 25c)
ask ge water-fall-rock-out
'do a thorough interrogation until everything is clear'
- c. xue ge xi (= 4)
study ge study
'do an activity of studying'

In this sense it seems that *ge* is rather unselective in terms of the syntactic category type it selects and introduces into the object position.¹⁸

A comparison was also made between *ge* and other regular classifier types and it was argued that *ge* is *not* simply replacing a more specialized regular classifier when it occurs in certain objects, as the attempt to replace *ge* with a regular classifier is often found to be unacceptable:

- (57) tiao *ge*/*gen sheng (see also the discussion in 7-10)
jump *ge*/CL-strip rope
'do a rope jumping/*jump one rope'

This would seem to indicate that *ge* is not simply occurring in the standard classifier position and that 'event *ge*' forms do not result from simple deletion of the numeral *yi* 'one.' Rather, *ge* would appear to have a rather different status from standard classifiers and arguably is occurring in a different syntactic position.

It was also shown that the *ge*-XP has an important *aspectual function*, often serving to provide either an end point for an activity predicate or an object which can be measured-out in the course of the event (and so also naturally bounding the predicate in this function too). Data reviewed indicated that *ge*-XPs could only occur with *perfective* and not *imperfective* aspect-markers (and marginally with stative predicates if an inchoative interpretation is forced, example 30), this being fully consistent with the assumption that *ge*-XPs function to convert a non-telic

¹⁸ The *output* of applying *ge* to any of its possible complement XP types is however assumed to be consistent, and *ge* as a nominalizer applied to any of these XP will result in a constituent YP [_{YP} *ge* XP] which is outwardly specified as being a nominal-type projection.

predicate into one which is aspectually bounded. Noting that work carried out by Tenny (1987) and Borer (1994) has argued that underlying nominal objects (or unaccusative subjects) may be necessary for the interpretation of a predicate as telic, it was suggested that *ge* might seem to be functioning as a *nominalizer* in part, converting certain non-nominal categories into object DPs which could then serve as the necessary input for the interpretation of a predicate as telic.

It was further noted that there are various restrictions on *ge*-XPs--it was shown that adjectives introduced by *ge* may not undergo predicate-type ABAB reduplication, that regular negation may not occur between *ge* and its complement, and that adjectives in *ge*-XPs may not undergo A-not-A question formation. It was suggested that restrictions of this type might be explained by likening such patterns to other similar restrictions found with *nominalization* phenomena in languages such as Korean. Nominalizers in Korean would seem to differ crucially with regard to the *size* of the syntactic constituent they may embed, Type II nominalizations embedding a full clausal constituent and allowing for all regular clausal elements and syntax to occur internal to the nominalization, while Type III nominalizations only embed VPs or smaller clausal/lexical projections and disallow elements and syntactic phenomena which are dependent on higher functional heads in the clause. Such differences have also been noted to occur in English (e.g., in Abney 1987), with the *-ing* nominalizer arguably being associated with either an IP-like constituent as in (58), this licensing nominative case and accusative case, or selecting a VP-size complement and forcing

genitive case and *of*-insertion for objects (due to the lack of T and AgrO heads) as in (59):

(58) [John reading his book] was encouraging.

(59) [John's reading of his book] was encouraging.¹⁹

Consequently there might seem to be good evidence for a nominalization hypothesis, the absence of ABAB reduplication, A-not-A question forms and regular negation being attributed to the possibility that *ge* as a nominalizer might be selecting a bare Adj(P) which would not be able to support such syntactic processes.

A final set of evidence relating to patterns found with object expletive *ta* was then argued to confirm this suggestion. Observing that object expletive *ta* always seems to require a weakly-quantified DP associate, a natural conclusion to make is that *ge*-XPs also have such a status, and that the element *ge* is critical in performing a nominalization category-conversion function.

Putting all this information together, it seems that *ge* can be convincingly argued to function as some kind of *nominalizer*. A natural question to ask now is what the descriptive term *nominalizer* actually corresponds to in formal syntactic terms, and what position in the Chinese DP/NP/CIP *ge* actually occurs in?

¹⁹ Note also that negation can occur in the (58)-type form and not in (59), supporting the suggestion that (58) contains an IP clausal projection whereas (59) is a simple nominalized VP:

- (i) a. [John not reading his book] upset us.
b. *[John's not reading of his book] upset us.

2.4.2 In D^0 Position

Here I would like to suggest that the most natural interpretation of the evidence and patterning found may be to conclude that the element *ge* is actually a *determiner* in the D position selecting for a variety of complement types and converting them into a 'nominal' output which can then function to provide an aspectual bounding for an activity predicate. The clues which lead to such a conclusion also come from various parts of the evidence presented. First the nominalization function of *ge* has been seen to be suggested by a number of phenomena. The patterns with object expletive ta then indicate that the overall category of the *ge*-XP can reasonably be argued to be that of DP, headed by some overt weak determiner (noting that object expletive ta will *not* combine with an NP which does not have any overt weak determiner, cf: *kan ta shu 'read it book(s)'). This consequently might seem to indicate that *ge* itself must be interpreted as the weak determiner head of the DP.

