All structures great and small: on copular sentences with shì in Mandarin

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CHAPTER 4

The position of *shì* in the structure

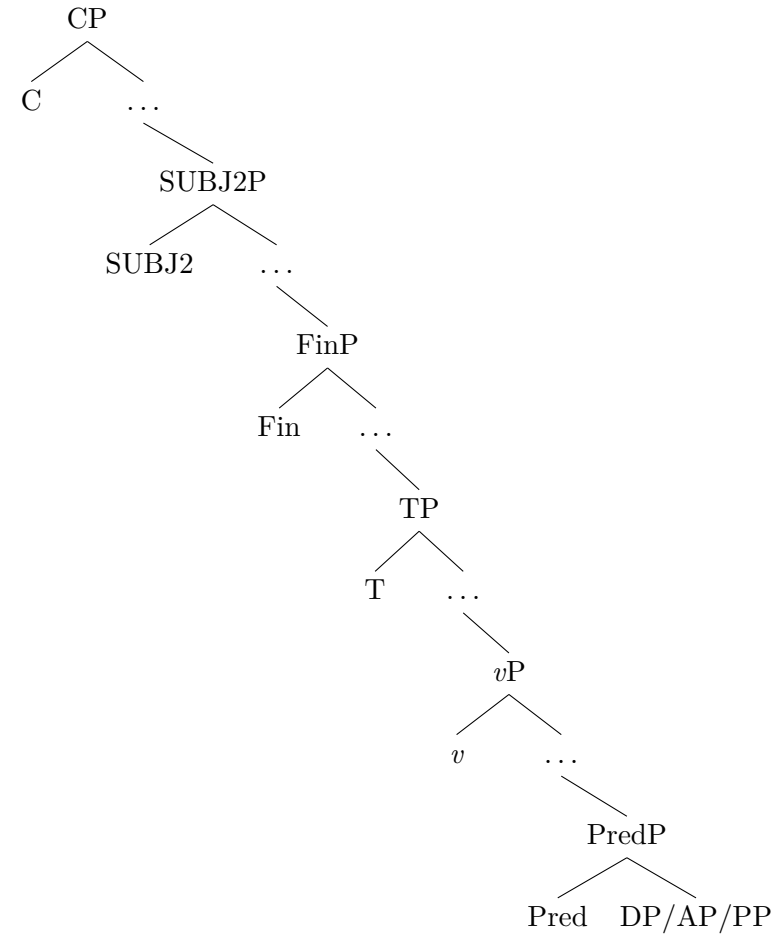
This chapter discusses the position of *shì* in the structure. It is proposed that *shì* is situated high in the structure and that it heads a functional projection comparable to SUBJ proposed in Cardinaletti (2004), Rizzi (2015b), and Shlonsky and Rizzi (2018). The distribution of copular elements presents great cross-linguistic diversity. With a review of proposals for the position of copulas in different languages (namely, Pred, *v*, T, Fin, or SUBJ), I will first argue that the Mandarin copula *shì* is not the spell-out of Pred or T. Evidence from compatibility with modality and aspectual markers, especially the experiential marker *guo*, indicates that *shì* is situated high in the structure and that copular structures do not contain a VP. The last section shows that the current analysis of *shì* is consistent with analyses for other pronominal copulas in languages such as Hebrew and Polish.

4.1 Positions for copulas across languages

The nature of copulas and the position of copular elements in the syntactic structure may vary drastically in different languages. Copulas across languages have been proposed to occupy various functional heads,

including Pred, *v*, T, or even higher ones like Fin or SUBJ. The positions proposed for copulas in the literature can be summarised in a schema like that in (1) (cf. Arche et al. 2019). As the structural analysis in regard to the position of copulas also reflects our understanding of copulas across languages, Section 4.1.1 will first present some definitions of copulas and discussions of their function. The remainder of this section will review analyses proposed for copulas across languages.

(1)



4.1.1 Definition and function of copulas

Although many languages have one or more elements viewed as a copula, defining the term *copula* is by no means an easy task. Some well-articulated definitions are essentially based on two core properties characterising *copulas* across the world's languages: a lack of semantic content and association with predication. For instance, below in (2) are two definitions in the literature. Though not uncontroversial, these definitions allow room for interpreting and exploring the observations that copulas do not constitute a distinct, cross-linguistically attested grammatical category and that the range of structures in which copulas can partake presents great cross-linguistic divergence.

(2) a. A copula is a linguistic element which co-occurs with certain lexemes in certain languages when they function as predicate nucleus. A copula does not add any semantic content to the predicate phrase it is contained in.

(Pustet 2003: 5)

b. A copula element is an element needed to define a predication structure.

(Arche et al. 2019: 6)

What role(s) do copulas play in terms of predication? Moro (1997, 2018) summarises three traditions for analysing copulas: (a) A copula serves as a support for inflectional features, especially tense. This tradition stems from Aristotle. A copula is not a predicate but a semantically empty element used in non-verbal environments. It functions as a sign or carrier of inflectional features, especially tense, that cannot be expressed via the non-verbal predicate. (b) A copula is a sign of affirmation. This tradition was first advanced by Abelard and further developed by the Port-Royal school in the 17th century. They accepted the previous claim that a copula is not a predicate, not even the predicate of *existence*, but took one step farther away from Aristotle by viewing the copula not only as a support for tense. Crucially, a copula also couples the subject with the predicate, resulting in a judgement. (c) A copula is also a sign of identity. This tradition starts from Frege and Russell. A copula has been considered to be ambiguous between being a sign of identity and of predication. The following sections will show how these views of the role(s) of copulas influence the structural analysis of copulas.

4.1.2 Copulas as T or lower heads

A wide range of studies analyse copulas as the spell-out of T/Infl (for instance, Baker 2003 for English *be*, cf. Becker 2004 for English *am/are/is* only; Doron 1983 for Hebrew *hu*; Citko 2008 for Polish *to*). This approach follows the Aristotelian tradition, taking copulas as support for inflectional features when the predicate is non-verbal. It explains why copulas are more frequently combined with non-verbal predicates cross-linguistically and why they tend not to make an interpretative contribution. In addition, in some copula-dropping languages, copular elements are only obligatory when the inflectional morpheme is overt. For instance, in Arabic, a copula does not occur in the affirmative present tense but must occur in a negative sentence or in the past tense.

However, not all languages display overt inflectional morphology for tense, aspect, agreement, and so forth. Mandarin is an example of such a language. Hence, there is no straightforward empirical evidence for the analysis that copulas in this type of language serve as support for inflectional features. In addition, observations that copulas in some languages can follow a root modal (see Picallo 1990, cited from Arche et al. 2019) and that some copulas are sensitive to the lexical properties of the predicates lead to analyses that copulas in some languages head a functional projection lower than TP. One approach views copulas as the realisation of v (or more specifically, v_{BE} as "a flavor of v" (Harley 1995) in some literature). Copulas are accordingly regarded as verbal supports (Hale & Keyser 1993; Harley 1995; Moro 1997; Mikkelsen 2005). Copulas are thus supposed to be essential for non-verbal predicates and to be associated with verbal inflections. Note that although some copulas can be combined with certain verbal affixes (e.g. *be–en* and *be–ing* in English), this approach does not take copulas to be full verbs but rather to be supporting elements, since in general copulas do not contribute lexical meaning.[1]

[1]It has been under debate whether or not copulas contain any lexical meaning. For instance, on the basis of the interpretative contrast between sentence pairs such as *Ben made Sarah polite* and *Ben made Sarah be polite* in English, Becker (2004) distinguishes the non-finite form *be* from the inflected *am/are/is*. The former has a particular contentful meaning: to act. Such an "active" or "eventive" reading is absent in the interpretation of the inflected forms of copula *be*. She further stipulates that *be* heads VP while *am/are/is* heads IP.

The other approach proposes an even lower position for copulas: Pred. Accordingly, copulas are regarded as the support element for establishing a predication relation between a subject and a non-verbal predicate. From the structural perspective, such an approach presupposes the view that a predicative relation is mediated by a functional head like Pred in the sense of Bowers (1993) and Svenonius (1994). For instance, Bowers (1993) and especially Baker (2003) analyse copulas (or copular particles) in many Bantu languages as the realisation of Pred. Mandarin *shì* is also taken as a spell-out of Pred in Baker (2003).

