

# Grammaticalisation *with* coevolution of form and meaning in East Asia? Evidence from Sinitic\*

## Abstract

Sinitic languages are normally classified as isolating; as to Mandarin Chinese, it is often assumed that grammaticalisation processes are strongly constrained by its typological features. It has been claimed that secondary grammaticalisation, i.e. increase in morphological bonding/fusion, phonetic erosion, and semantic bleaching, does not generally occur in isolating languages; moreover, Bisang (2008) proposes that the lack of “coevolution of meaning and form” in grammaticalisation is an areal feature of the languages of East and mainland Southeast Asia. Basing on data from Northern Chinese dialects, I shall show that there are many counterexamples to the proposed typological and areal restrictions; I shall also argue that although the evolution on the formal level of signs is triggered by (primary) grammaticalisation, it may be carried on independently of the degree of grammaticalisation of the sign and of the context.

Keywords: Grammaticalisation; Language change; Typology; Sinitic

## 1. Introduction

In the literature on language change it has been claimed that grammaticalised items tend to preserve their phonological shape in Chinese, with limited or no morphological erosion, bonding and fusion; these are said to be features of isolating languages in general (Bybee, Perkins and Pagliuca 1994) and also, specifically, of the languages of East and South-East Asia (Bisang 1996, 2004, 2008). Thus, the outcome of grammaticalization processes in Chinese is claimed to be conditioned by typological and areal constraints, including also phonological and prosodic restrictions on erosion and fusion of grams. However, there actually is a growing body of research, little known outside the Chinese-speaking world, on phenomena of phonetic erosion and fusion of grammaticalized morphs in the so-called ‘Chinese dialects’, i.e. Sinitic languages other than the national standard (see e.g. Li, 2002, Yue 2003, Ansaldo and Lim, 2004).

In this paper I shall show that the above mentioned constraints on grammaticalisation mostly apply to Standard Mandarin (henceforth: SM) but do not hold for all of Sinitic, stressing the importance of evidence from non-standardised varieties to assess claims about language families or linguistic areas (cf. Laitinen, 2004). Basing on data from Northern Chinese dialects, belonging to the Mandarin and Jin groups<sup>1</sup>, I shall argue that although the evolution on the formal level is triggered by the onset of grammaticalisation, it may be carried on independently of the degree of grammaticalisation of the sign.

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\* The *Pinyin* romanisation system and traditional Chinese characters have been used as a default throughout the article. However, in order to be consistent with the sources quoted, simplified characters will also be employed. I did not add characters when the source did not provide them. The *Pinyin* system is used only for the transliteration of Standard Mandarin and of sentence-length examples of older stages of Chinese; for all other dialects, I shall use (italicised) IPA transcriptions as provided by the sources. Tones are indicated as diacritics in *Pinyin*, but they are marked as superscript numbers for varieties other than the national standard. The glosses follow the general guidelines of the Leipzig Glossing Rules when applicable; additional glosses include CONT ‘continuous’, COS ‘change of state’ and GOAL ‘goal marker’.

<sup>1</sup> The status of Jin, the only proposed non-Mandarin group in Northern China, is controversial. According to the ‘traditional’ view, Jin is just a subgroup of Mandarin; since the characteristics differentiating Jin from Mandarin are irrelevant for my analysis, I shall not discuss the issue any further here (for a brief summary, see Kurpaska, 2010, pp. 74-75).

I hope that the discussion of these questions will contribute to a better understanding both of the typology of Sinitic languages and, also, of the relationship between the semantic and formal aspects of grammaticalisation.

This paper is organised as follows. Firstly, I shall review the claims put forth in the literature on grammaticalisation in Chinese and, more generally, on the relationship between the semantic and formal aspects of language change. Secondly, I shall illustrate my Sinitic data; due to space constraints, I shall discuss in detail only the marking of perfective aspect, also making reference to some related categories. I shall show that the formal development of grams may be largely independent of their degree of grammaticalisation, thus arguing in favour of the partial independence of ‘primary’ and ‘secondary’ grammaticalization (in the sense of Traugott, 2002<sup>2</sup>). Also, I shall discuss some sociolinguistic and areal correlates of the phenomena under examination, showing that nonlinear aspect morphology seems to cluster in some areas. Lastly, I shall summarise my conclusions and provide some hints for further research.

## **2. Theoretical background: typological constraints on grammaticalisation**

Mandarin Chinese has been defined as a “textbook example” of an isolating language (Sagart, 2004, p. 123). Since the defining features of isolating languages are those of having plenty of monomorphemic words, little or no inflectional morphology and stable boundaries between morphs, it comes as no surprise that grammaticalisation processes have been claimed to be subject to special constraints in this language type, as mentioned in the introduction.

The ‘extreme’ hypothesis is that put forth by Bybee, Perkins and Pagliuca (1994, p. 118), according to which isolating languages not only lack affixes, but also do not develop “grams with meaning as abstract and generalized as synthetic languages do”<sup>3</sup>. The basic claim of Bybee, Perkins and Pagliuca is quite simple: grammaticalization is characterised by the “dynamic coevolution of meaning and form” (1994, p. 20). The kind of formal changes which accompany grammaticalisation include “reduction or loss of phonetic bulk” and “the fusion of the grammaticizing material to the surrounding material” (1994, p. 104); since, however, actual fusion may be prevented by the position of the gram or by the low relevance of its meaning, they allow for fusion to be ‘surrogated’ by “dependence”, i.e. loss of autonomy of a sign. Thus, even if a sign does not become an affix, it may still be assigned the same degree of grammaticalisation of a fused item based on its dependence score.

In Bybee, Perkins and Pagliuca’s monograph a number of criteria are introduced to assess the degree of phonetic reduction and loss of autonomy (fusion/dependence) of a sign, as e.g. suprasegmental reduction, shortening and reduction of vowels, number of allomorphs, stem-conditioned allomorphy, etc.; a score is assigned to each of those features, enabling a quantitative assessment of the relation between meaning and form in grammaticalisation. For instance, loss of stress or tone are interpreted as “an early indication of loss of autonomy and reduction”; score 2 is assigned to grams which have completely lost their stress/tone, score 1 is assigned to grams which do not always take stress, whereas

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<sup>2</sup> Traugott (2002, pp. 26-27) distinguishes between “primary” grammaticalisation, i.e. “[t]he development in specific morphosyntactic contexts of constructions and lexical categories into functional categories”, and “secondary” grammaticalisation, i.e. “the development of morphophonemic ‘texture’ associated with the categories in question; here the issue is the degree of morphological bonding/fusion, phonetic erosion, bleaching, etc.”.

<sup>3</sup> Compare Traugott and Heine (1991, pp. 8-9): “There is, for example, a well established channel of grammaticalization leading from postpositions to nominal case inflections. To my knowledge, however, such development has not been documented for languages of the analytic-isolating type, where grammaticalization is unlikely to lead to the development of inflectional morphology”. See also Wu F. (2005b), who suggests that the analytic-isolating nature of Chinese prevents words and clitics from evolving into inflectional affixes.

0 is the score assigned to grams which retain their stress/tone (Bybee, Perkins and Pagliuca, 1994, p. 111). This quantitative assessment obviously requires a measure of the semantic aspects of grammaticalisation as well, termed the ‘semantic age’ of grams; these ages correspond to stages of grammaticalisation. In the development of perfective and simple past grams from completives, the latter represent stage 1, “young anteriors” represent stage 2, “old anteriors”<sup>4</sup> are stage 3, whereas perfective and simple past are stage 4 and 5, respectively (1994, p. 105); stage 1 is the most “concrete” and stage 5 is the most “abstract” in the path (note that their ‘anterior’ corresponds to the category of ‘perfect’ of many other authors; see e.g. Heine and Kuteva, 2002, p. 231). The correlation between the semantic age of grams and their degree of reduction and autonomy is fruitfully tested by the authors on a large balanced sample (see appendix A in Bybee, Perkins and Pagliuca, 1994 for the details): they thus state that

over a number of unrelated languages there is a strong association between meaning and the form of expression of particular grammatical morphemes that may be explained by postulating that the degree of dependence and the fusion of a gram with the verb increase and the length of the gram decreases as the meaning of the gram generalizes and becomes more abstract (1994, p. 115)<sup>5</sup>

In an isolating language as Chinese, signs tend to remain stable through time, i.e. no strong reduction either in meaning or in form is expected to occur, according to them.

In later works, Bybee makes clear that (strong) formal reduction is not a necessary correlate of all instances of grammaticalisation, and “in some languages grammaticizing elements become affixes before undergoing a great deal of phonological reduction” (Bybee, 2005, p. 186; cf. the distinction between primary and secondary grammaticalisation). Nevertheless, the basic idea of a significant correlation between semantic and formal evolution is maintained by her; moreover, as we shall see below (2.1), Bybee (2003, 2006) believes that repetition and high frequency are instrumental in phonological reduction; this is said to be common in grammaticalisation, albeit not universal and not limited only to such phenomena.

Bybee, Perkins and Pagliuca’s model of change introduced above (and Lehmann’s; see fn. 5) are explicitly challenged by Bisang. From an areal perspective, Bisang (1996, 2004, 2008) argues that the languages of East and mainland South-East Asia<sup>6</sup> possess typological features which make it possible to have highly grammaticalised items that do retain their original phonological shape, thus having grammaticalisation “without coevolution of form and meaning”, i.e. primary grammaticalisation without secondary grammaticalisation; even highly grammaticalised items tend to preserve their original shape. According to Bisang, this is possible mainly because of two characteristics of the languages at issue: the comparatively weak correlation between lexicon and morphosyntax and the lack of obligatory categories, or ‘indeterminateness’. Here I shall briefly introduce these notions, focussing on indeterminateness; in the next section, I shall discuss their significance for the alleged lack of coevolution of form and meaning in grammaticalisation.

The weak correlation between lexicon and morphosyntax is understood by Bisang as the relative freedom with which items may occupy a slot. Whereas we usually assume that lexical items appear in certain syntactic (or construction) slots, in languages as Chinese a lexeme may occur “in different

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<sup>4</sup> By “young anteriors” the authors mean those markers of anteriority which have no other function, whereas by “old anteriors” they mean “anterior grams with other uses indicating a more advanced semantic development” (Bybee, Perkins and Pagliuca, 1994, p. 105).

<sup>5</sup> The idea that ‘abstraction’ of meaning and loss of phonetic substance and autonomy are closely connected is also built in Lehmann’s influential model of grammaticalisation (1995; on Lehmann’s parameters of grammaticalisation, see also Bisang, 2008).

<sup>6</sup> Specifically, Mon-Khmer, Tai, Sinitic and Hmong-Mien (Miao-Yao).

syntactic environments with different functions” more easily; thus, for instance, Mandarin 在 *zài* ‘to be at’ may function as a full verb, as an adposition (‘at, in’) and as a marker of progressive aspect (see the examples in Bisang, 2004, p. 117). According to Bisang, such propensity of lexical items to appear in different slots “supports the reanalysis of lexemes in different functions and thus enhances the probability of processes of grammaticalization to take place”.

The lack of obligatory categories, or indeterminateness, may be exemplified by this SM sentence (Bisang, 2004, p. 111):

- (1) (*Tā lái*)  
s/he come  
‘s/he comes / has come / is coming / will come / etc.’

In (1), information such as tense, aspect, person, etc. is not marked on the verb; they are all to be inferred<sup>7</sup>; also, obligatory arguments may be frequently omitted, especially if they have been previously introduced. The indeterminateness of Chinese (and of the other languages considered by Bisang) motivates the predominance of pragmatic inference: “[e]ven if there are markers whose meaning comes close to such categories as tense or aspect, they hardly cover the full semantic range associated with these categories and they also have a number of other functions as well” (Bisang, 2004, p. 116).