As *ge* is elsewhere assumed to have the category of *classifier* however, one might perhaps question whether this suggested (re-)assessment of (event) *ge* as a determiner type is actually correct. Other evidence indicates that such a conclusion is in fact rather well-supported. First of all it was seen that (event) *ge* may often *not* be simply replaced by a more specialized classifier (example 57), which may be taken to indicate that *ge* is not just instantiating the regular classifier position but is inserted as some other syntactic category type. Secondly we saw that (event) *ge* may also *precede* a full numeral-classifier expression as in (55), which indicates rather clearly that *ge* cannot in fact be occurring in the regular classifier position but must

in fact be located in some *higher functional head*.²⁰ A natural conclusion then is that this higher functional head is in fact D, and that the occurrence of *ge* in D results in the nominalization of whatever complement it is that *ge* introduces. By drawing a parallelism between a V-O-*ge*-XP string and the double object construction, I have also shown how the event *ge* makes it possible for the *ge*-XP to act like an (extra) argument of the verb, which can furthermore be said to be a typical function of a determiner. Szabolsci (1994) has proposed that the primary function of determiners and complementizers (which occur in similar structural positions in nominal and clausal constituents) is to act as "embedders" and enable a proposition or a DP to refer as an argument.

2.4.3 Further Evidence

Event *ge* is therefore now suggested to be a weak determiner instantiating D and higher in the nominal functional structure than simple numeral-classifier units. There are two further consequences of such an analysis which can be argued to support it further. First of all if *ge* is in D and not the regular Classifier position Cl, we can explain why *ge* may not be preceded by numerals such as and san 'three' and si 'four,' etc.--numerals will occur lower in the functional structure and not raised in D or SpecDP:

²⁰ It might perhaps be suggested that *ge* in these cases corresponds to something like a 'group classifier' and therefore does still occur in a higher classifier position. However, event *ge* can also embed adjectives with no group meaning. If one intends to aim for a uniform analysis of event *ge* it would therefore seem that *ge* is best analyzed as something other than a straightforward classifier in Cl.

- (60) a. Wo xiang chi *ge* bao.
 I want eat *ge* full
 'I want to keep eating until I am stuffed.'
- b. Wo xiang chi *yi ge* bao.
 I want eat one *ge* full
 'I want to keep eating until I am stuffed.'
- c. *Wo xiang chi san/si *ge* bao.
 I want eat three/four *ge* full

Elsewhere (e.g., in S. Lü 1984) it has been suggested that event *ge* is actually the abbreviated form of *yi-ge* 'one-*ge*' and hence that *ge* should in fact be in the regular Cl position, simply with a deleted number one. Here I would like to suggest that there may in fact be a deleted or covert yi occurring with *ge*, but that this element is not in fact the regular number one but rather an equivalent to the indefinite article a/an in English. While certain languages do have indefinite articles which are phonologically distinct from the number one (as e.g., English), there are many languages which make use of the number one also as an indefinite article (e.g., German ein, French un, etc.). Chinese can therefore be suggested to belong to this latter (far larger) group and allow for yi to be syntactically employed *either* as the number one *or* as an indefinite article.²¹ The distributional facts reported here would also seem to support the treatment of yi as an indefinite article syntactically distinct

²¹ Concretely I would actually like to assume that *yi-ge* is a single grammaticized X⁰ head and does not consist in two discrete parts/heads (noting that neither *yi* nor *ge* can be substituted for by any other numbers or classifiers when this unit occurs in the D⁰ position preceding other numerals and classifiers or adjectives, etc.) . It is *yi-ge* therefore which is the D⁰ indefinite determiner equivalent to English 'a/an.' I furthermore suggest that simple bare *ge* is fully equivalent to *yi-ge* and results from simple reduction of *yi-ge* to *ge*.

from the number one yi too--only the article yi can occur (with *ge*) preceding a numeral-classifier-N sequence:²²

- (61) a. ta e jile, henhende chi-le (yi) ge san-wan-fan.
 he hungry extremely fiercely eat-LE one ge three-CL-rice
 'He was very hungry, so he fiercely ate three bowls of rice (at one time).'
- b. *ta e jile, henhende chi-le si ge san-wan-fan.
 he hungry extremely fiercely eat-LE four ge three-CL-rice

Such a syntactic difference between an indefinite article and a homophonous number one can be found elsewhere in Thai and supports the distinction suggested here. In standard Thai the number 'one' nung occurs preceding the classifier as in

²² Note that although *(yi)-ge* as an indefinite determiner can freely precede other numerals and classifiers as in (61) and other examples in the chapter, it cannot occur before the numeral one and a classifier:

