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# Sentence-final aspect particles as finite markers in Mandarin Chinese

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**Abstract:** In Mandarin Chinese, sentence-final aspect particles *ne*, *le*, and *laizhe* may occur in some types of embedded clauses, but not in other types, such as the complement of a control verb, a raising verb, *lai* ‘come’ and *qu* ‘go’, a non-epistemic modal, and the prepositional complementizer *dui* ‘to’. These latter types of clauses systematically show properties of nonfinite clauses in other languages. They are intrinsically embedded, ban *pro*-drop, their clause boundaries may be invisible for binding, and they disallow a speaker-oriented adverb and an epistemic modal. The restrictions on the distribution of the particles indicate that they are used in finite clauses only, although the language has no tense or case marker. The paper argues that finite clauses show speaker-oriented properties whereas nonfinite ones do not; instead, nonfinite clauses exhibit higher-clause-oriented properties. Identifying the role of speaker in the finiteness distinction reveals the capacity of finite clauses, whether or not the capacity is marked overtly.

**Keywords:** finite, nonfinite, sentence-final particle, complementizer, speaker, Chinese

## 1 Introduction

“Finiteness is one of those notions that is used by everybody and understood by nobody.” (Klein 2009: 336) Worse than that, it is not clear how to distinguish finite clauses from nonfinite ones in languages such as Mandarin Chinese (Chinese hence). Language acquisition studies have shown that the finiteness distinction plays an important role in first and second language acquisition (e.g. Dimroth and Lasser 2002; Gretsche and Perdue 2007; Yang and Yang 2015). However, Klein’s above statement still remains true, especially for Chinese. If there is no finiteness distinction in Chinese, as claimed by Y. Huang (1994) and Hu et al. (2001), there will be a serious challenge to the claim that the finiteness distinction is part of Universal Grammar (Rizzi 1997: 284; Klein 2006, 2009; Ritter and Wiltschko 2014; Wiltschko 2014).

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Various efforts have been made to find possible diagnoses for the finiteness distinction in Chinese. For instance, it has been realized that an aspect suffix with a verb is not a finite marker (Li 1990: 19), and a non-epistemic modal is not, either (Zhang 1997: 73–75). Moreover, a special morphological form of a verb in a polar question (i.e. the so-called A-not-A form, see 4.2.1) has also been ruled out as a finite marker (Hu et al. 2001: 1139). With the assumption that a tensed clause is a finite clause, a further effort has been made to claim that in Chinese, a tensed, and thus finite, clause means a complete sentence (i.e. the sentence has “the ability to stand alone”, Tsai 2008: 675), and various strategies are tried to achieve this status, including the occurrence of an adverb such as *yizhi* ‘continuously’, a coordinate construction, and an adverbial clause (Tsai 2008). However, sentence incompleteness may have various reasons, not necessarily to be related to the finiteness distinction. Even a finite sentence may sound incomplete in tense languages such as English. For instance, the adverb *slowly* is necessary in *John walked slowly*, unless in a contrastive context (also see Grimshaw and Vikner 1993; Feng 2009: 223). Moreover, coordination is not able to change a nonfinite clause into a finite one. On the other hand, Lin (2011, 2015) discusses the interactions between modals and the sentence-final *le* (S-*le*), concluding that the occurrence S-*le* marks the finite status of the clause. One will see that this paper reaches a similar conclusion for S-*le*, with a more systematic argumentation.

In this paper, I address a newly discovered contrast in Chinese, which may lead us to not only the finiteness distinction in Chinese but also a new understanding of the distinction in general.<sup>1</sup> The discovery is the restrictions on the distribution of sentence-final aspect particles (SFAPs), such as *ne* in (1a), *laizhe* in (1b), and S-*le* in (1c).<sup>2</sup>

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**1** Abbreviations: CL: classifier; DE: modification/nominalization; ET: event time; EXP: experiential aspect; GEN: generic; HOP: higher-clause-oriented property; INCH: inchoative; INT: interjection; PRF: perfective aspect; Q: question; RT: reference time; SMLT: simultaneous aspect; SOP: speaker-oriented property; SpOA: speaker-oriented adverb; UT: utterance time; SFAP: sentence-final aspect particle; SFP: sentence-final particle. Precisely speaking, the so-called SFPs should be called clause-final particles, but since the term SFP has been conventionalized in the literature (e.g. Li and Thompson 1981; Li 1990: 15), I keep it. Also, the verbal suffix *-zhe* and the preverbal *zai/zhengzai* are labelled as SMLT, rather than progressive or imperfect markers. Progressive is restricted to combining with dynamic eventualities (e.g. Ramchand and Svenonius 2014: 153), and imperfect is for telic eventualities. Examples such as (3) show that these markers can be used in atelic stative expressions.

**2** The SFP *ne* also has non-temporal marker uses. For instance, it can be a question marker, as in (5c) (Simpson and Wu 2002: 297: fn. 9), and can be in construal with {*cai/ke/hai*} (Chao 1968: 803). *Ne* in the latter use is analyzed as a contrastive topic marker in Constant (2014: Ch. 6). S-*le* also has a non-temporal use, e.g. when it is in construal with *tai* ‘too’ (e.g. Chang 2013). I do not discuss non-temporal uses of *ne* and S-*le* in this paper.

- (1) a. 阿傑 寫著 作業 呢。  
*Ajie xie-zhe zuoye ne.*  
 Ajie write-SMLT homework SFAP  
 ‘Ajie {is/was} writing the homework.’
- b. 阿傑 寫著 作業 來著。  
*Ajie xie-zhe zuoye laizhe.*  
 Ajie write-SMLT homework SFAP  
 ‘Ajie was writing the homework.’
- c. 阿傑 寫完 作業 了。  
*Ajie xie-wan zuoye le.*  
 Ajie write-finish homework SFAP  
 ‘Ajie has finished writing the homework.’

The three SFAPs are identified as sentence-final particles (SFPs) that have a lower syntactic position than other SFPs in Zhu (1982: 208), since they may be followed by a SFP of another type.<sup>3</sup> For example, in (2a), the SFAP *le* precedes the question particle *ma*; and in (2b), the reversed order of the two causes the unacceptability.

- (2) a. 下 雨 了 嗎?  
*Xia yu le ma?*  
 fall rain SFAP Q  
 ‘Is it raining?’
- b. \*下 雨 嗎 了?  
 \**Xia yu ma le?*  
 fall rain Q SFAP

<sup>3</sup> Erlewine (2017) claims that *eryi* ‘only’ is included in the layer of SFAPs; however, whenever *eryi* occurs, the focus marker *zhi* ‘only’, or *zhibuguo* ‘only’, or *jinjin* ‘only’ may also occur, or vice versa (Lü 1999 [1980]: 195). Chinese has many functional element pairs, called *guanlian ciyu* ‘correlating expression’, and it is possible for only one element of such a pair to surface in a clause. Similar expressions are also found in other languages (Hole 2017). SFAPs do not have this property. Also, no two SFAPs may occur in a row (see (69)), but *eryi* may be next to a SFAP, as seen in (i) (also Paul and Pan 2017: (23)). I do not discuss *eryi* in this paper.

- (i) a. 他 (只不過) 想 家 了  
*Ta (zhibuguo) xiang jia le*  
 he only miss home SFAP  
 而已。  
*eryi.*  
 only  
 ‘He just misses home.’
- b. 他 (只不過) 想 家 來著  
*Ta (zhibuguo) xiang jia laizhe*  
 he only miss home SFAP  
 而已。  
*eryi.*  
 only  
 ‘He just missed home.’

Although SFAPS are called tense-aspect-markers in Zhu (1982: 209 *biao shi-tai* ‘express tense-aspect’), they do not form a tense system. *Ne* is compatible with all three deictic temporal expressions, *xianzai* ‘now’, a time simultaneous with the utterance time (UT), *zuotian-zhongwu* ‘yesterday noon’, a time before the UT, and *mingtian-zhongwu* ‘tomorrow noon’, a time after the UT, as shown in (3a), (3b), and (3c), respectively. Like *ne*, *S-le* is also compatible with all the three deictic temporal expressions, as shown in (4a), (4b), and (4c). When Li and Thompson (1981: 290) describe *S-le*, they point out that “the time frame [...] may be present, past, or future”.

- (3) a. 阿傑 現在 正 忙著 呢。  
*Ajie xianzai zheng mang-zhe ne.*  
 Ajie now SMLT busy-SMLT SFAP  
 ‘Ajie is busy right now.’
- b. 阿傑 昨天中午 正 忙著 呢。  
*Ajie zuotian-zhongwu zheng mang-zhe ne.*  
 Ajie yesterday-noon SMLT busy-SMLT SFAP  
 ‘Ajie was busy yesterday noon.’
- c. 阿傑 明天中午 正 忙著 呢。 別 打攪 他。  
*Ajie mingtian-zhongwu zheng mang-zhe ne. Bie dajiao ta.*  
 Ajie tomorrow-noon SMLT busy-SMLT SFAP not disturb he  
 ‘Ajie will be busy tomorrow noon. Don’t disturb him.’
- (4) a. 現在 阿傑 在 北京 了。  
*Xianzai Ajie zai Beijing le.*  
 now Ajie be Beijing SFAP  
 ‘Ajie is in Beijing now.’  
 (Wu 2004: 286)
- b. 昨天中午 阿傑 就 在 北京 了。  
*Zuotian-zhongwu Ajie jiu zai Beijing le.*  
 yesterday-noon Ajie then be Beijing SFAP  
 ‘Ajie was in Beijing yesterday noon.’
- c. 明天中午 阿傑 就 在 北京 了。  
*Mingtian-zhongwu Ajie jiu zai Beijing le.*  
 tomorrow-noon Ajie then be Beijing SFAP  
 ‘Ajie will be in Beijing tomorrow noon.’

Since *ne* and *S-le* are compatible with all three deictic temporal expressions, their uses are not affected by the UT, and thus they are not tense markers. As for *laizhe*, it takes a past temporal expression, such as *zuotian-zhongwu* ‘yesterday

noon' in (5a), as its possible reference time. It is not compatible with any non-past temporal expressions, such as *xianzai* 'now' and *mingtian-zhongwu* 'tomorrow noon' in (5b), or any future context, as shown in (5c) (cf. Chao 1968: 810).

- (5) a. 昨天中午 阿傑 在 北京 來著。  
*Zuotian-zhongwu Ajie zai Beijing laizhe.*  
 yesterday-noon Ajie be Beijing SFAP  
 'Ajie was in Beijing yesterday noon.'
- b. \*{現在/明天中午} 阿傑 在 北京 來著。  
 \*{*Xianzai/Mingtian-zhongwu*} *Ajie zai Beijing laizhe.*  
 now/tomorrow-noon Ajie be Beijing SFAP
- c. 我們 未來 的 孩子 叫 甚麼 {\*來著/呢}?  
*Women weilai de haizi jiao shenme {\*laizhe/ne}?*  
 we future DE child call what SFAP/Q  
 'What will our future child be called?'

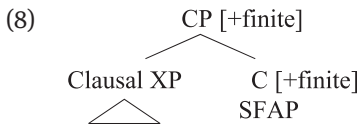
However, *laizhe* is not a tense marker (contra Zhang 2000: 2). In English, *-ed* is a past tense marker, because it contrasts with a null ending (as well as the suffix *-s* that appears on 3rd person singular verbs in the present tense; cf. Kayne 2000: 188). In other words, "present tense in English is not overtly marked, but is strictly defined in opposition to past tense" (Ritter and Wiltschko 2014: 1340). A different situation is seen in the Halkomelem suffix *-lh*, which denotes a past time, and is optionally attached to a verbal category, as shown in (6). Since its absence does not trigger a non-past interpretation, as seen in (6b), the suffix is not a tense marker (Ritter and Wiltschko 2014: 1332). Similarly, in Chinese, the absence of *laizhe* is not exclusively non-past, as seen in (7b). Without a pattern in contrast to *laizhe*, no tense system can be established.

- (6) Halkomelem
- a. *í-lh qw'eyílex tútl'ò.*  
 AUX-PAST dance he  
 'He was dancing.'
- b. *í qw'eyílex tútl'ò.*  
 AUX dance he  
 'He {is/was} dancing.'
- (7) a. 阿傑 在 跳舞 來著。  
*Ajie zai tiaowu laizhe.*  
 Ajie SMLT dance SFAP  
 'Ajie was dancing.'

- b. 阿傑 在 跳舞。  
*Ajie zai tiaowu.*  
 Ajie SMLT dance  
 ‘Ajie {is/was} dancing.’

According to Reichenbach (1947), in addition to the UT, a temporal adverbial, such as *zuotian-zhongwu* ‘yesterday noon’ in (5a), denotes a RT (reference time). Aspect relates an ET (event time) to the RT. It is possible that for a *laizhe* clause, the RT is marked: it has to be prior to the UT, and the ET is contained in the RT. Thus, in (5b), since the RT is not before the UT, the example is not acceptable. In the absence of a temporal expression, the pre-UT RT of a *laizhe* clause is implicit.

In English, the complementizer *that* introduces a finite embedded clause, whereas the complementizer *for* introduces a nonfinite one. In this paper, SFAPs are argued to be complementizers occurring in finite clauses only, as shown in (8), although they may occur in either matrix or embedded clauses.



If the finiteness distinction is identifiable in Chinese, what are the shared characteristics of finite clauses cross-linguistically? I advocate the view that finite clauses exhibit speaker-oriented properties, whereas nonfinite ones do not; instead, nonfinite clauses exhibit higher-clause-oriented properties. The contrast leads us to see the crucial role of the speaker in finite clauses. Since the role of speaker in language is universal, the finiteness distinction is universal. Moreover, since the notion speaker comes from language, the finiteness distinction is specific to linguistic system, among various cognitive systems (Klein 2009).

In Section 2, I present eight types of embedded clauses in which SFAPs may not occur, and in Section 3, I show how these types of clauses exhibit properties of nonfinite clauses in other languages, in contrast to the types of clauses that allow SFAPs, which exhibit properties of finite clauses in other languages. After recognizing the existence of the finiteness distinction in Chinese, I go on to discuss the syntactic properties of the SFAPs in Section 4, explaining why SFAPs do not occur in all finite clauses, and why they should be analyzed as complementizers, as in (8). In Section 5, I probe the finiteness distinction as a language universal, introducing Klein’s (2009) claim that the distinction is a language universal not seen in other cognitive systems. I conclude the paper in Section 6.