4.1.3 Copulas as Fin

Contrary to approaches that take copulas to be the realisation of lower heads such as v/V or Pred, some recent studies argue that some positions even higher than T in the structure may host copulas in some languages. O'Neill (2015, 2019) proposes that, in English, copulas (inflected and uninflected) in a special type of copular sentence, namely, Amalgam Specificational Copular sentences (ASC henceforth), is purely morphological support and a spell-out of Fin in the left-periphery. A typical example of an ASC sentence is *What he needs is he needs sleep.* An ASC sentence differs from a standard specificational copular sentence in that both constituents flanking the copula have the syntactic form of a root CP and are semantically propositional (O'Neill 2019).

Her proposal that copulas in ASC sentences are morphological support and situated high in the structure is based on the following observations. First, from the semantic perspective, the past-shifted interpretation is unavailable for ASC sentences, in contrast to canonical specificational copular sentences. For instance, (3a), a canonical specificational copular sentence, has a default sequence-of-tense (SOT) reading, where the time of *being blue* is bound by the time of *thinking*. The reading that the time of *being blue* precedes the time of *thinking* is also available for it. In contrast, (3b), an ASC sentence, only has the SOT reading. That is, the time when Jane is studying art history must be bound by the time of *finding*. The sentence is infelicitous for expressing that the speaker found that Jane's major used to be art history, regardless of whether or not the second *was* in (3b) bears a stress. Hence, she concludes that the tensed form of the copula in an ASC sentence is not associated with a tense meaning, or in other words, "the tense form is

fake" (O'Neill 2019: 52).

(3) a. I thought that John's house was blue. (O'Neill 2019: 53)
b. Yesterday, I found out that what Jane was studying was she studied art history. (Adapted from O'Neill 2019: 55)

Second, the copula in an ASC sentence is incompatible with negation, future modal *will*, aspectual inflection, and V/T-domain modification, as shown in (4). Instead, the copulas in ASC sentences are always compatible with C-domain modification, as shown in (5).

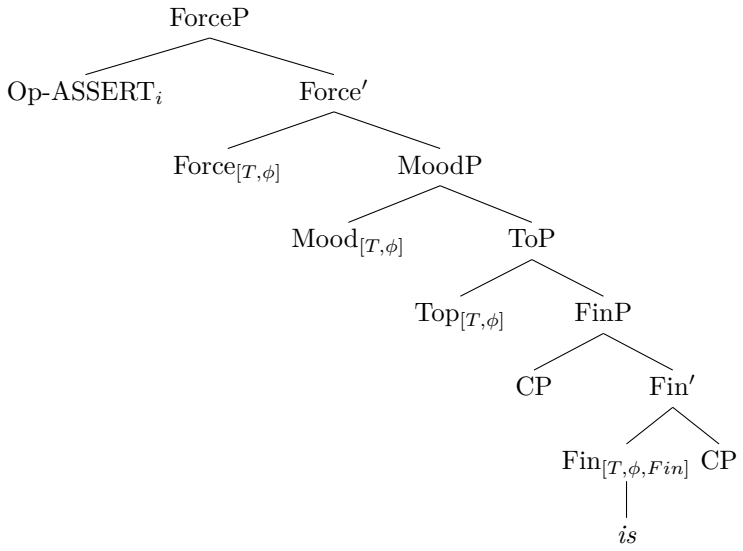
(4) a. * What she likes isn't she likes coffee.
b. * What they('ll) need will be they('ll) need a vacation.
c. * What she liked had always been she liked coffee.
d. * <Suddenly / Occasionally>, she liked coffee was <suddenly / occasionally> what she liked.

(5) <Surprisingly / Unfortunately / Apparently>, she likes coffee is <surprisingly / unfortunately / apparently> what she likes. (O'Neill 2019: 57-58)

These observations indicate that the copula in ASC sentences cannot be associated with the V/T-domain, but occupies a position in the C-domain of a clause. O'Neil proposes that the copula heads FinP. Crucially, in her proposal, the sentence structure of ASC sentences is special: these sentences lack the V- and T-domain; only the C-domain is present. The structure is presented as (6). Particularly, it assumes that [tense] and [ϕ] are born in Force and transmitted down the spine to Fin, while [Fin] is inherently specified in Fin. The context variable in [Spec, FinP] is bound by the illocutionary operator in [Spec, ForceP]. Further feature-spreading from Fin is blocked here, as the context variable is bound and the features of Fin are valued locally. Otherwise, as in standard copular sentences, unvalued features on Fin can be further inherited by T.

[2]O'Neill (2019) also argues that the copula in one subtype of ASC sentences can be viewed as colon-like, functioning much like a topic marker. Hence, she proposes that copulas in this subtype of ASC sentences indeed head Top in the structure. Here is one example of this group of sentences: *That's what she likes, (is) (she likes) coffee* (O'Neill 2019: 58).

(6)



4.1.4 Copulas as SUBJ

Another approach that also assumes a high position in the structure, namely, the head of SUBJP, for copulas is advanced by Cardinaletti (2004), Rizzi (2015b), and Shlonsky and Rizzi (2018).[3] On the one hand, this analysis is based on the cartography of subjecthood. Cardinaletti (2004) argues that the preverbal subject position should be split into multiple positions for different types of subjects. Two functional projections are accordingly proposed: AgrSP and SubjP. According to her, the former is the projection for phi-feature checking on the nominal DP, whereas the latter is a higher projection in the structure, for "subject-of-predication" feature checking. The relative position between these two projections as well as that of the structural spine of the clause can be presented as in (7), a schema adapted from Cardinaletti (2004: 120) and Rizzi (2015b: 26).

(7) ... FinP ... SubjP ... AgrSP ... TP ... VP ...

[3]Cardinaletti (2004) dubs the high subject projection SubjP. Rizzi (2015b) and Shlonsky and Rizzi (2018) change the label to SUBJP to avoid confusion with the projection for the subject in small clauses.

Moreover, this analysis addresses the properties of subjects that interact with the labelling algorithm in the spirit of Chomsky (2013). Specifically, the external Merge of two phrases already formed, such as a subject DP and a *v*P, presumably lead to problems with labelling the node created by Merge. Chomsky (2013) suggests that the node created by Merge receives its label from the closest head. Rizzi (2015b: 18) interprets this "closeness" as meaning that "no other head intervenes between the two heads in hierarchical terms", which can be formalised as (8).

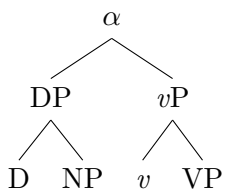
(8) H_1 is the closest head to α iff

I. α contains H_1, and

II. there is no H_2 such that i) α contains H_2, and ii) H_2 c-commands H_1.

When it comes to the Merge of the subject DP and *v*P, both heads of the two projections qualify as the closest head to the new node according to Rizzi (2015a), since nothing intervenes between α and either D or *v*.

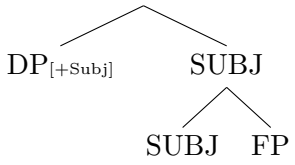
(9)



Two ways are proposed to rescue the labelling failure. The first solution is that one phrase moves out of the [$_\alpha$ XP YP] configuration and the other phrase remains as the candidate for labelling. The other solution is that the two phrases XP-YP form a "criterial configuration" (Rizzi 2015a, 2015b). In a criterial configuration, the two phrases agree in terms of a criterial feature, which expresses properties of "scope-discourse semantics", such as topic, focus, or Q. α is hence labelled by the criterial head. Both solutions are associated with the subject DP. First, under the VP-internal subject hypothesis, the subject DP is proposed to be assigned thematic roles within *v*P and moves out to a higher position for licensing purposes. As the subject DP moves out, α can be labelled as *v*. Second, as subject movement must stop at some point, there must

be a "halting site" from which the subject DP will not move any further. Rizzi (2015a, 2015b) proposes that the halting sites for the subject are criterial positions and that a criterial configuration is eventually formed. The criterial feature for subjects is proposed as [+Subj], which has the "aboutness" property.[4] As a result, the node created by Merge of the subject DP and another functional projection (say, FP) is labelled as SUBJ, as shown in (10).

