

Article

Tense as a Grammatical Category in Sinitic: A Critical Overview

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Abstract: Sinitic languages are very often described as tenseless, since they are generally seen as lacking 'true' grammatical markers of tense: thus, the interpretation of time reference relies on other factors, such as aspect, modal verbs, and the use of time expressions. However, the debate concerning the tenseless nature of Chinese has not been settled yet: several types of items in Sinitic have been analyzed as expressing both aspect and tense, tense and modality, or even tense only. In this paper, we offer a critical analysis of the proposals made in the description of Standard Mandarin Chinese and (so-called) Chinese dialects concerning grammatical exponents of tense. We shall show that there appears to be a very broad degree of variation within Sinitic in the type and nature of tense(-like) meanings expressed, with different degrees of overlap between tense and other TAM categories (i.e., aspect and modality), and different degrees of grammaticalisation of alleged tense markers. Furthermore, the most grammaticalised tense markers are located in subregions within northern China: we shall thus discuss the relevance of our data for the areal typology of Sinitic.

Keywords: Sinitic; tense; aspect; mood; tenselessness

1. Introduction

Standard Mandarin Chinese (henceforth: SMC)¹ and Sinitic languages in general are very often described as tenseless languages, since they are mostly seen as lacking 'true' grammatical markers of tense (see e.g., [Smith and Erbaugh 2005](#) and [Lin 2006, 2012](#) on SMC; [Matthews and Yip 2011](#) on Cantonese; [Sandman 2016](#) on Wutun; [Li 2018](#) on Yichun Gan). See, for instance, the following SMC examples:²

(1)	a.	我 Wǒ 1sg	今天 <i>jīntiān</i> today	有空 <i>yǒu-kòng</i> have-free.time 'I am free today'.
	b.	我 Wǒ 1sg	昨天 <i>zuótiān</i> yesterday	有空 <i>yǒu-kòng</i> have-free.time 'I was free yesterday'.
	c.	我 Wǒ 1sg	明天 <i>míngtiān</i> tomorrow	有空 <i>yǒu-kòng</i> have-free.time 'I'll be free tomorrow'.

As shown in (1), a verb–object compound as 有空 *yǒu-kòng* 'have free time' can constitute a predicate located in the present (1a), past (1b), or future (1c) without any grammatical markers or formal changes. In (1), the correct identification of time reference relies on the time expressions present; other factors in the interpretation of time reference in SMC (and Sinitic in general) include aspect markers, modal verbs, time-oriented verbs, and the *Aktionsart* of the predicate, as we shall see in greater detail later. Indeed, the lack of grammatical expression of tense is normally seen as a feature not only of Sinitic, but also of the whole East and Mainland Southeast Asian area (see [Dahl and Velupillai 2013b, 2013c](#)).



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However, not everybody supports a tenseless analysis for Sinitic (for a brief overview of the debate, see [Soh 2014](#)). Indeed, several types of items (modal and aspectual particles, verbs, etc.) in Chinese have been analyzed as expressing both aspect and tense, tense and modality, or even tense only: this is mostly true for non-standardised Sinitic languages, i.e., Chinese dialects. For instance, [Bell \(2017a, 2017b\)](#) maintains that the particle 俩 [lia] in Xining Mandarin is a future tense marker, when combined with dynamic states of affairs; [Xing \(2020\)](#) discusses sentence-final particles in Jin dialects which, in his view, mark past, present, and future tense (both absolute and relative), some of which are claimed to be fully grammaticalised dedicated exponents of tense, reportedly even obligatory in most contexts.

The aim of this paper is to offer a critical analysis of the claims concerning the presence vs. absence of tense as a grammatical category in Sinitic languages. Starting from hypotheses on the tensed or tenseless nature of SMC, we shall analyze the literature on other Sinitic languages, assessing the proposals made in the description of Sinitic. We shall show that there appears to be a very broad degree of variation within Sinitic in the type and nature of tense (-like) meanings expressed, with different degrees of overlap between tense and other TAM categories (i.e., aspect and modality), and different degrees of grammaticalisation of alleged exponents of tense. Specifically, the most grammaticalised exponents of tense are mostly found in three subregions within northern China: namely, Shanxi and part of Shaanxi (Jin and Mandarin dialects), Hebei (Mandarin dialects), and the languages of the Qinghai-Gansu *Sprachbund* (heavily restructured ‘hybrid’ Mandarin varieties). Data on the possible grammatical manifestations of tense and on their distribution in Sinitic will then be interpreted in their areal context: just as for many other defining features of the East and Mainland Southeast Asian Area ([Bisang 2004](#); [Enfield 2005](#)), the prominence of aspect and the general indeterminateness of utterances is shown, once again, to be somewhat less evident in northern China than in southern China.

This paper is organised as follows. In Section 2, we shall briefly introduce the theoretical background of our research, discussing the different notions of ‘tense’ and of ‘tenselessness’, and we shall illustrate our methodology. In Section 3, we shall present the results of our survey of the literature on tense marking in Sinitic, offering an overview of the various claims and analyses on this grammatical category for this family. In Section 4, we shall discuss the results of our survey, highlighting the trends observed and their theoretical relevance for our understanding of the typology of Sinitic. Finally, in Section 5, we shall summarise the main conclusions of the present paper and offer some hints for further research.

2. Theoretical Background and Methodology

2.1. Tense as a Grammatical Category

It is generally believed that all languages have some way of locating events in time ([Comrie 1985](#)). However, the devices used to express temporal meaning do vary considerably across languages. When we speak of ‘tense’ as a grammatical category, what is usually meant is the grammaticalised location of a state of affairs in time (see [Comrie 1985](#)); typically (but not exclusively), grammaticalised tense is expressed in the form of inflection, i.e., bound, obligatory morphemes. A textbook example of a grammaticalised tense distinction may be found in English: as [Comrie \(1985, p. 10\)](#) points out,

(t)he English past/non-past opposition is a clear instance of a grammaticalised opposition. It is quite impossible to construct an English sentence containing a finite verb that is neutral as between the two poles of this opposition, i.e., *John runs* is clearly non-past, and *John ran* is clearly past, and there is no third term that is neither.

Furthermore, an important distinction may be made between ‘absolute’ (or ‘deictic’) tense and ‘relative’ tense. We said above that the function of tense is to locate a state of affairs in time: more specifically, tense constrains “the topic time³ of utterances with respect to a reference point” (Lin 2012, p. 670). When the reference point is speech time, then we may speak of absolute (or deictic) tense, as, e.g., present, past, or future; when the reference point is different from speech time, we speak of relative tense, which in English is generally available for non-finite verb forms (Comrie 1985; Lin 2012). In addition, Comrie includes a third category, namely ‘absolute–relative’ tense, i.e., when topic time is located with respect to a reference point different from speech time, but the reference time is also located with respect to speech time, as in, e.g., the English pluperfect (‘past in the past’; Comrie 1985, p. 65). However, not everybody agrees on this third category: Smith (2013) proposes just a binary absolute/relative opposition, and treats forms of the English pluperfect as instances of relative tense.

Needless to say, in the literature, we may find myriad views on tense, and it is simply not feasible to propose a thorough discussion here (for a concise critical survey, see Uusikoski 2016). Thus, in what follows, we shall just limit ourselves to a brief overview of some aspects which are most relevant for the purposes of the present study.

Firstly, a notoriously thorny issue in the study of tense is its relationship with grammatical aspect (see, e.g., Comrie 1985; Hewson 2012). In a nutshell, while tense is related to the expression of location in time, aspect is related to the internal temporal constituency of an event (Comrie 1985); in other words, tense is concerned “with the representation of the time that *contains* the event”, while aspect is concerned “with the representation of the time *contained* in the event” (Hewson 2012, p. 511; his emphasis). While the two categories may seem to be easily distinguishable, from the theoretical point of view (and see Lin 2012, p. 671 for a list of features distinguishing tense and aspect), it is not uncommon for languages to mark them cumulatively in the same form(/construction), and in many languages, tense and aspect are not entirely independent from each other, i.e., not all combinations of tense and aspect are possible (Dahl and Velupillai 2013a; Uusikoski 2016). In Italian, for instance, tense and aspect are often coded together in verbal inflection: thus, *cammin-ava* ‘s/he was walking (IPFV)’ contrasts with *cammin-ò* ‘s/he walked (PFV)’, but in both cases past tense and imperfective or perfective aspect are expressed cumulatively. As for the interaction between aspect and tense, for instance, it has been pointed out time and again in the literature that the perfective aspect is biased towards a past tense reading (because “the prototypical uses of perfectives coincide with the default view of an event as a completed whole. But normally such a perspective is possible only if the event is wholly in the past”; Dahl and Velupillai 2013a). In Russian, perfective verb forms can refer to the past (with past tense morphology, e.g., *ona napisa-la* ‘she wrote’) or to the future (with present tense morphology: *ona napisa-t* ‘she will write’), whereas actual reference to the present is available only for imperfective verb forms (*ona pisa-t* ‘she is writing’; see Hewson 2012, p. 510). Indeed, generally speaking, the present tense shows higher compatibility with the imperfective aspect, cross-linguistically (Uusikoski 2016).