## 2 A contrast in the distributions of SFAPs

In this section, I show that not all clausal XPs allow a SFAP.

### 2.1 Possible hosting clauses

All three SFAPs may occur in matrix clauses, as shown in (1) above. They may also occur in the complement clause under verbs such as *zhidao* ‘know’, *tingshuo* ‘hear’, *juede* ‘think’, and *guji* ‘guess’, as shown in (9a-c), and in the complement clause of a noun, as shown in (9d).

- (9) a. 我 知道 [阿傑 寫著 作業 呢].  
*Wo zhidao [Ajie xie-zhe zuoye ne].*  
 I know Ajie write-SMLT homework SFAP  
 ‘I know Ajie {is/was} writing the homework.’
- b. 我 知道 [阿傑 寫著 作業 來著].  
*Wo zhidao [Ajie xie-zhe zuoye laizhe].*  
 I know Ajie write-SMLT homework SFAP  
 ‘I know Ajie was writing the homework.’
- c. 我 知道 [阿傑 寫完 作業 了].  
*Wo zhidao [Ajie xie-wan zuoye le].*  
 I know Ajie write-finish homework SFAP  
 ‘I know that Ajie has finished writing the homework.’
- d. [阿傑 找到 工作 了] 的 消息  
*[Ajie zhaodao gongzuo le] de xiaoxi*  
 Ajie find job SFAP DE news  
 ‘the news that Ajie has found a job’

SFAPs may also occur in subject clauses, as seen in the examples in (10), and some types of adverbial clauses, such as the conditionals in (11), and the reasonal clauses in (12).<sup>4</sup>

<sup>4</sup> As pointed out by a reviewer, the subject clauses in (10) and the reasonal clauses in (12) have a factive property. However, my own observation is that the conditionals in (11) are not factive ones, since they all can be followed by *Ruguo bu shi zheyang, jiu suan wo mei shuo* ‘Lit.: If it is not so, then count as my not having said.’

- (10) a. [阿傑 在 幫 弟弟 呢] 讓 我 很 高興.  
 [Ajie zai bang didi ne] rang wo hen gaoxing.  
 Ajie SMLT help brother SFAP make I very glad  
 ‘That Ajie {is/was} helping his brother made me very glad.’
- b. [阿傑 在 幫 弟弟 來著] 讓 我 很 高興.  
 [Ajie zai bang didi laizhe] rang wo hen gaoxing.  
 Ajie SMLT help brother SFAP make I very glad  
 ‘That Ajie was helping his brother made me very glad.’
- c. [阿傑 找到 工作 了] 讓 我 很 高興.  
 [Ajie zhaodao gongzuo le] rang wo hen gaoxing.  
 Ajie find job SFAP make I very glad  
 ‘That Ajie has found a job made me very glad.’
- (11) a. [如果 你 在 開車 呢], 就 不 要 滑 手機.  
 [Ruguo ni zai kaiche ne], jiu bu yao hua shouji.  
 if you SMLT drive SFAP then not should swipe cellphone  
 ‘If you are driving, you should not swipe a cellphone.’
- b. [如果 你 那時 在 開車 來著], 就 不 應該  
 [Ruguo ni nashi zai kaiche laizhe], jiu bu yinggai  
 if you then SMLT drive SFAP then not should  
 滑 手機.  
 hua shouji.  
 swipe cellphone  
 ‘If you were driving at that time, you should not swipe a cellphone.’
- c. [如果 你 喝 酒 了], 就 不 要 開車.  
 [Ruguo ni he jiu le], jiu bu yao kaiche.  
 if you drink alcohol SFAP then not should drive  
 ‘If you have drunk alcohol, you should not drive.’
- (12) a. [因為 你 在 開車 呢], 所 以 不 要 滑 手機.  
 [Yinwei ni zai kaiche ne], suoyi bu yao hua shouji.  
 because you SMLT drive SFAP then not should swipe cellphone  
 ‘Because you are driving, you should not swipe a cellphone.’
- b. [因為 你 在 開車 來著], 所 以 我 沒 給 你  
 [Yinwei ni zai kaiche laizhe], suoyi wo mei gei ni  
 because you SMLT drive SFAP therefore I not to you  
 打 電話.  
 da dianhua.  
 make call  
 ‘Because you were driving, I did not call you.’



- c. [因為 你 喝 酒 了], 所以 不 要 開車。  
 [Yinwei ni he jiu le], suoyi bu yao kaiche.  
 because you drink alcohol SFAP therefore not should drive  
 ‘Because you have drunk alcohol, you should not drive.’

## 2.2 Impossible hosting clauses

A new observation is that SFAPs may not occur in some types of embedded clauses. I introduce eight types of such clauses in 2.2.1 through 2.2.8.

### 2.2.1 The complement of a control verb

No SFAP may occur in the complement clause of a control verb, such as *shitu* ‘try’, *dasuan* ‘plan’, *jihua* ‘plan’, and *bi* ‘force’. It is well-known that *meiyou/mei* ‘not’ and *S-le* may not occur in the same clause, as seen in (13a), but they may if they are in different clauses, as seen in (13b).<sup>5</sup> The unacceptability of (13c) is

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5 *Mei* ‘not’ may not occur with the suffix *-le* in the same clause, either (Wang 1965). Moreover, if a duration expression occurs, *mei* and *S-le* seem to be able to occur in the same clause, as seen in (i). However, Jin (2005) claims that (i) encodes two propositions: (A) he does not eat any meal, and (B) this state lasts for three days; and *S-le* is in construal with (B) only. Thus, *mei* does not occur with *S-le* in the same clause in (i). Syntactically, I assume that the clause denoting (A) is the subject of (B). *Ta* ‘he’ in (i) can be a topic, associated with the subject position inside (A). The order that *san tian* precedes A can be derived by either Den Dikken’s (2006) Spec-Complement relation between a predicate and its subject, or by his predicate-raising analysis, as shown in (iii).

- (i) 他 三 天 沒 吃 飯 了。  
*Ta san tian mei chi fan le.*  
 he three day not eat meal SFAP  
 ‘He did not eat any meal for three days.’
- (ii) [<sup>B</sup> [<sup>A</sup> 他 沒 吃 飯] 三 天 了]  
 [<sup>B</sup> [<sup>A</sup> *Ta mei chi fan*] *san tian le*]  
 he not eat meal three day SFAP
- (iii) 他<sub>i</sub> [<sub>k</sub> 三 天]<sub>k</sub> [<sup>B</sup> [<sub>i</sub> 沒 吃 飯]<sub>-k</sub> 了].  
*Ta<sub>i</sub> [<sub>k</sub> san tian]<sub>k</sub> [<sup>B</sup> [<sub>i</sub> mei chi fan]<sub>-k</sub> le]*  
 he three day not eat meal SFAP

Also, *mei*, as well as *bu* ‘not’, may be next to *zai* ‘again’ (Hou 1998: 717). In (iv), if *zai* did not occur, the sentence would be unacceptable. It is possible that *mei* is associated with *zai*

expected, because both *mei* and *S-le* belong to the same matrix clause. However, if *S-le* belonged to the embedded clause in (13d), the example would be acceptable, contrary to the fact. The ungrammaticality of (13d) shows that *S-le* is not allowed in the complement clause of a control verb (contra Ernst 1994: 196). The same constraint on *ne* is seen in (14).

- (13) a. \*我 沒 說 那 件 事 了。  
 \**Wo mei tingshuo na jian shi le.*  
 I not hear that CL thing SFAP
- b. 我 沒 聽 說 [阿傑 訂 好 票 了]。  
*Wo mei tingshuo [Ajie ding-hao piao le].*  
 I not hear Ajie order-ready ticket SFAP  
 ‘I did not hear that Ajie had finished ordering of the ticket.’
- c. \*阿傑 沒 試 圖 [明天 中午 (就) 訂 好 票 了]。  
 \**Ajie mei shitu [mingtian-zhongwu (jiu) ding-hao piao] le.*  
 Ajie mei try tomorrow-noon then order-ready ticket SFAP
- d. \*阿傑 沒 試 圖 [明天 中午 (就) 訂 好 票 了]。  
 \**Ajie mei shitu [mingtian-zhongwu (jiu) ding-hao piao le].*  
 Ajie mei try tomorrow-noon then order-ready ticket SFAP
- (14) a. 阿傑 在 家 等 你 呢。  
*Ajie zai jia deng ni ne.*  
 Ajie be home wait you SFAP  
 ‘Ajie is waiting for you at home.’
- b. 阿傑 打 算 [明天 中午 在 家 等 你]。  
*Ajie dasuan [mingtian-zhongwu zai jia deng ni].*  
 Ajie plan tomorrow-noon be home wait you SFAP  
 ‘Ajie plans to wait for you at home tomorrow noon.’
- c. 阿傑 正 在 打 算 [明天 中午 在 家 等 你] 呢。  
*Ajie zhangzai dasuan [mingtian-zhongwu zai jia deng ni] ne.*  
 Ajie SMLT plan tomorrow-noon be home wait you SFAP  
 ‘Ajie is planning to wait for you at home tomorrow noon.’

exclusively in (iv), and thus neither (i) nor (iv) falsifies the generalization that *S-le* is not in construal with *mei* in the same clause.

- (iv) 我 後 來 就 沒 有 再 去 北 京 了。 (Wu 2004: 300)  
*Wo houlai jiu meiyou zai qu Beijing le.*  
 I later then not again go Beijing SFAP  
 ‘I did not go to Beijing again since then.’

- d. \*阿傑 打算 [明天中午 在家 等你 呢].  
 \*Ajie dasuan [mingtian-zhongwu zai jia deng ni ne].  
 Ajie plan tomorrow-noon be home wait you sfap

### 2.2.2 The complement of a raising verb

No SFAP may occur in the complement of a raising verb. *Kaishi* ‘start’, *tingzhi* ‘stop’, and *jixu* ‘continue’ are aspectual raising verbs (Li 1990: 123; Tsao 1996: 176; Tang 2000: 199). In (15a), the subject of *yingxiang* ‘affect’ in the embedded clause is *yushui* ‘rain’, but it surfaces to the left of the matrix verb *kaishi* ‘start’. (15b) shows that the raising of the subject is obligatory, and (15c) shows that the object *nongzuowu* ‘crop’ may not be raised. The restrictions are typical properties of raising verbs (Chomsky 1981) (see Li 1990: 129 for more arguments for the raising verb status of *kaishi*).<sup>6</sup>

- (15) a. 雨水 開始 影響 農作物.  
*Yushui kaishi yingxiang nongzuowu.*  
 rain start affect crop  
 ‘The rain has started to affect the crops.
- b. \*開始 雨水 影響 農作物.  
 \**kaishi yushui yingxiang nongzuowu.*  
 start rain affect crop  
 (also see Li 1990: 129)
- c. \*農作物 開始 雨水 影響.  
 \**nongzuowu kaishi yushui yingxiang.*  
 crop start rain affect

The complement of a raising verb rejects a SFAP. We show this with *S-le*. In (16a), the two embedded *S-le* clauses are conjoined by *yifangmian... lingyifangmian* ‘and ... and’. In (16b), under the raising verb *kaishi*, neither of the conjuncts has *S-le*, and the *S-le* is in contrual with the raising verb itself. If the conjuncts have *S-le*, as in (16c), the sentence is not acceptable. This group of examples shows that the complement of a raising verb excludes a SFAP.

<sup>6</sup> In order to deny the existence of raising verb in Chinese, after discussing the non-raising verb use of *haoxiang* ‘seem’ (also see Li 1990: 122), LaPolla (1993: 785) states that “See Tsao (1990: 378ff) for other examples of ‘raising’ in Chinese showing the possibility of all arguments being ‘raised’”. However, Tsao (1990) does not discuss aspectual raising verbs; although he discusses verbs such as *kan-qilai* ‘look like’.

- (16) a. 我 聽說 一方面 [雨水 影響 農作物  
*Wo tingshuo yifangmian [yushui yingxiang nongzuowu*  
 I hear and rain affect crop  
 了], 另一方面 [雨水 也 影響 交通 了].  
*le, lingyifangmian [yushui ye yingxiang jiaotong le].*  
 SFAP and rain also affect traffic SFAP  
 ‘I heard that the rain has affected crops, and it has also affected traffic.’
- b. 雨水 開始 一方面 [影響 農作物], 另一方面  
*Yushui kaishi yifangmian [yingxiang nongzuowu] lingyifangmian*  
 rain start and affect crop and  
 [也 影響 交通] 了.  
*[ye yingxiang jiaotong] le.*  
 also affect traffic SFAP  
 ‘The rain has started to affect the crops, and also affect traffic.’
- c. \*雨水 開始 一方面 [影響 農作物 了],  
 \**Yushui kaishi yifangmian [yingxiang nongzuowu le],*  
 rain start and affect crop SFAP  
 另一方面 [也 影響 交通 了].  
*lingyifangmian [ye yingxiang jiaotong le].*  
 and also affect traffic SFAP

### 2.2.3 The complement of *lai* ‘come’ and *qu* ‘go’

No SFAP may occur in the complement clause of *lai* ‘come’ or *qu* ‘go’ (*ne* does not occur with *lai* or *qu*, so we discuss *S-le* and *laizhe* only). In (17a), *qu* occurs with *S-le*. (17b) shows that the string *jie shu* ‘borrow books’ surfaces to the left of *qu* (see Zhang 2003 for a syntactic analysis), stranding *S-le*. (17c) shows that if *S-le* is grouped with the string, the result is not grammatical. The contrast between (17b) and (17c) indicates that in (17a), *S-le* does not belong to the complement of *qu*. Instead, it is in construal with *qu*. The examples in (18) show the same pattern in *lai* ‘come’ constructions.

- (17) a. 阿傑 去 借 書 了。  
*Ajie qu jie shu le.*  
 Ajie go borrow book SFAP  
 ‘Ajie has gone to borrow books.’