(10)



With respect to the SUBJP, the SUBJ head is supposed to attract the nominal bearing the [+Subj] feature to its spec position, and the aboutness interpretation is triggered at the interface (Rizzi 2015a, 2015b). In addition, freezing effects are expected to be observed in SUBJ position in the sense of Rizzi's (2015a) proposal of "Criterial Freezing". That is, the nominal attracted to the spec position of SUBJP should be frozen there and cannot be extracted. Therefore, [Spec, SUBJP] can function as a halting site for subjects.

In terms of copular sentences, Cardinaletti (2004) proposes that, for one thing, the fronting predicate in inverse copular sentences moves to [Spec, SUBJP] and the movement is triggered by some features other than phi-features. For the other, she suggests that Hebrew *hu* can be analysed as SUBJ. Her proposal for copular structures has been developed by Rizzi and Shlonsky. Following Bianchi and Chesi (2012), Rizzi (2015a, 2015b), and Shlonsky and Rizzi (2018) split the single Subj into two positions: SUBJ1 and SUBJ2. SUBJ1 is obligatory on the clausal spine, expressing weaker interpretive properties such as pure aboutness. In contrast, SUBJ2, which is higher than SUBJ1, is optional. It is selected when the sentence is to express categorical judgements. On the basis of such a distinction, Shlonsky and Rizzi (2018) argue that

[4]Rizzi (2015b) argues that although both subjects and topics have the "aboutness" property, interpretive conditions for topics are more demanding than for subjects. Subjects are supposed to express pure aboutness, while topics express both aboutness and connection to the discourse context.

the subjects in the three types of copular sentences in Hebrew occupy different subject positions. The sentences in (11) respectively represent the three types of sentences.

(11) a. Root bare small clause
Dani xaver-i ha tov.
Dani friend-my the good
'Dani is my good friend.'

b. Canonical sentence
Dani lo/ken xaver-i ha tov.
Dani neg/yes friend-my the good
'Dani is not/IS my good friend.'

c. Inverse sentence
*Xaver-i ha tov *(hu) (lo/ken) Dani.*
friend-my the good 3SG.MAS neg/yes Dani
'My good friend is not/IS Dani.'

(Shlonsky & Rizzi 2018: 38-45)

(11a) is a root bare small clause with no overt copular element intervening between the nominal constituents. Although no copular element occurs in either sentence, (11b) is regarded to be not as bare as (11a), since polarity particles occur in between the nominal constituents. Shlonsky and Rizzi (2018) argue that, as shown in (12), since a generic nominal cannot occur in a bare small clause but can occur when a polarity particle is present, the nominal constituents must occupy different subject positions. More precisely, the subject in (11a) stays in [Spec, PredP] while the subject in (11b) occupies a high subject position above Pol(arity), that is, SUBJ1. The subject of an inverse copular sentence such as (11c) is proposed to occupy an even higher subject position, namely [Spec, SUBJ2P], because the subject is interpretatively more constrained. As shown in (13), only a D-linked subject is compatible with *hu*. Accordingly, the obligatory *hu* is analysed as lexicalising SUBJ2 (Shlonsky & Rizzi 2018).

(12) a. *Namer* l*o/ken/bevaday/betax nadir be arc-enu.*
tiger neg/yes/of.course/certainly rare in country-ours
'Tigers are not/ARE/of course/certainly rare in our country.'

b. * *Namer nadir be arc-enu.*
tiger rare in country-ours
Intended: 'Tigers are rare in our country.'

(13) a. *Mi (*hu) more?*
who 3SG.MAS teacher
'Who is a teacher?'

b. *Eize baxur ?(hu) more?*
which guy 3SG.MAS teacher
'Which guy is a teacher?'

Their system of three subject positions can be schematised as (14).

(14) ... DP SUBJ2 ... DP SUBJ1 ... Pol ... DP Subj PredP
(Shlonsky & Rizzi 2018: 43)

In addition, Polish *to* is also assumed to lexicalise SUBJ2 in Shlonsky and Rizzi (2018). According to them, the subject of a canonical copular sentence in Polish occupies the [Spec, SUBJ1] position, while the subject of an inverse copular sentence occupies the [Spec, SUBJ2] position. As opposed to Hebrew, Shlonsky and Rizzi argue that Polish does not exploit the low Subject position, namely, [Spec, PredP].

4.1.5 Interim summary

This section reviewed various proposals concerning the nature of copulas across languages. Copulas have been proposed to be the head of TP, as inflectional support; or the head of *v*P/VP, as verbal support; or the head of PredP, as support for a predicational relation; or the head of FinP, as pure morphological support. In addition, some types of copulas in a number of languages have been proposed to lexicalise SUBJ, which is in relation to a multiple-layer subjecthood cartographic proposal. As the Amalgam Specificational Copular sentences represent a very specific type of sentences that is not found in many languages (including Mandarin), the current thesis will not further delve into the proposal that copulas instantiate the Fin head. The remainder of this chapter will argue that *shì* does not realise the head of TP, *v*P/VP, or PredP; rather, it is comparable to Hebrew *hu* in line with Shlonsky and Rizzi's (2018) SUBJ proposal.

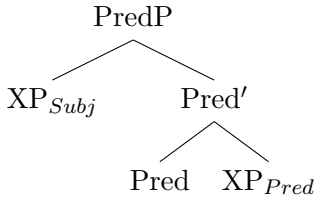
4.2 *Shì* is neither Pred nor T

In contemporary Mandarin, *shì* is generally recognised as a copula, although the specific terms and lexical classification vary between studies (e.g. *xìcí* 系词 'copula' (Liang 2012); *xì dòngcí* 系动词 'copular verb' (Chao 1968; Zhu 1982; Guo 1993; Zuo 2009); or *pànduàn dòngcí* 判断动词 *lit.* 'judgement verb' (M. Zheng 2001)). Aside from the debates on the lexical classification on *shì*, the question has barely been discussed as to where *shì* is situated in the syntactic structure, given the cross-linguistic diversity of functional projections that a copula can head – Pred, *v*, T/Infl, or some other head.

4.2.1 *Shì* is not Pred

Contra Baker (2003), in which Mandarin *shì* is regarded as instantiation of the Pred head, the current study argues that *shì* cannot head PredP. First of all, as will be discussed in more detail in the next chapter, the current thesis follows the presumption that the most basic structure for the predication relation is an asymmetric structure mediated by the functional head Pred, following Bowers (1993), Svenonius (1994), Adger and Ramchand (2003), and Mikkelsen (2005), among others. Also, the two nominals are assumed to be merged in a fixed order; that is, the referential nominal (the subject) occupies the specifier of PredP and the predicative one (the predicate) occupies the complement of Pred, as shown in (15).[5]

(15)



In English and many other languages, complement small clauses under verbs such as *consider* can be analysed as PredP (Mikkelsen 2005). As mentioned in Section 3.4.2 in Chapter 3, Mandarin *shì* can

[5]Section 5.1.1 in Chapter 5 provides a more detailed introduction to and discussion of the asymmetric predicational structure and the fixed merging order of the nominals.

optionally occur in the embedded clause under the matrix verb *dāng* 'consider'. Crucially, *shì* is omissible in canonical structures but not in inverse structures. Again, as shown in (16), when the referential nominal *Zhāngsān* precedes the predicative nominal *shǎzi* 'idiot', the sentence is grammatical. However, the reverse order of the two nominals leads to an ungrammatical sentence.

(16) a. 你当 [张三傻子] 吗?
Nǐ dāng [Zhāngsān shǎzi] ma?
2SG consider Zhangsan idiot Q
'Do you consider Zhangsan an idiot?'

b. * 你当 [傻子张三] 吗?
**Nǐ dāng [shǎzi Zhāngsān] ma*?
2SG consider idiot Zhangsan Q
Intended: 'Do you consider the idiot to be Zhangsan?'