Thus, it is claimed that no ‘clines’ are involved in the grammaticalisation of signs in the languages of East and mainland Southeast Asia. One can see the difference between lexical and grammatical items, but it is often difficult to distinguish ‘more’ and ‘less’ grammaticalised signs; the existence of rigid syntactic patterns and pragmatic inference guide the interpretation of grammaticalised items. The morph 在 *zài* mentioned above is a good example of an item which has both lexical and grammatical usages, with no relevant formal differentiation between them; this appears to be the norm, rather than the exception, in Chinese and in the other languages considered by Bisang.

In constructionist approaches to grammaticalisation (see e.g. Traugott, 2003, Bybee, 2006), items grammaticalise as part of a construction, and thus the use of one and the same item in other constructions as a lexical item is not unexpected. What is more interesting, in my perspective, is the relation between the kind of meaning expressed by grammaticalised signs in Chinese and their frequency of occurrence, which will be the topic of the following section.

## 2.1 Paradigms, frequency and phonological constraints

Because of the characteristics of the languages of East and Southeast Asia outlined above, morphological paradigms should not emerge. A paradigm is based on a grammatical category as, say, tense or number, with values or subcategories; grammaticalised signs which have a “broad functional spectrum” and, on the other hand, fail to cover the whole range of meanings/functions of a given category, as is typical for the languages at issue, are not valid candidates for building a paradigm

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<sup>7</sup> Note that the idea that in isolating languages or, better, in languages which ‘tolerate’ a high degree of indeterminateness as Chinese, grammatical categories as tense or number *must* be inferred, always making recourse to pragmatics, is not universally accepted. For instance, Gil (2008, p. 115) proposes that languages may be arranged on a scale from “compositionally associational” to “compositionally articulated”; the less grammatical information is overtly encoded in the language (be it in morphology or in syntax), the more it is compositionally associational, and *vice versa*. According to this view, in a rather associational language as SM, some categories are not overtly expressed and, crucially, not necessarily always inferred, just as a speaker of English, a language lacking a dual number, does not struggle to infer if the speaker is referring to ‘two’ or ‘more than two’ when s/he hears a plural noun (see Gil, 2007).

(Bisang, 2008, p. 33). Moreover, a paradigm is expected to emerge when the markers of a given grammatical category are frequently used; this is connected with semantic generality, which allows them to occur in a broader range of contexts, even when they are semantically redundant (Bybee, Perkins and Pagliuca, 1994). In this context, a grammaticalising/grammaticalised construction may become obligatory and, thus, even more frequent; in the languages of East and Southeast Asia there seems to be no obligatory expression of grammatical categories, arguably (also) because of their ‘fuzzy’ semantics, and even grams with highly generalised meanings are not as frequent as, say, tense markers in English (Bisang, 2008).

What about the relationship between frequency, generality and phonological reduction/fusion? Phonological reduction and fusion, as well as “weakening of semantic force”, are claimed to be conditioned by high frequency of use (Bybee, 2003, p. 604); more frequent items tend to be shorter than less used ones, and grammatical items are phonetically reduced with respect to lexical items. This is again interpreted as a sign of the connection between semantic and phonetic reduction: Bybee suggests that the generalisation in meaning which grammaticalising signs undergo reduces their “informational contribution”, and “intonational and rhythmic emphasis” is reduced along with it (2003, p. 617). Also, since when a word and a morpheme very often occur together they “come to be stored and processed in one chunk”, high frequency can also favour fusion between lexical items and grams. Following Boyland (1996), Bybee points out that as sequences of units, due to their high frequency of cooccurrence, come to be processed as a single unit, their “gestural representation” changes, and the multiple gestures involved in their articulation are reorganised into single gestures, which causes reduction and “increased overlap of gestures” (2003, p. 617). An increase in the token frequency of a grammaticalised construction, also, enhances its autonomy as an independent construction (Bybee 2006).

Thus, the lack of phonological reduction and fusion for grammaticalised signs in the languages of East and mainland Southeast Asia could be motivated also by their comparatively lower frequency than analogous items in inflectional languages, in which there are obligatory grammatical categories with fully developed morphological paradigms. Moreover, Bisang (2008), following Ansaldo and Lim (2004), suggests that grammaticalisation in Sinitic can actually be expressed by “phonetic erosion”, but only in terms of duration and vowel quality, rather than by “morphological reduction”<sup>8</sup> (Bisang, 2008, pp. 16-17); this is due the discreteness of syllable boundaries and to certain “phonotactic constraints”. Ansaldo and Lim’s work is based on data from Cantonese and Hokkien (as spoken in Singapore), two Southern Sinitic varieties with more than one tone register and lacking a neutral tone. Cantonese and Hokkien have three tonal registers, namely high, mid and low; hence, a reduction in pitch height is anyway meaningful, as, for instance, a mid level tone may be misinterpreted as a low tone, rather than as a sign of erosion. However, SM and, generally speaking, Northern Chinese dialects all have neutral tone syllables (weakly stressed; Norman, 1988, pp. 148-149 and 195); some grammatical morphemes, as SM progressive 著 *-zhe* and perfective 了 *-le*, are actually toneless and show a certain degree of reduction even at the segmental level (see below, 3 and 3.1). This is remarked both by Ansaldo and Lim and by Bisang (2008); nevertheless, the alleged stability of syllable boundaries in Sinitic is never put into question in their approaches.

Another aspect of the phonology of Sinitic which could play a role in the development of the shape of grammaticalised items is the rhythmic group to which the individual varieties belong to. Languages may be divided into three groups, namely stress-timed (as English), syllable-timed (as Spanish) and

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<sup>8</sup> Ansaldo and Lim (2004, p. 358) provide examples of grammaticalised signs with a lexical counterpart, showing that the former “occupy more central[is]ed vowel space” or tend to monophthongisation of diphthongs, are much shorter and have lower fundamental frequency and intensity than the corresponding lexical items.

mora-timed (as Japanese), although the actual nature of this classification is debated (see Nespor *et al.*, 2011); stress-timed languages are said to have more reduction of vowels and more reduced unstressed syllables than syllable-timed languages (Mok, 2009, Nespor *et al.*, 2011). Cantonese, one of the two varieties considered by Ansaldo and Lim, is said to be syllable-timed, and as such is not expected to have reduced vowels; although SM has also been described as a syllable-timed languages, it does have vowel reduction and neutral-tone syllables (Mok, 2009). Interestingly, Singaporean Mandarin is said to have a lower frequency of unstressed syllables than SM (as spoken in Beijing) because of the influence of the Southern Sinitic varieties spoken in the city-state (Mok, 2009, p. 149). Hence, rhythmic group is a good ‘predictor’ only for Cantonese (and, likely, other Southern Sinitic varieties), but not for Mandarin.

In short, the phonological constraints proposed in the literature should not apply to the dialects considered in the present study. What is interesting in my perspective is that the grams investigated by Ansaldo and Lim undergo phonetic erosion in specific environments, namely as elements “of a syntactically and semantically closer/tighter phrasal unit, usually in a prosodically weak position, (...) next to, or sandwiched between, content morphemes, which are naturally stressed or accented” (Ansaldo and Lim, 2004, pp. 357-358); this is also the prosodic environment in which morphemes lose their tone and, hence, get reduced, in SM and in ‘my’ dialects, as we shall see in more detail below (3.1).

## 2.2 Reassessing typological constraints on grammaticalisation

The constraints proposed by Bybee, Perkins and Pagliuca (1994) and Bisang (2008) on Chinese do not seem to hold for all the dialects of Northern China. For instance, whereas the marker of perfective aspect is a cognate of the above mentioned –了 *-le* in the majority of Northern dialects, appearing in different forms (*lǎ, lio, liē*, etc.; Yue, 2003, p. 90), in some of them this aspectual category is marked by devices such as a change in the rhyme of the verb, e.g. in Huojia (獲嘉 *Huòjiā*), a Jin variety of Henan province. Compare (2a) and (2b) (He, 1989, p. 58, tone markers adapted, my glosses):

(2a) 我买葱  
*uaʔ mai<sup>53</sup> ts'uj<sup>33</sup>*  
 I buy scallion  
 ‘I am buying / will buy scallion’

(2b) *uaʔ mɛ<sup>53</sup> ts'uj<sup>33</sup>*  
 I buy.PFV scallion  
 ‘I bought scallion’

Rhyme change is but one of a number of alterations in the shape of a lexical root with a grammatical function, including tone change, lengthening and/or lowering of the nucleus vowel, rhotacisazion, combinations of the above, etc.<sup>9</sup>, as we shall see below (3.1); it is generally agreed that these alterations are the product of the fusion of morphological markers with lexical roots (see e.g. Chen Pe., 2004; Xin, 2006b; Lamarre, 2009, among others), thus providing a strong counterexample to the alleged stability of syllable and morpheme boundaries in Sinitic.

<sup>9</sup> See Lamarre (2009) for a survey. Also, a description of how aspectual categories are marked in a wide range of Chinese dialects may be found in Huang (1996, pp. 175-248).

The very existence of phenomena as those mentioned here obviously begs for a reconsideration of the claims on grammaticalisation and on the the typological characterisation of Sinitic which have been summarised here. The points I shall discuss in the remainder of this paper may be summarised as follows:

1. grammaticalisation with some degree of coevolution of form and meaning does occur in Sinitic; although the starting point for formal changes appears to be functional/semantic change, i.e. primary grammaticalisation, formal evolution may be carried on independently, arguably as a morphophonological process
2. while the typological restrictions on grammaticalisation put forth by Bisang generally hold for SM, and arguably also for Southern Sinitic varieties, in a number of Mandarin and Jin dialects secondary grammaticalisation goes as far as it can, with erosion of syllable boundaries, fusion of morphs, etc., just like e.g. in the familiar Indoeuropean languages of Europe
3. the increase in the extent of reduction, dependence and fusion of the grammaticalised morphs at issue here is very likely favoured by prosodic reasons and, possibly, by their ability to appear in more contexts than their corresponding SM marker, at least in some dialects
4. given the available data, it appears that the distribution of ‘fusional’<sup>10</sup> aspect markers has some areal implications, as nonlinear aspectual morphology seems to concentrate in some (fairly homogeneous) areal clusters.

### 3. Aspect marking in Northern Sinitic: data and analysis

Aspect markers in Sinitic are mostly the product of the grammaticalisation of verbs. As remarked by Yue (2003, p. 89), since the grammaticalisation process started “at different times and paces in different dialects”, aspect markers are at “different stages of grammaticalisation” across dialects, and even within a single dialect; while Yue does not explicitly mention the degree of formal reduction, this is a central concern for my discussion of the evolution of grams.

I may quote as a first example the markers of progressive and durative aspect in Northern dialects deriving from the verb 著 *zhuó* ‘to touch, reach’<sup>11</sup>, from which the SM continuous marker –著 *-zhe* originated. Starting out as a full verb, 著 *zhuó* evolved first into a preposition and then into an aspectual suffix; according to Jiang (1999), in dialects of the Shanxi and Shandong provinces, this marker appears in different shapes, claimed to be related to the degree of grammaticalisation of the marker itself. Thus, in its prepositional usage 著 *zhuó* first loses its tone, and is attested e.g. as *tʂuə*, *tʂə*, etc., then undergoes further change, appearing as *tiə*, *tə*, etc.; as it becomes a ‘true’ suffix, increasing its dependence from the verb, it may get reduced to a schwa and, later, fuse with the verb root, causing the lengthening of its nucleus vowel, and eventually disappear, i.e. become zero (1999, p. 200). The different degrees of formal reduction and dependence for cognate markers in closely related dialects are taken as a projection of the diachronic development of the marker. As stated before, I am inclined to

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<sup>10</sup> I use the adjective ‘fusional’ in the sense of ‘fused with the lexical root’, without any implication of cumulative exponence.