- b. 阿傑 [借 書] 去 了。  
*Ajie [jie shu] qu le.*  
 Ajie borrow book go SFAP  
 ‘Ajie has gone to borrow books.’
- c. \*阿傑 借 書 了 去。  
 \**Ajie jie shu le qu.*  
 Ajie borrow book SFAP go
- (18) a. 阿傑 來 借 書 了。  
*Ajie lai jie shu le.*  
 Ajie come borrow book SFAP  
 ‘Ajie has come to borrow books.’
- b. 阿傑 [借 書] 來 了。  
*Ajie [jie shu] lai le.*  
 Ajie borrow book come SFAP  
 ‘Ajie has come to borrow books.’
- c. \*阿傑 借 書 了 來。  
 \**Ajie jie shu le lai.*  
 Ajie borrow book SFAP come

One example in which *qu* occurs with *laizhe* is (19b), uttered by the character Baoyu in Chapter 78 of the classic novel *Hong-Lou Meng* (*The Dream of the Red Mansions*). In addition to (19b), (19a) is also acceptable, but (19c) is not acceptable. The acceptability pattern is the same as in (17) above: the SFAP does not belong to the complement of *qu*.

- (19) a. 不但 我 聽得 直切, 我 還 親自 去  
*Budan wo ting-de zhiqie, wo hai qinzi qu*  
 not.only I hear-DE clear I also directly go  
 [偷著 看] 來著。  
 [touzhe kan] laizhe.  
 secretly look SFAP  
 ‘I not only heard it clearly, but also went to see it secretly.’
- b. 不但 我 聽得 直切, 我 還 親自 [偷著  
*Budan wo ting-de zhiqie, wo hai qinzi [touzhe*  
 not.only I hear-DE clear I also directly secretly  
 看] 去 來著。  
 kan] qu laizhe.  
 look go SFAP  
 ‘I not only heard it clearly, but also went to see it secretly.’

- c. \*不但 我 聽得 直切, 我 還 親自  
 \**Budan wo ting-de zhiqie, wo hai qinzi*  
 not.only I hear-DE clear I also directly  
 偷著 看 來著 去。  
*touzhe kan laizhe qu.*  
 secretly look SFAP go

The three sets of examples all show that the complement of *lai* or *qu* rejects a SFAP.

## 2.2.4 The complement of a non-epistemic modal

A SFAP may occur in the complement of an epistemic modal, but not that of a non-epistemic modal. In (20a), *S-le* occurs in the complement of the epistemic modal *yinggai* ‘should’, and in (20b), *ne* occurs in the complement of the same modal. In (21a), *bixu* ‘must’ is not an epistemic modal, and there is no SFAP in its complement. (21b) shows that if *S-le* occurs in the complement of *bixu*, the sentence is not acceptable (also see Lin 2011, Lin 2015). Similarly, in (22a), the complement *bixu* has no SFAP; but in (22b), the complement has *ne*. The latter example is not acceptable.

- (20) a. 我 估計 阿傑 應該 [明天中午 就 訂好  
*Wo guji Ajie yinggai [mingtian-zhongwu jiu ding-hao*  
 I guess Ajie should tomorrow-noon then order-ready  
 票 了].  
*piao le*.  
 ticket SFAP  
 ‘I guess that Ajie must have finished ordering of the ticket by tomorrow noon.’
- b. 我 估計 阿傑 應該 [明天中午 在 訂 票 呢].  
*Wo guji Ajie yinggai [mingtian-zhongwu zai ding piao ne]*.  
 I guess Ajie should tomorrow-noon SMLT order ticket SFAP  
 ‘I guess that Ajie must be ordering the ticket at tomorrow noon.’
- (21) a. 阿傑 必須 [明天中午 就 訂好 票].  
*Ajie bixu [mingtian-zhongwu jiu ding-hao piao]*.  
 Ajie must tomorrow-noon then order-ready ticket  
 ‘Ajie must finish ordering of the ticket by tomorrow noon.’

- b. \*阿傑 必須 [明天中午 就 訂好 票 了].  
 \*Ajie bixu [mingtian-zhongwu jiu ding-hao piao le].  
 Ajie must tomorrow-noon then order-ready ticket SFAP

- (22) a. 阿傑 必須 [明天中午 訂 票].  
 Ajie bixu [mingtian-zhongwu ding piao].  
 Ajie must tomorrow-noon order ticket  
 ‘Ajie must be ordering the ticket tomorrow noon.’  
 b. \*阿傑 必須 [明天中午 訂 票 呢].  
 \*Ajie bixu [mingtian-zhongwu ding piao ne].  
 Ajie must tomorrow-noon order ticket SFAP

### 2.2.5 The V-even-not-V adverbials

No SFAP occurs in a kind of “even without”-adverbial, which will be called V-even-not-V adverbial. In such an adverbial, two copies of a transitive verb are separated by *ye* ‘even, also’ and *bu* ‘not’, as shown by the bracketed part in (23a). Both the agent and the patient of the verb in the adverbial are shared with those of the matrix verb. There is neither an overt subject nor an overt object for the verb in such an adverbial. A detailed analysis of the internal structure of a V-even-not-V construction is beyond the focus of this paper. What concerns us here is that no SFAP may occur in such an adverbial, as shown in (23b).

- (23) a. 阿傑 [看也不看] 就 買了 那 個 戒指.  
 Ajie [kan-ye-bu-kan] jiu mai-le na ge jiezhi.  
 Ajie look-even-not-look then buy-PRF that CL ring  
 ‘Ajie bought that ring even without taking a look at it.’  
 b. \*阿傑 [看也不看 {呢/來著/了}] 就 買了 那  
 \*Ajie [kan-ye-bu-kan {ne/lai zhe/le}] jiu mai-le na  
 Ajie look-even-not-look SFAP/SFAP/SFAP then buy-PRF that  
 個 戒指.  
 ge jiezhi.  
 CL ring

### 2.2.6 Small Clauses

The Small Clause complement of a mental attitude verb also rejects a SFAP.<sup>7</sup> In (24b), the clause in (24a) is embedded under *taoyan* ‘dislike’. If the SFAP *ne* occurs in the complement clause, the sentence is unacceptable. (25) and (26) show the same restriction on *laizhe* and *S-le*. Notice that *laizhe* would be allowed in (25b) if it were in construal with the matrix verb *taoyan* directly, rather than with the embedded clause. In that case, the sentence would mean ‘I used to dislike Ajie’s eating of durian in the office’.

- (24) a. 阿傑 在 辦公室裏 吃 榴槤 呢。  
*Ajie zai bangongshi-li chi liulian ne.*  
 Ajie at office-in eat durian SFAP  
 ‘Ajie is eating a durian in the office.’
- b. 我 討厭 [阿傑 在 辦公室裏 吃 榴槤 (\*呢)].  
*Wo taoyan [Ajie zai bangongshi-li chi liulian (\*ne)].*  
 I dislike Ajie at office-in eat durian SFAP  
 ‘I dislike Ajie’s eating of a durian in the office.’
- (25) a. 阿傑 在 辦公室裏 吃 榴槤 來著。  
*Ajie zai bangongshi-li chi liulian laizhe.*  
 Ajie at office-in eat durian SFAP  
 ‘Ajie was eating a durian in the office.’
- b. 我 討厭 [阿傑 在 辦公室裏 吃 榴槤 (\*來著)].  
*Wo taoyan [Ajie zai bangongshi-li chi liulian (\*laizhe)].*  
 I dislike Ajie at office-in eat durian SFAP  
 ‘I dislike Ajie’s eating of a durian in the office.’
- (26) a. 阿傑 承認 自己的 錯 了。  
*Ajie chengren ziji-de cuo le.*  
 Ajie admit self-DE mistake SFAP  
 ‘Ajie has admitted that he was wrong.’
- b. 我 讚許 [阿傑 承認 自己的 錯 (\*了)].  
*Wo zanxu [Ajie chengren ziji-de cuo (\*le)].*  
 I appreciate Ajie admit self-DE fault SFAP  
 ‘I appreciate that Ajie has admitted his fault.’

<sup>7</sup> Since expressions of any lexical category can be a predicate, a bare verbal expression can be a predicate in a Small Clause. Such Small Clauses are typically complements of mental attitude verbs (e.g. Cinque 1995: 252). See Paul (2017a) for the claim that there is no Small Clause in Chinese in which the predicate is an NP, AP, or PP.



### 2.2.7 Gapless relative clauses

A special type of relative clauses also rejects SFAPs. Chinese has both gappy and gapless relative clauses. One example of the former type is (27a). If *laizhe* occurs in such a relative clause, as in (27b), as stated in Paul (2015: 288, citing Pan 2012), the construction is accepted only by speakers from Northern China. On the other hand, neither *S-le* nor *ne* may occur in a relative clause (Ross 1983: 235 for the restriction on *S-le*), as show in (27c).

- (27) a. 我 找到了 [昨天 \_ 騙 我] 的 那 個 人。  
*Wo zhaodao-le* [zuotian \_ pian wo] de na ge ren.  
 I find-PRF yesterday cheat I DE that CL person  
 ‘I found the person who cheated me yesterday.’
- b. #我 找到了 [昨天 \_ 騙 我 來著] 的 那 個 人。  
 #*Wo zhaodao-le* [zuotian \_ pian wo laizhe] de na ge ren.  
 I find-PRF yesterday cheat I DE that CL person  
 ‘I found the person who cheated me yesterday.’
- c. \*我 找到了 [剛才 \_ 在 騙 我 {了/呢}] 的  
 \**Wo zhaodao-le* [gangcai \_ zai pian wo le/ne] de  
 I find-PRF just.now SMLT cheat I SFAP/SFAP DE  
 那 個 人。  
*na ge ren.*  
 that CL person

In this paper, I do not analyze this inconsistency in gappy relatives. Instead, I report a consistent pattern in gapless relative clauses in the language. In a gapless relative clause, no gap or overt pronoun is associated with the external “head” that is modified by the relative clause (Tang 1979). One example is (28a). Such a clause has been analyzed as a subject clause (Zhang 2008) or complement clause (Huang 2016), of the noun to its right. Regardless of the differences of the analyses, a new observation is that such a clause may not contain a SFAP, as shown in (28b).

- (28) a. 我 聽見了 [阿傑 (昨天) 彈 鋼琴] 的 聲 音。  
*Wo tingjian-le* [Ajie (zuotian) tan gangqin] de shengyin.  
 I hear-PRF Ajie yesterday play piano DE sound  
 ‘I heard the sound coming from Ajie’s playing of the piano (yesterday).’
- b. \*我 聽見了 [阿傑 彈 鋼琴 {呢/來著/了}] 的 聲 音。  
 \**Wo tingjian-le* [Ajie tan gangqin {ne/laizhe/le}] de shengyin.  
 I hear-PRF Ajie play piano SFAP/SFAP/SFAP DE sound

### 2.2.8 The complement clause of *dui* ‘to’

SFAPs are absent in the complement clause of the prepositional complementizer *dui* ‘to’. In (29a), *dui* introduces a clause, which functions as the complement of *hen zaiyi* ‘very mind’. Tsai (1995: 283) claims that in such a construction, *dui* assigns Case to the introduced clause.<sup>8</sup> I have observed that such an embedded clause rejects a SFAP, as seen in (29b) and (29c).

- (29) a. 阿傑 [對 露露 賣了 那 輛 車] 很 在意。  
*Ajie [dui Lulu mai-le na liang che] hen zaiyi.*  
 Ajie to Lulu sell-PRF that CL car very mind  
 ‘Ajie is very upset about Lulu’s selling of that car.’
- b. \*阿傑 [對 露露 賣 那 輛 車 {呢/來著}] 很 在意。  
 \**Ajie [dui Lulu mai na liang che {ne/laizhe}] hen zaiyi.*  
 Ajie to Lulu sell that CL car SFAP/SFAP very mind
- c. \*阿傑 [對 露露 賣(了) 那 輛 車 了] 很 在意。  
 \**Ajie [dui Lulu mai-(le) na liang che le] hen zaiyi.*  
 Ajie to Lulu sell-PRF that CL car SFAP very mind

In this section, I have identified eight types of clauses that ban a SFAP, as listed in (30).

#### (30) Types of clauses that ban a SFAP

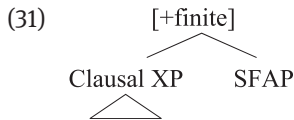
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- |   |   |
|---|---|
| a. The complement of a control verb                       | e. The V-even-not-V adverbials              |
| b. The complement of a raising verb                       | f. Small Clauses                            |
| c. The complement of <i>lai</i> ‘come’ and <i>qu</i> ‘go’ | g. Gapless relative clauses                 |
| d. The complement of a non-epistemic modal                | h. The complement clause of <i>dui</i> ‘to’ |
- 

<sup>8</sup> Case-marked clauses are also seen in other languages, e.g. (i) in Modern Uyghur. “In a nominalized complement clause, the main verb does not bear a tense suffix. Instead, it appears with a relative clause suffix *-ken* and the nominalizer *-lik* together with a possessive agreement that marks the person of the embedded subject which is genitive marked. The entire clause is case marked by the accusative suffix *-ni* in [(ia)].” (Sudo 2010: 8)

- (i) a. *Ahmet [Tursun-ning kit-ken-lik-i-ni ] di-di.* (Nominalized Complement)  
 Ahmet Tursun-GEN leave-REL-NML-3-ACC say-PAST.3  
 ‘Ahmet said that Tursun left’
- b. *Ahmet [Tursun(-ni) ket-ti ] di-di.* (Finite Complement)  
 Ahmet Tursun(-ACC) leave-PAST.3 say-PAST.3  
 ‘Ahmet said that Tursun left’

### 3 Nonfinite properties of the clauses that disallow a SFAP

This section argues for the [+finite] feature of a SFAP construction, as illustrated in (31):



The eight types of clauses that ban a SFAP exhibit the following properties of nonfinite clauses, to be presented in this section: they must be dependent on another clause (3.1), they cannot host a *pro* (3.2), they ignore the clause boundary with respect to Binding Condition B (3.3), they reject a speaker-oriented adverb (3.4), and they reject an epistemic modal (3.5).

#### 3.1 The dependency on another clause

Nonfinite clauses are exclusively dependent, although finite clauses can be embedded, as well as being independent (I do not discuss special cases such as the one addressed in Akmajian 1984; Lambrecht 1990). According to Trask (1993: 103), a ‘finite’ verb denotes a form of a verb or auxiliary which can in principle serve as the only verb form in a sentence. This means that a nonfinite verb, by contrast, is a verb that intrinsically depends on another verb, i.e. is embedded. Although there is no finiteness contrast in the form of a verb in Chinese, if we consider the structural position of clauses, we predict that if there is a finiteness distinction, nonfinite clauses are always embedded, and finite ones do not have to be embedded, regardless of the form of the verbs. The eight types of clauses that reject a SFAP are all embedded (see (30)). They function as arguments or modifiers of an element of a higher clause. Therefore, like nonfinite clauses in other languages, none of the eight types of clauses that ban a SFAP is an independent utterance.