(16b) can be rescued by including *shì*. Both orders are available if *shì* occurs in the embedded clauses, as shown in (17).

(17) a. 你当 [张三是傻子] 吗?
Nǐ dāng [Zhāngsān shì shǎzi] ma?
2SG consider Zhangsan COP idiot Q
'Do you consider Zhangsan an idiot?'

b. 你当 [傻子是张三] 吗?
Nǐ dāng [shǎzi shì Zhāngsān] ma?
2SG consider idiot COP Zhangsan Q
'Do you consider the idiot to be Zhangsan?'

The rationale that *shì* is not the spell-out of Pred but a functional head higher than Pred is simple and straightforward. If Pred spells out as *shì*, the contrast between (16b) and (17b), which is brought about by the (non-)occurrence of *shì*, should not be expected. However, such a contrast can be accounted for by assuming that the embedded small clauses with/without *shì* correspond to two different structures. When *shì* does not occur, as in (16), the matrix verb takes PredP as its complement. Only the canonical order is permitted, which is decided by the nature of PredP. In contrast, when *shì* does occur, as in (17), the embedded structure is larger than PredP.[6] Following Moro (1997) and Den Dikken (2006), the existence of the extra position introduced

by the projection that *shì* heads can provide a landing site for predicate inversion, yielding an inverse sentence.

Further evidence involving negation, and especially adverbial modification, corroborates the analysis that the contrast between (16) and (17) is associated with structures of different sizes rather than simply the optionality of *shì*. As shown in (18) and (19), the embedded clauses can be negated or modified by adverbs only when *shì* occurs. In other words, in Mandarin, negation and modification cannot directly combine with PredP. They must combine with the higher functional projection headed by *shì*.[7]

(18) 你当 [张三不 *(是) 傻子] 吗?
*Nǐ dāng [Zhāngsān bù *(shì) shǎzi] ma?*
2SG consider Zhangsan NEG COP idiot Q
'Do you believe Zhangsan not an idiot?'

(19) a. 你当 [张三一直 *(是) 傻子] 吗?
*Nǐ dāng [Zhāngsān yīzhí *(shì) shǎzi] ma?*
2SG consider Zhangsan always COP idiot Q
'Do you believe that Zhangsan is always an idiot?'

b. 你当 [张三真的 *(是) 傻子] 吗?
*Nǐ dāng [Zhāngsān zhēnde *(shì) shǎzi] ma?*
2SG consider Zhangsan truly COP idiot Q
'Do you believe that Zhangsan is truly a idiot?'

[6]Grano (2012) ascribes the distinctions of obligatoriness of using *shì* in matrix and embedded contexts to conditions imposed by T. Specifically, he proposes that the matrix clause is always tensed, which requires the occurrence of *shì*, while the embedding small clause is tenseless, and thus does not require an overt *shì*. On the one hand, I agree with him that the existence of an extra functional projection makes the difference in terms of the (non-)occurrence of *shì*; on the other, the next subsection will argue that the specific functional projection is irrelevant to T.

[7]It is possible that the negator *bù* cannot stand alone but must cliticise to another element, such as *shì*. If this is true, it supports (or at least will not undermine) the analysis that the embedded clauses of sentences in (16) and (17) have the same structure while those in (16) involve *shì* omission. However, it is unlikely that adverbs must cliticise to *shì*. Therefore, the fact that the adverbs can only occur in clauses containing *shì* indicates that the embedded clauses with/without *shì* correspond to two different structures.

c. 你当 [张三只/也 *(是) 傻子] 吗?
*Nǐ dāng [Zhāngsān zhǐ/yě *(shì) shǎzi] ma*?
2SG consider Zhangsan only/also COP idiot Q
'Do you believe that Zhangsan is only/also an idiot?'

4.2.2 *Shì* is not T

This subsection argues that *shì* cannot be the spell-out of T, either. The evidence comes from the properties of individual-level (IL henceforth) states in contrast to that of stage-level (SL henceforth) states in Mandarin. A more elaborate discussion of the relevant phenomena will be presented in Chapter 6. In brief, on a par with non-copular sentences, Mandarin copular sentences do have the IL/SL-distinction, though different structures from non-copular sentences will be proposed for copular sentences in the later sections of this chapter and the next chapter. The properties of the nominal predicates of a copular sentence are decisive for whether a copular sentence is individual-level or stage-level. What is crucial here in relation to the question as to whether *shì* heads TP regards the IL/SL-distinction in terms of the temporal structures of these two types of predicates. Copular sentences with individual-level predicates (ILP henceforth) show no present/past contrast. The dead–living status of the subject does not affect the felicity of sentences uttered in isolation, as opposed to sentences with stage-level predicates (SLP henceforth). For instance, conceptually speaking, one's region of origin is typically individual-level, as normally it can never be changed, whereas *being a secondary school student* only characterises a stage that an individual undergoes. As suggested in the translation line, (20a) is felicitous no matter whether Mike is alive or dead, while, when uttered in isolation, (20b) will be infelicitous if Mike has died.

(20) a. 迈克是德州人。 *Individual-level*
Màike shì Dézhōu rén.
Mike COP Texas people
'Mike is/was from Texas.'

b. 迈克是中学生。 *Stage-level*
Màike shì zhōngxuéshēng.
Mike COP secondary.school.student
'Mike is/*was a secondary school student.'

This property of Mandarin ILPs is interesting. It differs from what has been observed in other languages. As will also be discussed at length in Chapter 6, in English, for instance, past-tense sentences with ILPs impose restrictions of lifetime on the subjects, as opposed to sentences with SLPs (Kratzer 1995; Musan 1997; Magri 2009; Husband 2012). In other words, a past-tense sentence with an ILP, when uttered in isolation, implies that the subject is dead. For instance, when uttered out of the blue, (21) suggests that Henry was dead, while in (22) it is unknown whether he is dead or alive.

(21) Henry was French. *Individual-level*
(Kratzer 1995: 155)

(22) Henry was happy. *Stage-level*

In addition, as has been cross-linguistically attested, ILPs are in general incompatible with temporal adverbials, in contrast to SLPs. (23) exemplifies the Mandarin data.

(23) a. *迈克去年是德州人。 *Individual-level*
**Màike qùnián shì Dézhōu rén.*
Mike last.year COP Texas people
Intended: 'Mike was from Texas last year.'

b. 迈克去年是中学生。 *Stage-level*
Màike qùnián shì zhōngxuéshēng.
Mike last.year COP secondary.school.student
'Mike was a secondary school student last year.'

Taking into account the above-mentioned properties of Mandarin ILP sentences, which differ from SLP sentences in Mandarin as well as ILP sentences in other languages, Chapter 6 will propose that Mandarin sentences (copular and non-copular) containing ILPs do not have T. When it comes to copular sentences, if the "no T" hypothesis for Mandarin ILP sentences is on the right track, copular sentences with ILPs contain no T. Consequently, *shì* in ILP sentences is not the spell-out of T. Assuming there is only one copula *shì*, which occupies the same position in both ILP and SLP sentences, *shì* in SLP sentences should not be taken as the spell-out of T, either. In a word, *shì* in copular sentences is not coupled with T, irrespective of the type of predicate.

4.3 Distribution of the copula *shì*

The previous section argued that *shì* cannot instantiate Pred or T. This section proposes that *shì* does not head VP/*v*P.[8] It must be situated high in the structure. The empirical evidence comes from its compatibility with modality and aspectual markers. Crucially, the incompatibility of *shì* with the experiential marker *guo* indicates that in addition to semantic accounts in relation to stativity, the distribution of *shì* delineated by this section should also be ascribed to syntactic factors.