<sup>11</sup> Late Middle Chinese *trhiak*, Early Mandarin *tʂew*, *tʂə* (Pulleyblank, 1991); *drjak* in Baxter and Sagart’s reconstruction of Middle Chinese (2011).

believe that increased reduction/fusion is not necessarily connected with increased grammaticalisation, and may largely due to morphophonological processes; in this case, judging from the (limited) data presented in Jiang (1999), there seems to be no significant formal difference between the prepositional and the aspectual usage of these markers, and reduction and fusion continue without further semantic evolution. I shall elaborate on this in the discussion of the marking of perfective aspect.

I already said in the preceding section that the ‘standard’ marker of perfective throughout Northern Sinitic is a cognate of SM –了 *-le*; let us start my discussion from an overview of the attested history of this aspect marker and of its evolution in modern dialects.

### 3.1 *The grammaticalisation of 了 liǎo ‘to finish’*

The SM aspect marker –了 *-le* is the product of the grammaticalisation of the full verb 了 *liǎo*<sup>12</sup> ‘to finish, complete’ (Sun C., 1996). This is somehow an atypical case of grammaticalisation for SM, as there has actually been some phonetic reduction and increase in bondedness, since the triphthong nucleus is reduced to a schwa [ə] and the verb lost its tone; as said before (2.1), such kind of reduction is compatible with the phonological and prosodic characteristics of Northern Sinitic languages.

Whereas until the 15th century –了 *-le* was a verb of its own which could also appear after the object of the verb, it is nowadays directly attached to it, and nothing may intervene between them; compare (3), a 10th century example (Sun C., 1996, p. 88; romanisation and glosses adapted) and (4), a Modern Mandarin sentence:

- (3) 作此語了  
*zuò cǐ yǔ liǎo*  
 make this word complete  
 ‘(One) finished making this statement’

- (4) 我已經吃了早餐  
*wǒ yǐjīng chī-le zǎocān*  
 I already eat-PFV breakfast  
 ‘I already ate breakfast’

The verb-*le* construction in (4) constitutes a prosodic environment which favours reduction of grams, as hinted at above (2.1). Lexical/content items are more stressed than functional ones, and the verb-*le* sequence forms a trochaic (strong-weak) foot, also typical of Chinese compounds; thus, the gram is in a weak prosodic position, and is more tightly associated with the verb root, if compared to the stage represented by example (3) (Ansaldo and Lim, 2004; see also Jiang, 1999, Li, 2002). Also, since the time of the Tang Dynasty (618-907 CE), the frequency of 了 *liǎo* gradually increased, and it ousted a number of competitors, as e.g. the postverbal perfective marker 卻 *què* or the verbs 竟 *jìng* and 畢 *bì*, indicating completion (Sun C., 1996, pp. 86-90); I already remarked before that increased frequency of cooccurrence of a gram and a class of items (here, verbs) is a key factor in reduction and fusion (and bleaching) of grammaticalised morphs.

In many Northern dialects, mostly found in the neighbouring Shaanxi, Henan and Shandong provinces, the reduction of the markers cognate to –了 *-le* has gone much further, and there is great variation even between closely related dialects, as shown before with the discussion of markers related

<sup>12</sup> Late Middle Chinese *liaw*’, Early Mandarin *ljew*’ (Pulleyblank, 1991).

to 著 *zhuó*. In some dialects, several allomorphs of the perfective marker are attested, generally conditioned by the rhyme of the verb they attach to, at different degrees of reduction. For instance, in Tangyin (湯陰 *Tāngyīn*) we find *leʔ*, *ɛ*, *nɛ*, *lən* and *ən*, whereas in Hebi (鶴壁 *Hèbì*) the allomorphs are *ləʔ*, *ə* and *ɐ*; in yet other dialects of the area, perfective is normally expressed by a change in the rhyme, as in Xunxian (濬縣 *Xùnxiàn*), or rhyme change is one of the devices for marking this category, as in Neihuang (內黃 *Nèihuáng*; Xin, 2006b, p. 85).

The starting point of reduction is tone neutralization (cf. Li, 2002; Zhang and Li, 2007), which is then followed by simplification of the syllable nucleus to a single vowel, deletion of the onset (which is sometimes changed into a [n]), centralisation of the nucleus vowel, i.e. reduction to a schwa. This does not necessarily entail that the marker surfaces as [ə]: in Boshan (博山 *Bóshān*, Shandong province; Qian, 1993), perfective aspect may be conveyed either by the marker 了 *-liə* or by a so-called ‘schwa suffix’, the actual shape of which depends on the rhyme of the constituent it attaches to ([ə] after [i], [ɤ] after [u], etc.; 1993:24-25). I may remark that allomorphy is understood as a sign of the reduction in the “phonetic and semantic content” of a gram, since, with reduction, grams are “more prone to coarticulation with other phonetic material in the environment” (Bybee, Perkins and Pagliuca, 1994, p. 110).

With further reduction, the marker may lose its (weak) syllabic status and become fully fused with the verb root, as in the case of rhyme change seen above. Besides (segmental) rhyme change, other possible outcomes of the fusion include the so-called ‘rhotacisation’ (known as 兒化 *érhuà* in Chinese linguistics), i.e. the addition of a rhotic consonant to the nucleus of a syllable (here, that of the verb), deleting any coda consonant if present, tone change and lengthening. In the Qixia dialect (棲霞 *Qīxiá*), for instance, perfective aspect may be expressed either by the suffix *ə* or by rhotacisation, as e.g. 救兒<sup>13</sup> *ciou<sup>r45</sup>* ‘save.PFV’ (Liu and Shi, 2004, p. 40). Change may affect suprasegmental features: in the Juxian dialect (莒縣 *Jǔxiàn*; Li and Ai, 2008), the addition of the (toneless) perfective marker 了 *-lə* causes a change in the rhyme of the verb and spreading of tone on the marker itself, as e.g. 裁 *tse<sup>213</sup>* ‘cut’ vs. 裁了 *tse<sup>32</sup>le<sup>1</sup>* ‘cut-PFV’; as Li and Ai point out, 了 *-lə* is often left out<sup>14</sup>, and the tone value acquired by the marker ‘spreads back’ to the verb, as in 裁 *tse<sup>321</sup>* ‘cut.PFV’. In Xi’an (西安 *Xī’ān*; Sun L., 2007), rhyme change is used to indicate perfective aspect, together with the lengthening of the last vowel in the verb nucleus, as e.g. 毀 *xuei<sup>53</sup>* ‘to ruin’ > *xuə:<sup>53</sup>* ‘ruin.PFV’; another device to mark perfective aspect is tone change, as e.g. 活 *xuɤ<sup>35</sup>* ‘to live’ > *xuɤ<sup>242</sup>* ‘live.PFV’ (I shall get back to Xi’an in 3.2.4).

In some dialects, the devices described above interact in very peculiar ways. A case in point is Shangxian (商縣 *Shāngxiàn*), in which perfective aspect may be expressed by the following devices (Huang, 1996, pp. 175-176):

- (a) the suffix 了 *-lao<sup>2</sup>*, cognate to 了 *-le*;
- (b) tone change and lengthening of the nucleus vowel, as e.g. 簸 *puə<sup>53</sup>* ‘to winnow’ > *puə:<sup>5231</sup>* ‘winnow.PFV’
- (c) tone change, rhyme change and lengthening of the final vowel, as e.g. 起 *tɛ<sup>i53</sup>* ‘to rise’ > *tɛ<sup>iε:<sup>5231</sup></sup>* ‘rise.PFV’

<sup>13</sup> On the use of 兒 (SM *ér*) to mark rhotacisation, see below, 4.

<sup>14</sup> Li and Ai (2008, p. 394) also remark that in Juxian 了 *-lə* is only half as long as the corresponding SM marker, which is another sign of reduction.

While the use of the suffix  $-\bar{了}$   $-lao^2$  is said to be typical of dialect writing, the two fusional devices represent the standard spoken variant. The choice between the latter is not free, as certain syllable rhymes ‘select’ (b), while others select (c); hence, again, the shape of the perfective form of the verb is conditioned by the verb stem. Such a situation is not exceptional: in most dialects which make use of rhyme and/or tone change, these devices are not available for all rhymes, as e.g. in Changge (長葛 *Chánggē*; Zhao, 1998), where 12 out of 43 rhymes do not undergo rhyme change. Moreover, when a marker cognate to  $-\bar{了}$   $-le$  is available, this is typically described as more ‘bookish’, the fusional strategy being the preferred, ‘natural’ option.

Thus, from the data presented it appears that the evolution of markers deriving from ‘to finish’, cognate to SM  $-\bar{了}$   $-le$ , involves many of the indices of formal evolution of grammaticalised signs put forth by Bybee, Perkins and Pagliuca, i.e. phonetic reduction (a), increased dependence (b) and fusion (c)<sup>15</sup> (1994, pp. 107-114):

- (a) loss of stress, reduction to a neutral tone, shortening and reduction of vowels, loss of vowels and/or consonants
- (b) development of (non purely phonetically conditioned) allomorphs<sup>16</sup>, suprasegmental reduction
- (c) no open class intervening (between the gram and the verb), stem-conditioned allomorphy, conditioning of stem allomorphy by the gram

Whereas the allomorphy of suffixal markers of perfectivity is to be regarded as stem-conditioned allomorphy, rhyme and tone change(/lengthening) are instances of conditioning of stem allomorphy by the gram, in my opinion. What is most important, in my opinion, is that there is no relevant semantic or functional difference between the various strategies employed for the marking of perfective aspect, both within and across dialects. These language facts by themselves represent a strong counterexample to the constraints on grammaticalisation proposed in the literature, and call for a reconsideration of Bisang’s claims; the latter will be the topic of the next section.

What about the coevolution of form and meaning? Just as seen before for markers deriving from 著  $-zhuó$ , such a connection has been suggested also for grams deriving from ‘to finish’. In Linzhou (林州 *Línzhōu*; Chen Pe., 2005, 2007) the verb ‘to finish’ is  $\bar{了}$  *liau*<sup>55</sup>, the completive(/anterior) marker is  $-lau$  and the perfective marker is  $-ləʔ$ ; the former is typically associated with background events (e.g. in sequential actions), whereas the latter is associated with foreground events (like SM perfective  $-\bar{了}$   $-le$ ; cf. Chu, 1998) and. Moreover,  $-ləʔ$  may lose its initial, when preceded by some rhymes, and its actual shape is conditioned by the rhyme of the verb it attaches too (e.g. 进了 *tsing<sup>25</sup>ngəʔ* ‘enter-PFV’; Chen Pe., 2005, p. 76). It would thus seem that the degree of reduction of these markers is connected with the pathway suggested by Bybee, Perkins and Pagliuca and introduced above (2; completives and anteriors are the semantic antecedents of perfectives); it has also been reported that in colloquial Beijing Mandarin the perfective morpheme  $-\bar{了}$   $-lə$  surfaces as  $-lou$  when it has a

<sup>15</sup> I omitted the orthographic criterion for fusion as it cannot be applied to Sinitic, since in the Chinese writing system morphemes and words are written one after the other, with no spacing.