A related issue is that of lexical aspect, i.e., “the aspectual information that is contained in the lexical part of the verb or the verb phrase” (Uusikoski 2016, p. 77); it is “a semantic category that concerns properties of eventualities [. . .] expressed by verbs” (Filip 2012, p. 721), and the most basic distinction in terms of lexical aspect is that between telic and atelic states of affairs. Differently from grammatical aspect, lexical aspect, as the name suggests, is not normally a morphosyntactic category in languages (Uusikoski 2016). However, just as in the case of grammatical aspect, lexical aspect may interact with the temporal interpretation of a clause. For instance, Uusikoski (2016, pp. 80, 82) argues that in some creole languages the distinction between actions and states is “a part of determining the temporal value of the sentence and thus arguably a part of the tense system”: in the varieties he considered (as, e.g., Nigerian Pidgin, among others), it is implied that “stative verbs are imperfective and the situation they express is thus in progress [i.e., in the present] unless otherwise stated and vice versa”, and that “the situation expressed by action [i.e.,

non-stative] verbs is over [i.e., in the past] unless otherwise stated". As we shall see below, lexical aspect and the *Aktionsart* of the predicate⁴ do play an important role in temporal interpretation in Sinitic as well.

Note, also, that tense may be hard to disentangle from mood (Dahl and Velupillai 2013a). This is especially true for the future tense, which "inevitably ha[s] a component of modality, or uncertainty" (Smith 2013, p. 2591):

[t]he future is 'open': we cannot know what will happen but can only predict, with more or less certainty. Thus the categories of irrealis, modal, and future categories overlap. The close connection is often seen in historical development: future tenses tend to develop from modal categories.

For instance, while *will* is normally seen as a future tense marker in English, it patterns (syntactically and semantically) with modals, rather than with tense markers (Smith 2013). As we shall see later, the connection between modality and time reference in Sinitic appears to be particularly strong.

Another aspect of the conception of 'tense' as a grammatical category that is crucial for our analysis is the inflectional nature of tense. As mentioned above, a typical characterisation of grammatical tense includes the features of boundedness and obligatoriness for its exponents. However, as Comrie (1985) himself points out, this is a prototype definition: for instance, grammatical tense may be expressed by non-bound items such as auxiliaries. Uusikoski (2016) analyzed a sample of 193 tense markers⁵ from 62 languages, and found out that 21 of them (11%) may be considered non-obligatory, 33 may be replaced by some other tense form, and 110 (57%) are bound: interestingly, only 95 out of 193 exponents (i.e., slightly less than half) are both bound and obligatory (and may not be replaced by other tense markers). Smith (2013) also points out that, as a grammatical category, we expect tense exponents to form a closed class with a limited set of members.

Finally, whereas up to now we have considered 'tense' as a single phenomenon, we may find different conceptions of tense in the literature, depending on the theoretical framework. The definition of tense discussed above largely overlaps with the notion of 'morphological tense', i.e., "a phonologically realised 'tense' morpheme" locating the state of affairs in time (Sun 2014, p. 9). However, tense has also been understood as a syntactic notion: in some generative approaches to tense, it has been proposed that sentences have one or more Tense nodes, "without which their temporal interpretation would be impossible" (Sybesma 2007, p. 581). A Tense node is often headed by a tense inflection, but it has also been proposed that it can have a null head, and thus have covert (morphologically unmarked) tense. Based on these theoretical premises, it may be said that a language has syntactic tense if it has a Tense node that locates events with respect to utterance time (see Soh 2014; Sun 2014; we will get back to this in Section 3.1).

To conclude, in the literature, we may find several different understandings of the notion of 'tense': for the purposes of our research, we may rely on a simple working definition, based on the conception of tense as the grammatical expression of a time reference. As shown above, 'prototypical' tense exponents are bound and obligatory, but we also see considerable variation both in terms of type of exponent and of degree of obligatoriness. Additionally, it is not uncommon for tense to interact with the 'neighboring' categories of grammatical and lexical aspect in determining the temporal interpretation of an utterance; indeed, aspectual categories by themselves may involve temporal implications in some languages. Moreover, in generative approaches, tense as a functional projection may be said to be present in a language even in the absence of overt (morphological) exponents of tense. In Section 2.2, we shall see how these aspects of the notion of tense and temporal reference are related to the distinction between tensed and tenseless languages.

2.2. Tensed vs. Tenseless Languages

In the preceding section, we used the English past vs. non-past opposition as a typical instance of a grammaticalised expression of tense. This is because, as pointed out above,

just about any finite verb form in English must be marked for either value of the tense category. Indeed, English is an example of a ‘tensed’ language; tensed languages are defined in Smith (2013, p. 2591) as such:

[i]n tensed languages, tense is an obligatory bound morpheme that expresses temporal information. The tense morpheme is part of the grammatical ‘spine’ of a sentence. As such, tense has grammatical ramifications: it is involved in agreement, case, anaphora, and the finite/non-finite distinction. All main clauses have an obligatory tense morpheme, so that all main clauses convey temporal information.

Thus, a crucial defining feature of tensed languages is the obligatoriness of tense marking; as pointed out by Binnick (1991, p. 127), “[t]he major difference between languages is not in whether they can make such distinctions, but in whether they require the speaker to do so”.

Tensed languages are typically contrasted with ‘tenseless’ languages, i.e., languages in which time reference is not grammaticalised: tenseless languages thus lack obligatory grammatical exponents of tense as inflections, particles, or specific verb forms (Lin 2012; Smith 2013)⁶. As mentioned in the Introduction, SMC is often seen as a tenseless language, since time reference does not rely on grammatical tense markers, but rather on the interaction of grammatical and lexical aspect, modal markers, past- or future-oriented verbs, overt time expressions, and pragmatic inference (Smith and Erbaugh 2005; Lin 2006, 2012). Thus, for instance, “sentences describing perfective telic states of affairs are interpreted by default as located in the past, while sentences describing imperfective atelic states of affairs are interpreted by default as located in the present” (Arcodia and Basciano 2021, p. 250):

- | | | | | |
|-----|-----------|------------|----------------|----------------------------|
| (2) | 我 | 很 | 忙 | |
| | <i>Wǒ</i> | <i>hěn</i> | <i>máng</i> | |
| | 1SG | very | busy | |
| | | | | ‘I am very busy’. |
| (3) | 她 | 在 | 北京 | 出生 |
| | <i>Tā</i> | <i>zài</i> | <i>Běijīng</i> | <i>chūshēng</i> |
| | 3SG.F | at | Beijing | be.born |
| | | | | ‘She was born in Beijing’. |

However, as shown in (1a–c), time expressions may also be used to override default time reference (Smith and Erbaugh 2005). According to Smith (2013), the contrast shown in (2–3) is the expression of a general trend of tenseless languages, in which unbounded situations are located by default in the present, whereas bounded situations are located by default in the past; future references, on the other hand, “require explicit future information” (Smith 2013, p. 2600). This is explained by Smith as the product of the interaction of three pragmatic principles:

- a. The Deictic Principle Speech Time is the central orientation point for language. The present is located at Speech Time; the past precedes it, the future follows.
- b. The Bounded Event Constraint Bounded situations may not be located in the present.
- c. The Simplicity Principle of Interpretation Choose the interpretation that requires the least information added or inferred.

Thus, the speaker infers that unbounded states of affairs are located in the present following the Deictic Principle and the Simplicity Principle, while bounded states of affairs cannot be located in the present, due to the Bounded Event Constraint; according to the Simplicity Principle, they receive a default past interpretation, rather than a future interpretation, because “[t]he past is simpler in terms of information conveyed than the future because the past doesn’t have the element of uncertainty that is always part of the future” (Smith 2013, p. 2600). Thus, for instance, in SMC, a reference to the future is generally achieved with the addition of (so-called) ‘future modals’ (as, e.g., 会 *huì*), future-oriented verbs and expressions, and future time adverbials, as well as by means of pragmatic inference (Smith and Erbaugh 2005).

In addition to the ‘canonical’ tensed/tenseless opposition, Smith (2013) identifies a third type of language, i.e., the so-called ‘mixed-temporal languages’. These are defined as such (Smith 2013, p. 2599):

[M]ixed-temporal languages have some of the characteristics of tensed languages. They have inflectional morphemes and/or temporal particles and clitics that give direct temporal information. However, these forms are syntactically optional and do not participate in other grammatical processes. Thus a given sentence may or may not convey temporal information [. . .].