4.3.1 *Shì* and modality

4.3.1.1 Hierarchy of modality in Mandarin

The distribution of Mandarin modals has been described in a refined way and is well accounted for using the cartographic approach. X.-Y. K. Huang (2009), T.-H. J. Lin (2012), Tsai (2015a), and Yang (2020), among others, entertain a three-tier analysis of Mandarin modals in line with Rizzi (1997), Cinque (1999), and Butler (2003). First, TP signals the dichotomy of epistemic modals and root modals. Epistemic modals, which indicate the speaker's attitude or judgements on actual or possible situations, project on top of TP. In contrast, root modals, which mediate the relation between subjects and predicates, project below TP. Additionally, deontic modals expressing obligation, permission, and volition are encoded below TP but above *v*P. The remaining root modals expressing ability, namely, dynamic modals, occupy a position below *v*P. (24) lists a few examples of Mandarin modal auxiliaries and adverbs. The

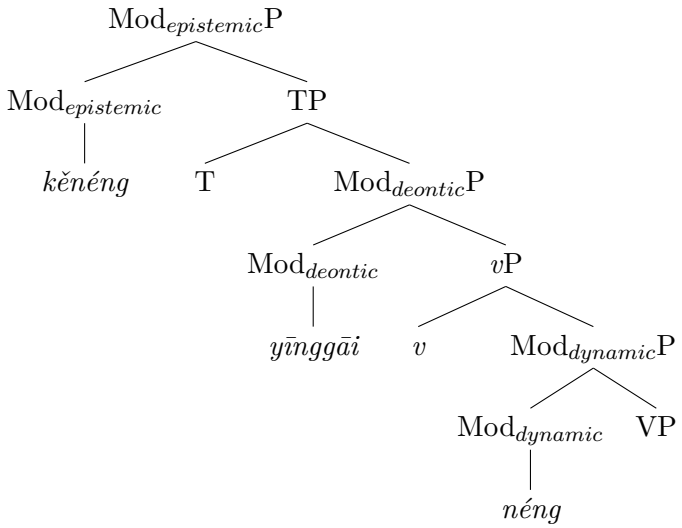
[8]It has widely been proposed that *shì* heads *v*P/VP. For instance, C.-T. J. Huang (1988) analyses the copula *shì* as the V head, as opposed to the *shì* in cleft constructions, where it is analysed as the I head. Moreover, in studies that pursue a unified analysis of *shì* in copular sentences and clefts (e.g. Simpson and Wu 2002; L. L.-S. Cheng 2008; Paul and Whitman 2008; Hole 2011; Zhan and Sun 2013), *shì* is normally taken as the head of VP. However, as discussion of the position of *shì* is not the focus of these works, the claim that *shì* heads VP has not been carefully argued for but has rather been taken for granted. In addition, studies on the Mandarin light verb system always include v_{BE}, which is analysed as the lowest light verb (C.-T. J. Huang 1997; T.-H. J. Lin 2001; J. J.-P. Lin 2004; Tsai 2015c; Cai 2016). However, in those systems, v_{BE} does not usually have an overt instantiation or does not correspond to copula at all.

three-tiered hierarchical structure is given in (25), simplified from Tsai (2015b).

(24) *Examples of Mandarin modality*

- *Epistemic modals*: *yīnggāi* 'should', *kěnéng* 'be likely to', *yīdìng* 'definitely', *huì* 'will'
- *Deontic modals*: *yīnggāi* 'ought to', *bìxū*/*děi* 'have to', *kéyǐ* 'be permitted to'
- *Dynamic modals*: *néng*/*huì* 'be able to', *kěn* 'be willing to'

(25)



The modality hierarchy has been effectively used as a diagnostic to locate target elements in many studies. The current study will also base part of the examination of the position of copula *shì* on this hierarchy. It is worth pointing out that the question is under debate as to whether modal elements in Mandarin are auxiliaries or adverbs. Since only modal auxiliaries that are functional heads should be used for the hierarchical tests, the next subsection will first justify the idea that the modal elements used in the current section can be viewed as auxiliaries. Then Section 4.3.1.3 will examine the relative position between *shì* and modal auxiliaries.

4.3.1.2 Auxiliary/adverb distinction of Mandarin modality

Generally speaking, auxiliaries in Mandarin can be directly negated by *bù* or *méi* and can form A-not-A questions. In contrast, adverbs can do neither. The contrast is shown in (26) and (27). Both *yīnggāi* 'ought to' and *bìxū* 'have to' express deontic modality. However, only *yīnggāi* can be directly negated by *bù* and form an A-not-A question.

(26) Modal auxiliary

a. 小十一应该逃出实验室。
XiǎoShíyī yīnggāi táo-chū shíyànshì.
little.eleven ought.to escape-out laboratory
'El ought to escape the laboratory.'

b. 小十一不应该逃出实验室。 *Negation*
XiǎoShíyī bù yīnggāi táo-chū shíyànshì.
little.eleven NEG ought.to escape-out laboratory
'El should not escape the laboratory.'

c. 小十一应该不应该出实验室? *A-not-A question*
XiǎoShíyī yīnggāi-bù-yīnggāi táo-chū shíyànshǐ?
little.eleven ought.to-NEG-ought.to escape-out laboratory
'Should El escape the laboratory or not?'

(27) Modal adverb

a. 小十一必须逃出实验室。
XiǎoShíyī bìxū táo-chū shíyànshì.
little.eleven have.to escape-out laboratory
'El has to escape the laboratory.'

b. * 小十一不必须逃出实验室。 *Negation*
**XiǎoShíyī bù bìxū táo-chū shíyànshì.*
little.eleven NEG have.to escape-out laboratory
Intended: 'El does not have to escape the laboratory.'

c. * 小十一必须不必须逃出实验室? *A-not-A question*
**XiǎoShíyī bìxū-bù-bìxū táo-chū shíyànshǐ?*
little.eleven have.to-NEG-have.to escape-out laboratory
Intended: 'Does El have to escape the laboratory?'

Two more diagnostics are proposed for the modal auxiliary/adverb distinction in Tsai (2009, cited from Chou 2013). First, the constituent following a modal auxiliary can be preposed but that following a modal

adverb cannot, as shown in (28). Second, a modal auxiliary can license VP-ellipsis, while a modal adverb cannot, as shown in (29).

(28) VP-preposing

a. 逃出实验室，小十一应该。
Táo-chū shíyànshì, xiǎoShíyī yīnggāi.
escape-out laboratory little.eleven ought.to
'Escape the laboratory, El should.'

b. * 逃出实验室，小十一必须。
**Táo-chū shíyànshì, xiǎoShíyī bìxū.*
escape-out laboratory little.eleven have.to
Intended: 'Escape the laboratory, El must.'

(29) VP-ellipsis

a. 小十一应该逃出实验室，小十二也应该。
XiǎoShíyī yīnggāi táo-chū shíyànshì, xiǎoShí'èr yě yīnggāi.
little.eleven ought.to escape-out laboratory little.twelve too ought.to
'El should escape the laboratory, and little Twelve should, too.'

b. * 小十一必须逃出实验室，小十二也必须。
**XiǎoShíyī bìxū táo-chū shíyànshì, xiǎoShí'èr yě bìxū.*
little.eleven have.to escape-out laboratory little.twelve too have.to
Intended: 'El has to escape the laboratory; and little Twelve has to, too.'

However, both diagnostics proposed by Tsai (2009) have been challenged. For instance, (30a) is a counterexample to the VP-preposing test. As shown in (31), although *huì* can be negated by *bù* and can form an A-not-A question, it fails to license VP-preposing in sentences like (30a). In contrast, without multiple modals, (30b) improves greatly from (30a), even though it is not perfectly acceptable.

(30) a. *能去台北，张三明天会。 (T.-H. J. Lin 2012: 164)
**Néng qù Táiběi, Zhāngsān míngtiān huì.*
be.able.to go Taibei Zhangsan tomorrow will
Intended: 'Zhangsan will be able to go to Taipei tomorrow.'

b. ?去台北，张三明天会。
?*Qù Táiběi, Zhāngsān míngtiān huì.*
go Taipei Zhangsan tomorrow will
Intended: 'Zhangsan will go to Taipei tomorrow.'

(31) a. 张三明天不会去台北。
Zhāngsān míngtiān bù huì qù Táiběi.
Zhangsan tomorrow NEG will go Taipei
'Zhangsan will not go to Taipei tomorrow.'

b. 张三明天会不会去台北?
Zhāngsān míngtiān huì-bù-huì qù Táiběi?
Zhangsan tomorrow will-NEG-will go Taipei
'Will Zhangsan go to Taipei tomorrow?'