- (i) *wo chi-le (yi)-ge yi wan fan
 I eat-ASP a one CL/bowl rice

A restriction on the legitimate use of the indefinite determiner *(yi)-ge* seems to be that if the complement introduced by *(yi)-ge* is already nominal, it necessarily has to be a plural-collective XP. This may well be a primarily pragmatic restriction on the use of the determiner *(yi)-ge*. *(Yi)-ge* is commonly used to introduce a complement which is unusual or sometimes excessive in some way as e.g. in (61a). Singular NP complements (such as for example *yi wan fan*) however normally do not represent unusual/excessive amounts and so the use of the *(yi)-ge* determiner is pragmatically unjustified. If a situation can however be created in which the consumption of a single unit of the N may in fact be interpreted as being excessive/unusual, the use of *(yi)-ge* actually is permissible with a following *yi* + CL:

- (ii) Ta pingchang bu he jiu. Jintian tai gaoxing le.
 he regularly Neg drink alcohol tomorrow too happy LE
 Jingran zai wu-fenzhong nei he-le ge yi da-ping jiu.
 surprisingly at 5-minute within drink-LE GE one big-bottle wine
 'He does not drink regularly. He was too happy today. Surprisingly he drank a big bottle of wine in 5 minutes.'

(62).²³ However, when the same element has the interpretation of an indefinite article 'a/an' significantly it occurs *after* the classifier, as in (63a). The post-classifier position is also the position occupied by definite articles, as in (63b), confirming that post-classifier nung is in fact an article rather than a numeral:

- (62) a. phuu-ying nung-khon
 woman one CL
 'one woman'
- b. phuu-ying soong-khon
 woman two CL
 'two women'
- (63) a. phuu-ying khon-nung
 woman CL a
 'a woman'
- b. phuu-ying khon-nii
 woman CL this
 'this woman'

The second set of evidence supporting treatment of *ge* as a weak determiner giving rise to an interpretation of the DP it heads as a non-specific indefinite comes from the unacceptability of *ge*-XPs in environments other than object position. The examples in (64) and (65) show that *ge*-XPs cannot occur in subject position and cannot be topicalized. This can be simply ascribed to the suggestion that *ge*, as a weak determiner with a non-specific indefinite interpretation, is barred from

²³ See Simpson (2000) for further analysis of the Thai patterns here. Contemporary Thai still in fact shows many interesting features of early Chinese due to Chinese influence on the Thai language when the Thai people still inhabited South-east China (up until the 13th Century).

occurring in positions which only allow for either definite or specific indefinite DPs, hence neither subject nor topic position. Note that *bare* NPs/DPs *may* in fact occur in subject/topic position (with definite/generic interpretations); the fact that *ge*-XPs are fully unacceptable in subject/topic position can therefore only be related to the presence of *ge* and the proposal that *ge* as a weak determiner forces a particular non-specific indefinite interpretation.

- (64) a. **ge* wu tiao-wan-le.
 ge dance dance-finish-LE
 b. **ge* san quan pao-wan-le.
 ge three lap run-finish-LE
- (65) a. **ge* wu, ta tiao-le.
 ge dance he dance-LE
 b. **ge* san quan, ta pao-le.
 ge three lap he run-LE
 c. **ge* bao, ta chi-le.
 ge full he eat-LE
 d. **ge* ji-quan-bu-ning, ta nao-le.
 ge chicken-dog-not-peaceful he fuss-LE

Similar considerations account for the non-occurrence of *ge*-XPs in ba- and bei-constructions - in both such environments the ba-/bei-raised DP must be specific, but *ge*-XPs are necessarily non-specific.

- (66) a. *Ta ba *ge* wu tiao-le.
 he ba *ge* dance dance-LE
- b. *Ta ba *ge* san quan pao-le.
 he ba *ge* three lap run-LE
- c. *Ta ba *ge* bao chi-le.
 he ba *ge* full eat-LE
- d. *Ta ba *ge* ji-quan-bu-ning nao-le.
 he ba *ge* chicken-dog-not-peaceful fuss-LE
- (67) a. **ge* wu bei ta tiao-le.
 ge dance bei he dance-LE
- b. **ge* san quan bei ta pao-le.
 ge three lap bei he run-LE
- c. **ge* bao bei ta chi-le.
 ge full bei he eat-LE
- d. **ge* ji-quan-bu-ning bei ta nao-le.
 ge chicken-dog-not-peaceful bei he fuss-LE

Finally, the weak determiner analysis of *ge* can be suggested to account for the non-occurrence of *ge* with demonstratives as in (68):

- (68) *Ta chi-le *ge* na san wan fan. (cf. 11a)
 he eat-LE *ge* that three CL rice
 'He ate those three bowls of rice at one time.'