<sup>16</sup> Bybee, Perkins and Pagliuca (1994, p. 111) do not regard purely phonetically conditioned allomorphy, as the alternation between /t/ and /d/ in the English past tense, as indices of increased dependence. This is because these are considered to be “purely automatic”, i.e. not directly connected to the degree of phonological integration of the gram.

completive meaning, and apparently such a formal distinction is found also in other Northern dialects (see the data in Chen Pe., 2005, pp. 79-80 and Chen Pe., 2007, pp. 139). We found a similar situation in a dialect spoken fairly close to Linzhou, in the neighbouring Hebei province, namely Nanhe (南和 *Nánhé*; Zhang L. 2011). In Nanhe, the verb 了 *liǎo*<sup>55</sup> ‘to finish’ got reduced to *-lau* in its use as a completive marker, and to *-la/-a* as a perfective aspect marker; moreover, both *lau* and *-la/-a* tend to fuse with the verb root, causing tone change, lengthening of the rhyme vowel, depending on the shape of the rhyme (Zhang L. 2011, pp. 19-21).

Thus, it seems that in some dialects there is some evidence, albeit limited, for the “parallel reduction hypothesis” (Bybee, Perkins and Pagliuca, 1994, p. 20), i.e. for a direct connection between semantic and phonetic reduction.

However, two remarks are necessary. Firstly, I did not find a similar specialisation of functions in dialects other than those mentioned in Chen Pe. (2005, 2007) and Nanhe; moreover, for languages as e.g. Xunxian (Xin, 2006a-b), in which rhyme change is the only device available for the marking of perfective aspect, even if such specialisation of functions for different allomorphs had existed, the disappearance of the analytical marker(s) makes it impossible to prove that this was the case. Secondly, even though formal reduction accompanies the shifts from verb to completive marker, and then to aspect clitic/suffix, in many dialects the degree of reduction/fusion of aspect markers increases without any further semantic shift, as remarked before, i.e. it is just a matter of secondary grammaticalisation.

Hence, if we want to describe the evolution of markers deriving from 了 *liǎo* ‘to finish’ in the dialects considered here with a cline, as the one proposed above in the discussion of SM – 了 *-le*, we must somehow separate meaning and form. A tentative cline of grammaticalisation, both primary and secondary, may be represented as follows:

verb > auxiliary > aspect (clitic) particle > suffix (>1 phoneme) > single vowel/schwa >  $\left. \begin{array}{l} \text{rhotacization >} \\ \text{rhyme change >} \\ \text{tone change/} \\ \text{vowel lengthening >} \end{array} \right\} \emptyset (?)$

Zero-marking of perfective aspect is not attested in my data (hence the question mark), although it is found as the final stage in the evolution of other grams in Northern Chinese dialects (specifically, goal markers; Lamarre, 2009). The onset of grammaticalisation, needless to say, is the shift from verb to auxiliary; the evolution from auxiliary (marker of completion) to aspect particle is the next step. The following shifts are, as said before, basically of a morphophonological nature, and do not seem to be associated with further semantic/functional evolution; from the suffix stage on, the cline concerns only the formal side of the grams.

The cline proposed above is mostly based on an intuitive understanding of the ‘weight’ of the various devices for the marking of perfective aspect; for instance, a single vowel(/schwa) is intuitively more reduced than a suffix consisting of more phonemes, and rhotacisation is more reduced/fused than a single vowel suffix, as it does not constitute a syllable, etc. According to Bybee, Perkins & Pagliuca (1994), stem allomorphy is an index of greater reduction/fusion if the change involves vowel(s) or consonant(s), compared to changes limited to tone or stress. I rather regard tone change as a more fused device, as the presence of the original suffix is less evident than in the case of rhyme change; nevertheless, rhotacisation, rhyme change and tone change/vowel lengthening probably are not steps that all necessarily occur. In other words, it does not seem likely that tone change occurs *before* rhyme change in a given language, but the mere existence of rhyme change cannot be taken as sufficient evidence for reconstructing an earlier stage at which tone change was used instead (hence the curly brackets in the cline).

In order to test the validity of such a cline, we may arrange in a table data on the marking of perfective aspect in a sample of 26 Mandarin and Jin dialects<sup>17</sup> along the steps in the cline, starting from the suffix stage; thus, I am considering only the formal side, since, as said above, I did not find evidence for increased grammaticalisation after the suffix stage in most dialects. Zero, as said above, is not attested in my data; the last stages before zero are arranged according to the intuitive criteria for weight discussed above.

Table 1. The marking of perfective aspect in 26 Northern dialects

Dialect	suffix (> 1 phon.)	single vowel/ schwa	rhotacis.	rhyme change	tone change/VL
Anyang	√	√			
Tangyin	√	√			
Hebi	√	√			
Boshan	√	√			
Linzhou	√	√?			
Changli	√		√		
Qixia		√	√		
Muping	?		√		
Neihuang		√		√	
Fengqiu	√			√	
Weihui	√			√	
Puyang	√			√	
Huojia	√			√	
Changge	√			√	
Xingyang	√			√	
Jiyuan	√			√	
Xinxiang	√			√	
Wuyang	√			√	
Qixian				√	
Xunxian				√	
Huaxian				√	
Yanjīn				√	
Shangxian	√			√	√
Xi'an	√			√	√
Nanhe	√	√			√
Juxian	√				√

A question mark has been added to the single vowel stage in Linzhou, as in Chen Pe. (2005) the reduced perfective marker is described as ending in a glottal stop, as seen above, but in Chen Pe. (2007) it is described as consisting of a schwa only. As to Muping, Huang (1996) does not explicitly state whether an analytical marker of perfectivity is used or not in the dialect.

One quite striking fact that emerges from the data in table 1. is that in most dialects a (multiphonemic) suffix and a strategy much further down the cline, i.e. rhyme change (and tone change, for Shangxian, Xi'an and Juxian) still coexist. I believe that the use of a suffix cognate (and very

<sup>17</sup> The dialects not introduced before are: Anyang (安陽 *Ānyáng*, Xin, 2006b), Changli (昌黎 *Chānglǐ*; Committee, 1984), Muping (牟平 *Mùpíng*, Huang, 1996), Fengqiu (封丘 *Fēngqiū*, Zhang, 2010), Weihui (衛輝 *Wèihuī*, Xin, 2006b), Puyang (濮陽 *Púyáng*, Xin, 2006b), Xingyang (滎陽 *Xíngyáng*, Wang, 1998), Jiyuan (濟源 *Jìyuán*, Liu, 2006), Xinxiang (新鄉 *Xīnxiāng*, Liu, 2006), Wuyang (舞陽 *Wǔyáng*, Liu, 2006), Qixian (淇縣 *Qíxiàn*, Xin, 2006b), Huaxian (滑縣 *Huáxiàn*, Xin, 2006b), Yanjin (延津 *Yánjīn*, Xin, 2006b).

similar) to SM  $-\text{了}-le$  is best explained by the prestige of written Mandarin; before I remarked that in many of those dialects the use of a suffix is considered bookish. I shall get back to this later (4.).

Also, in Qixia, Neihuang, Shangxian, Xi'an and Nanhe 'more' and 'less' fused strategies coexist; this is not surprising, as innovative and conservative strategies may both be present at a given point in the history of a language. Among those, in Neihuang perfective aspect is marked either by one of two single phoneme allomorphs of the perfective suffix or by rhyme change, with no rhotacisation, according to the source consulted, and in Nanhe the same value is marked either with  $-\text{了}-la$ ,  $-a$  or by means of tone change (and vowel lengthening), and neither rhotacisation nor rhyme change are attested. This shows that the last steps in the cline, i.e. those between curly brackets, are not necessarily a sequence, but rather options. Thus, in short, the data collected seems to support our tentative cline; data from other related dialects may provide further evidence for (or against) this cline of reduction/fusion.

To sum up, I have shown that many (if not most) of the formal correlates of grammaticalisation are involved in the evolution of markers of perfective aspect in a number of Sinitic varieties scattered over a continuous area of Northern China; although such evolution is triggered in the first place by (primary) grammaticalisation, the evidence for the coevolution of meaning and form is very limited and, at any rate, there are relevant formal changes, i.e. increasing reduction/fusion of grams, without any semantic/functional shift of the sign.

Let us now turn our attention to two related issues, namely how such degree of reduction/fusion is possible even in strongly isolating languages as those considered here, and how can these facts contribute to a refinement of Bisang's model of grammaticalisation with areal properties.

### 3.2 Paradigmaticity and pragmatic inference

The models of grammaticalisation discussed in this paper assign a fundamental role to generality of meaning, and to the related issues of frequency and obligatorification. Bisang predicts that markers which do not express in a coherent way a grammatical category, and which may also have other functions, are not expected to become obligatory, to attain high frequency and build a paradigm, as said before (2, 2.1).

In this respect, SM  $-\text{了}-le$  is no exception. Lin (2006) describes  $-\text{了}-le$  as a combined tense and aspect marker; moreover, he claims that  $-\text{了}-le$  has features both of perfective and of imperfective aspect. Lin proposes that the use of  $-\text{了}-le$  "requires that the time of the event's development (...) is included within the topic time  $t_{\text{Top}}$ , which in turn precedes the evaluation time  $t_0$ , whereas the time of the result state includes a time  $t_{\text{ana}}$ , an anaphor-like variable that needs to be bound or given a value from context" (2006, p. 15). This entails, first, that the semantics of  $-\text{了}-le$  involves also a relation between 'topic time' (i.e. the time which the discourse is about, or 'reference time') and 'evaluation time' (i.e. the temporal perspective of the speaker; by default, speech time), which is thus temporal in nature, rather than aspectual, according to Lin's analysis. This, however, does not mean that SM  $-\text{了}-le$  is restricted to past perfective context (Lin, 2006, p. 19, fn. 18; tone markers added, glosses adapted):

- (5) *děng nǐ ná dào-le bō shì xué wèi, wǒ jiù mǎi xīn chē gěi nǐ*  
wait you obtain-PFV PhD degree I then buy new car to you  
'after you have got your doctor degree, I will buy a new car for you'

The marker  $-\text{了}-le$  may be used in a future context, as in (5), on condition that the time of the event is not posterior to topic time; thus, a sentence as (6) is ungrammatical (Xiao and McEnery, 2004, p. 116; tone markers added, glosses and translation adapted):

- (6) \**wǒ míngtiān kàn-le diànyǐng*  
 I tomorrow watch-PFV film  
 ‘I will watch a film tomorrow’

Thus,  $-\text{了}-le$  cannot be analysed as an “absolute past tense marker”, but rather as having “a component of relative past as part of its meaning” (Lin, 2006, p. 19, fn. 18; cf. Wu X., 2004). Also, following Lin’s analysis,  $-\text{了}-le$  has a perfective meaning only with respect to the time of the event development, which must be included within the topic/reference time, as said above, whereas it has an imperfective meaning component with respect to the result state, which must include an anaphor-like time variable. This may be exemplified by the following sentence (Lin, 2006, p. 13; tone markers added, glosses adapted):

- (7) *Lǐsì diē-duàn-le zuǒ tuǐ*  
 Lisi fall-break-PFV left leg  
 ‘Lisi has broken his left leg’

The sentence in (7) implies that the breaking event occurred before speech time, and that the leg is still broken, i.e. the result state still holds at the evaluation time. >Thus, here the meaning contributed by  $-\text{了}-le$  seems to be akin to that of a perfect<sup>18</sup> (and cf. the agrammaticality of (6)). However, if a temporal adverbial referring to the past, as 上個月 *shàng gè yuè* ‘last month’ is added to (7), then the result state may or may not hold at speech time; the sentence merely states that both the event of leg breaking and the state of the leg being broken were true at that time.