### 3.2 The ban of *pro*-drop

Chinese is a *pro*-drop language: the subject of a clause can be a *pro*, a null pronoun that can refer to any individual in the discourse context. For example, the *pro* subject in (32a) and the adverbial clause in (32b) may refer to someone that is clear to the participants of the dialogue.

- (32) a. *pro* 又 說 謊 了。  
 Pro you shuo huang le.  
 again say lie SFAP  
 ‘The person is lying again.’
- b. 如果 *pro* 在 開車 呢, 就 不 要 滑 手 機。  
 Ruguo *pro* zai kaiche ne, jiu bu yao hua shouji.  
 if SMLT drive SFAP then not should swipe cell.phone  
 ‘If the person is driving, he should not swipe his cell phone.’

Having worked on many *pro*-drop languages, e.g. Spanish, Italian, Romanian, Hungarian, Japanese, Hindi, and Tamil, Sundaesan (2014: 74–83, 2015) formulates a “Finiteness *pro*-drop generalization”, which states that *pro*-drop does not occur in the subject position of prototypically nonfinite clauses. It means that the null subject of a nonfinite clause does not have an independent interpretation. The generalization can also be seen in the Sundanese example in (33) (Kurniawan and Davies 2015: 11). Like Chinese, the language has no tense or case maker. A similar fact in Sranan is discussed in Plag (1993; see Bisang 2001: 1409).<sup>9</sup>

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<sup>9</sup> In an object control example such as (i), the PRO subject of the nonfinite verb is controlled by the null indirect object in the matrix clause, and thus it does not have an independent reading, as expected.

- (i) *Putin prikazal pro<sub>i</sub> [PRO<sub>i</sub> vyvesti vojska iz Sirii].* [Russian]  
 Putin ordered *pro* PRO remove troops from Syria  
 ‘Putin ordered to remove troops from Syria.’  
 (from the Editorial Board)

The Editorial Board gives the example in (ii), to show that although like some other languages in the Balkan area, Bulgarian famously lacks infinitives, the null subject of *prodavat* must still be coreferential with the subject of the matrix clause. I thank the Board for bringing this issue to me. I leave the issue for future research.

- (ii) *Detsata se opitaxa da prodavat obuvki.* [Bulgarian]  
 children REFL try.3.AORIST.IND to sell.3PL shoes  
 ‘The children tried to sell shoes.’

- (33) a. *Barudak<sub>j</sub> nyoba-nyoba* [PRO<sub>j/\*k</sub> *rék jarual-an sapatu di pasar*].  
 children AV.try-RED FUT sell.PL-IT shoes in market  
 ‘The children tried to sell shoes in the (traditional) market.’
- b. *Amung nitah Ujang<sub>j</sub> [sina PRO<sub>j/\*k</sub> jual-an sapatu di pasar*].  
 Amung AV.order Ujang so.that sell-IT shoes in market  
 ‘Amung ordered Ujang to sell shoes in the (traditional) market.’

The Chinese *pro*-hosting clauses in (32a) and (32b) both have a SFAP. We now consider the first five types of the clauses in (30). Assume that the identity of an individual, whom we label as *k*, is clear in the discourse context in each of the examples in (34). The acceptability contrasts indicate that in none of the examples may the subject of the embedded clause, marked by  $\_$ , refer to this individual. Instead, the subject has to refer to Ajie, whom we label as *j*. Since the interpretation of null subject in each example of (34) is not free, the subject cannot be a *pro*, which may refer to any individual identifiable in the context. (34a) is control construction, (34b) is a raising verb construction, (34c) is a *lai* ‘come’ construction, (34d) is a non-epistemic modal construction, and (34e) is a V-even-not-V adverbial construction.

- (34) a. 阿傑<sub>j</sub> 打算 [明天中午  $\_j/*k$  在家 等 你].  
*Ajie<sub>j</sub> dasua* [mingtian-zhongwu  $\_j/*k$  zai jia deng ni].  
 Ajie plan tomorrow-noon at home wait you  
 ‘Ajie plans to wait for you at home tomorrow noon.’
- b. 雨水<sub>j</sub> 開始 [ $\_j/*k$  影響 交通 ] 了。  
*Yushui<sub>j</sub> kaishi* [ $\_j/*k$  yingxiang jiaotong] le.  
 rain start affect traffic SFAP  
 ‘The rain starts to affect the traffic.’
- c. 阿傑<sub>j</sub> 去 [ $\_j/*k$  借 書 ] 了。  
*Ajie<sub>j</sub> qu* [ $\_j/*k$  jie shu] le.  
 Ajie go borrow book SFAP  
 ‘Ajie has gone to borrow books.’
- d. 阿傑<sub>j</sub> 必須 [明天中午  $\_j/*k$  就 訂好 票].  
*Ajie<sub>j</sub> bixu* [mingtian-zhongwu  $\_j/*k$  jiu ding-hao piao].  
 Ajie must tomorrow-noon then order-ready ticket  
 ‘Ajie must finish ordering of the ticket by tomorrow noon.’
- e. 阿傑<sub>j</sub> [ $\_j/*k$  看也不看] 就 買了 那 個 戒指。  
*Ajie<sub>j</sub> [ $\_j/*k$  kan-ye-bu-kan] jiu mai-le na ge jiezhi.*  
 Ajie<sub>j</sub> look-even-not-look then buy-PRF that CL ring  
 ‘Ajie bought that ring even without taking a look at it.’

A Small Clause and a *dui*-clause may have its own subject, but the subject may not be a *pro*, either. Assume that the referent of *Ajie* is clear in the discourse context in the two examples in (35). The examples are not acceptable if *Ajie* is replaced with a *pro* (gapless relatives, by definition, contain no null argument, and thus are not discussed here).

- (35) a. 我 討厭 [[阿傑<sub>i</sub>/\**pro*<sub>i</sub>] 說 謊]. [Small Clause]  
*Wo taoyao* [{*Ajie*<sub>i</sub>/\**pro*<sub>i</sub>] *shuo huang*].  
 I dislike Ajie say lie  
 ‘I dislike Ajie’s lying.’
- b. 露露<sub>k</sub> [對 {阿傑<sub>i</sub>/\**pro*<sub>i</sub>] 說 謊] 很 在意. [Dui-clause]  
*Lulu<sub>k</sub>* [*dui* {*Ajie*<sub>i</sub>/\**pro*<sub>i</sub>} *shuo huang*] *hen zaiyi*.  
 Lulu to Ajie say lie very mind  
 ‘Lulu is very upset about Ajie’s lying.’

Thus, no *pro* subject is allowed in any of the eight types of clauses that ban a SFAP. The fact indicates that such clauses exhibit properties of nonfinite clauses.

### 3.3 The invisibility of the clause boundary for Condition B

The fact that the interpretations of the subjects of nonfinite clauses are not always free is also seen in binding. Condition B of the binding theory states that a non-reflexive pronoun must not have a binder within its local clause. For instance, in (36a), the pronoun *he* may take *John* as its antecedent, since the two nominals are not in the same clause (Chomsky 1973). In (36b), however, the pronoun *him* may not take the clause-external *John* as its antecedent. In (36a), the clause hosting the pronoun is finite, but in (36b), the clause hosting the pronoun is nonfinite. The binding contrast indicates that for a nonfinite clause, its clause-boundaries seem to be invisible, and thus, the pronoun may not take the other nominal as its antecedent, as if the latter were in the same local clause. The same contrast is seen between the finite complement clause in (38a) and the nonfinite complement clause in (38b) in Welsh (Tallerman 1998: 90, 92). In all of these cases, a nonfinite clause does not count as a clause to Condition B. If the binding domain of Condition B is specified as a finite clause (e.g. the so-called Tensed-S Condition in Chomsky 1973: 238; cf. Kayne 2002), the empirical contrast still needs to be explained.

- (36) a. *John<sub>i</sub> said that he<sub>i</sub> likes Mary.*  
 b. *John<sub>i</sub> believes him<sub>k/\*i</sub> to like Mary.*
- (37) a. *Billy<sub>i</sub> asked [if he<sub>i</sub> may smoke in the plane].*  
 b. *Billy<sub>i</sub> heard [him<sub>k/\*i</sub> jumping].*
- (38) Welsh
- a. *Dyweddodd Aled<sub>i</sub> [iddo fo<sub>i/j</sub> fynd].*  
 said Aled to:3MASC.SG he go  
 ‘Aled said that he’d gone.’
- b. *Dymunai Aled<sub>i</sub> [iddo fo<sub>j/\*i</sub> fynd].*  
 wanted Aled to:3MASC.SG he go  
 ‘Aled wanted him to go.’

The binding pattern in the Chinese examples in (39) is similar to the one in the a-examples in (36) through (38): the clause boundaries of the embedded clauses are visible to Condition B, and thus the contained pronoun may take the subject of the matrix clause as its antecedent. The embedded clauses in these examples do not belong to the eight types of clauses that ban a SFAP. In contrast, the binding pattern in the examples in (40) is similar to that in the b-examples in (36) through (38): the clause boundaries of the embedded clauses are not visible to Condition B, and thus the contained pronoun may not take the subject of the matrix clause as its antecedent. These embedded clauses belong to the types of clauses that reject a SFAP.

- (39) a. 阿傑<sub>i</sub> 不 知道 [他<sub>i</sub> 已經 遲到 十 分鐘 了].  
*Ajie<sub>i</sub> bu zhidao [ta<sub>i</sub> yijing chidao shi fenzhong le].*  
 Ajie not know he already late ten minute SFAP  
 ‘Ajie does not know that he is already late for ten minutes.’
- b. 阿傑<sub>i</sub> 聽見了 [他<sub>i</sub> 得了 獎 了] 的 消息。  
*Ajie<sub>i</sub> tingjian-le [ta<sub>i</sub> de-le jiang le] de xiaoxi.*  
 Ajie hear-PRF he get-PRF award SFAP DE news  
 ‘Ajie heard the news that he got the award.’
- (40) a. 阿傑<sub>i</sub> 討厭 [他<sub>k/\*i</sub> 抽菸]. *Small Clause*  
*Ajie<sub>i</sub> taoyan [ta<sub>k/\*i</sub> chouyan].*  
 Ajie dislike he smoke  
 ‘Ajie<sub>i</sub> dislikes his<sub>k/\*i</sub> smoking.’

- b. 阿傑<sub>i</sub> 聽見了 [他<sub>k/\*i</sub> 彈 鋼琴] 的 聲音. *Gapless RC*  
*Ajie<sub>i</sub> tingjian-le [ta<sub>k/\*i</sub> tan gangqin] de shengyin.*  
 Ajie hear-PRF he play piano DE sound  
 ‘Ajie<sub>i</sub> heard the sound coming from his<sub>k/\*i</sub> playing the piano.’
- c. 阿傑<sub>i</sub> [對 他<sub>k/\*i</sub> 生病 ] 很 不在意. *Dui-clause*  
*Ajie<sub>i</sub> [dui ta<sub>k/\*i</sub> sheng-ming] hen bu-zaiyi.*  
 Ajie to he get-sick very not-mind  
 ‘Ajie<sub>i</sub> does not care much about his<sub>k/\*i</sub> getting sick.’

The contrast between (39) and (40) parallels to the one between the a-examples, which have finite embedded clauses, and the b-examples, which have nonfinite embedded clauses, in (36) through (38), indicating that clauses that reject a SFAP behave like nonfinite clauses.<sup>10</sup>

### 3.4 The ban of speaker-oriented adverbs

Speaker-oriented adverbs (following Ernst 2009, I call such adverbs SpOA), e.g. *fortunately*, *oddly*, *unbelievably*, may not occur in nonfinite clauses, unlike subject-oriented ones, e.g. *tactfully*, *cleverly*, *willingly* (Ernst 2002: 472). (41a) shows that the nonfinite subject clause allows the subject-oriented adverbs, and (41b) shows that the same clause disallows the SpOAs. (42a) shows that the nonfinite complement clause allows the subject-oriented adverbs, and (42b) shows that the same clause disallows the SpOAs.

**10** One reviewer asked me to include a discussion on control constructions in this subsection. In such constructions, the PRO subject is not subject to Condition B; and a pronominal object, if it occurs, is obviously not allowed to take the PRO as its antecedent (e.g. *John<sub>i</sub> planned to PRO<sub>i</sub> invite him<sub>j/\*i</sub>*), obeying Condition B. Chinese behaves the same in this respect, as seen in (i). In (i), PRO is closer to *ta* than any other nominals, and thus the presence of the clause boundary to the left of PRO does not affect the binding pattern.

- (i) Ajie<sub>i</sub> dasuan [PRO<sub>i</sub> yaoqing ta<sub>j/\*i</sub>].  
 Ajie plan invite he  
 ‘Ajie planned to invite him.’

The same reviewer also asked me to discuss reflexives, which are not subject to the Binding Condition B. Reflexives in Chinese may occur not only as a direct or indirect object, but also as the subject of a finite embedded clause (Huang 1982: 331) and as the subject of the complement clause under a control verb (Zhang 2016: 287). Thus one cannot see the finiteness distinction from the subject use of reflexives in the language.



- (41) a. *To {tactfully/cleverly/willingly} leave early would be good.*  
 b. *\*To {fortunately/oddly/unbelievably} leave early would be good.*
- (42) a. *We saw them {tactfully/cleverly/willingly} stand aside to let the visitors pass.*  
 b. *\*We saw them {fortunately/oddly/unbelievably} stand aside to let the visitors pass.*

The clause that allows a SFAP may host a SpOA, as seen in (43).