Examples such as (68) can be ruled out in either of two possible ways. Possibly it could be suggested that the demonstrative must be located in D and therefore if *ge* is also an instantiation of D they simply cannot occur. A second way to account for the unacceptability of (68) is to suggest that demonstratives are base-generated lower in

the DP and not in D (as per Simpson 1997), but that there must be necessary definiteness concord/agreement obtaining between a lower demonstrative/quantifier and any instantiation of D, and as *ge* is specified as being indefinite, this will conflict with the [+definite] specification of the demonstrative, so resulting in the unacceptability of (68).

Concluding this section, one might ask whether there is possibly any supporting precedent for the analysis of *ge* as an element of the type proposed. Essentially I have argued that *ge* is an *unselective determiner* which is able to embed a complement which may be of a variety of syntactic types, from clearly nominal types through to adjectives and apparent clausal idioms. Whereas determiners (and functional elements in general) cross-linguistically are commonly assumed to be lexically specified for a single complement type, the proposal that *ge* as a nominalizing determiner should tolerate a variety of complement types might seem to be somewhat unusual. However, looking further across languages one finds that a proposal of a highly similar type has in fact been made on the grounds of quite different evidence for patterning found in the Salish languages of North America. Davis and Matthewson (1997) argue at length and present convincing evidence that there are determiners in Salish which are unselective in terms of their complement category, optionally selecting *either* for a nominal *or* a verbal complement, an NP or a VP: 'In Lilloet Salish the lexical projections of N and V are morphologically and syntactically distinct. However, this distinction is neutralized at the DP/IP level. In (69) [numbering mine] the determiner /kwu/ indiscriminately takes either an NP or

- (72) goh-ging-chaat waa ngoh jii lak Cantonese
 Cl-policeman say I know Asp
 'The policeman told me (that).'

Given that definiteness is standardly assumed to be a property of the D^0 position in DPs, if definiteness readings result from the use of a bare classifier in Cantonese, it may naturally be suggested that this is a function of the classifier occurring in D. Then a clear parallel is found with the *ge*-XP construction - in both instances there is the occurrence of a bare classifier in the D position and a particular type of definite/indefinite interpretation results. The difference between Mandarin and Cantonese here being that indefiniteness is a lexically-associated property of Mandarin event *ge*, whereas all classifiers in Cantonese trigger definiteness readings when hypothetically occurring in D^0 . Cross-linguistically then it would seem that there is in fact support for the analysis proposed here, and that the functional element *ge* arguably can be taken to occur high in the nominal functional structure as an unselective weak determiner, necessarily interpreted as being non-specific indefinite and functioning to provide a telic nominal bound to aspectually unbounded predicates.²⁴

²⁴ Earlier I have noted that there is a special restriction that indefinite determiner *ge* seems to occur only as part of an aspectually-bounded predicate: *ge*-XP either follows an activity verb and provides the predicate with an end point or follows an achievement verb to reinforce the end point (the restriction addressed in examples 29-31). If one follows Borer (1994) and assumes that the object DPs which provide measures for telic predicates are licensed in the Spec of an AspP dominating VP, it can now be suggested that the event *ge* is an instantiation of D^0 which will formally only be licensed when such an AspP is projected in the structure. Consequently, where stative predicates occur no such AspP will be projected and the indefinite determiner *ge* will not be licensed as an instantiation of D^0 :

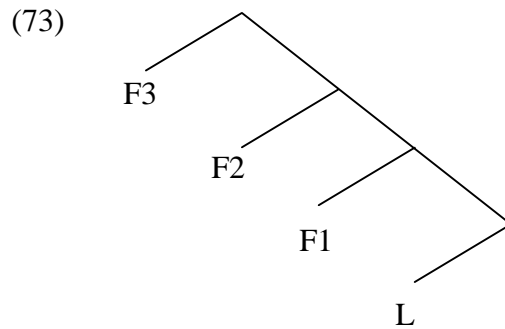
2.5 Grammaticalization, Re-analysis and *Ge*

In this last main section of the chapter, I would finally like to approach the question of how it is that *ge* might come to be an element in the D^0 -position. I would like to suggest that a plausible explanation can be offered in terms of an approach to grammaticalization initially suggested in Simpson (1998b). Such an approach can be shown to not only allow for a hypothetical account of *ge*, but will also be further developed in chapter 6 to account for changes which have arguably occurred with verbal *-le*.

In Simpson (1998b) it is suggested that one possible way of understanding certain occurrences of grammaticalization is to see grammaticalization as frequently resulting from a combination of movement and re-analysis within the functional structure projected above a lexical element. It is proposed that various instances of 'category change' (i.e., re-analysis of an element of one category-type as instantiating a second category-type) may occur when a lexical element first raises up to some functional head dominating the lexical head and then later on becomes re-interpreted as actually being base-generated in the higher functional head position. For example, if a functional structure consisting of three functional heads F1-F3 is projected dominating a lexical head L as in (73), it is possible that F1-F3 may be filled by discrete overt functional elements which are actually base-generated in F1-

-
- (i) *ta you ge san-ge haizi
 he have GE three-CL child
- (ii) *ta xihuan ge san-ge nu-ren
 he like GE three-CL women

F3, or it is possible that the lexical head L raises to these heads. In the latter case the lexical element may be taken to be base-generated with morphological features which are checked against the higher F-heads either overtly (as in N-to-D raising in DPs in Romance languages, see e.g., Longobardi 1994, Grosu 1988) or later on at LF.