Lastly, Bisang remarks that when  $-\text{了}-le$  is attached to some verbs from a small set (as many as 28) it has completive rather than perfective meaning, just as the above mentioned 完 *wán* (2004, p. 129; glosses adapted):

- (8) *wǒ xiǎng míngtiān mǎi-le nèi liàng chē*  
 I think tomorrow sell-COMPL that CLF car  
 ‘I plan to sell off that car tomorrow’

This is interpreted as a remnant of an earlier stage, when  $-\text{了}-le$  was used as a completion marker; the interpretation of  $-\text{了}-le$  still largely relies on inference. As said before, in colloquial Beijing Mandarin and in some other Northern dialects the completive use of the perfective marker is associated with a different cognate morph. Note that in (8) the time adverbial 明天 *míngtiān* does not cause agrammaticality (compare (6)); this may be taken as further evidence of the fact that here  $-\text{了}-le$  is not a marker of perfectivity.

In short, it appears that  $-\text{了}-le$  actually may convey an array of semantic features, including residual completive uses (8), anteriority/perfect (7), perfectivity and, marginally, tense; the correct interpretation of the function of  $-\text{了}-le$  may depend on the situation type (i.e. *Aktionsart*), on temporal

<sup>18</sup> According to Givón (2001, p. 293), the four features characterising the perfect are “anteriority”, “perfectivity”, “counter-sequentiality” and “lingering relevance”; all of those but counter-sequentiality are present in (7).

adverbs, on the sentential context, and even on the specific verb involved, as in (8). Thus, a marker as  $\overline{\text{了}}-le$  is not expected to become obligatory and form a paradigm. As a matter of fact, the lack of  $\overline{\text{了}}-le$  marking does not necessarily entail that the predicate is not perfective (ex. from Xiao and McEnery, 2004, p. 128; tone markers added, glosses adapted<sup>19</sup>):

- (9) *qīyuè 30 rì, Yú jiā xiōngdì sōuchá Shēn bàngōngshì shí, fāxiàn Wéi Lóngshān shì*  
 July day Yu family brothers search Shen office time find Wei Longshan be  
*Shén de línjū (...)*  
 Shen DET neighbour  
 ‘On July 30th, when brothers of the Yu’s were searching Shen’s office, they found that Wei Longshan was Shen’s neighbour (...)’

In (9), the first situation, ‘brothers of the Yu’s were searching Shen’s office’, is presented as imperfective, whereas the second situation, ‘they found that Wei Longshan (...)’ is seen as perfective; the former provides the background situation, whereas the second is a foreground clause which moves the narration forward. Nevertheless, the verb *fāxiàn* ‘find’ is not followed by  $\overline{\text{了}}-le$ . This is by no means an exception; for instance,  $\overline{\text{了}}-le$  is not obligatorily found for sequential actions, a ‘typical’ perfective context (Bisang, 2004, p. 128). Wu F. (2005a), following a review of the literature on the topic, discusses a number of contexts, some of which will be discussed below, in which  $\overline{\text{了}}-le$  may be omitted without any necessary entailment of non-perfectivity. While it is certainly true that aspect is a very complex category, and that labels as ‘perfective’, ‘perfect’ and ‘imperfective’ do not correspond to the very same notion in just any language, having “differences of function and distribution” across languages (Gvozdanović, 2012, p. 784), the fact that the lack of  $\overline{\text{了}}-le$  in many (if not all) contexts does not necessarily imply that the predicate is not perfective may be taken as evidence of the fact that  $\overline{\text{了}}-le$  “has not become part of a systematic and obligatory opposition of the type perfective vs. imperfective” (Bisang, 2004, p. 128).

Now, if in the dialects considered here reduction and fusion go much further than for SM  $\overline{\text{了}}-le$ , is it because they express perfectivity or past tense in a more consistent way, and have a higher degree of obligatoriness and paradigmaticity? Unfortunately, only very few of the descriptions we have provide any relevant data on this; the following discussion is based on the scattered evidence I could gather. I tried to extract information from as many varieties as possible concerning four key aspects connected with the issues discussed above: the ‘degree’ of obligatoriness of perfective marking (3.2.1), the relevance of aspectual vs. temporal meaning (3.2.2), the existence of other functions for markers of perfectivity (3.2.3) and the degree of pervasiveness of the system (3.2.4). Due to the lack of exhaustive descriptions, it will not be possible to offer a complete picture for all dialects concerning these aspects; after this (uneven) presentation, I shall provide a summary focussing on the seven dialects for which I have a reasonably complete picture (3.2.5).

### 3.2.1 Obligatoriness

I mentioned before that in SM the absence of  $\overline{\text{了}}-le$  in a predicate does not imply that this is viewed as imperfective, generally speaking, and its presence is often optional. Firstly, when in a

<sup>19</sup> Although the sentence in (9) is presented as complete in Xiao and McEnery (2004), with a Google search I found that it is actually the beginning of a longer period, hence the points of ellipsis. Note that no  $\overline{\text{了}}-le$  is present in the remainder of the period.

transitive sentence the object of the verb is not quantified,  $-\text{了 } -le$  may be left out, as in the following example (Xin, 2006a, p. 48):

- (10) 考试改(了)时间了  
*kǎoshì gǎi(-le) shíjiān le*  
 exam change(-PFV) time COS<sup>20</sup>  
 ‘(they) changed the time of the exam’

In the corresponding Xunxian sentence, *kai*<sup>55</sup> ‘change’ would necessarily turn into *ke*<sup>55</sup>; the same goes for Huojia (He, 1989, p. 57), and in Qixia rhotacisation obligatorily occurs under the same conditions (Liu and Shi, 2004, p. 41). Also, all these dialects do mark perfective when the object is quantified too. In Jiyuan, Xinxiang and Wuyang perfective marking is inhibited when the object is not quantified (Liu, 2006, p. 174-175), differently from SM and from the dialects mentioned here.

Secondly, when a verb is reduplicated, expressing what Li and Thompson term “tentative aspect”, “doing an action ‘a little bit’ or for a short period of time” (1981, p. 232), in SM  $-\text{了 } -le$  is allowed only after the first verb (Xin, 2006a, p. 48):

- (11) 小红往上擀了擀(\*了)袖子  
*Xiǎohóng wǎng shàng luō-le luō(\*le) xiùzi*  
 Xiaohong toward up rub-PFV rub(\*-PFV) sleeve  
 ‘Xiaohong rolled up her sleeves a bit’

The addition of  $-\text{了 } -le$  to the second verb causes ungrammaticality in SM. In the corresponding Xunxian sentence, both instances of the reduplicated verb necessarily undergo rhyme change (*ly*<sup>24</sup> > *lye*<sup>24</sup>, in perfective/completed action contexts); this is true also for Fengqiu (Zhang N., 2010, p. 230), Jiyuan, Xinxiang and Wuyang (Liu, 2006, p. 170-171). In Huojia, both instances of a reduplicated verb undergo rhyme change, but this happens in all contexts, even if there is no perfective meaning involved (He, 1989, p. 70); in Xingyang, only the first verb undergoes rhyme change, just as in SM (Wang, 1998, p. 281).

Another interesting difference between SM and some of the dialects I am discussing here concerns biclausal/multiclausal sentences. In the following SM example,  $-\text{了 } -le$  is normally added only to the verb in the second clause (Xin, 2006a, p. 49):

- (12) 洪波上街买了点儿东西  
*Hóng Bō shàng jiē mǎi-le diǎnr dōngxi*  
 Hong Bo go street buy-PFV a.bit thing  
 ‘Hong Bo went to the street and did shopping’

In SM, the second verb, describing a bounded event (marked with  $-\text{了 } -le$ ), already provides a boundary for the first event, and thus  $-\text{了 } -le$  often does not appear to prevent ‘redundancy’ of

<sup>20</sup> Example (10) contains two  $\text{了 } le$ ; despite being homophonous (and homographous), these two markers are actually very different. Only the postverbal  $-\text{了 } -le$  is a marker of (broadly defined) perfective aspect, whereas sentence final  $\text{了 } le$  is usually defined as a phrasal clitic indicating a change of state, or a “currently relevant state” (Li and Thompson, 1981, p. 238). The sentence clitic  $\text{了 } le$  does not derive from the verb  $\text{了 } liǎo$  ‘to finish’, but rather from 來 *lái* ‘to come’, used as a perfect marker since the 12th century (Sun C., 1996, pp. 93-107). I indicate perfective  $-\text{了 } -le$  with an hyphen and change of state (sentence final)  $\text{了 } le$  without one, following Li and Thompson (1981).

information (Wu F., 2005a, p. 243); such redundancy is never avoided for fully grammaticalised categories, as tense in English. If, however, the speaker wants to stress that the second event does not occur until after the first one has been completed, then  $-\text{了}$   $-le$  may appear after the first verb in the sequence (Lü, 1980, p. 180); it can also appear after both verbs in a biclausal sequence, but this is far less frequent. In Xunxian, both ‘go’ and ‘buy’ must undergo rhyme change if both actions are completed; if, say, the subject of (12) already left but has not yet done his shopping, then only the rhyme of the first verb changes. Tone change on both verbs also appears to be the norm in Juxian (Li and Ai, 2008, p. 396); in Qixia, rhotacisation (or schwa) sometimes obligatorily appears on both verbs, whereas sometimes it appears only on the second (see Li and Shi, 2004 for examples), thus showing an inconsistent distribution. In Xi’an, in both examples of biclausal sentences found in my source all the verbs undergo tone change; however, it is not explicitly stated whether this is obligatory (Sun L., 2007, p. 191).

### 3.2.2 Aspect vs. tense

Another relevant point is the extent to which markers of perfectivity (also) express past tense. Bisang (2004, pp. 126-127), following Wu X. (2004), remarks that  $-\text{了}$   $-le$  may be understood as a past tense marker, when combined with aterminative states of affairs (activities and states), if there is no subsequent state of affairs providing a terminal boundary for  $-\text{了}$   $-le$  (exx. from Wu X., 2004, pp. 268, 286, glosses adapted, tone markers added):

(13) *wǒ zài Běijīng cānguān-le Gùgōng*  
 I in Beijing visit-PFV Imperial Palace  
 ‘I visited the Imperial Palace in Beijing’

(14) *tā zài Běijīng de shíhòu bìng-le sān tiān*  
 s/he be.at Beijing DET time be.ill-PFV three day  
 ‘s/he was sick for three days when s/he was in Beijing’

The addition of a non-past time adverbial as e.g. 明天 *míngtiān* ‘tomorrow’ renders the sentence in (13) ungrammatical, as no present or future readings are available; according to Wu X., this is a recent development in SM. As seen above (6),  $-\text{了}$   $-le$  is actually allowed in future contexts, but only if the time of the event is not posterior to topic time; we may thus argue that the past tense interpretation for (13) and (14) arises because of the temporal component of  $-\text{了}$   $-le$ , which requires that the time of the event does not follow the topic time, which in those sentences coincides with speech time.

This is the case also in Huojia, at least in some contexts; for instance, (2b) is incompatible with future time adverbials (as 一会儿 *i<sup>233</sup> xuə<sup>13</sup>* ‘in a while’). However what is more relevant for my analysis is that in Huojia rhyme change is claimed to be obligatory if past time reference is present (He, 1989, p. 58). Moreover, in this dialect the distinction between completed and noncompleted event is found also in cleft constructions, built with the copula verb (是 *sə<sup>2</sup>*, SM *shì*) and a determiner/nominaliser particle (的 *li<sup>2</sup>*, SM *de*; exx. from He, 1989, p. 60):

(15a) 那是我买的  
*nə<sup>53</sup> sə<sup>2</sup> ua<sup>2</sup> mai<sup>53</sup> li<sup>2</sup>*  
 that COP I buy DET  
 ‘that is what I am buying / going to buy’

- (15b)  $nr^{53}$   $səʔ$   $uaʔ$   $mɛ^{53}$   $liʔ$   
 that COP I buy.PFV DET  
 ‘that is what I bought’ (also: ‘it was me who bought this’)

In the equivalent SM sentence, no marker of perfective aspect is normally allowed.