Navajo (an Athabaskan language of the United States) is cited as an example of a mixed-temporal language. Navajo has one future tense inflectional marker, and (non-bound) particles for past and future, which are semantically analogous to grammaticalised tense markers in a tensed language, such as English: their basic function is locating an event in time. However, differently from a ‘fully’ tensed language, the absence of either future inflection or tense particles does not convey temporal information: they contribute temporal meaning when they are present, but they are optional, and temporal information may be recovered from other elements in their absence. Compare the two examples below (Smith et al. 2007, pp. 49, 54).⁷

- | | | | | | |
|-----|---|-------------------------------------|-------------------------------|---------------------------------------|-------------------|
| (4) | <i>Mary</i>
Mary | <i>yisk'ago</i>
tomorrow | <i>bit</i>
3-with | <i>hozhqo</i>
areal.3SUBJ-be-happy | <i>doo</i>
FUT |
| | ‘Mary will be (become) happy tomorrow’. | | | | |
| (5) | <i>Nínáádeezidgo</i>
next.month | <i>Na'nízhoozhígóó</i>
Gallup.to | <i>deeyá</i>
3SUBJ.PERF.GO | | |
| | ‘He’s going to Gallup next month’. | | | | |

As may be seen by the contrast between (4) and (5), the future particle *doo* (*leeł*) is present in the former example, but not in the latter, although they both refer to the future. Indeed, just as seen above for SMC, aspectual information and the three pragmatic principles presented above are mainly used to determine temporal interpretation, if no overt tense marker or time adverbial is present: in this respect, they are consistent with tenseless languages, and contrast with tensed languages (Smith 2013).

By adding mixed-temporal languages to the typology of tense marking, Smith indirectly contradicts the ‘traditional’ definition of tense as obligatory marking of time. Remember that in Section 2.1, we pointed out that, in Uusikoski’s (2016) typological survey, he also identifies optional grammatical markers of tense. Thus, in this conception, a tense marker may be grammaticalised without being obligatory: this applies both to whole languages, in which tense markers are part of the grammar, but are optional (like Navajo), and to individual markers in a language where other tense markers are obligatory. For instance, Kwaza (an isolated language of Brazil) obligatorily marks the distinction between future and non-future (present and past): non-future is zero-marked, while the future is marked by the tense suffix *-nã*. However, while a zero-marked predicate may be understood as referring either to the present or to the past (depending on the context and/or on the presence of temporal adverbs), there is also an optional past tense morpheme, *-ky*, which may be used to overtly mark past reference (Van der Woort 2004, pp. 389–90).

Thus, to sum up, in this section we have shown that there is a range of options for tense marking which goes beyond the basic tensed/tenseless contrast. Languages like English and SMC may look like prototypes of those two categories, but there are also languages in which there are grammatical tense markers, which are however not obligatory, and which thus rely on the very same principles used in tenseless languages to establish time reference. Furthermore, even in a single language we may see fully grammaticalised, obligatory tense distinctions and optional tense marking coexisting.

2.3. Our Sample and Methodology

From the brief presentation of some of the main theoretical issues concerning the grammatical category of tense, we may easily appreciate that performing a complete anal-

ysis of the expression of temporal reference in any individual variety is an enormous task. Doing it for a large sample of languages is simply not feasible in a single paper. Therefore, what we can do in the present article is start from published analyses of language data and provide a critical assessment of the different claims made in the literature related to tense in Sinitic. As for SMC, by far the best-described Sinitic language, there is a rich literature on aspects related to temporal reference, and all sorts of views have already been proposed. Because of this, and because of the fact that the description of Sinitic languages is often made within the grammatical framework conceived for SMC (Chappell 2006), we shall begin our survey with some representative analyses of the national standard language.

Then, we shall offer a critical overview of proposed tense markers/tense-marking systems in non-standardised Sinitic varieties. Since the majority position in the field of Chinese dialect studies (and Chinese linguistics in general) appears to be that Sinitic languages are tenseless, the number of studies which explicitly deal with grammaticalised tense is still relatively small. In order to identify papers on tense marking in Sinitic, we performed a simple query on the CNKI (中国知网 *Zhōngguó Zhīwǎng*) database of academic publications,⁸ searching for the keyword 时制 *shízhì* ‘tense’. Note that this is not the only possible term in Chinese for tense: the term 时态 *shítài* is also often used to refer to this grammatical category. However, we chose to search for 时制 *shízhì* only, excluding 时态 *shítài*, because only the former is unambiguously used to refer to grammatical ‘tense’ as it is usually defined (and as we define it here; see Section 2.1). Indeed, while 时态 *shítài* is often used to refer to tense also in the description of tensed languages, it is also commonly used to refer to aspect in the Chinese linguistic literature. Therefore, a search for 时态 *shítài* would return too many results, many (if not most) of which are not relevant to the present research. Reference to the category of tense (again, 时制 *shízhì*) was also identified in grammars (or, anyway, book-length descriptions) of Sinitic languages from a convenience sample available to the author.

Note that the procedure described here is not aimed at constructing a balanced sample of Sinitic: the choice of the varieties considered depends almost exclusively on whether an analysis of grammatical tense is available. Furthermore, as is often the case in typological surveys, the quantity and quality of the data vary considerably, depending on the variety at issue: hence, we cannot consider the same parameters for each dialect. For instance, not all descriptions mention the compatibility of proposed tense markers with negators, or their compatibility with different aspectual classes.

Finally, note also that, for the sake of simplicity, we shall mostly focus on the expression of tense in simple, non-embedded sentences. Indeed, as pointed out by an anonymous reviewer, exponents as sentence-final particles (as we shall see, the overwhelmingly most common type of grammatical tense marker in our survey) do not normally appear in embedded clauses. Thus, the observations related to the obligatoriness (or optionality) of tense markers made in this paper are to be understood as generally limited to the context of non-embedded clauses. The discussion of temporal reference in embedded clauses must be the object of future research.

3. Our Survey: Data and Analysis

3.1. SMC as a Tensed Language

As pointed out earlier, arguably the dominant view in the literature is that SMC is a tenseless language (see, e.g., the references quoted in Sybesma 2007). However, the analysis of SMC as a tenseless language has been challenged from two different perspectives:

- a. While admitting that SMC does not have obligatory tense morphemes, some scholars (Sybesma 2007; Sun 2014) suggest that the language does have a Tense node for the temporal interpretation of sentences, albeit with a null head (see Section 2.1);
- b. Others (Zhang 2000; Huang 2015) propose that SMC does have overt tense markers, with different views as to their systematicity and obligatoriness.

As for the first perspective, we already mentioned that, in some syntactic theories, the presence of a Tense node is regarded as a potential universal: thus, a language can be superficially tenseless, but still have covert tense. This type of analysis has been proposed to explain how bare predicates, i.e., “predicates without any overt aspectual marker or particle that might contribute to the temporal interpretation of the sentence” (Sun 2014, p. 1) receive their temporal interpretation. For instance, Sun (2014) suggests that SMC has a covert non-future tense, opposed to a future tense. The existence of a covert non-future tense category, in her view, is demonstrated by the fact that bare predicates are often not compatible with a future time interpretation (adapted from Sun 2014, p. 165):

- (6) * 明天 露露 很 沮丧
 míngtiān Lùlù hěn jǔsàng
 Tomorrow Lulu very frustrated
 ‘(Intended meaning:) Tomorrow, Lulu will be very frustrated’.

According to Sun (2014), (6) may become acceptable if, e.g., the future-oriented modal verb 会 *huì* is added. However, as Sun (2014) herself admits, the acceptability of a future adverbial with a stative predicate largely depends on the individual verb or adjective: for instance, a sentence like (6) would be acceptable without a modal if 忙 *máng* ‘busy’ (i.e., ‘tomorrow, Lulu will be very busy’), rather than 沮丧 *jǔsàng* ‘frustrated’ is used. Sun explains this by positing a ‘covert modal’ for those bare predicates which allow a future reading, similarly to the futurate reading of present tense sentences in English: in a nutshell, states of affairs that are beyond control (like ‘be frustrated’ or ‘rain’) require an overt modal for future reference, while planned events (like ‘be busy’) contain a silent (‘plan’) modal when referring to the future.

However, the establishment of temporal reference in SMC may be explained without resorting to covert/silent items. Indeed, the very fact that bare predicates sometimes require a modal to refer to future time, depending on the degree of control and/or pianification of the state of affairs at issue, is easily explained in pragmatic terms; the principles outlined in §2.2 generally hold for SMC (see Lin 2006, 2012). Furthermore, as pointed out by Sun and Grisot (2020), we can easily come up with examples of bare predicates that refer simultaneously to the present and future, to the exclusion of the past, or to the past, present, and future, thus casting doubts on the existence of a covert non-future/future tense distinction.

The existence of a covert non-future/future tense distinction for SMC has been proposed by Chen and Husband (2018) too, but we shall not comment on it here due to space constraints (and see He 2020 for an alternative, “two-null-tense” analysis). Interestingly, Huang (2015) also supports the existence of a non-future/future opposition in SMC, but he claims that the future is an overtly marked tense value, as opposed to an unmarked non-future tense. Specifically, Huang (2015) focusses on 将 *jiāng*, a future-oriented item usually seen either as a modal verb or as an adverb. Huang argues that 将 *jiāng* is neither a modal verb nor an adverb (see Huang 2015 for distributional arguments in support of this analysis), but rather a *bona fide* future tense morpheme. In semantic terms, Huang (2015) stresses the point that 将 *jiāng* is compatible with a wide range of types of future time reference, including both planned and non-planned states of affairs, while other future-oriented modals tend to be used only for specific subtypes of future situations (see Smith and Erbaugh 2005, pp. 731–32). For instance, the above mentioned 会 *huì* is generally incompatible with planned/scheduled events, hence the ungrammaticality of (7) (adapted from Lin 2012, p. 674):

- (7) * 火车 三点 会 开
 huǒchē sān-diǎn huì kāi
 train three-hour will leave
 ‘(Intended meaning:) The train leaves at three o’clock’.