- (43) a. 我 知道 [阿傑 幸虧 買了 保險 了].  
*Wo zhidao [Ajie xingkui mai-le baoxian le].*  
 I know Ajie fortunately buy-PRF insurance SFAP  
 ‘I know that Ajie has fortunately bought insurance.’
- b. [阿傑 不幸 遇難 了] 令 人 傷心.  
*[Ajie buxing yu-nan le] ling ren shangxin.*  
 Ajie unfortunately suffer-disaster SFAP make people sad  
 ‘That Ajie got killed unfortunately made people sad.’ (also Huang 2016: (94))
- c. 我 聽到了 [阿傑 還好 買了 保險 了]  
*Wo tingdao-le [Ajie haihao mai-le baoxian le]*  
 I hear-PRF Ajie fortunately buy-PRF insurance SFAP  
 的 消息.  
*de xiaoxi.*  
 DE news  
 ‘I heard the news that Ajie has fortunately bought insurance.’
- d. [因為 阿傑 幸虧 買了 保險 了],  
*[Yinwei Ajie xingkui mai-le baoxian le],*  
 because Ajie fortunately buy-PRF insurance SFAP  
 所以 我 不 擔心.  
*suoyi wo bu danxin.*  
 therefore I not worry  
 ‘Because Ajie has fortunately bought insurance, therefore, I’m not worried.’

The examples in (44) show that all eight types of clauses where a SFAP is banned reject a SpOA:

- (44) a. 阿傑 打算 [明天中午 (\*幸虧) 在家 等 你].  
*Ajie dasuan [mingtian-zhongwu (\*xingkui) zai jia neng ni].*  
 Ajie plan tomorrow-noon fortunately at home wait you  
 ‘Ajie plans to wait for you at home tomorrow noon.’ *Control*

- b. 雨水 開始 [{嚴重地 /\*居然} 影響 交通] 了。  
*Yushui kaishi* [{*yanzhongde/\*juran*} *yingxiang jiaotong*] *le*.  
 rain start seriously/unexpectedly affect traffic SFAP  
 ‘The rain has started to {seriously/\*unexpectedly} affect the traffic.’  
*Raising*
- c. 阿傑 去 [(幸虧) 借 書] 了。  
*Ajie qu* [(*xingkui*) *jie shu*] *le*.  
 Ajie go fortunately borrow book SFAP  
 ‘Ajie has gone to borrow books.’  
*Under COME/GO*
- d. 阿傑 必須 [明天中午 [(幸虧) 訂好 票].  
*Ajie bixu* [*mingtian-zhongwu* (*xingkui*) *ding-hao piao*].  
 Ajie must tomorrow-noon fortunately order-ready ticket  
 ‘Ajie must finish ordering of the ticket by tomorrow noon.’  
*Non-epist modal*
- e. 阿傑 [看(\*幸虧)也不看 ] 就 買了 那 個 戒指。  
*Ajie* [*kan*(*xingkui*)-*ye-bu-kan*] *jiu mai-le na ge jiezhi*.  
 Ajie look-fortunately-even-not-look then buy-PRF that CL ring  
 ‘Ajie bought that ring even without taking a look at it.’  
*V-even-not-V*
- f. 我 讚許 [阿傑 (\*幸虧) 承認 自己的 錯].  
*Wo zanxu* [*Ajie* (*xingkui*) *chengren ziji-de cuo*].  
 I appreciate Ajie fortunately admit self-DE fault  
 ‘I appreciate that Ajie has admitted his fault.’  
*Small Clause*
- g. 我 聽見了 [阿傑 (\*幸虧) 彈 鋼琴] 的 聲音。  
*Wo tingjian-le* [*Ajie* (*xingkui*) *tan gangqin*] *de shengyin*.  
 I hear-PRF Ajie fortunately play piano DE sound  
 ‘I heard the sound coming from Ajie’s playing of the piano.’  
*Gapless RC*
- h. 阿傑 [對 露露 (\*幸虧) 賣了 那 輛 車] 很 在 意。  
*Ajie* [*dui Lulu* (*xingkui*) *mai-le na liang che*] *hen zaiyi*.  
 Ajie to Lulu fortunately sell-PRF that CL car very mind  
 ‘Ajie is very upset about Lulu’s selling of that car.’  
*Dui-clause*

Since neither a nonfinite clause nor a clause that rejects a SFAP may host a SpOA, the latter behaves like the former in this respect.

### 3.5 The ban of an epistemic modal

Nonfinite clauses reject epistemic modals. In languages such as English, no modal occurs in a nonfinite clause (e.g. McCawley 1971; Ramchand and Svenonius 2014: 161), however, in some Scandinavian languages, non-

epistemic modals may occur in nonfinite clauses (e.g. Eide 2005). German is patterned with such Scandinavian languages in this respect, according to a reviewer. But no epistemic modal occurs in a nonfinite clause, cross-linguistically. Accordingly, although multiple modals may occur in a row, no epistemic modal is under a non-epistemic one (Thrainsson and Vikner 1995; see Zhang 1997 for Chinese). A relevant fact is that in English, *have to* has an epistemic reading only when it does not follow another modal immediately, i.e. only when it is inflected. In (45a), *has to* is finite and may have an epistemic reading. In (45b), however, *have to* is under the modal *might* and is not finite, and it does not have an epistemic reading (Ramchand and Svenonius 2014: 160).

- (45) a. *John has to be in the library.*  
 b. *John might have to be in the library.*

Moreover, as pointed out by a reviewer, in German, epistemic or reportative modality are licensed in finite relative clauses (see (46a)), but not in participial relative clauses (see (46b)).<sup>11</sup>

- (46) a. *der Mantel, der auf dem Tisch {liegt/liegen soll}*  
 the coat RP on the table lie/lie.INF should  
 ‘the coat which {is lying/is supposed to lie} on the table’  
 b. *der auf dem Tisch {liegende/\*liegen sollende} Mantel*  
 the on the table lie.PRT/lie.INF should.PRT coat  
 ‘the coat {lying/\*supposed to lie} on the table’

Similarly, in Chinese, no epistemic modal may occur in the complement of a control verb. In (47a), *gaosu* ‘tell’ is not a control verb, the epistemic modal *hui* ‘might’ occurs in the complement clause (Li 1990). The adverbial clause in (47b) also allows an epistemic modal.

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<sup>11</sup> In addition to epistemic modals, epistemic adverbs such as *possibly* are also incompatible with a nonfinite clause. According to my informants, (ib) is not acceptable, although it is judged acceptable in Grano (2017: 267).

- (i) a. John believes [that possibly  
 Bill is a genius].  
 b. \*John believes [Bill to possibly  
 be a genius].

- (47) a. 我 告訴 他 [火車 會 開].  
*Wo gaosu ta [huoche hui kai].*  
 I tell he train might leave  
 ‘I told him that the train might leave.’  
 (Li 1990: 22)
- b. [因為 明天 會 下雨 ], 所以 我們 今天 就 出發.  
*[Yinwei mingtian hui xiayu], suoyi women jintian jiu chufa.*  
 since tomorrow will rain therefore we today then setoff  
 ‘Since it will rain tomorrow, we set off today.’

The examples in (48) show that all eight types of clauses that ban a SFAP reject an epistemic modal (also see Li 1990: 22; Zhang 1997: 73 for the constraint on control constructions).

- (48) a. 阿傑 打算 [明天中午 (\*會) 在家 等 你].  
*Ajie dasuan [mingtian-zhongwu (\*hui) zai jia neng ni].*  
 Ajie plan tomoroo-noon might at home wait you  
 ‘Ajie plans to wait for you at home tomorrow noon.’ *Control*
- b. 雨水 開始 [(\*)會) 影響 農作物] 了.  
*Yushui kaishi (\*hui) yingxiang nongzuowu] le.*  
 rain start might affect crop SFAP  
 ‘The rain has started to affect the crops.’ *Raising*
- c. 阿傑 去 [(\*)會) 借 書] 了.  
*Ajie qu [(\*)hui) jie shu] le.*  
 Ajie go might borrow book SFAP  
 ‘Ajie has gone to borrow books.’ *Under COME/GO*
- d. 阿傑 必須 [明天中午 (\*會) 訂好 票].  
*Ajie bixu [mingtian-zhongwu (\*hui) ding-hao piao].*  
 Ajie must tomorrow-noon might order-ready ticket  
 ‘Ajie must finish ordering of the ticket by tomorrow noon.’ *Non-epist modal*
- e. 阿傑 [看(\*)會)也不看 ] 就 買了 那 個 戒指.  
*Ajie [kan-(\*)hui)-ye-bu-kan] jiu mai-le na ge jiezhi.*  
 Ajie look-might-even-not-look then buy-PRF that CL ring  
 ‘Ajie bought that ring even without taking a look at it.’ *V-even-not-V*
- f. 我 讚許 [阿傑 (\*會) 承認 自己的 錯].  
*Wo zanxu [Ajie (\*hui) chengren ziji-de cuo].*  
 I appreciate Ajie might admit self-DE fault  
 ‘I appreciate that Ajie has admitted his fault.’ *Small Clause*

- g. 我 要 聽 [阿傑 (\*會) 彈 鋼琴] 的 聲音.  
*Wo yao ting [Ajie (\*hui) tan gangqin] de shengyin.*  
 I want listen Ajie might play piano DE sound  
 ‘I want to listen to the sound coming from Ajie’s playing of the piano.’  
*Gapless RC*
- h. 阿傑 [對 露露 (\*會) 賣了 那 輛 車] 很 在 意.  
*Ajie [dui Lulu (\*hui) mai-le na liang che] hen zaiyi.*  
 Ajie to Lulu might sell-PRF that CL car very mind  
 ‘Ajie is very upset about Lulu’s selling of that car.’  
*Dui-clause*

Since neither a nonfinite clause nor a clause that rejects a SFAP may have an epistemic modal, the latter behaves like the former in this respect.

### 3.6 Summary: The existence of the finiteness distinction in Chinese

In this section, I have provided robust evidence for the distinctions of two kinds of clauses from five sets of syntactic facts: those that allow a SFAP behave like finite clauses and those that reject a SFAP behave like nonfinite clauses in other languages. Specifically, for the latter group of clauses, they are intrinsically embedded, ban *pro*-drop, their clause boundaries may be invisible for binding, and they disallow a SpOA and an epistemic modal. The table in (49) is a summary of the observations.

(49)

	intrinsically embedded	ban <i>pro</i> -drop	clause boundaries may be invisible for Condition B	disallow a SpOA	Disallow epistemic modal
Clauses that ban a SFAP	√	√	√	√	√
Nonfinite clauses in other languages	√	√	√	√	√
Clauses that allow a SFAP	No	No	No	No	No
Finite clauses in other languages	No	No	No	No	No

In each of the five considerations, the contrast between those that allow and disallow a SFAP points to the existence of the finiteness distinction in Chinese: SFAPs occur in finite clauses only. If the distinction did not exist in Chinese (Y. Huang 1994; Hu et al. 2001), the eight types of clauses would be expected to allow SFAPs, like other clauses, contrary to the fact; and the similarities of the eight types of clauses to nonfinite clauses in other languages would be purely accidental, and the similarities of the clauses that allow SFAPs to finite clauses in other languages would also be purely accidental. Obviously, recognizing the existence of the finiteness distinction avoids these empirical and theoretical inadequacies.<sup>12</sup>

Treating the eight types of clauses that reject a SFAP as nonfinite clauses does not mean that these clauses have the same syntax. As stated by Adger (2007: 26), “there is more than one way to be non-finite”. For instance, the complement of one type of control verb has a richer structure than that of a raising verb. The former allows a topic in Italian (Rizzi 1997: 309; Haegeman 2004: 84) and Chinese (Zhang 2016; Li 2017), whereas the latter does not, as shown in (50) (see Adger 2007: 32 for Italian examples). Complement clauses of different types of control verbs also have different layers in their structures (see Zhang 2016: 294–295 for details). Small Clauses have an even more impoverished structure (Rizzi 1997: 328). As for gapless relatives, the possible presence of *zuotian* ‘yesterday’ in (28a) indicates that their structure is larger than vP. Todorović and Wurmbbrand (in prep.) claim that non-finite clauses can be CP, TP, or vP. Nominalized clauses (Fu 1994; Adger 2007: 42–57) are also nonfinite, rejecting a SFAP in Chinese, as shown in (51b).

(50) a. *\*John seems, your book, to like best.* (Adger 2007: 32)

- b. \*雨水 開始 [農作物 影響] 了。  
*\*Yushui kaishi [nongzuowu yingxiang] le.*  
 rain start crop affect SFAP  
 Intended: ‘The rain has started to affect the crops.’

(51) a. 阿傑 生病 了。

*Ajie sheng-bing le.*  
 Ajie get-sick SFAP  
 ‘Ajie has got ill.’

- b. [阿傑 的 (這 次) 生病 (\*了)] 很 不是時候。  
*[Ajie de (zhe ci) sheng-bing (\*le)] hen bu-shishihou.*  
 Ajie DE this CL get-sick SFAP very ill-timed  
 ‘Ajie’s getting sick happened at a bad time.’

<sup>12</sup> Paul (2017b) also claims that the three SFAPs, as the lowest SFPs, canencode finiteness, although she does not discuss the issues listed in (49).

Before I end this section, I address one issue raised by a reviewer: if a finite clause is able to host a SpOA, why a conditional finite clause rejects such an adverb, as seen in (52).

- (52) *If she has (\*unfortunately) found a scorpion in her boot, she'll be sorry.*  
(Ernst 2009: 518)

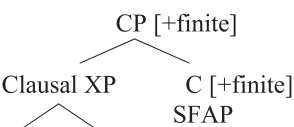
Note that, first, in Chinese, conditionals are able to host a SpOA, as seen in (53):

- (53) 如果 阿傑 不幸 吞了 魚刺, 不要 慌。  
*Ruguo Ajie buxing tun-le yu-ci, buyao huang.*  
if Ajie unfortunately swallow-PRF fish-bone don't panic  
Lit.: 'If Ajie has unfortunately swallowed a fishbone, don't panic.'

Second, like other finite clauses, finite conditionals have visible clause boundaries for the Binding Condition B (e.g. *John<sub>i</sub> will come if he<sub>i</sub> has time*. Cf. (36)). Third, like root clauses and other SFAP sentences, conditionals allow a *pro* subject, as seen in (32b). All of these suggest that finite conditionals behave like other finite clauses, and the rejection of the SpOA in the English example in (52) might have some independent explanation, which I do not know yet (see Ernst 2009; Hole 2015; Bross and Hole 2017 for some relevant discussion).