Considering still the second case where L raises up to one or more of the functional heads, supposing the morphological features corresponding to these heads are covert/phonologically zero, it is possible that the lexical element itself may become interpreted as actually instantiating the features of the higher functional head(s). If the lexical element also undergoes a loss of descriptive content ('bleaching') while simultaneously becoming more associated with the functional properties of the F-head/s it raises to, it is argued that the lexical element may then ultimately undergo categorial re-analysis and be re-interpreted as base-generated in the functional superstructure dominating L rather than originating in L. This will consequently result in a syntactic category change and grammaticalization of the lexical element L as a functional element of type F₁ (or F_{2/3}).

As a concrete illustration of this hypothetical process, Simpson discusses the creation of the French negative morpheme *pas*. Originally negation in French was expressed just by a pre-verbal negative element *ne*. Later on this changed somewhat and the pre-posing of certain verbal *objects* to a non-canonical object position preceding the verb came to signal emphatic negation. Among these emphatic re-inforcers of negation was the element *pas* literally meaning 'a pace' or 'a step' and occurring naturally as the object of a variety of verbs of motion such as 'walk,' 'run,' etc. The effect of emphatic negation with *pas* was very similar to that in the English example (74):

(74) I didn't walk a STEP!

With other types of verbs different appropriate objects would be used, amongst which those in (75) below (see Gamillscheg 1957):

(75) *mie* 'crumb' - with verbs of eating
gote 'drop' - with verbs of drinking
point 'dot, point' - with verbs of writing

English again has certain similar uses, e.g.,

(76) I didn't drink/touch a DROP!

From a wide range of objects used as emphatic re-inforcers of negation in early French, by the sixteenth century only *pas* and the three elements in (75) actually remained, these elements having undergone sufficient generalization that they could be used with a wide variety of verbs. Later on still in modern French only *pas* and

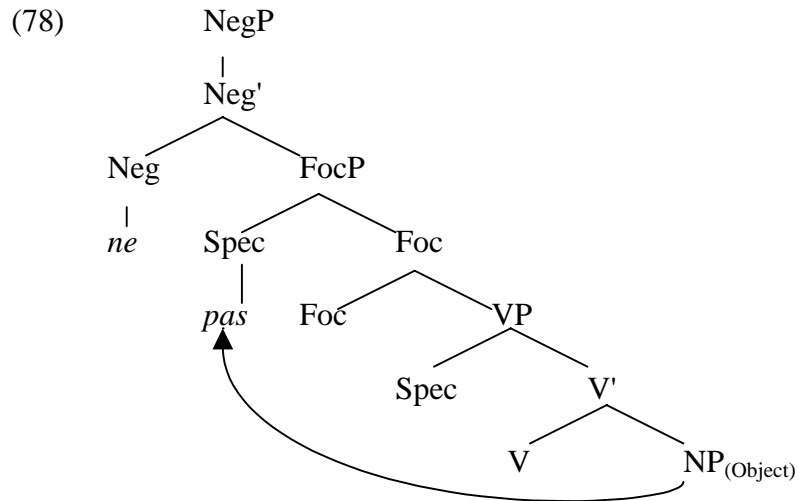
point are found, (without their original literal meaning) with *point* being more restricted in its use and only occurring to emphasize the contradiction of a previous statement (see here Hopper and Traugott 1993). Essentially then *pas* over time lost its original purely literal meaning of 'step' and has come to be used as a functional emphatic re-inforcer of negation with verbs which have no connection at all with walking or running or actions involving 'steps' as potentially genuine objects. In modern day French the original emphasis present with *pas* and other emphatic re-inforcers of negation has also significantly been lost and *pas* is now interpreted as signalling simple (non-emphatic) negation. Finally another highly important aspect of the process of historical change is that *pas* may now be used to express negation with transitive verbs which have overt objects. Whereas *pas* was originally understood to be the object of the verb, it has now been re-analyzed as a purely functional morpheme occurring in some other position. Because of this re-analysis, transitive verbs projecting other genuine object DPs may now co-occur negated with *pas* as in (77):²⁵

- (77) Je n'ai pas vu Jean.
I NEG-have PAS seen John
'I haven't seen John.' (Simpson 1998b)