Due to space constraints, we shall not discuss in detail Huang’s proposal, and we shall limit ourselves to two remarks. The first one is that 将 *jiāng* is not obligatory in fu-

ture contexts, since, as seen above, future reference may be achieved through many other means, including lexical ones (see e.g., Ex. 1c); thus, if anything, it might qualify as an optional tense marker. Huang (2015) himself points out that 将 *jiāng* is not an obligatory tense marker, and that temporal information may be encoded by means other than syntactic tense morphemes. The second one is that, as Huang (2015) himself highlights, 将 *jiāng* belongs to the formal register of SMC, and is chiefly used in the written language. Therefore, its relevance for the characterisation of the language as a whole might be limited. What is most interesting is that, besides Huang's claims concerning 将 *jiāng* in SMC, we do find several proposed future tense markers in the literature on Sinitic, as we shall see in the next section, arguably more often than past or present tense markers.

Another approach to tense interpretation in SMC focusses on so-called 'sentence-final particles', i.e., grammatical particles located at the end of a sentence with a (broadly defined) modal function, often used to mark illocutionary force, which are widespread in Sinitic and in Mainland Southeast Asian languages (Goddard 2005). An early proposal is Zhu's (1982) analysis of the temporal value of the SMC sentence-final particles 来着 *láizhe*, 呢 *ne*, and 了 *le*. Among those, 来着 *láizhe* is perhaps the one that has the clearest temporal value, as it is generally used to indicate that an event occurred in the recent past; indeed, it appears to be incompatible with past and future temporal adverbs (Zhang 2000). However, 来着 *láizhe* is generally considered to be a local feature of Beijing Mandarin, and even in Chirkova's (2003) sample of data of this dialect, 来着 *láizhe* is the particle with the lowest frequency; it also has limited compatibility with telic predicates (Yang and Wang 2006; Paul 2015). Hence, its significance for the characterisation of SMC is indeed limited (but see below, Sections 3.2.2 and 4).

Similarly to Zhu (1982), Zhang (2000) maintains that 来着 *láizhe* and 呢 *ne* should be understood as "sentence-final temporal particles". She highlights that, just as 来着 *láizhe* is incompatible with adverbs referring to the present or future, 呢 *ne* is incompatible with past and future temporal adverbials (but cf. Yang and Wang 2006): this, according to Zhang (2000), is evidence of the fact that 来着 *láizhe* is a past tense marker, while 呢 *ne* is a present tense marker. As for 了 *le*, Zhang (2000, p. 4) believes that it "cannot be a tense marker in the traditional sense", since it is compatible with past, present, and future adverbials. According to her analysis, while 呢 *ne*, as a present tense marker, indicates that speech time is within topic time (in her terminology, 'assertion time'), sentence-final 了 *le* "is specified with a [within] feature to denote the relation between a contextually explicit temporal point and AST-T [i.e., topic time]" (Zhang 2000, p. 7). Thus, she seems to suggest that 了 *le* is not an absolute tense marker, but rather a marker of relative tense, based on the relation between topic time and a contextually-determined reference point. Indeed, Anderson (1982) proposes that sentence-final 了 *le* is akin to the English perfect, in that they are both used to convey the current relevance of a state of affairs (see also Li et al. 1982).

However, as pointed out, e.g., by Paul (2015, p. 261), the semantic characterisation of 了 *le* is extremely complex, and the only thing that ties together all the possible uses of this particle is that "it 'closes off' the sentence and relates the event to the speech time (in the absence of any other explicit reference time), which might induce an interpretation of the situation as being new". In addition, Arcodia and Basciano (2021) point out that the basic function of 呢 *ne* is that of indicating the continuity of a state of affairs, rather than present tense *per se*. They highlight that while both 呢 *ne* and 了 *le* contribute to establishing the temporal reference of an utterance, their meaning is more akin to aspect (and, we may add, mood) than to tense.

To sum up, in the literature on SMC we may find claims concerning the status of different types of items as markers of tense. While these certainly play a role in building the temporal interpretation of utterances, this function likely derives from their aspectual and modal meanings. They do not seem to be 'proper' tense markers, also because they lack systematicity (i.e., they are not part of systematic tense oppositions).

3.2. Overt Tense Marking in Non-Standardised Sinitic Languages

As pointed out in the Introduction, items that appear to have developed into tense markers are not equally distributed throughout the Chinese dialect continuum. Indeed, based on the available descriptions, it seems that they are mostly (though not exclusively) concentrated in three areas of northern China, each of which has distinctive features in this respect: three-way systems based on an opposition of past, present, and future are generally found in the Jin and Mandarin dialects of Shanxi and (part of) Shaanxi; dedicated markers of past tense are found in the Mandarin dialects of Hebei; ‘hybrid’ Mandarin dialects of the Qinghai-Gansu *Sprachbund* seem to have only markers of future tense, with tense–aspect mixed systems. In what follows, we describe separately each of those three clusters.

3.2.1. Three-Way Tense Systems: Shanxi and Shaanxi

Many Jin dialects of Shanxi, as well as some (Central Plains) Mandarin dialects of neighboring Shaanxi, have been described as having sentence-final particles which mark past, present, and future. For instance, Li (2001, p. 67; my glosses and translation) proposes the following minimal pairs for the Yangquan dialect of Shanxi:

(8)	a.	你	干	啥	来?
		NI	GAN	SHA	LAI
		2sg	do	what	PST?
			‘What did you do?’		
	b.	你	干	啥	嘞?
		NI	GAN	SHA	LEI
		2sg	do	what	PRES?
			‘What are you doing?’		
	c.	你	干	啥	呀?
		NI	GAN	SHA	YA
		2sg	do	what	FUT?
			‘What will you do?’		

In (8a–c), we have identical predicates, with no overt time expressions, which are interpreted, respectively, as referring to the past, present, and future. The difference in the temporal collocation of the events thus arises only from the different sentence-final particles used: namely, 来 LAI, 嘞 LEI, and 呀 YA. These particles have thus been analyzed as genuine tense markers.

The topic of tense marking in Jin dialects has been most extensively discussed in Xing (2015, 2017, 2020), who also interprets marker cognates as those just seen in Yangquan as tense markers. While he points out that these sentence-final particles also have modal functions, he believes that tense is their dominant meaning. Taking the Shenmu dialect as the representative variety for his analysis, Xing (2015) describes Jin tense–mood particles as summarised in Table 1.

Table 1. Tense marking sentence-final particles in the Shenmu Jin dialect.

Particle	Tense Value	Modal Value
来 [lɛ ^{44/0}]	past	exhortative
了 [lɛ]	present (already occurred)	emphasis
嘞 [lɛʔ]	present (in progress)	declarative
也 [ia]	future	exclamatory

The system of sentence-final particles of Shenmu shown in Table 1 is clearly related to that described by Li (2001) for Yangquan, and it mostly overlaps with that of many other Jin and Mandarin dialects in the area considered here. Xing (2015, 2020) points out several features of these particles which are worth mentioning here:

- They are mostly obligatory for time reference;
- They may express both absolute and relative tense (e.g., ‘future in the past’ for 也 [ia]);
- They have cooccurrence restrictions with time expressions;
- Being sentence-final particles, they are not necessarily attached to verbs, and they may indeed mark tense even in the absence of a verb (i.e., the verb may be implicit);
- They may cooccur with aspect markers and sentence-final modal particles.
- All of the above points towards an analysis of these sentence-final particles as true tense markers, especially since they appear to be mostly obligatory for time reference, they have cooccurrence restrictions with time expressions (as expected for a tense marker, cp. Eng. **tomorrow I went home*), and they seem to belong to a different functional domain from aspect and mood markers, given that they may cooccur. However, we also believe that this may not necessarily apply to what Xing (2017, 2020) describes as ‘present tense markers’: indeed, the very fact that he describes 了 [lɛ] as expressing something which has ‘already occurred’ (已然态 *yǐrán tài*), and 嘞 [ləʔ] as expressing a state of affairs ‘in progress’ (正然态 *zhèngrán tài*) suggests that they are probably best analyzed as, respectively, a perfect (just as was described earlier for the SMC cognate 了 *le*) and a progressive marker. Indeed, Xing (2020) himself points out that 了 [lɛ] is compatible with both past and future time reference, and 嘞 [ləʔ] with future time reference (Xing 2020, p. 7; my glosses and translation):

(9)	明年	这会儿	你	做	甚的	嘞
	MING-NIAN	ZHE-HUIR	NI	ZUO	SHENDE	[ləʔ]
	next-year	this-time	2SG	do	what	PROG
	‘What will you be doing next year at this time?’					