## 4 Main properties of SFAPs

Although SFAPs occur in finite clauses only, they are syntactically different from the finite markers on verbs or auxiliaries. In this section, I argue that the tree in (31) is labelled as in (54). I first argue that a SFAP has a selectional restriction on the aspect features of the associated predicate, and thus it is structurally higher than the predicate (4.1). I then argue for the low C position of a SFAP, which is higher than an auxiliary but lower than other SFPs (4.2). Finally, I briefly address the significance of this observation on finite C elements (4.3).

- (54)  (= (8))

## 4.1 The aspect-selections of SFAPs

Although the term SFAP contains “aspect”, SFAPs are different from aspect markers in predicates. Not only the former is clause-final, whereas the latter is not, but also the two kinds of elements are different in an important way: the former may not occur in nonfinite clauses (Section 3), whereas the latter may (e.g. *-le* in (48h)). Various aspect suffixes may occur in the complement of a control verb (Li 1990: 19). Aspectual distinction may be found in nonfinite clauses (e.g. Bisang 2001: 1401), as seen in (55) (Grano 2017: 269). Therefore, as pointed out by Bisang (2001: 1410), Huang’s (1992: 252) argument against the finiteness distinction in Chinese, which is based on the distribution of aspect suffixes, is not pertinent.

- (55) a. *John believes [Bill to have robbed a bank].*  
 b. *John claims [to have seen a ghost].*  
 c. *To win the prize, John needs [to have collected all five tokens].*

Nevertheless, SFAPs may have their selections on the aspect features of the associate predicates, to be presented in 4.1.1 and 4.1.2. It is in this perspective that SFAPs have something to do with aspect. The selection also shows that they are structurally higher than predicate-internal aspect markers.

### 4.1.1 *Ne* and *laizhe* and their compatible aspect markers

Both *ne* and *laizhe* are compatible with simultaneous aspect markers of a predicate, such as the suffix *-zhe*, as shown in (56a,b) (for *ne* see Chan 1980; Zhu 1982: 210; Ma 1987), but they are not compatible with the perfective *-le*, the experiential *-guo*, and the inchoative *-qi*, as shown in (56c), (56d), and (56e), respectively. I thus claim that they both select a viewpoint aspect [+SMLT] (but non-temporal uses of *ne* do not have this restriction; see Note 2).

- (56) a. 門 開著 呢。  
*Men kai-zhe ne.*  
 door open-SMLT SFAP  
 ‘The door is open.’  
 (Zhu 1982: 210)



- b. 門 開著 來著。  
*Men kai-zhe laizhe.*  
 door open-SMLT SFAP  
 ‘The door was open.’
- c. \*阿傑 買了 車 {呢/來著}。  
 \**Ajie mai-le che {ne/laizhe}.*  
 Ajie buy-PRF car SFAP/SFAP
- d. \*阿傑 買過 車 {呢/來著}。  
 \**Ajie mai-guo che {ne/laizhe}.*  
 Ajie buy-EXP car SFAP/SFAP
- e. \*阿傑 跳起 舞 {呢/來著}。  
 \**Ajie tiao-qi wu {ne/laizhe}.*  
 Ajie dance-INCH dance SFAP/SFAP

*Ne* and *laizhe* occur with predicates that encode episodic eventualities only, rather than any generic ones, as seen in (57). I thus claim that they also select an event type aspect [-GEN].

- (57) 西瓜 比 橘子 大 (\*呢/\*來著)。  
*Xigua bi juzi da (\*ne/\*laizhe).*  
 watermelon than orange big SFAP/SFAP  
 ‘A watermelon is bigger than an orange.’

Therefore, one formal property of *ne* and *laizhe* is that they both select aspect features [+SMLT, -GEN]. This selection is different from that of *S-le*, to be elaborated below.

#### 4.1.2 *S-le* and its compatible aspect markers

In contrast to the other two SFAPs, *S-le* is compatible with various clause-internal viewpoint aspect markers, including the simultaneous aspect markers *-zhe* and *zai*, the perfective *-le*, the experiential *-guo*, and the inchoative *-qi* (Chao 1968: 798), as shown in (58a), (58b), (58c), and (58d), respectively.

- (58) a. 阿傑 已經 在 跳著 舞 了。  
*Ajie yijing zai tiao-zhe wu le.*  
 Ajie already SMLT dance-SMLT dance SFAP  
 ‘Ajie has already been dancing.’

- b. 阿傑 買了 車 了.  
*Ajie mai-le che le.*  
 Ajie buy-PRF car SFAP  
 ‘Ajie has bought a car.’
- c. 阿傑 買過 車 了.  
*Ajie mai-guo che le.*  
 Ajie buy-exp car SFAP  
 ‘Ajie bought a car.’
- d. 看 吶, 阿傑 跳起 舞 了.  
*Kan na, Ajie tiao-qi wu le.*  
 Look INT Ajie dance-INCH dance SFAP  
 ‘Look! Ajie has started to dance.’

Thus, unlike *laizhe* and *ne*, *S-le* does not require or reject any specific viewpoint aspect marker in the predicate. *S-le* is also different from other SFAPs in another way: it denotes [change of state] (Li and Thompson 1981: 244). Because of this [change of state], there is a presupposition contrast between the sentence with *S-le* and those without *S-le*. (59a) does not presuppose that I did not believe in religion before, whereas (59b) does. The same contrast is seen in (60), where the RT is *nashi* ‘then’: (60a) does not presuppose that I did not believe in religion before then, whereas (60b) does.

- (59) a. 我 信 教.  
*Wo xin jiao.*  
 I believe religion  
 ‘I believe religion.’
- b. 我 信 教 了.  
*Wo xin jiao le.*  
 I believe religion SFAP  
 ‘I believe religion, a new state.’
- (60) a. 我 那時 信 教.  
*Wo nashi xin jiao.*  
 I then believe religion  
 ‘I believed religion at that time.’
- b. 我 那時 信 教 了.  
*Wo nashi xin jiao le.*  
 I then believe religion SFAP  
 ‘I believed religion at that time, a new state.’

*Ne* and *laizhe* do not encode [change of state], and thus there is no such presupposition contrast between their absence and presence in a sentence.

Because of this [change of state], *S-le* is incompatible with any predicate that does not encode a change of state, e.g. a generic eventuality, as shown in (61) (also Li and Thompson 1981: 291–292). It thus selects [-GEN], like *laizhe* and *ne*.

- (61) 西瓜            比    橘子    大 (\*了).  
*Xigua            bi    juzi    da (\*le).*  
 watermelon than orange big SFAP  
 ‘A watermelon is bigger than an orange.’

Moreover, *S-le* has also been claimed to express a [currently relevant state] (Li and Thompson 1981: 238). Zhu (1982: 209) uses the meaning contrast between (62a) and (62b) to show this alleged meaning of *S-le*. (62a) has no *S-le* and it is vague about whether I still live here. (62b), however, has *S-le*, and it means that the state of my living here is still true now. However, if we consider examples in which the RT is clearly not simultaneous with the UT, the alleged [currently relevant state] meaning is gone. In (62c), *yijing ba ge yue* ‘already eight months’ was true at the RT *nashi* ‘then’, but not the UT. In (62d), the temporal length *wu nian* ‘five years’ was also true at the RT *nashi*, but not necessarily true at the UT.

- (62) a. 我 在 這兒 住了 五 年.  
*Wo zai zher zhu-le wu nian.*  
 I at here live-PRF five year  
 ‘I {have lived/lived} here for five years.’
- b. 我 在 這兒 住了 五 年 了.  
*Wo zai zher zhu-le wu nian le.*  
 I at here live-PRF five year SFAP  
 ‘I have lived here for five years.’ (Zhu 1982: 209)
- c. 那時 我 正 懷著 老 二, 已經 八 個  
*Nashi wo zheng huai-zhe lao-er, yijing ba ge*  
 then I SMLT pregnant-SMLT second.child already eight CL  
 月 了.  
*yue le.*  
 month SFAP  
 ‘At that time, I was pregnant with the second child, and the pregnancy was already eight months.’ (Li and Thompson 1981: 291)

- d. 那時 我 在 這兒 住了 五 年 了。  
*Nashi wo zai zher zhu-le wu nian le.*  
 then I at here live-PRF five year SFAP  
 'I had lived here for five years by that time.'

Theoretically, since the RT of *S-le* can be any time (see (4)), there cannot be any intrinsic [currently relevant state] meaning in *S-le*. All predicates are relevant to their RTs. If so, how is the contrast between (62a) and (62b) explained? My observation is that whenever *S-le* follows a quantified temporal expression, the adverb *yijing* 'already' may precede the temporal expression immediately, as seen in (62c). The adverb may also precede *wu nian* 'five years' in (62b) and (62d). Since Chinese adverbs always precede a predicate, I claim that in (62b-d), the temporal expression alone is the predicate, and the expression to the left of the optional *yijing* is the subject of the temporal predicate, and the subject denotes an eventuality. Thus (62b) has the constituency in (63) (cf. (ii) in Note 5).

- (63) [我 在 這兒 住了 ] [(已經) 五 年 ] 了。  
 [Wo zai zher zhu-le] [(yijing) wu nian] le.  
 I at here live-PRF already five year SFAP

The alleged [currently relevant state] of (62b) is an effect of the anchoring of *S-le*'s [change of state] semantics on the matrix predicate *wu nian* 'five years'. The RT is the UT in (62b) by default. The example means that five years is a new state now. In contrast, the temporal expression is buried as an adverbial (or secondary predicate) in (62a). The example simply makes the assertion about my living here for five years, without specifying that five years is a new state to the implicit RT. A new state-encoding expression is focused and thus seems to be more "relevant" to the RT than other parts of the sentence.

(64) shows that unlike *S-le*, *ne* and *laizhe* are not compatible with a quantified temporal predicate, which allows *yijing* to its immediate left.

- (64) \*我 在 這兒 住了 已經 五 年 {呢/來著}。  
 \*Wo zai zher zhu-le yijing wu nian {ne/laizhe}.  
 I at here live-PRF already five year SFAP/SFAP

Li and Thompson (1981: 244) also list many uses of *S-le*, but they do not present any clear criteria to distinguish them. There are many works on *S-le* (e.g. Soh 2009). It is beyond the scope of this paper to elaborate its semantics. I simply conclude that *S-le* denotes [change of state], and is compatible with a quantified temporal predicate, unlike *ne* and *laizhe*.

In this subsection, I have shown that all three SFAPs select [-GEN], *ne* and *laizhe* also select [+SMLT], and *S-le* denotes [change of state], but the other SFAPs do not. This selection property of a SFAP indicates that such a particle is structurally higher than a predicate.

SFAPs' possible selection on aspect features distinguishes them from other SFPs, which do not have aspect feature selection. For instance, the question marker *ma* is compatible with both a generic aspect in (65a) and a non-generic aspect in (65b).

- (65) a. 西瓜            比    橘子    大    嗎?  
*Xigua            bi    juzi    da    ma?*  
 watermelon than orange big Q  
 'Is a watermelon bigger than an orange?'  
 b. 你    在    找    人    嗎?  
*Ni    zai    zhao    ren    ma?*  
 you SMLT search person Q  
 'Are you looking for someone?'

We will discuss the syntactic position of SFAPs with respect to the clausal expression to their left and a possible non-SFAP SFP to their right in the next sub-section.

## 4.2 The complementizer status of SFAPs

SFAPs are functional, rather lexical, elements. In this section, I argue that they are low complementizers, i.e. they are not clause-internal functional elements (auxiliaries) (4.2.1), they are higher than subjects (4.2.2), and they are lower than other SFPs (4.2.3).

### 4.2.1 Differences of SFAPs from auxiliaries

There are differences between SFPs, including SFAPs, and auxiliaries. First, auxiliaries in the language, e.g. *you* 'have' and *shi* 'be', as well as verbs, may be preceded by a negation word immediately, as shown in (66a) and (66b), but a SFAP and a may not, as shown in (66c). The same is true of a SFP, as shown in (66d).

- (66) a. 阿傑 不 是 在 生氣。  
*Ajie bu shi zai shenqi.*  
 Ajie not be SMLT angry  
 ‘Ajie is not angry.’
- b. 阿傑 沒 有 看 書。  
*Ajie mei you kan shu.*  
 Ajie not read book  
 ‘Ajie did not read a book.’
- c. \*阿傑 看 書 {不/沒} 呢。  
 \**Ajie kan shu {bu/mei} ne.*  
 Ajie read book not/not SFAP
- d. \*阿傑 看 書 {不/沒} 嗎?  
 \**Ajie kan shu {bu/mei} ma.*  
 Ajie read book not/not SFP

Second, auxiliaries, like verbs, may have the so-called A-not-A form in a polar question, i.e. a reduplicated form with a negation morpheme between the reduplicant and the base, such as *shi-bu-shi* ‘be-not-be’ in (67a) and *you-mei-you* ‘have-not-have’ in (67b). However, as seen in (67c), a SFAP may not have an A-not-A form. The same is true of a SFP, as shown in (67d).

- (67) a. 阿傑 是不是 在 生氣?  
*Ajie shi-bu-shi zai shenqi?*  
 Ajie be-not-be SMLT angry  
 ‘Is Ajie angry.’
- b. 阿傑 有 沒 有 看 書?  
*Ajie you-mei-you kan shu?*  
 Ajie have-not-have read book  
 ‘Did Ajie read the book?’
- c. \*阿傑 看 書 呢 沒 呢?  
 \**Ajie kan shu ne-mei-ne?*  
 Ajie read book SFAP-not-SFAP
- d. \*阿傑 看 書 媽 沒 嗎?  
 \**Ajie kan shu ma-mei-ma?*  
 Ajie read book SFP-not-SFP

In Lee (1986: 152), SFPs are claimed to be functional elements in the COMP domain, which are higher than the position of an auxiliary in a clause. The

similarities between SFAPs and other SFPs in (66) and (67) indicate that SFAPs are also C elements, which are higher than an auxiliary in a clause. In addition to the above contrasts between a SFAP and an auxiliary, a SFAP may occur with an auxiliary in the same sentence, indicating that they are in different syntactic positions.

- (68) a. 阿傑 是不是 看 書 呢?  
*Ajie shi-bu-shi kan shu ne?*  
 Ajie be-not-be read book SFAP  
 ‘Is Ajie reading a book?’
- b. 阿傑 是不是 看 書 來著?  
*Ajie shi-bu-shi kan shu laizhe?*  
 Ajie be-not-be read book SFAP  
 ‘Was Ajie reading a book?’
- c. 阿傑 是不是 看 書 了?  
*Ajie shi-bu-shi kan shu le?*  
 Ajie be-not-be read book SFAP  
 ‘Did Ajie read a book?’