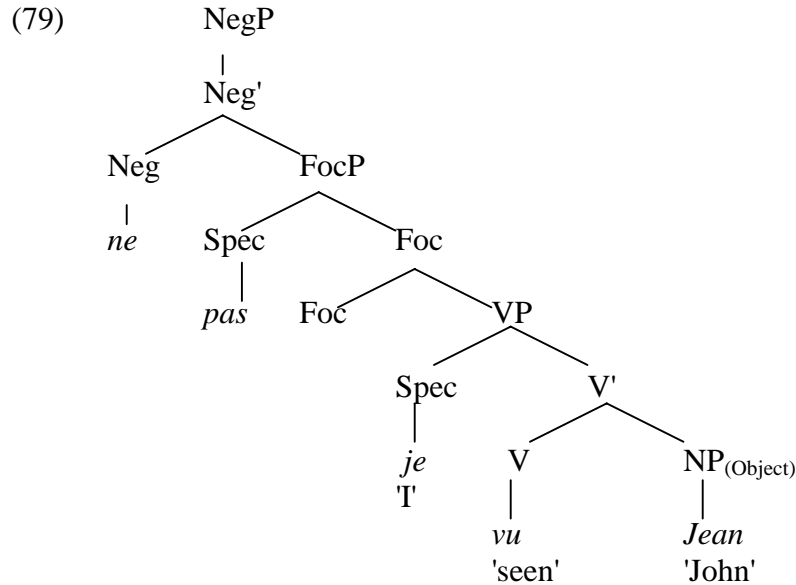
In view of this collection of synchronic and diachronic properties, Simpson suggests that *pas* was originally base-generated as a simple object NP which optionally

²⁵ It can also be noted that in colloquial French the original negative marker *ne* is fast disappearing so that *pas* is taking over as the sole marker of negation.

underwent raising to a pre-verbal emphatic-focus-type projection selected by the negation head *ne* when focus-features were added on to *pas*, as illustrated in (78):



With the continued association of *pas* with focus and negation and the specialization of *pas* over other emphatic negative objects Simpson suggests that *pas* was mentally re-analyzed as occurring base-generated in the Spec of the focus-projection. Such re-analysis then allowed for the object position to be occupied by a genuine non-emphatic NP and gave rise to forms with overt objects in addition to *pas*, as seen in (77) and the tree in (79):



The possibility of explaining the clustering of properties and developmental changes with *pas* in this way thus arguably supports the suggestion that grammaticalization may indeed consist in a sequence of movement and subsequent re-analysis in a functional projection targeted by a lexical element. Here *pas* is originally a lexical object which begins to undergo raising to the pre-verbal SpecFocP when it signals emphatic negation. Significantly later on after continued association of *pas* with negation and focus it is re-analyzed as being only a functional element and as therefore being base-generated in the functional projection itself. Such re-analysis frees up the object position in VP and a genuine thematic object can then be base-generated in this lexical position, leading to the co-occurrence of *pas* with overt lexical objects.

Simpson suggests that another instantiation of this 'upward' process of grammaticalization is the frequent change of lexical verbs into auxiliary-verb elements, a development in which a lexical V^0 first raises up to a higher Infl-type

from V^0 and then is later simply base-generated in the higher functional head.²⁶ In support of the movement-based approach to grammaticalization, Simpson also notes that changes going in a 'downward' direction do not seem to take place. For example, whereas root modals which are canonically situated low down in the functional structure dominating VP commonly turn into structurally higher epistemic modals with sentential scope, the opposite type of change of epistemic modal into root modal is critically not found (see e.g., Bybee, Perkins & Pagliuca 1994). Significantly it would seem to be the case that change and re-analysis consistently occurs in an upwards direction, mirroring the direction of syntactic movement.

Turning back to Chinese and *ge*, I would like to suggest that a rather simple natural hypothesis can now be made about *ge*'s occurrence in the D^0 position. It is fairly clear that *ge* must have originated as a classifier and would therefore have been originally base-generated in the classifier head position Cl^0 . Synchronically it has been suggested that *ge* has however a rather different function and occurs as an unselective determiner in D^0 embedding a variety of complement types as a nominalizer, functionally allowing these elements to occur as the nominal objects of a verb. Historically I would like to suggest that the current status of *ge* is a direct result of *ge* undergoing a sequence of movement and re-analysis in the functional super-structure of the DP essentially very similar to that outlined for *pas* above. It can be suggested that *ge* was indeed originally base-generated in Cl^0 but then later underwent raising to the higher D^0 position and then ultimately became re-analyzed