Based on the examples provided in Xing (2020), we may add that 嘞 [ləʔ] is also compatible with past time reference: imperfective states of affairs in the past are marked by a combination of the progressive (/continuous) aspect marker 着 ZHE or the adverb 正 ZHENG and the past tense marker 来 [lɛ^{44/0}] (see Xing 2020, p. 6), or also by adding 嘞 [ləʔ]. According to Xing (2020), the difference between the two marking patterns is that when 来 [lɛ^{44/0}] is used, it focusses on the relation between event time and speech time, expressing absolute past tense, whereas when 嘞 [ləʔ] is used, it focusses on the relation between event time and topic time, expressing relative past tense. This, again, may be interpreted as evidence of the fact that neither 了 [lɛ] nor 嘞 [ləʔ] are really tense markers, but rather are aspect markers.

Furthermore, note that in Jin dialects, there appear to be restrictions on the cooccurrence of the past tense marker and the experiential (perfective) aspect marker 过 GUO, the function of which is to express that a state of affairs has been experienced in the past, or anyway prior to a reference point. Xing (2017) provides a wide range of contexts, all referring to a past occurrence, in which either 来 LAI or 过 GUO are used: the cooccurrence of the two is uncommon and severely restricted; it is even unacceptable in some Jin dialects. For instance, in Shenmu, 过 GUO, rather than 来 [lɛ^{44/0}], is used when a verb has a quantised object; in some other Jin varieties, the past tense marker is allowed only if the perfective marker 咧 LIAO is also present. Thus, there are cases in which 来 [lɛ^{44/0}] is ungrammatical, or anyway not commonly used, even though the utterance describes a past state of affairs: according to Xing (2017), the incompatibility of 来 LAI or 过 GUO might be due to the fact that 过 GUO, despite being an aspect marker, has strong past tense semantics (something which has been experienced must be located in the past, or anyway earlier than some other point in time); thus, using both would be redundant. Compare the following examples provided by Xing (2017, p. 47):

(10)	我	见	你	爹	来	了
	WO	JIAN	NI	DIE	LAI	LE
	1SG	see	2SG	dad	PST	PERF
			'I saw your father'			
(11)	我	见	过	你	爹	
	WO	JIAN	GUO	NI	DIE	
	1SG	see	EXP	2SG	dad	
			'I have seen your father'			

According to Xing (2017), the difference between (10) and (11) is that the former merely states that something happened at some point in the past, while in the latter the state of affairs is presented as something that has been experienced (at least) once by the utterer. While they are both understood as referring to something that precedes speech time, (11) contains a further semantic/aspectual nuance. Be that as may, examples such as (11) prove that not only is 来 LAI not necessarily found in all sentences with past time references, but indeed its addition may be outright unacceptable.

Compared to the picture painted by Xing, some differences may be found in other Jin dialects of Shanxi which share the same basic system of TAM marking. Shi (2012) discusses tense (/mood) particles in the Yuxian dialect, also based on the same partition as that shown in Table 1 for Shenmu: both the ‘already occurred’ (i.e., perfect) present marker 咧 LIE and the ‘in progress’ present marker 哩 LI may be used to refer to the past, present, and future, providing further evidence of a basic function as an aspectual progressive marker for forms such as as Shenmu 嘞 [ləʔ] or Yuxian 哩 LI. In addition, interestingly, in Yuxian there seems to be a split between 来 LAI, the past tense marker, and 咧 LIE, 哩 LI, and 也 YE: according to Shi’s (2012) account, while 来 LAI appears to be compatible only with past time references, the remaining markers may be located in the past, present, or future; they thus express relative tense (Shi glosses them as ‘simultaneous’ and ‘posterior’, rather than ‘present’ and ‘future’), rather than absolute tense, at least for the future marker 也 YE.

Zhao (2021a) discusses the TAM system of the Ningwu dialect, and proposes that 来 (来) [lɛe³³ lɛe⁰] may be interpreted as a past tense marker (specifically, ‘completion before a reference time’), 去呀 QUYA as a future tense marker, and 的哩 DELI as a progressive aspect marker (‘what the subject is doing’): all the examples of the use of 的哩 DELI in Zhao (2021a) are located in the present, but he never clarifies whether there actually is a restriction to present tense reference for this particle. Interestingly, we do find examples in Ningwu of the past progressive marked by 来来 [lɛe³³ lɛe⁰], rather than 的哩 DELI, similarly to what was stated above for Shenmu (Zhao 2021a, p. 71; my glosses and translation):

(12)	我	做	作业	来来,	么	听见
	WO	ZUO	ZUOYE	[lɛe ³³ lɛe ⁰]	ME	TINGJIAN
	1SG	do	homework	PST	NEG	hear
		'I was doing my homework, I didn't hear you'				

Thus, Ningwu 来来 [lɛe³³ lɛe⁰] too seems to act mainly as a past tense marker. However, when a (-durative) verb is involved, the meaning of 来来 [lɛe³³ lɛe⁰] is actually that of an experiential past, a kind of perfective past.

As for 去呀 QUYA, all the examples provided are of deictic future (i.e., indicating that a state of affairs will occur after speech time): it is unclear whether it can be used also for a relative tense. Note that neither Shi (2012) nor Zhao (2021a) explicitly discusses the obligatoriness of tense-marking particles in Yuxian and Ningwu, respectively, and hence we have no way of knowing whether they are always (or mostly) used whenever time reference is required: we already mentioned that Xing (2020) believes that this is generally the case for Jin dialects (with the caveats discussed above), but he does not discuss either Yuxian or Ningwu.

A parallel system of sentence-final particles with a tense-marking function may be found in Central Plains Mandarin dialects of Shaanxi. Among the dialects in our sample, this applies to Shangzhou (Zhang 1997) and to Qishan (Wu and Han 2016). In Shangzhou, according to Zhang’s (1997) description, we find 嘍 [lai] (with the allomorphs [æ] and [ɛ])

for past tense, 哩 [li] (or 着哩 [tʂuoli]) for present tense, and 呀 [ia] for future tense; in Qishan, we find 来 [le²¹] for past tense, 哩 [li²¹] for present tense, and 呀 [ia²¹] for future tense. The tense-marking systems of the two varieties thus have a perfect overlap, and they seem to follow the same model as the Jin dialects discussed above: however, from the functional point of view, it is unclear whether they are actually analogous. If we follow Zhang’s (1997) account, 唻 [lai], 哩 [li], and 呀 [ia] in Shangzhou are absolute tense markers which show strong restrictions when combined with time expressions: namely, 唻 [lai] may appear only in sentences with overt past time references, 哩 [li] only in sentences with overt present time references, etc. Wu and Han (2016) rather describe Qishan’s 来 [le²¹], 哩 [li²¹], and 呀 [ia²¹] as both absolute and relative tense markers, which are thus compatible with all sorts of time expressions: absolute tense is the default interpretation, whereas a relative tense reading is available for all three markers, depending on the construction. Compare (Wu and Han 2016, pp. 363–64: my glosses and translation):

- (13) 我 去 呀 不?
 wo qu [ia²¹] bu
 1SG go FUT NEG
 ‘Shall I go?’
- (14) 年时 你 娘 就 说 她 来 呀
 NIANSHI NI NIANG JIU SHUO TA LAI [ia²¹]
 last.year 2SG mother just say 3SG.F come FUT
 ‘Last year, your mother said she would come’

While the default reading for 呀 [ia²¹] (13) is that of an absolute future tense marker, it can be used in a past time context to convey future in the past (14). Indeed, this type of usage is not reported for Shangzhou by Zhang (1997); given the fact that only examples of simple sentences are provided, it is unclear whether a relative tense interpretation may arise in complex sentences for Shangzhou. The default absolute tense reading, with a relative tense reading available in specific constructions, seems to be a feature also of tense-marking sentence-final particles in Jin dialects.

Further, Zhang (1997) hints at the fact that tense-marking sentence-final particles are always used in Shangzhou, whereas Wu and Han (2016) clearly state that they are not necessarily present in Qishan: when they are missing, temporal interpretation follows default principles akin to those discussed above for SMC (Section 2.2). Indeed, a perusal of sample sentences and texts provided in Wu and Han (2016) clearly shows that tense-marking particles are not very common, and that aspect markers are way more frequent.

As for the actual nature of so-called ‘present’ tense markers in Central Plains Mandarin dialects of Shaanxi, note that Wu and Han (2016) include 哩 [li²¹] in their discussion of aspect markers: this particle is indeed required in the expression of progressive and continuous aspects, most often (but, crucially, not necessarily) in combination with other markers. Similarly, Zhang (1997) hints at the fact that Shangzhou 哩 [li] might be best understood as a present progressive marker, rather than simply as a pure tense marker.