An extension towards past tense for perfective markers is apparent also in Changge. In this dialect, rhyme change or the addition of the perfective marker is again required if a past time adverbial is present, as it marks “completion in the past” (Zhao, 1998, p. 38; my translation), and hence it is not found in imperative sentences. In SM,  $-l̄$   $-le$  may be found in imperative sentences, but it has a completive, rather than perfective meaning (Lü, 1980, p. 259); this may be interpreted as a sign of the fact that rhyme change (or the addition of the perfective suffix) in Changge marks perfective aspect or, even, past tense in a more consistent way, as completive usage is not available. In Xunxian, the verb would undergo rhyme change in a sentence as (14), based on a stative verb (Xin, 2006a, p. 48); moreover, Xin suggests that, generally speaking, if rhyme change is not present the state of affairs is understood as not having happened yet, and this is said to be the case also for Xingyang (Wang, 1998). In Wuyang, the mere absence of rhyme change (and of aspectual suffixes) is said to indicate that the state of affairs has not occurred yet (Liu, 2006, p. 171). All of the above points towards a stronger temporal (past tense) connotation, at least for some of the uses of rhyme change<sup>21</sup>.

In short, judging from the (limited) evidence presented here, fusional markers in some dialects should be more frequent than SM  $-l̄$   $-le$ , as they tend to be obligatory in certain contexts (as shown by (10), (11), (12) and (15b)), and also seem to be ‘more grammaticalised’, as they (also) mark past tense more consistently than SM  $-l̄$   $-le$ , for which past interpretation is said to be a recent extension. Higher frequency may well explain the greater degree of reduction/fusion of the markers at issue; the tendency towards past time reference, on the other hand, may be understood as indicative of further semantic development, as (simple) past markers “occur with a wider range of verbs, and their meaning has a broader scope” (Bybee, Perkins and Pagliuca, 1994, p. 105). Again, such a development may be connected to increased frequency.

### 3.2.3 Other functions

In many dialects the same fusional devices may be used to convey different aspectual categories, only weakly related or even wholly unrelated. For instance, in Xunxian, besides perfective aspect(/past tense?), continuous aspect and attainment of a goal as well may be expressed by a change in the rhyme of the verb<sup>22</sup> (Xin, 2006a, p. 47):

- (16) 俩人睡一个床  
 $lia^{55}$   $zən^{42}$   $ʂɛ^{213}$   $i^{42}$   $kə^{213}$   $tʂ'uaj^{42}$  ( $ʂei^{213} > ʂɛ^{213}$ )  
 two person sleep.CONT one CLF bed  
 ‘two people are sleeping in one bed’

<sup>21</sup> Note that, as remarked by Dahl (1985), it is not uncommon for a perfective marker to be restricted to past time reference; this is because past events may more naturally be viewed as bounded. Dahl (1985) and Bybee and Dahl (1989) propose that the ‘typical’ aspect system involves a distinction between present and past only in the imperfective aspect.

<sup>22</sup> In Xunxian, as well as in many other dialects, rhyme change and other fusional devices are not limited to verbs, and may also have derivational functions.

- (17) 会改明个了  
*xuei*<sup>213</sup> *ke*<sup>55</sup>                      *me*<sup>42</sup>*kə*    *lə*                      (*kai*<sup>55</sup> > *ke*<sup>55</sup>)  
 meeting change.GOAL tomorrow COS  
 ‘the meeting was moved to tomorrow’

The same association of meanings for fusional markers is found also e.g. in Huojia and Juxian, among others. In the corresponding SM sentences, those categories would be marked, respectively, by the above mentioned –著 –*zhe* and by a resultative morpheme as 到 *dào* (< ‘to arrive’). Xin (2006b, p. 89) argues that these three usages of rhyme change in Xunxian and in nine other dialects of the same area are the product of parallel patterns of reduction and fusion of four distinct markers, cognate to SM –了 –*le*, –著 –*zhe* (continuous) and –到 –*dào* or –上 *shang* (goal); these all got reduced in the same way and fused with the verb, giving rise to a system of phonological alternation between a ‘basic’ rhyme and a changed rhyme, in which however the latter conveys (at least) three different meanings. In Qixia and Muping, rhotacisation is used to mark both perfective and goal, but not progressive meaning (Zhang and Li 2007, pp. 97 and 99).

Thus, it appears that in dialects as Xunxian or Huojia the correct interpretation of the function of rhyme change in individual sentences heavily relies on context and pragmatic inference, and this is made possible by the existence of rigid syntactic patterns (see above, 2.). However, consider the following Xingyang example (Wang, 1998, p. 277)<sup>23</sup>:

- (18) 他背袋兒麵  
 he carry.on.the.back.PFV/CONT bag flour                      (*pei*<sup>13</sup> > *pe*<sup>13</sup>)  
 ‘he shouldered a bag of flour on the back’  
 ‘he is carrying a bag of flour on the back’

Both a perfective and a continuous interpretation are allowed for this sentence, according to Wang’s account. Such ambiguous sentences may be found also in Boshan, in which the schwa suffix marks perfective, continuous and goal too. In these cases, one cannot rely only on the (syntactic) context for the correct interpretation of what is being marked by rhyme change (*contra* Xin, 2006b, p. 86 and Chen Pe., 2007, p. 140); hence, pragmatic inference may even be more relevant than in SM and other languages of the area. In this regard, Bisang’s proposal holds also for the dialects considered here, even if the grammaticalised signs at issue have undergone reduction and fusion to a high degree. Note that (18) could be substituted by a sentence with the verb in its base rhyme (*pei*<sup>13</sup>) and either the perfective suffix or the continuous suffix, depending on the intended meaning; this shows that speakers still distinguish these two meanings, and thus formal merge has not been followed by functional merge. The same goes for Boshan, in which the schwa suffix may be substituted either by perfective –*liɔ* or by continuous –*tʂuə*, thus eliminating any ambiguity (Qian, 1993, p. 14).

From the synchronic point of view, the possibility of using one and the same marker for aspectual values as divergent as perfective and imperfective may strike the reader as typologically ‘bizarre’. How can we account for the polysemy of rhyme change and the Boshan schwa suffix, then? Lamarre (2009) believes that the fact that one and the same marker may be used to indicate perfective, continuous and goal is not (only) an incident of history; according to her, these all belong to a (macro-)category of ‘boundedness’, and are used to mark a state of affairs as bounded. She stresses the fact that continuous in Sinitic is tightly connected with the idea of result, as in the following SM example:

<sup>23</sup> Unfortunately, Wang (1998) does not provide any transcription of the actual Xingyang words, except that of the main verb; hence, I can only quote characters here.

- (19) 牆上掛著一張照片  
*qiáng-shang guà-zhe yī zhāng zhàopiàn*  
 wall-on hang-CONT one-CLF picture  
 ‘a picture is hanging on the wall’ (because someone hung it)

However, the result interpretation is normally excluded with activities for SM 著 *-zhe*. In Xunxian, rhyme change with continuous meaning is found also with activities, as in (16), and the same holds for other dialects (Xingyang, Huojia); Boshan employs the schwa suffix in the same context (Qian, 1993). If these were markers of boundedness, such sentences should be ungrammatical, in my opinion.

I believe that no unitary meaning may be assigned to rhyme change in Xunxian, Huojia or Xingyang, or to the schwa suffix of Boshan; the fact that different markers all got reduced in the same way may be interpreted as further evidence of the fact that the reduction and fusion of these markers is essentially a morphophonological process, largely independent from meaning. As said earlier (3.1), the reduction of verbs cognate to 了 *liǎo* involves changes as tone neutralization, simplification of the syllable nucleus to a single vowel, deletion of the onset, centralisation of the nucleus vowel, which may be followed by fusion with the verb root (rhotacisation, rhyme change, tone change); it is very likely that other items follow an analogous pathway (see the data in Xin, 2006b, p. 85), and once the marker is reduced to a (neutral) vowel, coarticulation with the rhyme of the verb it is attached to easily happens. The loss of most relevant phonetic features blurs the difference between what were once distinct markers. Vestiges of a formal distinction between the different functions of e.g. rhyme change may be found in Xingyang, in which for a small set of verbs two shapes of the changed rhyme correspond to different functions, as e.g. 吃 *tʂʊ<sup>13</sup>* ‘eat.COMPL’, completive, vs. *tʂy<sup>13</sup>* ‘eat.PFV’, perfective (Wang, 1998, p. 281).

Also, I suspect that analogy may play a role in the creation of systems of rhyme change/schwa suffixing as those seen above; since we have dialects as Qixia or Changege, in which schwa/rhotacisation and rhyme change, respectively, mark only perfective aspect(/past tense), my hypothesis is that this may be the first aspectual category that involves reduction and fusion of markers, and the other categories (continuous, goal) are ‘attracted’ by analogy. Interestingly enough, in Huang’s (1996) monumental work on the grammar of Chinese dialects, we find examples both of rhyme and tone change as markers of perfective aspect (as well as rhotacisation; see above, 3.1), but no such examples are found for the marking of continuous aspect, suggesting that the former function might possibly be more common for fusional (and very reduced) devices, as it happens to be the case in the sample of dialects I considered here. However, more solid evidence is needed to properly assess the role of analogy in the evolution of aspect/goal markers.

### 3.2.4 Pervasiveness and paradigmaticity

One last point worth discussing is the relationship between the broader distribution of fusional markers in the dialects discussed here, i.e. their pervasiveness, and their ‘paradigmaticity’ (understood as greater integration into a paradigm; Lehmann, 1995, p. 132). For instance, in Changege, as seen above, rhyme change conveys only perfective aspect and past tense, and it does so in a quite consistent way, being apparently obligatory in a number of contexts; this may be interpreted as an emerging (elementary) paradigm, opposing basic rhyme (nonpast and/or imperfective) and changed rhyme (completion in the past?).

If, however, rhyme change or schwa suffixing in a dialect may express meanings as different as perfective(/past tense) and continuous, the rise of a paradigm should be inhibited, as predicted by Bisang’s model. Note that Bisang’s model was conceived with cases as SM 在 *zài* in mind (see 2.),

namely a single sign having different but related functions in different constructions, reflecting different degrees (or pathways) of grammaticalisation; here we are rather dealing with different lexical items which, through grammaticalisation and massive reduction and fusion, all got reduced in the same way and in the same syntactic slot, i.e. the immediate postverbal position. For dialects as Xunxian or Huojia, the opposition between basic and changed rhyme, or between zero and a schwa suffix, is seemingly involved in three different functional oppositions, as said above.

It is worth pointing out that availability of rhyme change only for a subset of rhymes seems to be the norm across dialects, as hinted at before: for instance, in Xunxian 29 rhymes out of 42 may undergo rhyme change (Xin, 2006b, p. 56-57). However, whereas in Xunxian, as well as in Huojia, in those contexts in which rhyme change is expected, but the rhyme of the verb cannot change, the bare verb in its basic rhyme is found (e.g. 打  $ta^{55}$  ‘to hit, beat’), and no further marker is added (Xin, 2006a, p. 48), in a dialect as Change, when rhyme change is not allowed the marker –了  $-lə$  appears in perfective/past contexts. Given that there is a relevant number of contexts in which perfective(/past tense) is obligatorily marked in these two dialects, and hence a paradigm seems to be emerging, –了  $-lə$  may just be analysed as one of two allomorphs of rhyme change in Change; in Xunxian, the situation is just like that of English, having verbs as *walk*, whose past tense and past participle form is *walked*, and verbs as *bet*, whose past tense and past participle form is *bet*, just as the ‘base’ (unmarked) form in the paradigm.