²⁶ Such a change and re-analysis is indeed assumed to have occurred in the 'creation' of the

as an element of type D^0 directly base-generated in the D^0 head. Concerning the motivation for the hypothetical movement to D^0 , here a useful clear parallel can be drawn with the development of English *a/an*. The English indefinite determiner *a/an* is well-documented as having developed historically from the numeral *one* (see e.g., Osawa 1998); if one assumes that numerals are base-generated in a distinct functional head Num^0 (as e.g., in Ritter 1991) and that indefinite determiners occur in D^0 , then *a/an* can be taken to have developed from *one* via raising from Num^0 to D^0 and eventual full re-analysis in D^0 . It may be assumed that *a/an/one* underwent a change in its interpretation and functional role and that from a time when it was licensed as a numeral signaling the number one in contrast to other numbers it later came to be interpreted *primarily* as a simple indefinite element which 'embeds' an NP as its argument. As an indefinite counterpart to *the* it would therefore have raised to D^0 and possibly then have undergone re-analysis as a D^0 element. Now, Chinese *ge* is in ways quite similar to English *a/an*, functioning as an embedding element with a clear indefinite value like English *a/an*. Recall here also the fact noted earlier that when no numeral occurs with the simple classifier *ge* it has a natural default interpretation of 'one'; in such cases there is critically no feeling of contrast between the numerical value one and other possible numbers and *ge* is much more naturally translated as English *a/an*. Consequently it can be suggested that when *ge* was not accompanied by a numeral in the past, it came to be potentially licensed not just as a classifier associated with a covert numeral 'one' but also as an

modal verb series in English (Lightfoot 1979).

indefinite embedding element higher in D^0 . Essentially then in both English and Chinese an element such as *ge/a/an/one* would be base-generated and remain in Cl^0/Num^0 if its role was primarily numerical and contrastive with other possible number values, but raise to D^0 or be directly base-generated in D^0 if its primary function were to serve as an indefinite embedding element. The hypothetical raising of *ge* to the D^0 position can therefore be given a reasonable explanation which furthermore has cross-linguistic support.²⁷

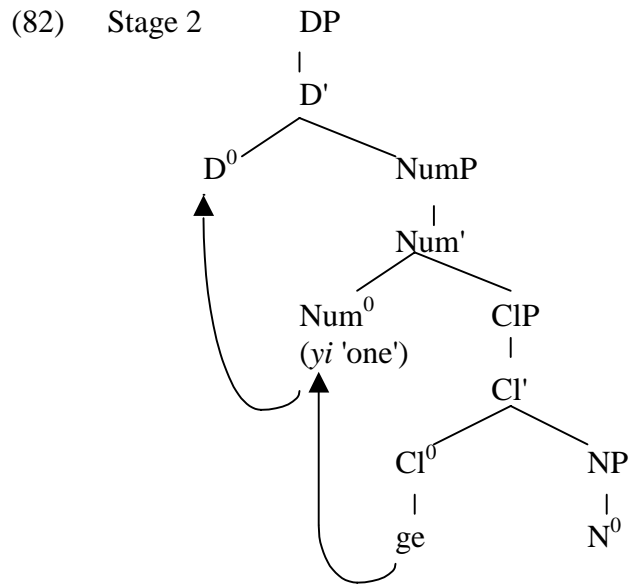
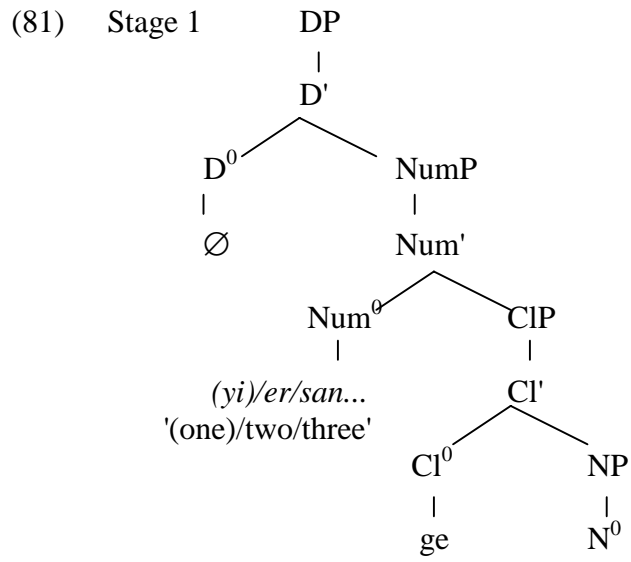
Diachronically, I would therefore like to suggest the following sequence of developments:

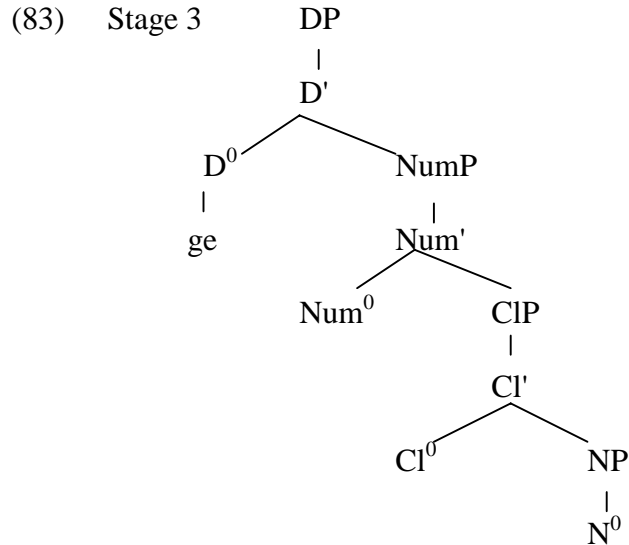
- (80) Stage 1: *ge* was base-generated and remained in Cl^0 as a classifier.
Stage 2: *ge* was base-generated in Cl^0 and also raised to the D^0 position
Stage 3: *ge* was fully re-analyzed as a D^0 and consequently base-generated directly in the D^0 position