Finally, differently from what we saw above for Jin dialects, cognates to 呀 (/ 也) YA are not the only possible future tense markers in Central Plains Mandarin. Jia (2007) and Cao (2007) both report the use of a particle, 家 [tɕia], as a future marker, respectively, in the Xinjiang (Shanxi) and in the Puyang (Henan) dialects. In the latter variety, 家 [tɕia] seems to cover pretty much the same functional space as 呀 (/ 也) YA: it is a sentence-final particle, it may combine with overt time expressions, and it is compatible with any main or subordinate sentence, expressing both absolute and relative future tense. 家 [tɕia] appears to be compatible both with planned and unplanned states of affairs, differently from, e.g., SMC 会 huì (see Section 3.1), but it has restrictions on the type of predicate: it is generally incompatible with individual-level predicates; it requires a willing agent (hence, *我生病家 wo sheng-bing [tɕia] ‘I will get sick’ is ungrammatical); it is incompatible with negation; it is incompatible with predicates with a quantised object (*我喝两碗面条家 wo he liang wan miantiao [tɕia] ‘I’ll eat two bowls of noodles’ is ungrammatical). Interestingly, it combines not only with verb-based predication, but also with adjectives and nouns (e.g.,

嘻, 你都大学生家 xi, ni dou daxuesheng [tɕia] ‘hey, you’re going to be a college student soon’; Cao 2007, p. 57). Note that Jia (2007), in her analysis of Xinjiang 家 [tɕia], points out that a likely cognate was used as a verb suffix in the 17th century novel *The Story of a Marital Fate to Awaken the World* (醒世姻缘传 *Xǐngshì Yīnyuán Zhuàn*), also to indicate future tense: it could thus be a case of retention, rather than innovation.

3.2.2. Past vs. Non-Past: Hebei

A feature of many Mandarin dialects of Hebei is the use of markers of past tense which seem to be related to the SMC recent past marker 来着 *lái zhe* (see Section 3.1). Yang and Wang (2006) identified three different shapes for these markers: namely, 来着 LAIZHE, 来 LAI, 着 ZHE. These tense-marking particles are widespread in Hebei, and they tend to cluster areally: 来 LAI is found in the southern and southeastern part of the province (Handan, Shijiazhuang, Hengshui, Cangzhou); dialects spoken in central and northwestern Hebei (Baoding, Zhangjiakou) use either 来 LAI or 来着 LAIZHE; northeastern Hebei dialects (Tangshan, Qinhuangdao) use 着 ZHE or 来着 LAIZHE, but not 来 LAI (Yang and Wang 2006).

According to Yang and Wang (2006), differently from SMC 来着 *lái zhe*, these markers may be used to indicate both recent past and remote past, i.e., they are general past tense markers. They are compatible with time expressions referring to the past but, as may be expected, they cannot combine with reference to the present or to the future. Additionally, these markers do not seem to have strong restrictions with respect to grammatical and lexical aspect: they are broadly compatible with perfective and imperfective predicates, with telic and atelic states of affairs, and may combine with aspect markers. See the following Tangshan example (Yang and Wang 2006, p. 159; my glosses and translation):

(15)	他们	正	打	着	着,	警察	就	到	咧
	TA-MEN	ZHENG	DA	ZHE	ZHE	JINGCHA	JIU	DAO	LIE
	3SG-PL	just	hit	PROG	PST	police	just	come	PFV

‘While they were fighting, the police came by’

As shown in (15), the (homophonous) progressive/continuous aspect marker 着 ZHE and the past tense marker 着 ZHE may cooccur in the same sentence in Tangshan, yielding a past imperfective interpretation; tense-marking 着 ZHE may also combine with perfective aspect markers to yield a past perfective interpretation. Thus, we may say that 着 ZHE is a dedicated general past tense marker.

However, at least in the Tangshan dialect (for which we have a detailed descriptions of tense marking), 着 ZHE does not appear to be obligatory. Zhang and Zheng (2011) discuss the use of the particle 时的 *shidi*, which is attached to time expressions or frame-setting clauses to convey past meaning. Compare (Zhang and Zheng 2011, p. 8, my glosses and translation):

(16)	我	到	哪儿	他	早	走	咧
	WO	DAO	NAR	TA	ZAO	ZOU	LIE
	1SG	arrive	there	3SG.M	already	leave	PFV

‘When I arrived, he was already gone’

(17)	我	到	哪儿	时的	他	早	走	咧
	WO	DAO	NAR	SHIDI	TA	ZAO	ZOU	LIE
	1SG	arrive	there	time?	3SG.M	already	leave	PFV

‘By the time I get there, he’ll be gone already’

When I arrived, he was already gone’

As shown by the contrast between (16) and (17), when 时的 *shidi* is attached to the frame-setting clause ‘when I arrived’, only a past tense interpretation is available, whereas in its absence, both a past tense and a future tense interpretation are equally possible, according to Zhang and Zheng (2011). Here, what matters most for our argumentation is that a sentence with clear past reference does not contain 着 ZHE; indeed, of all the example sentences with a past tense setting which may be found in Zhang and Zheng (2011), we

see only a single instance of sentence-final 着 ZHE. This clearly proves that this marker is not obligatory in all past tense contexts.

3.2.3. Future vs. Non-Future: The Qinghai-Gansu Sprachbund

The third cluster of proposed tense-marking particles is found in the Qinghai-Gansu (or Amdo) Sprachbund. In this area, we find Mandarin dialects which have undergone significant restructuring due to contact with Tibetic, Mongolic, and Turkic languages, developing Tibetan and Altaic-type features to a much greater extent than other northern Sinitic languages (see Slater 2003; Sandman 2016): dialects such as, e.g., Linxia (Dwyer 1992), Tangwang (Xu 2017), and Xining (Bell 2017a, 2017b) thus possess typological features which are unique in the Sinitic context, as in, e.g., verb-final basic word order and postnominal case marking.

When it comes to TAM marking, a common feature in these hybrid varieties is having a mixed tense–aspect system, in which future is the only tense category. In Table 2, we compare the tense and aspect markers of Minhe Gangou (Zhao 2021b), Xining Mandarin (Bell 2017a, 2017b), and Zhoutun (Zhou 2022):⁹

Table 2. Tense and aspect markers in three Qinghai-Gansu Mandarin varieties.

Language	Marker	Value
Gangou	了 [liau]	perfective
Gangou	着哩 [tʂɿ li]	imperfective
Gangou	哩 [li]	irrealis, future
Xining	了 [liə]	perfective
Xining	着 [tʂɔ]	imperfective
Xining	俩 [lia]	future, affirmative mood
Zhoutun	了 [lɔ]	perfective
Zhoutun	着 [tʂɿ]	progressive
Zhoutun	哩 [li]	future, affirmative/exclamatory mood

These markers have largely overlapping functions in these three varieties. Basically, the main aspectual distinction is that between perfective and imperfective, similarly (both in form and function) to other northern Sinitic languages; in addition to that, all three dialects have only one marker with a tense (-like) function, 哩 [li], which has also additional modal functions, and shares the same shape as the progressive marker of many of the Jin and Central Plains Mandarin dialects discussed above (Section 3.2.1). Zhao (2021b) describes Gangou 哩 [li] as an irrealis marker, which also developed a function as an exponent of future tense; compare the following examples (Zhao 2021b, pp. 417, 419):

- (18) 阿姐们 年年 买 哩 吗
 AJIE-MEN NIAN~NIAN MAI [li] MA
 sister-PL year~year buy IRR Q
 “The sisters buy (it) every year?”
- (19) 老张 兵当 去 哩
 LAO-ZHANG BINGDANG QU [li]
 old-Zhang serve go FUT
 ‘Old Zhang will join the army’

In (18), 哩 [li] cannot be understood as a future tense marker, since the state of affairs is clearly habitual: incidentally, this is also one of the functions of the above-mentioned SMC future-oriented modal verb 会 huì (Section 3.1). In (19), however, 哩 [li] has, indeed, a tense-marking function, as its presence alone suggests a future tense reading for the whole utterance. Here, 哩 [li] marks absolute future (i.e., relative to speech time), but it can also mark relative future, given the appropriate context. Zhao (2021b) analyses the system of TAM marking in Gangou as split between realis and irrealis predicates, at least for (affirmative) declarative and interrogative sentences: 哩 [li] marks irrealis and future, while realis non-future predicates are zero-marked; the opposition between perfective and im-

perfective aspect is overtly marked by 了 [liɑu] and 着哩 [tʂɿ li], but only on realis (and non-future) predicates. Zhao also hints at the fact that one of the three aspect/tense markers is generally required in Gangou finite sentences (Zhao 2021b, p. 420; my glosses and translation):

(20)	小红	明年	大学	考	哩
	XIAOHONG	MING-NIAN	DAXUE	KAO	[li]
	Xiaohong	next-year	university	take.exam	FUT
	'Xiaohong will take the university entrance exam next year'				

According to Zhao (2021b), a sentence such as (20) would be incomplete without 哩 [li].

Bell (2017a, 2017b) also describes Xining Mandarin 俩 [lia] as a future tense marker, both absolute and relative, which has also the function of marking affirmative mood. Interestingly, the nature of the meaning conveyed by 俩 [lia] is related to the lexical class of the predicate: it marks future for (+dynamic) predicates, and affirmative mood for stative predicates. He also provides examples of the obligatory use of 俩 [lia] when an utterance refers to the future, and shows that sentences with past time expressions are incompatible with 俩 [lia].