Chou (2013) also casts doubts on the VP-ellipsis test, since some English auxiliaries do not license ellipsis either. For instance, *be* cannot license ellipsis in (32) (for more details see Harwood 2015).

(32) * They're being noisy, you are being, too.
(Chou 2013: 122)

Among all the modal auxiliaries and adverbs in Mandarin, the epistemic *kěnéng* 'be likely to' and *yīnggāi* 'should' are the most controversial cases.[9] As shown in (33) and (34), *kěnéng* can be negated and form A-not-A questions, whereas *yīnggāi* cannot.

(33) a. 麦克不可能忘记小十一。
Màike bù kěnéng wàngjì xiǎoShíyī.
Mike NEG be.likely.to forget little.Eleven
'Mike is unlikely to forget El.'

[9]Note that *yīnggāi* in Mandarin is ambiguous between a deontic reading and an epistemic reading, on a par with *should* in English. The one in sentences above, i.e. (26), (28), and (19) is a deontic modal. The one that will be discussed together with *kěnéng* is an epistemic modal.

b. 麦克可能不可能忘记小十一?
Màike kěnéng-bù-kěnéng wàngjì xiǎoShíyī?
Mike be.likely.to-NEG-be.likely.to forget little.Eleven
'Is it likely for Mike to forget El?'

(34) a. *麦克不/没应该听说了威尔的事情。
**Màike bù/méi yīnggāi tīngshuō le Wēi'ěr de shìqing.*
Mike NEG should hear.of PFV Will SUB issue
Intended: 'Mike should have not heard of what happened to Will.'

b. *麦克应该不/没应该听说了威尔的事情?
**Màike yīnggāi-bù/méi-yīnggāi tīngshuō le Wēi'ěr de shìqing.*
Mike should-NEG-should hear.of PFV Will SUB issue
Intended: 'Should Mike have not heard of what happened to Will?'

In addition, *kěnéng* can license VP-ellipsis while *yīnggāi* cannot, as shown in (35) and (36).

(35) a. 麦克可能听说了威尔的事情, 南希也可能。
Màike kěnéng tīngshuō le Wēi'ěr de shìqing, Nánxī yě kěnéng.
Mike be.likely.to hear.of PFV Will SUB issue Nancy too be.likely.to
'Mike could have heard of what happened to Will; Nancy, too.'

b. 麦克可能没听说威尔的事情, 南希也可能（没）。
Màike kěnéng méi tīngshuō Wēi'ěr de shìqing, Nánxī yě kěnéng (méi).
Mike be.likely.to NEG hear.of Will SUB issue Nancy too be.likely.to NEG
'Mike could have not heard of what happened to Will; Nancy could have not, either.'

(36) a. *麦克应该听说了威尔的事情, 南希也应该。
**Màike yīnggāi tīngshuō le Wēi'ěr de shìqing, Nánxī*
Mike should hear.of PFV Will SUB issue Nancy
yě yīnggāi.
too should
Intended: 'Mike should have heard of what happened to Will; Nancy, too.'

b. *麦克应该没听说威尔的事情, 南希也应该。
**Màike yīnggāi méi tīngshuō Wēi'ěr de shìqing, Nánxī*
Mike should NEG hear.of Will SUB issue Nancy
yě yīnggāi.
too should
Intended: 'Mike should have not heard of what happened to Will; Nancy should have not, either.'

Although both the VP-preposing and the VP-ellipsis tests have been challenged, the counterexamples are all cases where auxiliaries fail to license VP-preposing or/and VP-ellipsis. In contrast, adverbs have not been observed to license VP-preposing and VP-ellipsis. As the current study does not aim at classifying Mandarin modal elements, both tests will be considered so as to single out the most prototypical modal auxiliaries for the discussion of their hierarchical relation with *shì*. As a result, the current study will take *kěnéng* as an epistemic modal auxiliary but not use *yīnggāi* for the hierarchical diagnostics.[10] In the next subsection, the remaining auxiliaries will be used for the discussion of the relative position of *shì* and modality: *kěnéng* 'be likely to' and *huì* 'will' as epistemic modals; *yīnggāi* 'ought to', *děi* 'have to', and *néng/kěyǐ* 'be permitted to' as deontic modals; and *kěn/yuànyì* 'be willing to' and *néng/huì/kěyǐ* 'can, be able to' as dynamic modals.

[10]In fact, *yīnggāi* patterns with epistemic necessity modals in other languages in terms of the impossibility of being negated or forming questions. For instance, as shown in (i), the epistemic necessity modal *must* in English cannot be negated or form a question, either. Such incompatibility might be semantically attributed to the evidential property of epistemic necessity modals that they express the speaker's certainty about the proposition, which can neither be negated nor questioned (von Fintel & Gillies 2006; T.-H. J. Lin 2012).

(i) a. John must be rich. *Necessity or obligation*
b. John must not be rich. **Necessity*

4.3.1.3 Relative position between *shì* and modals

First, *shì* can co-occur with epistemic modals, following the modal auxiliary, as shown in (37).

(37) a. 张三 *< 是 > 可能 < 是 > 李四的老师。
*Zhāngsān *<shì> kěnéng <shì> Lǐsì de lǎoshī.*
Zhangsan COP be.likely.to COP Lisi SUB teacher
'Zhangsan is possibly Lisi's teacher.'

b. 张三 *< 是 > 会 < 是 > 李四的老师。
*Zhāngsān *<shì> huì <shì> Lǐsì de lǎoshī.*
Zhangsan COP will COP Lisi SUB teacher
'Zhangsan will be Lisi's teacher.'

In contrast, *shì* is not compatible with the root modals regardless of the order between *shì* and the modal elements, as shown in (38) and (39).

(38) Deontic modals

a. * 张三 < 是 >（应）该 < 是 > 李四的老师。
**Zhāngsān <shì> (yīng)gāi <shì> Lǐsì de lǎoshī.*
Zhangsan COP ought.to COP Lisi SUB teacher
Intended: 'Zhangsan ought to be Lisi's teacher.'

b. * 张三 < 是 > 能/可以 < 是 > 李四的老师。
**Zhāngsān <shì> néng/kěyǐ <shì> Lǐsì de lǎoshī.*
Zhangsan COP be.permitted.to COP Lisi SUB teacher
Intended: 'Zhangsan is permitted to be Lisi's teacher.'

(39) Dynamic modals

a. * 张三 < 是 > 肯 < 是 > 李四的老师。
**Zhāngsān <shì> kěn <shì> Lǐsì de lǎoshī.*
Zhangsan COP willing.to COP Lisi SUB teacher
Intended: 'Zhangsan is willing to be Lisi's teacher.'

---

c. John must like Bill. *Necessity or obligation*
d. Must John like Bill? **Necessity*
(T.-H. J. Lin 2012: 172)

b. *张三 < 是 > 能/会/可以 < 是 > 李四的老师。
**Zhāngsān <shì> néng/huì/kěyǐ <shì> Lǐsì de lǎoshī.*
Zhangsan COP be.able.to COP Lisi SUB teacher
Intended: 'Zhangsan is able to be Lisi's teacher.'

Interestingly, lexical verbs such as *dāng* 'serve as' or *zuò* 'do', which may give rise to a similar interpretation to *shì* regarding the relevant sentences, are compatible with root modals. As shown in (40) and (41), all the sentences are grammatical and the verbs consistently follow the root modal.

(40) Deontic modals

a. 张三（应）该当/做李四的老师。
Zhāngsān (yīng)gāi dāng/zuò Lǐsì de lǎoshī.
Zhangsan ought.to serve.as/do Lisi SUB teacher
'Zhangsan ought to be Lisi's teacher.'

b. 张三能/可以当/做李四的老师。
Zhāngsān néng/kěyǐ dāng/zuò Lǐsì de lǎoshī.
Zhangsan be.permitted.to serve.as/do Lisi SUB teacher
'Zhangsan is permitted to be Lisi's teacher.'