Supposing one were to assume a simple DP structure with D^0 selecting for a NumP which in turn selects a CIP headed by a classifier, (81-83) would represent the hypothetical sequence of change:²⁸

²⁷ See here Szabolsci (1994) and chapter 3 on the suggestion that elements in D^0 may be licensed in virtue of being embedding elements similar to complementizers in the clausal domain. See also Longobardi (1994) and Vergnaud & Zubizarreta (1992) on the idea that the D^0 position sometimes must be filled, even if this is with an expletive determiner element which has no obvious definiteness value. Here I do not attempt to approach the question of whether the D^0 -position in Chinese might always need to be filled, and if so how this is achieved. For interesting relevant discussion here see Audrey Li (1998).

²⁸ There are many suggestions as to how D^0 , Num^0 and Cl^0 might be structurally related. I have adopted the structures in (81)-(83) for ease of explanation, but other structures might also be accommodated with the basic proposals put forward here. See Audrey Li (1999a) for further analysis of the internal structure of Chinese DPs.





In (82) where no numeral (other than 'one') occurs in Num⁰ *ge* raises here and is essentially interpreted as 'one,' and then moves higher to D⁰ where it is licensed as an embedding indefinite determiner-type element.²⁹ In stage 3, *ge* is re-analyzed as being base-generated in D⁰ and functions just as an embedding indefinite determiner. Significantly at this point when *ge* is not interpreted as having undergone raising from Cl⁰ and Num⁰ it then becomes possible for these positions to become filled with other overt elements and sequences such as (84) are fully possible:

- (84) ta he-le ge san-ping-jiu
 he drink-LE GE 3-CL-wine
 'He did a drinking of three bottles of wine.'

²⁹ Earlier it was noted that *ge* alternates with *yi-ge* as an indefinite determiner in D⁰ and that *ge* and *yi-ge* are essentially equivalent (see footnote 21). There are two possible ways in which *ge* could have come to combine with *yi* in D⁰. One possibility is that *yi* was located in Num⁰ in Stage 2 and allowed for *ge* first to raise up to it and then *yi* and *ge* together raised higher to D⁰ as *yi-ge*. A second possibility is that *yi* was actually located in D⁰ as an indefinite determiner in Stage 2 and *ge* raised up to adjoin to it in D⁰.

The sequence in (81-83) then really has a close resemblance to the changes found with the French negation element *pas*. Like *pas*, after *ge* has raised from its base-generated position to a higher functional projection and eventually undergone re-analysis and full grammaticalization as instantiating only the higher functional position, its original base-generated site then once more becomes available for the lexical insertion of other elements. Somewhat different to the development with *pas* though, because *ge* has become an *unselective* determiner, once stage 3 is reached *ge*'s complement is actually not forced to be a NumP but as noted in earlier sections can also be a variety of other syntactic types.

Ultimately then it has been possible to arrive at a plausible and reasoned explanation of how *ge* has grammaticalized and developed from a classifier into a functional element of some higher type within the DP, thereby adding further good support and justification for its synchronic treatment as an element of type D^0 as indeed proposed here.³⁰

2.6 Concluding Remarks

In this chapter I have shown that the general classifier *ge* can be employed to count out an event. Semantically this *ge* functions to make an atelic predicate telic by bringing out (or reinforcing) the end point of the event depicted by the predicate. Syntactically event *ge* has been suggested to be a weak *determiner* in the D position

³⁰ When the element yi occurs with event *ge* and has an interpretation as an indefinite determiner rather than a numeral, I would like to suggest that yi and *ge* are a single lexical head unit in D^0 , combined/fused in the lexicon as a single grammaticalized word/ X^0 .

selecting for a variety of complement types and converting them into a 'nominal' output which can then function to provide an aspectual bounding for an activity predicate. As a D^0 , *ge* is essentially equivalent to a non-specific indefinite article, this property also accounting for the fact that the DP headed by *ge* can only occur in object position in Chinese. Finally, I attempted to show how *ge* may have diachronically undergone change from being an instantiation of Cl^0 to become a D^0 , basically following a hypothetical path of change upwards in the DP equivalent to the development of the English indefinite article 'a/an' from the numeral 'one.'

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