As for Zhoutun, Zhou (2022, p. 34) defines 哩 [li] as a “future aspect” marker, indicating “that an event will occur after the reference point of time”; again, it can be used both for absolute and relative future. Whereas Zhou describes 哩 [li] as an aspect marker, and maintains that “[i]t is mainly used in declarative sentences to express the tone of a statement, exclamation” (Zhou 2022, p. 35), we believe that Zhoutun 哩 [li] is not unlike its Xining cognate: it can express declarative/exclamatory modality, but is also used to locate an event in the future. Compare (Zhou 2022, pp. 94–95; glosses adapted):

(21)	我	学里	去	哩
	ŋɿ	ɕyɿ=li	tʂhi	li
	1SG	school=LOC	go	FUT
	'I am going to school'			
(22)	我	学里	去了	
	ŋɿ	ɕyɿ=li	tʂhi=lɔ	
	1SG	school=LOC	go=PFV	
	'I went to school'			

As shown by the contrast between (21) and (22), the use of 哩 [li] alone, as opposed to the perfective marker 了 (lɔ), locates the event in the future. Interestingly, the examples provided by Zhou (2022) of the use of 哩 [li] to express a declarative/exclamatory mood nearly all involve stative predicates: we suspect that this might be a pattern shared with Xining Mandarin. Note, also, that Xu’s (2014, 2017a) description of Tangwang and Chen and Qiu’s (2021) discussion of Linxia data both mention a particle 哩 [li] (also 咧 [liɛ] in Tangwang), which are seen as modal particles that also developed the function of markers of future.

A notable exception in the Qinghai-Gansu region in this respect is that of Wutun, a heavily Tibetanised northwestern Mandarin dialect of Tongren County, Qinghai. Sandman (2016) describes Wutun as a tenseless, aspect-prominent language. However, she also mentions that “[t]he division between aspect and tense [. . .] is not sharp and the aspect markers can also imply tense as their secondary meaning” (Sandman 2016, p. 177). Indeed, the most tense-like item she mentions is the prospective aspect marker zhe (cognate to SMC 着 zhe), which “marks situations that are going to take place in the future or whose effect continues to the future” (Sandman 2016, p. 179). See the following example (Sandman 2016, p. 185):

(23)	ngu	rongbo-li	qhi-zhe
	1SG	Longwu-LOC	GO-PROSP
	'I am going to Longwu.'		

Judging from examples like (23), *zhe* could be analyzed as a future tense marker: differently from the 哩 [li] forms found in the rest of this area, it is a verb suffix, rather than a sentence-final particle. Sandman (2016, p. 185) believes that it is an aspect marker mainly because when it is used “in multiple aspect constructions together with the perfective *-lio*, *-zhe* can also express past situations that have already taken place, but whose effect still continues to the future”. See the following example (Sandman 2016, p. 202):

- (24) *ni* *mashema* *kuu-lío-zhe*
 2SG why cry-PFV-PROSP
 ‘Why did you start crying (you started crying and you are still crying)?’

According to Sandman’s analysis, “the status of *-zhe* as an aspect marker rather than future tense marker is evident from its use in past contexts” (Sandman 2016, p. 202). However, we dare suggest that the two uses of *-zhe* should be kept distinct. Examples such as (23), based on a predicate without any time-oriented item, and in which future tense interpretation relies on the use of the prospective marker, are functionally and structurally analogous to the many other examples we saw earlier in other Sinitic varieties from different areas (8c, 13, 19, 21). The fact that the combination of *zhe* and perfective *lio* leads to a different interpretation is given by the interaction of the meanings of the two markers, leading to a perfect-like interpretation.

4. Discussion

The data presented in this paper show that the grammatical exponents of tense proposed in the literature on Sinitic are indeed very diverse. However, there are also several strong tendencies that emerge from our analysis.

Firstly, as for the *locus* of tense marking, we may remark that items which may be analyzed as expressing tense in Sinitic languages seem to be mostly sentence-final particles: this entails that they apply to sentences, rather than to individual verbs, and may even be used for non-verbal predication (see Section 3.2.1). Secondly, while the expression of tense is often intertwined with aspect, as pointed out earlier (Section 2.1), tense particles in Sinitic may have some connection with modal meaning: we argue that this could be related to the fact that they are sentence-final particles, which in Sinitic (and, generally speaking, in East and Mainland Southeast Asia) typically have a modal function, while aspect is mostly expressed by postverbal items. This, however, does not entail that there is little interaction between tense and aspect in the varieties surveyed here: tense-marking particles often cooccur with aspect markers to determine the interpretation of the clause (see Ex. 15), a fact that further suggests that the two domains (tense and aspect) are expressed independently. We also saw that there may be constraints on the cooccurrence of past tense markers with aspect markers with a strong temporal component, as shown for 来 [lɛ^{44/0}] and 过 GUO in Jin dialects. In addition, we do find ‘hybrid’ tense–aspect markers, such as Ningwu 来来 [lɛ³³ lɛ⁰], which acts as an experiential past marker with (-durative) verbs (see Section 3.2.1). Interestingly, the TAM system of Sinitic languages of the Qinghai-Gansu area, such as in Gangou and Xining, seems to be based on a mixed tense–aspect paradigm, depending on the reality status of the predicate.

Moreover, another aspect of the interaction between tense and aspect which emerges from our data is that it appears that the present tense markers proposed in the literature are basically aspect markers, mostly conveying progressive semantics. Specifically, items found in Jin and Central Plains dialects of Shanxi and Shaanxi such as Shenmu 嘞 [lɛ[?]] or Qishan 哩 [li²¹] (see Section 3.2.1) are not restricted to present tense reference (see Ex. 9), and may overlap with the marking patterns of the progressive (/continuous) aspect (especially, Qishan 哩 [li²¹] and Shangzhou 哩 [li]). Additionally, so-called ‘already occurred’ present tense markers, such as 了 [lɛ] in Shenmu and other Jin dialects, are, again, compatible with all types of time reference (past, present, and future), showing features of a perfect, rather than a present tense marker. Thus, in the varieties surveyed, it appears that past tense markers are most grammaticalised as dedicated tense markers (although interaction with the perfective aspect is also possible, as in the Ningwu case mentioned above),

while future markers overlap to some degree with modality and reality status, which is a common trait in the world's languages (as pointed out in Section 2.1); as for the present tense, it appears that we could not find true tense markers, suggesting that present tense is arguably mostly zero-marked.

A common feature of the tense markers in our survey is that they mostly express both absolute and relative tense, depending on the sentential context: the general principle seems to be that the default interpretation is that of absolute tense, while relative tense may be found in complex sentences in which a reference point different from speech time is established (see Ex. 14). Further, they seem to possess different degrees of generality: for instance, we mentioned the fact that the future tense marker 俩 [lia] in Xining Mandarin is available only for (+dynamic) predicates, which implies that there may be no grammatical future tense marking for stative predicates, and 来 LAI-type markers in Jin dialects may lead to ungrammaticality in some contexts, even though they have past time references (see Section 3.2.1).

As for the obligatoriness of tense marking, this is claimed for Jin dialects by Xing (2020), and for Gangou and Xining by Zhao (2021b) and Bell (2017a, 2017b). Tense markers are definitely optional in the Central Plains Mandarin dialects of Shaanxi seen here (with the possible exception of Shangzhou) and in Tangshan; their status in other Hebei dialects is unclear. Thus, if we apply the typology of tense marking introduced earlier (Section 2.2), some Jin dialects could be analyzed as tensed, since at least past tense and future tense marking are reportedly obligatory (although past tense marking may not be possible in all sentences with past time references, as pointed out above); the same goes at least for some Qinghai-Gansu hybrid Mandarin varieties, although, in that case, the only real tense value which is expressed is that of future tense. As for Central Plains Mandarin dialects such as Qishan, and past-marking Hebei dialects like Tangshan, they seem to fit in the mixed-temporal type, given that tense marking appears to be generally optional. However, in order to offer a more definite assessment of the obligatoriness of different tense markers in different contexts (and in different types of sentences, including complex sentences with embedded clauses), more data on naturally occurring language use are needed.

Finally, our survey shows that there are strong areal trends in the distribution of tense markers, which begs the question of how they developed. Since the history of these markers is not the focus of the present research, due to constraints of space and opportunity, here we shall just offer a few concise remarks on the origin of these markers, a topic which would undoubtedly deserve a separate paper.