An interesting case is also that of Xi’an. I mentioned before (3.1) that rhyme change (with lengthening of the last vowel in the verb nucleus) and tone change may both be used to mark perfective aspect. Rhyme change is possible only for eight rhymes out of 38; tone change, but not rhyme change, is used also to mark continuous aspect and goal. Moreover, the patterns of tone change are actually different for each function, as shown in the following examples (data from Sun L., 2007, pp. 190-193):

(20) 开  $k'a^{31}$  ‘to open’ >  $k'a:^{313}$  ‘open.CONT’

(21) 喝  $xuɿ^{31}$  ‘to drink’ >  $xuɿ^{42}$  ‘drink.PFV’

(22) 拉  $la^{31}$  ‘to pull’ >  $la^{24}$  /  $la:^{31}$  ‘pull.GOAL’

As shown in (22), goal may be marked either by rhyme change or by the lengthening of the final nucleus vowel, thus having two allomorphs for the same value (besides analytical markers). Sun L.’s description does not provide any detail as to the obligatoriness of such devices (which may all be substituted by suffixes); if their distribution were similar, say, to that of rhyme change in Xunxian or Huojia, then we might say that a paradigm is emerging.

### 3.2.5 Summary

The existence of contexts in which the expression of perfective aspect seems to be obligatory, with a paradigmatic opposition between the base form of the verb and a form which has undergone rhyme change, tone change or rhotacisation, is suggestive of the emergence of a paradigm for this aspectual category in some dialects; the degree of paradigmaticity appears to be very different in different varieties. In table 2., I present a summary of the situation with respect to the four parameters considered here; however, since I obviously have much more data for some dialects than for others, I am taking into account only the varieties for which I have a reasonably complete picture, i.e. Xunxian, Huojia,

Xingyang, Changge, Xinxiang, Wuyang and Xi'an. A question mark is added for unclear situations; '/' indicates that no data is available.

Table 2. Aspects of grammaticalisation in Xunxian, Huojia, Changge and Xingyang

Dialect	Obligatoriness			Tense	Other functions	Pervasiveness
	<i>Nonquant. object</i>	<i>Redup.</i>	<i>Multicl. sentence</i>			
Xunxian	Y	Y	Y	Y?	Y	Y
Huojia	Y	Y?	/	Y	Y	Y
Xingyang	/	N	/	Y?	Y	Limited
Changge	N	/	/	Y	N	Limited
Xinxiang	N	Y	/	Y?	Y	Limited
Wuyang	N	Y	/	Y	Y	Limited
Xi'an	/	/	Y?	N	N	Y

In Xunxian and Huojia, there are obligatory contexts of occurrence for rhyme change and a stronger tendency towards expressing temporal meaning, if compared to SM. Moreover, the pattern seems to be pervasive, since if rhyme change is not available, zero-marking is chosen instead of an analytical marker. The only dissonant aspect could be the existence of other (seemingly) unrelated meanings for rhyme change in these dialects, which however seems to be just a product of convergent patterns of reduction for distinct markers. Also, it is unclear whether in Xunxian the tense component in aspect marking by rhyme change is actually very prominent; a significant clue in this direction is that the absence of rhyme change generally indicates that the event has not occurred yet, as pointed out above (3.2.2).

For Xingyang as well it is unclear to what extent rhyme change expresses past tense; Wang (1998, p. 280) describes the 'perfective' usage of this device as expressing 'already happened, already so' (已然 *yǐrán*), which is ambiguous between tense and aspect. It is also pointed out that rhyme change, as opposed to analytical marking of aspect, is not only more colloquial, but also very frequent; for some sentences, it is even claimed that there is no alternative to rhyme change (Wang, 1998, p. 283). Note that Wang shows how in certain constructions the choice of rhyme change instead of the analytical marker of perfectivity, despite being semantically equivalent, is associated with further restrictions e.g. on the presence of quantified objects (1998, p. 281). As to Changge, although we do not have detailed information about the contexts of occurrence of rhyme change, we know that it is obligatory when past time adverbials are present; this is a relevant indicator both of obligatorification and of evolution towards tense marking. Moreover, in this dialect rhyme change is not reported to have other meanings (continuous, goal). Nevertheless, rhyme change is not allowed with unquantified objects (Liu, 2006, p. 175). A residual issue concerning both Xingyang and Changge is that, as said above, in these varieties when rhyme change is not available an analytical marker of perfectivity must be present. This may be analysed, as suggested before, as a case of allomorphy between rhyme change and the analytical marker; alternatively, we may interpret this as a sign of weaker paradigmaticity, if compared to Xunxian and Huojia.

Xinxiang and Wuyang do not allow rhyme change when the object of the verb is not quantified, just as Changge; however, they do make use of rhyme change also for reduplicated verbs, and for both dialects it is claimed that rhyme change indicates also 'already happened, already so', just as seen above for Xingyang. The relevance of temporal meaning is clearer for Wuyang, in which the lack of rhyme change implies that the state of affairs has not occurred yet, as said earlier. In both varieties, rhyme change may also express other meanings (e.g. continuous aspect).

The situation of Xi'an is revealing, in my opinion: we have a fully developed system of aspect marking by tone change, with distinct patterns for each meaning/function, and a marginal use of rhyme change to mark perfective; according to the description I consulted, tone/rhyme change is used just as in SM, with no further implications of past tense, differently from the other varieties considered in this summary. Thus, what seems to be a 'true' paradigm of fusional marking of aspectual categories does not necessarily imply further semantic evolution towards past tense; unfortunately, I do not know if tone change is actually obligatory in any context.

In short, judging from the available data, it appears that obligatorification in certain constructions and evolution towards a 'more grammaticalised' meaning (aspect>tense) may have contributed to the reduction and fusion of analytical aspect markers; the plurality of (unrelated) functions that rhyme change or rhotacisation possess in some dialects should not be taken as a clue to the contrary, in my opinion, as it can just be accidental and/or motivated by analogy. Varieties as Changge and Xi'an, in which there is a specialised fusional pattern for marking perfective aspect, prove that formal merge does not necessarily occur; the few instances of separate patterns of rhyme change for perfective and completive meaning in Xingyang may be taken as further proof, as said above (3.2.3). I would like to stress once more the fact that the key issue here is frequency of (co-)occurrence: the characteristics of fusional markers of aspect in the dialects at issue here should bring about higher frequency, for the reasons outlined before (2.1, 3.2), favouring reduction and fusion with the verb; note that the high frequency of the constructions containing them is actually explicitly remarked in my sources for some dialects (here, Changge, Wuyang and Xingyang; and cf. below, 4.), as already said. Nevertheless, we cannot give for granted that this is necessarily always the case; compare Xi'an, in which strong reduction may have occurred without such an increase in obligatory contexts and a development of temporal meaning, as far as we know.

#### 4. Sociolinguistic factors

One more question concerns the relationship between standard and dialects, and that between speech and writing, in the Chinese-speaking world. I pointed out before that when fusional aspect markers may be substituted by suffixes in a given dialect, usually the former are said to be prevalent in informal speech, whereas analytical aspect markers are seen as formal, bookish, and often only the latter may be found in dialect writing; this is said to be true even for the choice between the 'schwa suffix' and the suffix -了 *-liǎo* in Boshan (Qian, 1993, p. 18). I suggested that this is connected to the prestige of SM as a written language (3.1). In this section I shall elaborate on this suggestion, focussing on the unique relation between writing and speech in the Chinese tradition.

Sinitic is the largest branch of the Sino-Tibetan family in terms of number of speakers, with a number of dialect groups varying from 7 to 11, according to different classifications (Norman, 1988, Sagart, 2004; see also Kurpaska, 2010); most of the variation within Sinitic is found in Central and Southern China, whereas the North of the country is dominated by Mandarin dialects, from which SM originated. Chinese 'dialects' are not varieties of a unitary language but, rather, varieties *related* to SM, just as Dutch and Swedish are related to English, and should be viewed as distinct objects for comparison (Norman, 2003, p. 72)<sup>24</sup>; the difference is that whereas English, Dutch and Swedish all have a long written history and recognised standard varieties taught in schools and used in media

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<sup>24</sup> The last ten years have seen an upsurge of research on Chinese dialects in the West: see, among others, the collection of essays edited by Chappell (2004) and the article on the typology of Sinitic by Chappell, Ming and Peyraube which appeared in *Linguistic Typology* (2008).

discourse (as well as a number of regional dialects/varieties), within Sinitic only SM and, in a sense, Cantonese are standardised language varieties.

Moreover, with the notable exception (again) of some form of Cantonese, dialect writing has always been marginal in the history of Sinitic, and mostly involves the use of Chinese characters; also, even dialectal texts are often actually mixtures of dialect and standard (Wu Y., 2005, p. 45-46). Until the twentieth century, the speakers of Sinitic shared a written language, ‘Classical Chinese’ (文言 *wényán*)<sup>25</sup>; the relationship between such written code and the various spoken dialects may be compared to that between Latin and modern Romance languages. At the same time, literature in ‘Vernacular Chinese’ (白話 *báihuà*, ‘plain speech’) emerged, a form of writing closer to prestigious spoken varieties but used for low-culture functions; by the twenties, it had been sanctioned as the standard written language of China (Chen Pi., 1999). However, at this time there was yet no common spoken language, and even the Vernacular reflected mostly specific prestige dialects (especially Jiang-Huai and Northern Mandarin; see Coblin, 2000). This meant that all the Chinese who spoke a different dialect had to write in a language which they did not speak (Chen Pi., 1999, p. 82-83). Later in the twentieth century, a national spoken standard was established, based on the grammatical norm of Vernacular literature and the phonology of the Beijing (Mandarin) dialect: this is termed Putonghua (普通話 *Pūtōnghuà* ‘common speech’) in the P.R.C. since 1956 (Chen Pi., 1999, p. 24), and it is what is normally referred to by ‘(Mandarin) Chinese’ (i.e. SM) in common parlance.

In its present form, the Chinese writing system is characterised by a near-perfect correspondence between syllable, morpheme and character (字 *zì*), in that each character represents a syllable, which in turn most often corresponds to a morpheme. In the examples below, the morphemes represented by the characters are all free, and thus also correspond to (syntactic) words:

(23) 狗	走	高
<i>gǒu</i>	<i>zǒu</i>	<i>gāo</i>
‘dog’	‘to walk’	‘tall’

Thus, the writing system generally offers no unit smaller than a syllable and, again, no unit of Chinese writing may be used to represent an alteration in the shape of an item as e.g. rhyme or tone change. Nevertheless, as rhotacisation (usually with a weak diminutive function) does occur in SM, this phenomenon is represented by the character 兒 *ér* ‘child’ (from which it historically derives), which thus marks something which is smaller than a syllable and which may alter the shape of the rhyme of the syllable it is attached to, as e.g. in the word 熊兒 *xiōngr* [çyǎr] ‘bear’, the unmarked form of which is 熊 *xiōng* [çyŋ] (ex. from Sun, 2006, p. 38; tone markers omitted in IPA transcription). Also, in the past the difference between tonal and toneless items was sometimes indicated by the use of different characters; thus, for instance, as the above mentioned verb 著 *zhuó* ‘to touch’ grammaticalised into a continuous aspect marker and underwent suprasegmental and segmental reduction, it was sometimes written with a different character, as e.g. 子 (SM *zǐ*) or 自 (SM *zì*) in Ming Dynasty texts (1368-1644 CE; Li, 2002, p. 49)<sup>26</sup>.

<sup>25</sup> Note that, according to the data in Cheng and Pasierbsky (2004), at the founding of the P.R.C. (1949) more than 95% of the Chinese population were illiterates. Hence, 文言 *wényán* is to be understood as mostly reserved to a tiny élite.