(41) Dynamic modals

a. 张三肯当/做李四的老师。
Zhāngsān kěn dāng/zuò Lǐsì de lǎoshī.
Zhangsan be.willing.to serve.as/do Lisi SUB teacher
'Zhangsan is willing to be Lisi's teacher.'

b. 张三能/会/可以当/做李四的老师。
Zhāngsān néng/huì/kěyǐ dāng/zuò Lǐsì de lǎoshī.
Zhangsan be.able.to serve.as/do Lisi SUB teacher
'Zhangsan is able to be Lisi's teacher.'

It is worth pointing out that root modals in Mandarin can in fact co-occur with stative predicates. (42) and (43) are some examples. Hence, the incompatibility of *shì* and root modals can not be ascribed to the static nature of *shì*.

(42) Deontic modals

a. 张三应该相信李四。
Zhāngsān yīnggāi xiāngxìn Lǐsì.
Zhangsan ought.to believe Lisi.
'Zhangsan ought to believe Lisi.'

b. 张三可以知道这件事。
Zhāngsān kěyǐ zhīdào zhè-jiàn shì.
Zhangsan be.permitted.to know DEM-CLF issue.
'Zhangsan is permitted to be informed of this issue.'

c. 他们得有责任心。
Tāmen děi yǒu zérènxīn.
3PL have.to have sense.of.responsibility
'They must have sense of responsibility.'

(43) Dynamic modals

a. 张三肯相信这种说法。
Zhāngsān kěn xiāngxìn zhè-zhǒng shuōfǎ.
Zhangsan be.willing.to believe DEM-kind statement
'Zhangsan is willing to believe this statement.'

b. 张三愿意有自己的组织。
Zhāngsān yuànyì yǒu zìjǐ de zǔzhī.
Zhangsan be.willing.to have self SUB organisation
'Zhangsan is willing to own his own organisation.'

Also, cross-linguistically speaking, it is not uncommon that copulas can embed under root modals, as shown in (44). Therefore, the incompatibility of the copula *shì* with root modals is to a certain extent a language-specific property of Mandarin.

(44) a. You have to be a nice person.

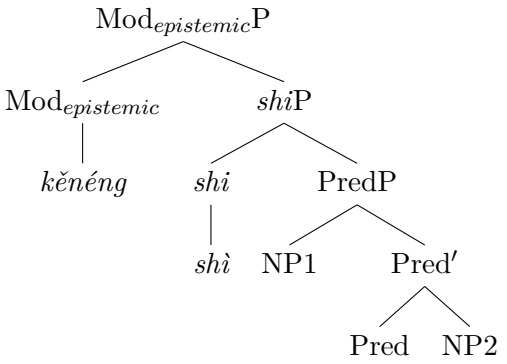
b. Puedes ser agresivo.
you.can be aggressive
'You're allowed to be aggresive.'

(Arche et al. 2019: 17)

In sum, *shì* is only compatible with epistemic modals, and it follows modal auxiliaries. In contrast, *shì* is incompatible with root modals regardless of the relative order between them. Such incompatibility is

language-specific and should not be ascribed to the static nature of *shì*. Assuming a root modal only c-selects VP, the incompatibility of *shì* with root modals indicates that *shì* does not head VP. Additionally, as described in Chapter 2, the postcopular constituent cannot be a VP. Presumably, *shì* does not selects VP, either. As indicated in Section 4.2.1 and will be further discussed, *shì* is supposed to take PredP as its complement. Hence, the structure of sentences containing both copula *shì* and compatible modality should be as schematised as (45).

(45)



Before closing off this section, I will provide some counterexamples to the generalisation that *shì* is incompatible with root modals. For instance, in contrast to the ungrammatical sentences presented in (46), sentences in (47) are well formed even though *shì* is combined with root modals.

(46) a. */?? 张三得是李四的老师。
*/??*Zhāngsān děi shì Lǐsì de lǎoshī.*
Zhangsan have.to COP Lisi SUB teacher
Intended: 'Zhangsan has to be Lisi's teacher.'

b. * 张三可以是李四的老师。
**Zhāngsān kěyǐ shì Lǐsì de lǎoshī.*
Zhangsan be.allowed COP Lisi SUB teacher
Intended: 'Zhangsan is permitted to be Lisi's teacher.'

(47) a. 这个人得是一个学过语言学的人。
Zhè-ge rén děi/bìxū shì yī-ge xué guo yǔyánxué de rén.
DEM-CLF people have.to COP one-CLF study EXP linguistics SUB people
'The people (we are looking for) must be someone who has studied linguistics.'

b. 这个人可以是一个外国人。
Zhè-ge rén kěyǐ shì yī-ge wàiguórén.
DEM-CLF people be.allowed COP one-CLF foreigner
'The people (we are looking for) can be a foreigner.'

These sentences are normally seen in an intensional context such as in job advertisements. Both the subject and the object are in fact non-referential. Presumably, the modal element takes the full sentence containing *shì* as its complement. The subject of the embedded copular sentence then raises to the spec position of the modality.[11]

4.3.2 *Shì* and *guo*

Shì is incompatible with any aspectual marker, a property mentioned in almost all previous research on Mandarin *shì* (Chao 1968; C. N. Li and Thompson 1981; Zhu 1982; to name a few studies). The sentences in (48) exemplify the combination of *shì* with different types of aspectual

[11] As pointed out by Wei-Tien Dylan Tsai (p.c.), the incompatibility of deontic modals and *shì* can be lessened by a disjunctive construal. For instance, (i) is well-formed, or at least greatly improved from (39b). For one thing, similar to the potential analysis of sentences in (47), the modal element may take the full clause containing *shì* as its complement and the subject raises. For another, it is sometimes observed that multi-clausal sentences are sometimes more "tolerant" than mono-clausal sentences (see, for instance, S.-W. Tang and Lee 2000, Tsai 2008, H. Cheng 2021).

(i) 张三可以是李四的老师，也可以是王五的老师。 cf. (39b)
Zhāngsān kěyǐ shì Lǐsì de lǎoshī, yě kěyǐ shì Wángwǔ de lǎoshī.
Zhangsan is.permitted.to COP Lisi SUB teacher also is.permitted.to COP Wangwu SUB teacher
'Zhangsan is permitted to be Lisi's teacher, and he is also permitted to be Wangwu's teacher.'

markers in Mandarin, namely, the progressive markers *zài* and *zhe*, the perfective marker *le*, and the experiential marker *guo*. All the sentences are ungrammatical.

(48) a. *南希在是麦克的姐姐。 *Progressive*
**Nánxī zài shì Màike de jiějie.*
Nancy PROG COP Mike SUB elder.sister
Intended: 'Nancy is Mike's elder sister.'

b. *南希是着麦克的姐姐。 *Progressive*
**Nánxī shì zhe Màike de jiějie.*
Nancy COP PROG Mike SUB elder.sister
Intended: 'Nancy is Mike's elder sister.'

c. *南希是了麦克的姐姐。 *Perfective*
**Nánxī shì le Màike de jiějie.*
Nancy COP PFV Mike SUB elder.sister
Intended: 'Nancy became Mike's elder sister.'

d. *南希是过麦克的姐姐。 *Experiential*
**Nánxī shì guo Màike de jiějie.*
Nancy COP EXP Mike SUB elder.sister
Intended: 'Nancy was once Mike's elder sister.'

Again, in contrast, when *shì* is replaced by verbs like *dāng* 'serve as' or *zuò* 'do', all the above sentences in (48) become grammatical, as shown in (49).

(49) a. 南希在当/做麦克的姐姐。 *Progressive*
Nánxī zài dāng/zuò Màike de jiějie.
Nancy PROG serve.as/do Mike SUB elder.sister
'Nancy is Mike's elder sister.'

b. 南希当/做着麦克的姐姐。 *Progressive*
Nánxī dāng/zuò zhe Màike de jiějie.
Nancy serve.as/do PROG Mike SUB elder.sister
'Nancy is Mike's elder sister.'

c. 南希当/做了麦克的姐姐。 *Perfective*
Nánxī dāng/zuò le Màike de jiějie.
Nancy serve.as/do PFV Mike SUB elder.sister
'Nancy became Mike's elder sister.'

d. 南希当/做过麦克的姐姐。 *Experiential*
Nánxī dāng/zuò guo Màike de jiějie.
Nancy serve.as/do EXP Mike SUB elder.sister
'Nancy was once Mike's elder sister.'