The most striking feature of the varieties in our sample is the use of a marker apparently related to the SMC (recent) past marker 来着 *láizhe* (Yang and Wang 2006; Xing 2017; see Section 3.2.1) in a broad range of Jin and Mandarin dialects spread over Shanxi (and Inner Mongolia; see Xing 2017), Shaanxi and Hebei. While in Shanxi and Shaanxi we apparently find only 来 LAI or 来来 ($lee^{33} lee^0$) (in Ningwu), we mentioned earlier (Section 3.2.2) that in Hebei we find all the three possible combinations of 来 LAI and 着 ZHE: interestingly, the use of 着 ZHE only is found only in northeastern Hebei, while the dialects closer to the border with Shanxi all use either 来 LAI only, or both 来 LAI and 来着 LAIZHE; in Beijing, which is located between northeastern and central Hebei, 来着 *láizhe* is the form in general use. In addition, Yang and Wang (2006) show that 来 *lái* was used as a past tense marking particle already in Tang dynasty texts, and it had indeed broad compatibility with aspect markers and different *Aktionsarten*; it was substituted by 来着 *láizhe* with the same function at the beginning of the Qing period in written Chinese. These are likely to be the forms from which not only SMC 来着 *láizhe* derived, but also the past tense markers discussed here. The distribution of their forms follows a clear areal pattern, with 来 LAI only (the oldest form) found to the west, 着 ZHE only found to the east, and 来着 LAIZHE in between. Thus, in short, all the evidence points towards an internal development for past tense markers in these areas of northern Sinitic: the use of 来着 LAIZHE (OR 来 LAI, 着 ZHE) as a general past tense marker seems to be an instance of retention, rather than innovation.¹⁰

As for the origin of the two other shared markers of tense (/aspect) in the Shanxi–Shaanxi region, namely progressive 哩 LI and future 呀/ 也 YA, we leave this for further research.

As for the use of 哩 [li]/ 俩 [lia] for future tense and mood marking, it has already been pointed out by several scholars in the literature that it is most likely the product of Mongolic influence on Amdo Sinitic (Bell 2017a, 2017b; Chen and Qiu 2021; Zhao 2021b). For instance, Chen and Qiu (2021, p. 520) highlight that the shape of the non-past marker in many Mongolic languages is most often *-na*, *-naʔ*, or *-n*, and they argue that markers with the form 哩 [li] (and 呢 NE) in northwestern China are likely to have been created under the influence of those Mongolic languages. Bell (2017a) even proposes that the source material for the grammaticalisation of 哩 [li]/ 俩 [lia] is the Early Mandarin modal sentence final particle 哩 *li*, the function of which was marking states, which was reanalyzed as a declarative mood and future marker following the model of the Mongolic state/future marker (e.g., Monguor *-m*), through grammatical replication.

5. Conclusions

In this paper, we tried to show that a tenseless analysis might not apply to the whole Sinitic family, given that there appear to be dedicated grammatical markers for the expression of tense, which may even be obligatory in some varieties (and/or constructions). While there is indeed a broad degree of diversity in the TAM systems of the dialects considered here, we pointed out that nearly all exponents of tense are sentence-final particles, which tend to be used both for absolute and for relative tense. Furthermore, despite the claims in the literature, we could not find ‘genuine’ present tense markers, which could be argued to be zero-marked values: all the exponents with a dominant (or exclusive) tense meaning in our survey mark either past or future.

The distribution of tense markers follows clear areal patterns, related also to their origins. Past tense markers arguably related to SMC 来着 *láizhe* are found in an area spanning Shanxi, Shaanxi and Hebei, and they appear to retain functions and uses which have been mostly lost in SMC. Future markers of the 呀/ 也 YA-type are found in Jin dialects and in Central Plains dialects of Shaanxi, while the Qinghai-Gansu Mandarin dialects (with the notable exception of Wutun) all seem to have the same mood/future marker 哩 [li], which is very likely to be a case of grammatical replication of a Mongolic marker with those functions.

The fact that dedicated tense markers, even obligatory ones, seem to be concentrated in parts of northern China once again shows that, just as for many other defining features of the East and Mainland Southeast Asian Area, the prominence of aspect, as well as the general indeterminateness of utterances, seems to be less evident in northern Sinitic, compared to southern China (on the areal typology of Sinitic, see Szeto and Yurayong 2021). Note, also, that Chen and Qiu (2021) provide an interesting survey of markers of future in Sinitic, and they argue that they are decreasingly grammaticalised from west to east, and from north to south; thus, northern and northwestern Sinitic languages are said to have the grammatical markers which are closest to a genuine future tense. Indeed, the varieties surveyed in this paper could be argued to belong to the mixed-temporal type, or even to the tensed type: however, as stated earlier, more data are needed to be able to provide a proper assessment. We leave this for further research.

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Notes

- ¹ We use the term ‘Standard Mandarin Chinese’ to indicate the standard language of the People’s Republic of China, also known as 普通话 *Pǔtōnghuà* (lit. ‘common language’). We avoid the use of the term ‘Chinese’ only as it could also refer to other, non-standardised Sinitic languages (the so-called ‘Chinese dialects’), such as, e.g., Cantonese. We also chose not to use ‘Mandarin’ by itself since, in principle, it could refer to any Sinitic variety belonging to the Mandarin subgroup. Finally, we use ‘Sinitic languages’ when referring to the group as a whole, but we use ‘dialect(s)’ when referring to branches of Sinitic or individual varieties, since this appears to be the dominant use in English-language scholarship.
- ² In this paper, we use *Hanyu Pinyin* for the transcription of Standard Mandarin Chinese; for all other languages, we use the transcriptions provided by the sources. When no transcription is provided, we use smallcaps (toneless) *Pinyin* transcriptions following the SMC reading of the characters. When present, superscript numbers indicate tone height on a 1–5 scale (see Chao 1968, pp. 25–26). The nonstandard phonetic symbol (ɛ) is used in Chinese linguistics to represent the mid-front unrounded vowel. We use simplified Chinese characters as a default; however, traditional characters are also used when necessary for consistency with the source. The glosses follow the general guidelines of the Leipzig Glossing Rules. Additional glosses include: EXP = experiential aspect; MOD = marker of modification; PROSP = prospective aspect; SFP = sentence-final particle.
- ³ “Topic time” is defined by Klein (1994, p. 4) as “the time span to which the speaker’s claim on this occasion is confined”. Thus, for instance, in the utterance *I took a cab back to the hotel. The cab driver was Latvian* (Michaelis 2021, p. 164), the use of the past tense form *was* does not imply that the cab driver is no longer Latvian. It merely states that ‘being Latvian’ was true at the Topic time (established by *I took a cab back to the hotel*).
- ⁴ Filip (2012) remarks that, strictly speaking, ‘lexical aspect’ and ‘Aktionsart’ are not synonymous. In the narrow sense, lexical aspect refers to properties of the verb only, whereas *Aktionsart* (also ‘aspectual class’) may be a property of the whole sentence: indeed, the very same verb may be used in a telic sentence (“[a]t the turtle race, the winning turtle crossed the finish line in 76 s”) or in an atelic sentence (“[a]t the turtle race, turtles crossed the finish line for hours”; Filip 2012, p. 725). For the sake of simplicity, in this paper we use ‘lexical aspect’ and ‘Aktionsart’ interchangeably, to refer to the broader phenomenon of the aspectual class of verbs and sentences.
- ⁵ Uusikoski’s sampling of tense markers is based on the following working definition (Uusikoski 2016, p. 38): “[a] tense marker—as one of its primary meanings—locates (examines, locates or points to the direction of) something (an event, a time span or a point or a region) with regard to time and thus forms (whether by a static configuration or by a dynamic process) a temporal relation (a relation or a vector) between two entities (time points or spans, situations or regions, which either can or cannot expand infinitely)”.
- ⁶ Lin (2012) lists some syntactic properties of SMC which, in his view, could be related to its tenseless nature, and that may be shared by other tenseless languages. These include the existence of bare nominal predicates, the lack of expletive subjects, the lack of a finite/non-finite distinction, and the lack of case-motivated movement. However, as Lin himself points out, the lack of an expletive subject is found also in tensed languages, as e.g., in ‘pro-drop’ Romance languages such as Italian or Spanish.
- ⁷ Unfortunately, Smith et al. (2007) do not provide morpheme boundaries in the Navajo text. Further, they do not clarify the meaning of the gloss ‘areal’. Thompson (1993, p. 328) defines it as “a subject prefix which is used either to refer to an entire area or to act as a dummy subject”. While its use in (4) does not seem to reflect either of the above, we shall not discuss the issue here as it is irrelevant for our argumentation.
- ⁸ URL: oversea.cnki.net (last access: 28 February 2023).
- ⁹ For Zhoutun, here we include only the three aspect markers which are needed for our comparison with the other varieties considered here. For a full description of aspect markers in Zhoutun, see Zhou (2022, pp. 33–38).
- ¹⁰ Actually, markers cognate to 来 *lái* have been reported in the literature also for dialects from other areas of China, including both Mandarin and non-Mandarin dialects: for instance, in Fengtai, a Central Plains Mandarin of Anhui (Sun 2018), and in Cantonese (Lai 2014). Our own preliminary research suggests that, in dialects outside the area we focus on in this paper, cognates of 来 *lái* retain a strong sense of recency, and can thus be considered to be further from a general past tense marker (hence, arguably less grammaticalised), and closer to the premodern uses of 来 *lái*.

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