In contrast, no two SFAPs may occur in the same clause (Paul 2015: 260), as shown in (69). Their mutual exclusive relation suggests that they compete for the same syntactic position.

- (69) a. \*阿傑 看 書 來著 呢.  
 \**Ajie kan shu laizhe ne.*  
 Ajie read book SFAP SFAP
- b. \*阿傑 看 書 呢 來著.  
 \**Ajie kan shu ne laizhe.*  
 Ajie read book SFAP SFAP

In this subsection, I have supported the assumption that SFAPs are complementizers (the head of a CP, e.g. Paul 2015; Paul and Pan 2017: Sec. 4), showing that it is possible for an auxiliary, but not an SFAP, to be preceded by a negation word immediately and have an A-not-A form. An auxiliary may occur with an SFAP, indicating that they have different syntactic positions, and the fact that no two SFAPs may co-occur in the same clause shows that the three SFAPs has the same syntactic position.

## 4.2.2 The high position of SFAPs compared to subjects

As expected from its complementizer status, a SFAP scopes over the subject of the associated clause. This can be seen in the following fact. In Chinese, in addition to a question reading, a WH-word may have an indefinite reading under certain conditions (Lee 1986: 154), including in the scope of *S-le* (Li 1992). In (70a), *shenme* ‘what’ may not be interpreted as ‘something’, but in (70b), in the presence of *S-le*, it does have such a reading.

- (70) a. \*他 看到 甚麼.  
       \**Ta kandao shenme.*  
       he see what  
       Intended: ‘He saw something.’
- b. 他 看到 (了) 甚麼 了.  
       *Ta kandao(-le) shenme le.*  
       he see-PRF what SFAP  
       ‘He saw something.’  
       (Li 1992: 133)

Similarly, the wh-expression *shenme-ren* ‘what-person’ may have an indefinite reading, in the presence of a SFAP. In (71a), *shenme ren* may not be interpreted as ‘someone’, but in (71b), in the presence of *S-le*, it may. I have observed that *ne* and *laizhe* also license indefinite readings of WH-words, including WH-subjects, as seen in (72).

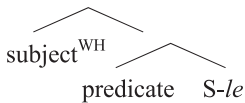
- (71) a. \*甚麼人 拿 錯 東西.  
       \**Shenme-ren na cuo dongxi.*  
       what-man take wrong thing  
       Intended: ‘Someone has taken the wrong thing.’
- b. 甚麼人 拿 錯 東西 了.  
       *Shenme-ren na cuo dongxi le.*  
       what-man take wrong thing SFAP  
       ‘Someone has taken the wrong thing.’  
       (adapted from Li 1992: 137)



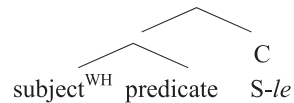
- (72) a. 甚麼人 說話 {了/呢/來著}。  
*Shenme-ren shuo hua {le/ne/laizhe}.*  
 what-person say speech SFAP/SFAP/SFAP  
 ‘Someone {has spoken/is speaking/spoke}.’
- b. 甚麼人 笑我 {了/呢/來著}。  
*Shenme-ren xiao wo {le/ne/laizhe}.*  
 what-person laugh I SFAP/SFAP/SFAP  
 ‘Someone {has laughed/is laughing/laughed} at me.’

However, based on two arguments, Erlewine (2017) proposes a low-scope analysis of *S-le*, claiming that *S-le* “occupies a clause-medial position, taking scope over internal arguments but not over the subject” (Erlewine 2017: 3.2.4). As illustrated in (73a), in the low-scope analysis, *S-le* is claimed to be too low to c-command the subject. Erlewine claims that although *S-le* is able to license an indefinite reading of a WH-object, as in (70b) above, it is not able to license such a reading of a WH-subject, not considering examples such as (71b) and (72). In contrast, in the complementizer analysis adopted in this paper, as illustrated in (73b), *S-le* does c-command a subject, and thus license the indefinite reading of a WH subject.

(73) a. The low-scope analysis of SFAP



b. The C analysis of SFAP



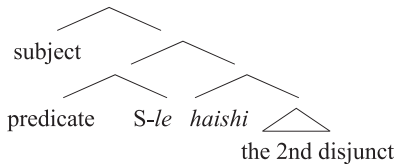
The low-scope analysis takes (74b) as its evidence. In this example, *shei* ‘who’ is in the subject position, occurring with a SFAP. However, I add (74a) to show that even when *shei* is in the object position, it does not have an indefinite reading in the presence a SFAP (although it may have such a reading in other contexts). The lexical contrast between the two WH-words, *shei* and *shenme-ren*, does not affect the general function of SFAPs. Obviously, Li’s (71b) and our (72) above are counterexamples to the low-scope analysis of *S-le*.

- (74) a. \*他 看到 誰 {了/呢/來著}。  
 \**Ta kandao shei {le/ne/laizhe}.*  
 he see who SFAP/SFAP/SFAP  
 Intended: ‘he saw someone.’

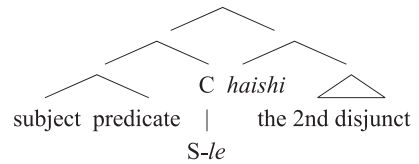
- b. \*谁 說 話 {了/呢/來著}.  
 \*Shei shuo hua {le/ne/laizhe}.  
 who say speech SFAP/SFAP/SFAP  
 Intended: ‘Someone {has spoken/is speaking/spoke}.’ (Erlewine 2017: (29b))

Erlewine’s second argument for the low-scope analysis of *S-le* is that in a *haishi* ‘or’ disjunctive construction, if the first disjunct ends with *S-le*, this *S-le* does not scope over the subject to its left, as illustrated in (75a). In contrast, the complementizer analysis adopted in this paper predicts that (75b) is possible, where *S-le* does c-command the subject to its left.

(75) a. The low-scope analysis of SFAP



b. The C analysis of SFAP



The low scope analysis claims that if the disjunction in (76a) must exclude the subject, then, in the first disjunct, *S-le* seems to scope over the predicate only, excluding the subject. The ungrammaticality of (76b) (Erlewine 2017: (35)) is used to support the analysis, assuming that the first disjunct may not have the subject *ni* ‘you’. However, (76b) is slightly marginal because it violates the parallelism requirement of coordination: the first disjunct has an overt subject but the second one does not (Zhang 2010: Ch. 7). (76c) may have a similar syntactic structure as (76b), but it is fine. Importantly, in (76c), the subject *ni* must be included in the first disjunct, in order to contrast with the subject of the second disjunct. Moreover, in (76d), the presence of the agent-oriented adverb *zixide* ‘carefully’ in the first disjunct indicates that the agent subject must also be present in the disjunct. (76a) and (76d) should have a similar structure. Such examples do not show that *S-le* is not able to scope over a subject.

- (76) a. 你 (是) 想 家 了 還 是 跟 男 朋 友 分 手 了 ？  
 Ni (shi) xiang jia le haishi gen nanpengyou fenshou-le?  
 you be miss home SFAP or with boyfriend break.up-PRF  
 ‘Did you start to miss home or break up with your boyfriend?’

- b. \*是 你 想 家 了 還 是 跟 男 朋 友  
 \**Shi ni xiang jia le haishi pro<sub>i</sub> gen nanpengyou*  
 be you miss home SFAP or with boyfriend  
 分手了?  
*fenshou-le?*  
 break.up-PRF
- c. 是 你 想 家 了 還 是 別 人 欺 負 你 了?  
*Shi ni xiang jia le haishi bieren qifu ni le?*  
 be you miss home SFAP or other bully you SFAP  
 ‘Did you start to miss home or others have bullied you?’
- d. 你 (是) 仔 細 地 讀 了 那 本 書 了  
*Ni (shi) zixide du-le na ben shu le*  
 you be carefully read-PRF that CL book SFAP  
 還 是 聽 別 人 談 過 那 本 書?  
*haishi ting bieren tando-guo na ben shu?*  
 or hear other talk-EXP that CL book  
 ‘Did you read that book carefully or hear others talking about it?’

Therefore, neither the WH-word nor the *haishi* disjunction consideration challenges the complementizer status of SFAPs.

The fact that the SFAP *ne* licenses indefinite readings of WH-subjects, as seen in (72), casts a doubt on a non-complementizer analysis of SFPs, the secondary predicate analysis (Tang 2015). Tang claims that a clause and its SFP are hosted by the Spec and complement of a functional head (F in (77)), respectively. For instance, in *Xia yu le* ‘It has rained’, the clause *xia yu* is YP and the *S-le* is in XP in (77). Obviously, this analysis is unable to capture the fact that *S-le* c-commands the subject and object of the clause. Nor does the analysis capture the fact that *S-le* occurs in finite clauses only.

- (77) [<sub>FP</sub> [<sub>YP</sub> *xia yu* ] [<sub>F'</sub> F [<sub>XP</sub> *le* ] ]  
 fall rain SFAP  
 (Tang 2015: 10)

Another non-complementizer analysis of SFAPs is Simpson and Wu (2002: 297). Recall that *ne* selects [+SMLT] (4.1.1). In order to capture the dependency between the preverbal SMLT marker *zai* and *ne*, they assume that *ne* is below *zai*, and the VP moves to the Spec of the projection headed by *ne* (FocP). For instance, *Ta zai kan-shu ne* ‘He is reading’ has the structure in (78). If we understand the VP here as vP, which hosts the subject as well as the object (Simpson and Wu 2002: 307), *ne* does c-command the arguments in their base-

positions. However, one problem of this analysis is that it does not capture the fact that the SFAP *ne* occurs in finite clauses only, a restriction shared with *S-le*. Unlike *ne* and *laizhe*, *S-le* does not have a dependency on *zai* (4.1.2). Thus, the non-complementizer analysis is inadequate.

- (78) [<sub>AspP</sub> *zai* [<sub>FocP</sub> [<sub>VP</sub> *kan-shu*]<sub>i</sub> [<sub>Foc'</sub> *ne* t<sub>i</sub>]]] (Simpson and Wu 2002: 297)  
           SMLT                   read                   SFAP

In this section, I have argued that a SFAP heads a finite CP. Such as CP is FinP with [+fin] (Rizzi 1997). Our tree in (54)/(8) is now specified as (79):

- (79)
- 
- ```

graph TD
  FinP["FinP [+finite]"] --- CX["Clausal XP"]
  FinP --- Fin["Fin [+finite]"]
  Fin --- SFAP["SFAP"]
  style CX stroke-width:0px
  
```

### 4.2.3 The low position of SFAPs compared to other SFPs

SFAPs are different from other SFPs in their positions in the C-domain. As pointed out by Zhu (1982), when a SFAP occurs with a SFP of another type, its position is consistently lower than the latter. The examples in (80) illustrate this (also see (2); cf. Hu (1981: 348). This is expected from the low position of FinP in the C-domain. The hierarchy of (80a) is shown in (81).

- (80) a. 他 那時 寫著 作業 來著 嗎?  
       *Ta nashi xie-zhe zuoye laizhe ma?*  
       he then write-SMLT homework SFAP Q  
       ‘Was he writing the homework at that time?’  
       b. \*他 那時 寫著 作業 嗎 來著?  
       \**Ta nashi xie-zhe zuoye ma laizhe?*  
       he then write-SMLT homework Q SFAP

- (81)
- 
- ```

graph TD
  CP_SpeechAct["CP^Speech-Act"] --- CP_SpeechAct2["CP^Speech-Act"]
  CP_SpeechAct --- C_SpeechAct["C^Speech-Act"]
  C_SpeechAct --- ma["ma"]
  CP_SpeechAct --- CP_Fin["CP^Fin"]
  CP_Fin --- C_Fin["C^Fin"]
  C_Fin --- laizhe["laizhe"]
  CP_Fin --- Triangle["△"]
  Triangle --- Ta_nashi_xie_zhe_zuoye["Ta nashi xie-zhe zuoye"]
  
```

Moreover, Li (1992: 137) notes that if a WH-word is in “an external subject position”, such as *shenme-ren* in (82a), its intended indefinite reading cannot be licensed by *S-le*.

- (82) a. \*甚麼人, 小孩 拿 錯 東西 了。  
 \**Shenme-ren, xiaohai na cuo dongxi le.*  
 what-man child take wrong thing SFAP  
 Intended: ‘Someone, (his) child has taken the wrong thing.’  
 (Li 1992: 137)
- b. [<sub>TopicP</sub> *shenme-ren* [<sub>FinP</sub> [*xiaohai na cuo dongxi*] *le*]]

The position of *shenme-ren* ‘what-man’ in (82a) is a topic position. The restriction might show that a SFAP does not c-command a topic, which is hosted by TopicP, as shown in (82b). TopP is higher than FinP (Rizzi 1997). Thus, the position of an SFAP is lower than Top. However, an alternative account for (82a) can be that an intended indefinite nominal may not be a topic. Thus, such an example needs to be studied with care.

### 4.3 Complementizers in finite and nonfinite clauses

If SFAPs are complementizers and their occurrence signals the finite status of the clause, the finiteness distinction is seen at the clausal, rather than verbal, level in the language. It has been recognized that it is the whole clause (Givón 1990: 853) that is responsible for the finiteness distinction, although the distinction may be marked on verb morphology in some languages (Bisang 2001; Klein 2006, 2009; Sells 2007; Ritter and Wiltschko 2014). What I have shown in this paper is that although Chinese has no finite marker on a verb, it has complementizers that occur in finite clauses only. SFAPs are similar to the finite complementizer *that* in English, although the former may occur in either matrix or embedded clauses, whereas the latter occurs in embedded clauses only.

According to Rizzi (1997: 327, fn. 4), the head of FinP in the C-domain can be either [+fin] or [-fin]. In (79), a SFAP heads a [+fin] FinP. As for FinP with [-fin], it can be realized by *for* in English, the nonfinite prepositional complementizer *di* in Italian (Rizzi 1997: 304), and the nonfinite prepositional complementizer *dui* ‘to’ in Chinese.