<sup>26</sup> Note that there is also a tradition of multiple readings for characters in Classical Chinese texts, and it has been linked to the existence of productive derivational morphology in some early stage of the language, often termed ‘Old Chinese’. For a critical review of this issue, see Branner (2003).

In the process of standardisation of the written language, multiple correspondences such as that between 著 *-zhe* and 子 *zǐ* / 自 *zì* (and others) were eliminated, but the use of 兒 *ér* to mark rhotacisation was maintained<sup>27</sup>. However, fusional markers for aspectual categories as perfective or continuous are (and were) neither attested in spoken Beijing Mandarin, nor in the written Vernacular upon which SM is based, to the best of my knowledge; even though many Mandarin and Jin dialects do make use of reduced suffixes, rhyme change and tone change, the prestige of the standard language arguably prevented their integration in the writing system.

Hence, whereas in dialect writing perfective aspect marking by rhotacisation may be represented by the use of the character 兒 *ér*, as in Qixia and Muping, even if aspect marking by rhotacisation has no etymological relation with ‘child’, no graphic device is available to record either rhyme/tone change or schwa suffixing. This may well explain why in many descriptions the use of aspect suffixes in dialects is often said to be bookish, or even the normal choice in dialect writing (see also Lamarre, 2009). Also, in those cases in which two divergent interpretations are possible for a given marker, just as in the Xingyang example seen above (18), the use of analytical markers may be more appropriate in writing, since there may be less contextual information available than in spoken discourse<sup>28</sup>. Lastly, as said above, the prestige of SM as the national language (and, as such, the main medium of instruction, the language of mass media, etc.) very likely favoured the preservation of aspect suffixes in many dialects, as the latter are the only available option for aspect marking in SM, both as a spoken and as a written language. Further evidence for this correlation might come from a comparison of the speech of monolingual (or unschooled bilingual) speakers and that of bilingual dialect-SM speakers who have been exposed to SM in school, and learned to write SM.

## 5. Areal issues

Lastly, I want to discuss the areal distribution of the phenomena at issue here. Ho (2003, p. 128) claims that rhyme change (“a change in the vowel of a root”) is a Mandarin feature, found mostly in dialects of the north of Henan and and southeast of Shanxi; before we remarked that reduction of this type is unlikely to occur in Southern dialects as Cantonese or Hokkien, seemingly for prosodic reasons (2.1). The dialects discussed in this paper are listed in table 3. with their dialectal group, the province where they are spoken and the devices available for the expression of perfective aspect, excluding suffixes of more than one phoneme (as they are available virtually anywhere in Sinitic).

Table 3. The dialects included in our study: location, affiliation and devices for perfective marking

Dialect	Province	Group	Perfective marking
Anyang	Henan	Jin	single vowel
Tangyin	Henan	Jin	single vowel
Hebi	Henan	Jin	single vowel/schwa
Boshan	Shandong	Northern Mandarin	single vowel/schwa
Linzhou	Henan	Jin	single vowel/schwa?
Changli	Hebei	Northern Mandarin	rhotacisation
Qixia	Shandong	Jiaoliao Mandarin	schwa, rhotacisation
Muping	Shandong	Jiaoliao Mandarin	rhotacisation
Neihuang	Henan	Central Plains Mandarin	single vowel/schwa, rhyme change

<sup>27</sup> The character 兒 *ér* may be written in a lower case to distinguish it from the corresponding lexical morpheme ‘child’.

<sup>28</sup> I would like to thank an anonymous reviewer for suggesting this to me.

Fengqiu	Henan	Central Plains Mandarin	rhyme change
Weihui	Henan	Jin	rhyme change
Puyang	Henan	Central Plains Mandarin	rhyme change
Huojia	Henan	Jin	rhyme change
Changge	Henan	Central Plains Mandarin	rhyme change
Xingyang	Henan	Central Plains Mandarin	rhyme change
Jiyuan	Henan	Jin	rhyme change
Xinxiang	Henan	Jin	rhyme change
Wuyang	Henan	Central Plains Mandarin	rhyme change
Qixian	Henan	Jin	rhyme change
Xunxian	Henan	Central Plains Mandarin	rhyme change
Huaxian	Henan	Central Plains Mandarin	rhyme change
Yanjin	Henan	Jin	rhyme change
Shangxian	Shaanxi	Central Plains Mandarin	rhyme change, tone change
Xi'an	Shaanxi	Central Plains Mandarin	rhyme change, tone change
Nanhe	Hebei	Jin	single vowel, tone change
Juxian	Shandong	Jiaoliao Mandarin	tone change

If we look at table 3., we may notice that rhotacisation is never found in Jin and Central Plains Mandarin, the most represented groups in our sample, whereas rhyme and tone change occur almost only within them, with only one exception (tone change in Juxian, a Jiaoliao dialect). Note, however, that tone change with a grammatical function may be found even in a southern dialect group as Cantonese (Huang, 1996, p. 176): Matthews and Yip (2011, p. 31) point out that in Hong Kong Cantonese the perfective marker 㗎 *tsɔ<sup>35</sup>* may merge with the verb and disappear, causing tone change in the verb. Generally speaking, genetic relations should not be expected to play a very important role in the distribution of fusional morphology, given that the subgrouping of Mandarin/Jin dialects is based mostly on tonal evolution (and other phonetic features), rather than on morphology (see Kurpaska, 2010, pp. 77-81 for an overview).

What is more interesting, in my opinion, is the geographical distribution of the phenomena at issue here. Looking again at the data in table 3., it appears that there are three ‘areal clusters’ of nonlinear aspectual morphology:

1. the northern part of Henan province, at the border with Shanxi, Hebei and Shandong provinces (Anyang, Tangyin, Hebi, Linzhou, Neihuang, Fengqiu, Weihui, Puyang, Huojia, Jiyuan, Xinxiang, Qixian, Xunxian, Huaxian, Yanjin), which we may broaden to include the area around Zhengzhou and Kaifeng (Changge, Xingyang, Wuyang) and Southern Hebei (Nanhe).
2. Shaanxi, specifically, the central-southern part (Shangxian, Xi'an).
3. Shandong, specifically, the central-eastern part (Boshan, Qixia, Muping, Juxian)

The first cluster is located more or less halfway between the other two, and is characterised by the diffusion of rhyme change as a device for aspect marking; He (1989, p. 2) points out that rhyme change is a widespread phenomenon in the dialects of northern Henan and of the area of Zhengzhou and Kaifeng. This is an area in which Jin and Central Plains Mandarin dialects meet; Xin (2006b, p. 4-5) remarks that Xunxian, a Central Plains dialect, was strongly influenced by the high number of immigrants from Shanxi, a province dominated by Jin dialects, and she includes rhyme change among the features that Xunxian shares with the dialects of Shanxi (and cf. the reference to Ho 2003 above). We did not find examples of nonlinear aspectual morphology in Shanxi dialects, although there are many instances of rhyme/tone change with a derivational function, or used to mark number and

possession in pronouns (see Hou 1999). Nanhe, a dialect spoken in Southern Hebei, not far from the border with Shanxi and Henan provinces, makes use of tone change and vowel lengthening to mark perfective aspect. Rhyme and tone change with an aspectual function are also found in Xi'an and Shangxian, two Central Plains varieties of Shaanxi; the main difference between the varieties of the first and of the second cluster is that the latter developed suprasegmental aspectual morphology (tone change), and temporal meaning does not seem to be prominent for perfective aspect markers; in this respect, Nanhe patterns with languages of the second cluster, although its location is quite far from theirs.

The third areal cluster is less homogeneous. Qixia and Muping are the varieties spoken in two districts of the city of Yantai, and they both make use of rhotacisation to mark perfective aspect and goal; this is found in many other varieties spoken in the Yantai area (Zhang and Li, 2007, p. 98). Moreover, Qixia, as well as some other varieties of this zone, use patterns of tone change and lengthening to mark progressive aspect and goal (Zhang and Li, 2007, p. 97). Juxian, located to the West of the Yantai area, makes use of tone change to mark perfective aspect (among others), and Li and Ai (2008, p. 397) claim that tone change is attested also in the neighbouring dialects of Qingdao (青島 *Qīngdǎo*), Rizhao (日照 *Rìzhào*) and Zouping (鄒平 *Zōupíng*). The schwa suffix of Boshan, spoken fairly close to Juxian, is found also in Qixia, as said above (3.1). The only outlier in this proposed clustering is Changli, a language of Hebei province, quite removed from the others, in which rhotacisation is used, again, as a substitute for analytical markers of perfective aspect, progressive and goal.

Thus, it appears that there are some areal tendencies in the distribution of fusional aspect markers, cross-cutting dialect groups. Rhyme change seems to be concentrated in Northern and Central Henan, but is found also in Central Plains Mandarin varieties spoken in the neighbouring Shaanxi province. Interestingly, although nonlinear morphology is quite common in Shanxi, an overwhelmingly Jin province, fusional aspect markers seem to be found mostly (if not only) in the Jin dialects spoken in Northern Henan. The Yantai area is characterised by the use of rhotacisation to mark perfective aspect, as well as tone change for other aspectual categories; however, schwa is also attested, which is found in Boshan as well, West of Yantai. While e.g. aspect marking by tone change is sporadically attested also elsewhere in Sinitic, as said before, the distribution illustrated here is highly suggestive of areal relationships. Needless to say, more data is needed in order to confirm or refute this claim, especially since our knowledge of Sinitic is still far from complete.

## 6. Concluding remarks

In this paper, I showed that in a group of Mandarin and Jin dialects, perfective aspect markers deriving from the verb 'to finish' followed processes of reduction and bonding/fusion analogous to those seen in the familiar Indoeuropean languages of Europe, contrarily to what proposed by Bybee, Perkins and Pagliuca (1994) and Bisang (1996, 2004, 2008). In some dialects (Linzhou, Beijing Mandarin, Nanhe) the evolution of these markers provides some evidence of a coevolution of form and meaning, in that the suffix marking perfectivity is more reduced than that marking completion, which in turn is more reduced than the corresponding verb; however, in all of the dialects I considered it appears that the reduction and fusion of markers is carried on without relevant semantic change, and hence I argued that it is basically a morphophonological process.

The relation between formal reduction(/fusion) and increased frequency, meaning generalisation and paradigmaticity has been assessed on the basis of scattered evidence from a limited number of dialects. In some varieties, the marking of perfective aspect is found (seemingly obligatorily) in more contexts,

and this aspectual category often shows a strong association with past tense, having thus both a ‘more grammaticalised’ and a more consistent meaning (i.e. completion in the past), if compared to SM – 了 – *le*. Thus, in these dialects aspect markers are expected to have higher frequency, which may well explain their greater degree of reduction. Nevertheless, a core component of Bisang’s model of grammaticalisation with areal properties, namely the relevance of context and of pragmatic inference to correctly interpret the function of grams seems to hold even for these cases, especially for dialects in which rhyme change or schwa suffixing conveys other meanings beside perfective (typically, continuous and goal). Language users, thus, may need to ‘retrieve’ the meaning of a polysemous marker through pragmatic inference anyway, even if it scores high in terms of secondary grammaticalisation.

As to the cline of reduction for markers of perfectivity, I remarked that many dialects use both a (more or less) reduced/fused device and a suffix for this function, most often with differences in usage; whereas the former is usually said to be the unmarked option in the spoken language, the latter is said to be formal, or even the only option in dialect writing. I suggested that this is best explained by the prestige of SM, which does not have such synthetic markers of perfectivity (and other aspectual categories) and does not record them in writing.

Lastly, I pointed out that there appear to be three areal clusters of dialects using fusional aspect markers. We suggested that although nonlinear morphology is attested also elsewhere, the concentration of some patterns in specific areas may be interpreted as a case of areal convergence.

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