Thus, in Chinese, SFAPs are complementizers for finite clauses, and *dui* is a complementizer for nonfinite clauses. Two more issues are left for further research. One is why SFAPs, as well as other SFPs, are clause-final, but *dui*, as

well as some complementizers such as *yinwei* ‘because’, is clause-initial. Another is whether Chinese has IP, which is also a locus of finiteness (cf. Ernst 1994).

In Rizzi (1997), FinP is higher than other clausal internal functional projections, and Fin may interact with feature of a lower projection, such as IP. Rizzi (1997: 284) mentions that languages can vary in the extent to which IP information is replicated in complementizers, e.g. some languages replicate mood distinctions (e.g. special subjunctive complementizers in Polish), some replicate subject agreement (e.g. in different Germanic varieties), and some replicate tense distinctions (e.g. in Irish). I have shown in 4.1 that a SFAP, which heads FinP, selects certain aspect features of the predicate. This kind of dependency between FinP and a lower functional element is not surprising.

In this section, I have argued that SFAPs select aspect features of the associated clause, and that they are complementizers that head a finite FinP.

## 5 Finiteness as a language universal not seen in other cognitive systems

If the finiteness distinction is identified in Chinese, as well as in many other languages, it is plausible to assume that the distinction is universal, unless there is evidence to show otherwise. If so, we need to probe the question why the finiteness distinction is universal. It has been generally assumed that a finite marker for a finite clause is obligatory (e.g. Bisang 2001, Bisang 2007; Ritter and Wiltschko 2014). For instance, the deictic forms of finite makers explored by Ritter and Wiltschko (2014) are obligatory. Although SFAPs in Chinese occur in finite clauses only, they are not obligatory, and may not occur in sentences that express generic eventualities, because of their aspectual feature selection (4.1). Since languages like Chinese do not have obligatory finite markers, but the finiteness distinction is still attestable, a precise theory about the finiteness distinction is called for.

### 5.1 Speaker-oriented properties and higher-clause-oriented properties

Nonfinite clauses are intrinsically subordinate or satellite clauses. They have their restrictions or limitations in syntax and semantics that are not found in finite clauses. The finiteness distinction should be identified with respect to syntactic and semantic capacity of a clause, and the capacity can be attested, but it does not have to be marked overtly, or marked on a verbal element.

A finite clause can be viewed as a speaker-oriented clause. It exhibits a speaker-oriented property (SOP) like the following:

SOP1: A SpOA may occur, which encodes the speaker's evaluation of the eventuality expressed by the clause (3.4) (see Beyssade and Marandin 2006: 57).

SOP2: An epistemic modal may occur, which expresses the attitude of the speaker with respect to the truth-value of the proposition expressed (3.5).

SOP3: It allows the speaker to implement a speech act directly (e.g. using an exclamative to express the speaker's attitude and using an imperative to give an order of the speaker). "Finiteness is connected to the 'illocutionary status' of the sentence." (Klein 2009: 338) (see Beyssade and Marandin 2006 for the speaker's commitment in various speech acts).

SOP4: It gives the speaker the freedom to decide the interpretation of a null subject, and thus allow a null subject (*pro*) in *pro*-drop languages to refer to an individual in the discourse context (3.2).

In contrast, a nonfinite clause is an anti-speaker-oriented clause. It exhibits none of the SOPs mentioned above. For instance, no silent subject may have an independent interpretation in a nonfinite clause, even in *pro*-drop languages (cf. SOP4). A nonfinite clause instead presupposes the occurrence of a higher clause and thus is intrinsically dependent (3.1). Accordingly, it exhibits an anaphoric (Bianchi 2003) or higher-clause-oriented property (HOP) like the following, which is not found in a finite clause:

HOP1: The interpretation of a pronominal subject depends on an argument of the higher clause. For example, the interpretation of a PRO subject of the clause under a control verb must be the same as that of an argument of the control verb (see (33) and Zhang (2016) for Chinese). PRO can be taken to be a kind of anaphor (Borer 1989).

HOP2: The temporal readings may be restricted by the higher clause. For instance, Todorović and Wurmbrand (in prep. Sec. 3) report that in English, embedded finite complement clause can typically occur with any temporal orientation, as in (83a). Infinitives, on the other hand, show temporal restrictions imposed by the matrix verb. In (83b,c), under the same propositional verb *believe* or *claim* as in (83a), the nonfinite clause may not have a future reading, in construal with *tomorrow*. The nonfinite complement of a verb such as *try*, *begin*, and *seem* also rejects a temporal modifier that refers to a time different from the matrix event time, and can receive only a simultaneous interpretation, as in (83d) and (83e) (Wurmbrand 2014a: 436; see Sundaresan 2014: 68 for examples of other languages).

- (83) a. *John {believes/claims} that Mary {slept well/will sleep well/is sleeping right now}.*  
 b. *\*John believes Mary to sleep well tomorrow.* \*Future  
 c. *\*Leo claims to sleep/be sleeping in the garage tomorrow.* \*Future  
 d. *Yesterday, John tried to sleep (\*tomorrow).*  
 e. *The bridge {began/seemed} to tremble (\*tomorrow).*

HOP3: It is possible that the clause boundaries are not as visible as those of a finite clause in some syntactic or semantic dependencies. For instance, a nonfinite clause can be grouped with the higher clause (i.e. the effects of various types of restructuring; see Wurmbrand 2014b). Also, the clause boundaries of a nonfinite clause can be invisible for the effect of Condition B, and therefore, a non-reflexive pronoun subject may not be co-referential with the subject of the immediate higher clause (3.3).

HOP4: Patterns of embeddedness are observed (Lehmann 1988), e.g. nominalization, including absolute adverbials (e.g. *John was deeply tanned, just having returned from a vacation*). Also, *Having long arms, John can touch the ceiling*; cited from Ramchand and Svenonius 2014: 155), the subject being case-marked by the higher clause (ECM), and the whole clause being Case-marked, like a nominal (see 2.2.8 and Note 8).

In addition to the typical SOPs and HOPs above, tense, as an instance of deictic anchoring (e.g. Bianchi 2003; Giorgi 2010), is typically found in finite clauses. However, according to Todorović and Wurmbrand (in prep. Sec. 1), “neither a [+FINITE] ≈ [+TENSE], nor a [-FINITE] ≈ [-TENSE] correlation can be maintained since finite clauses can be tenseless (as in sequence of tense contexts), and nonfinite clauses can be tensed.” They cite the studies of Stowell (1982), Pesetsky (1992), Bošković (1997), Wurmbrand (2001, 2014a), among others, to support the claim. Examples in which nonfinite verbs are tense-marked can be found in Tamil (McFadden and Sundaresan 2014: 9) and Bosnian/Croatian/Serbian (Todorović and Wurmbrand in prep.), among other languages.

## 5.2 Finiteness vs. rootness

HOPs, by definition, are exhibited in dependent clauses exclusively, but SOPs are not specific about where the properties may occur. All SOPs listed in 5.1 can be seen in either matrix or embedded finite clauses. For instance, regarding SOP3, in addition to embedded declaratives and interrogatives, embedded imperatives are seen in Korean, Japanese, Old Scandinavian, Colloquial German, Slovenian,



Ancient Greek, Mbyá, and even English (see Stegovec and Kaufmann 2015 for examples and references). On the other hand, question particles in Chinese may not occur in embedded clauses (Hashimoto-Yue 1971: 24), being root markers. The finiteness distinction is thus different from rootness distinction. Nevertheless, if an element occurs in root clauses only, it is not related to any HOP, and thus it plays the role of a finite marker. Chinese has several root-clause SFPs that are speaker-oriented. Wiltschko (2017) correctly claims that such SFPs are finite markers (e.g. the new information SFP *a*). But if we restrict our research to such SFPs, we might conclude that Chinese has no finite embedded clause, contrary to the fact (Wiltschko 2017: 103 leaves this as a further question). In contrast, the distributions of SFAPs show that Chinese does have finite embedded clauses.

### 5.3 The universality of the finiteness distinction

While many works (e.g. Rizzi 1997; Cinque 1999; Ramchand and Svenonius 2014: 164; Ritter and Wiltschko 2014; Wiltschko 2014) locate the possible syntactic positions of IP and FinP as the locus of the finiteness distinction, they do not discuss how to distinguish finite from nonfinite clauses in languages without obligatory finite markers. Our SOP-HOP contrasts give an explicit guide to make the distinction.

Our understanding of the finiteness distinction is close to Bianchi (2003). Based on PRO (an example of HOP1) and tense in tense languages, Bianchi proposes a logophoric analysis of the finiteness distinction. She claims that a finite clause is anchored directly to the Speech event, which constitutes the external “centre of deixis”. Our identification of finite clause as a clause with SOPs is compatible with and is more comprehensive than her analysis.

Our understanding that finite clauses are speaker-oriented recognizes the impact of the speaker in the syntax and semantics of such clauses. Since speaker is the executor of language, the recognition is compatible with Klein’s (2009: 335, 341) following claim that finiteness is specific to linguistic system, in contrast to other manifestations of the human mind:

It is not trivial how finiteness could be related to other ‘parts of our mind.’ All known languages can express temporal and spatial relations, and all known languages have devices to relate the meaning of many expressions to the here-and-now of the speech situation. But temporality, spatiality, or deictic anchoring are also found in other domains of our cognition. It is also clear that compound linguistic expressions exhibit a ‘hierarchical’ structure, as described in terms of parts of speech, constituent structure, etc.; but other areas of human cognition and action exhibit hierarchical structures as well, for example, composing a string trio or preparing a seven-course dinner. This is not true for finiteness, and therefore it might indeed be a purely linguistic universal. (Klein 2009: 335–336)

Klein's statement leads us to an answer to the question asked at the beginning of this section: why the finiteness distinction is universal. A plausible answer is that the role of speaker in language is universal, SOPs are universal, and thus the finiteness distinction is universal.

## 5.4 The speaker-oriented domain

How is the presence of a SOP represented in syntax? Or, how is the capacity of a finite clause encoded in syntax? Complementizers that introduce finite clauses exclusively, e.g. *that* in English and SFAPs in Chinese, do not have SOPs. If a finite clause is identified by SOPs in all languages, we need to consider functional categories that license SOPs. Although both finite and nonfinite clauses can be represented by FinP in the C-domain, nonfinite ones never have the highest group of functional projections in the C-domain, which includes the following (Cinque 1999: 130):

(84) Speech Act » Evaluative » Evidential » Epistemic

SOPs are associated with the projections in (84). For instance, Speech Act Projection has been discussed by many (e.g. Speas and Tenny 2003; Speas 2004; Hill 2007; Haegeman 2014). In Ritter and Wiltschko (2014), the finiteness of imperatives is licensed by a functional head in the C-domain. Also, a SpOA is licensed by the Evaluative projection in (84), but a subject-oriented adverb is licensed by the projection that hosts the subject. The latter projection is below the C-domain, and thus if a SpOA occurs with a subject-oriented adverb, its syntactic position is higher than the latter (Ernst 2014: 110). Also, the occurrence of an epistemic modal is licensed by the Epistemic projection (cf. in Hacquard 2006, an epistemic modal is bound by the higher speech event). It is plausible to assume that the structure of a finite clause has the group of projections in (84), whereas that of a nonfinite clause does not, although it may have IP, FinP, and even FocusP and TopP. A nonfinite clause may contain a focus in Hungarian (Szabolcsi 2009) and Chinese (e.g. it is marked by *ye* 'even' in V-even-not-V construction; see 2.2.5), a topic in Italian (Rizzi 1997: 309) and Chinese (Zhang 2016; Li 2017), and an operator that has undergone A-bar movement, as in examples such as *The table on which to put your coat is in the next room* (Stowell 1982: 562) and *I decided who to invite* (Adger 2007: 31). The group of projections in (84) provides a speaker dimension to the syntax-semantics of a sentence, beyond the dimension of the eventuality participants (i.e. vP or called theta-domain) and the dimension that covers the lower projections of the C-domain and other functional projections. Accordingly, the generalization that finite clauses

have richer structures than nonfinite ones (e.g. Xue and McFetridge 1998; Wurmbrand 2001; Ramchand and Svenonius 2014: 162; McFadden and Sundaresan 2014; Grano 2015; Huang 2017) is derived. As expected, a SFAP is licensed only by a richer structure that has the projections in (84).

If the group of functional projections in (84) is crucial for a finite clause, while some other projections in the C-domain are not, and if the finiteness distinction is a language universal not seen in other cognitive systems, the boundary between the so-called C-domain and a lower domain should not be more important than the boundary between the group in (84) and other functional projections. In other words, we need to identify the group in (84) as a speaker-oriented domain, a domain available for finite clauses only.

The separation of the group in (84) from other functional projections is independently attested in sign languages (Bross and Hole 2017). In German Sign Language, it has been found that “high operators, such as speech-act marking, evaluation, or epistemic modality, are expressed using non-manual markers of the upper face and are signed simultaneously with other signs (‘layering’),” in contrast to both middle-level operators, which are expressed through layering with the mouth and often with the shoulders, and low-level operators, which are realized manually and make use of certain concatenation strategy, instead of layering. Thus, a speaker-oriented domain has its clear range of non-manual markers.

## 6 Conclusions

Although Chinese has no tense or case system, it still has the finiteness distinction. I have shown that the distinction is seen in the restrictions on the distribution of SFAPs. SFAPs may not occur in eight types of embedded clauses: the complement of a control verb, the complement of a raising verb, the complement *lai* ‘come’ and *qu* ‘go’, the complement of a non-epistemic modal, the V-even-not-V adverbial, Small Clauses, gapless relative clauses, and the complement of the prepositional complementizer *dui* ‘to’. These clauses show properties of nonfinite clauses in other languages. They are intrinsically embedded, ban *pro*-drop, their clause boundaries may be invisible for binding, and they disallow a SpOA and an epistemic modal. The study has concluded that SFAPs are complementizers introducing finite clauses only. It has also argued that finite clauses show speaker-oriented properties whereas nonfinite ones do not; instead, nonfinite clauses exhibit higher-clause-oriented properties. It has clarified that it is the syntax-semantics capacity that defines the finite status of a

clause, whether or not the capacity has a morphological marker. The identification of the role of speaker in the finiteness distinction leads us to understand why the finiteness distinction is universal (Rizzi 1997: 284; Klein 2006, 2009; Ritter and Wiltschko 2014; Wiltschko 2014) and why “finiteness is specific to linguistic systems” (Klein 2009: 242).

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