The progressive markers *zài* and *zhe* and the perfective marker *le* is only compatible with eventive predicates. On the one hand, as shown in (50), they cannot co-occur with stative predicates, as opposed to eventive predicates as shown in (51). On the other, as shown in (52), some stative predicates can indeed co-occur with *le* or *zhe*, but they can only have the eventive interpretation.

(50) Stative predicate

a. * 约翰在喜欢玛丽。
* *Yuēhàn zài xǐhuān Mǎlì.*
John PROG like Mary

b. */?? 约翰喜欢着玛丽呢。[12]
*/?? *Yuēhàn xǐhuān zhe Mǎlì ne.*
John like PROG Mary SFP

c. * 约翰喜欢了玛丽。
* *Yuēhàn xǐhuān le Mǎlì.*
John like PFV Mary

(51) Eventive predicate

a. 约翰在亲玛丽。
Yuēhàn zài qīn Mǎlì.
John PROG kiss Mary
'John is kissing Mary.'

b. 约翰亲着玛丽呢。
Yuēhàn qīn zhe Mǎlì ne.
John kiss PROG Mary SFP
'John is kissing Mary.'

c. 约翰亲了玛丽。
Yuēhàn qīn le Mǎlì.
John kiss PFV Mary
'John kissed Mary.'

(52) a. 移动支付很便捷。
Yídòng zhīfù hěn biànjié.
mobile payment very convenient
'Mobile payment is convenient.'

b. 移动支付便捷了我们的生活。
Yídòng zhīfù biànjié le wǒmen de shēnghuó.
mobile payment convenient PFV 1PL SUB life
'Mobile payment has made our life more convenient.'

c. 移动支付便捷着我们的生活。
Yídòng zhīfù biànjié zhe wǒmen de shēnghuó.
mobile payment convenient PROG 1PL SUB life
'Mobile payment is making our life more convenient.'

Nonetheless, as shown in (53), *guo* can co-occur with both stative and eventive predicates. If *shì* is considered stative, its incompatibility with the progressive markers and the perfective maker is expected. In contrast, the incompatibility of *shì* with *guo* is not expected. Thus, the remainder of this section will only address the incompatibility of *shì* with the experiential marker *guo*.

(53) a. 约翰喜欢过玛丽。
Yuēhàn xǐhuan guo Mǎlì.
John like EXP Mary
'John once liked Mary.'

b. 约翰亲过玛丽。
Yuēhàn qīn guo Mǎlì.
John kiss EXP Mary
'John kissed Mary before.'

I will argue that the incompatibility of *shì* and *guo* exemplified in (54) cannot be ascribed to semantic or pragmatic incompatibility.

(54) * 南希是过斯蒂夫的女朋友。
**Nánxī shì guo Sīdìfú de nǚpéngyou.*
Nancy COP EXP Steve SUB girlfriend
Intended: 'Nancy was once Steve's girlfriend.'

On the one hand, as shown above, the use of *guo* is compatible with both stative and eventive predicates. On the other hand, the use of

guo is in fact sensitive to another list of semantic requirements, all of which copular sentences in principle can meet. In addition, some adverbs such as *céngjīng/yīdù* 'once (upon a time)' may contribute semantics to a sentence comparable to that of *guo*. Interestingly, *shì* is compatible with these adverbs, but not with *guo*. Section 4.3.2.1 will first present examples of the co-occurrence of *guo* and stative predicates. Then the licensing conditions of *guo* will be introduced in Section 4.3.2.2, followed by a discussion of the use of *shì* in Section 4.3.2.3.

4.3.2.1 Stativity and *guo*

First of all, unlike *zài*, *zhe*, and *le*, *guo* is compatible with many statives (both individual-level and stage-level statives). Crucially, these "statives" do not necessarily yield eventive interpretations when co-occurring with *guo*. Recall that the stative predicate *biànjié* 'convenient' in (52) can only have the eventive interpretation when co-occurring with *zhe* or *le*. (55) exemplifies the combination of *guo* and individual-level statives, and (56) shows it with two different stage-level statives.

(55) Individual-level stative

a. 张三聪明过。
Zhāngsān cōngming guo.
Zhangsan intelligent EXP
'Zhangsan was once intelligent.'

b. 达斯汀胖过。
Dásītīng pàng guo.
Dustin fat EXP
'Dustin was once fat.'

(56) Stage-level stative

a. 张三消沉过。
Zhāngsān xiāochen guo.
Zhangsan depressed EXP
'Zhangsan was once depressed.'

b. 达斯汀喜欢过南希。
Dásītīng xǐhuan guo Nánxī.
Dustin like EXP Nancy
'Dustin once liked Nancy.'

(57) lists a few more examples of statives co-occurring with *guo*. Crucially, these verbs are regarded as being among the statives that are the least possible to combine with aspectual markers (Guo 1997, 2002; Zuo 2009). Provided the contexts are appropriate the following sentences are acceptable. As will be shown in the next subsection, *shì*, in contrast, does not require peculiar contexts, such as surreal scenarios that may occur in some fiction stories, to fulfil the semantic requirements of *guo* but they can by no means co-occur in a single sentence.

(57) a. 张三姓过王。
Zhāngsān xìng guo Wáng.
Zhangsan surname EXP Wang(surname)
'Zhangsan's surname was once Wang.'

b. 这栋房子属于过她。
Zhè-dòng fángzi shǔyú guo tā.
DEM-CLF house belong EXP 3SG
'This house once belonged to her.'

c. 二加二等于过五。(in a science fiction story, for instance)
èr jiā èr děngyú guo wǔ.
two plus two equate EXP five
'Two plus two once equalled five.'

4.3.2.2 Licensing conditions for *guo*

Guo is categorised as an experiential marker because it indicates that the eventuality involving the subject occurred at least once in the past. The subject of a sentence containing *guo* does not necessarily receive the thematic role *experiencer* (Yeh 1993a; J.-S. Wu 2009). In fact, animacy, sentience, or agentivity of the subject is not required.

In addition, *guo* is not restricted to certain Vendler verb classes. As shown in (58), it is compatible with states, activities, accomplishments, and achievements.

(58) a. 达斯汀喜欢过南希。 *State*
Dásītīng xǐhuan guo Nánxī.
Dustin like EXP Nancy
'Dustin once liked Nancy.'

b. 小十一吃过华夫饼。 *Activity*
XiǎoShíyī chī guo huáfūbǐng.
little.eleven eat EXP waffle
'El had once eaten waffles.'

c. 我摔断过腿。 *Accomplishment*
Wǒ shuāi-duàn guo tuǐ.
1SG fall-break EXP leg
'I once broke my leg.'

d. 迈克赢过几次比赛。 *Achievement*
Màike yíng guo jǐ-cì bǐsài.
Mike win EXP some-CLF competition
'Mike had won a couple of competitions.'

The majority of observations concerning the licensing conditions of *guo* focus on the semantic perspective. Although discussion of the core semantic properti(es) of *guo* has not reached a consensus, a few crucial properties of *guo* are generally recognised. First of all, the event or state took place at least once in the past (Chao 1968). More crucially, the event has ended at the reference time and the final state no longer holds (C. N. Li & Thompson 1981; Yeh 1993a, 1996; Smith 1997; J.-S. Wu 2009). J.-S. Wu (2008) terms this feature "terminability" and regards it as the core semantics of *guo*, to which other properties of *guo* are reducible. Take (58a) as an example. This sentence means that during some time interval in the past Dustin liked Nancy but he does not fancy her any more.

"Discontinuity" is another label used to describe such a property (Chao 1968; Iljic 1990; Smith 1997). For instance, (58c) will be infelicitous if my leg is still broken. However, the asymmetry regarding the requirement of "terminability" or "discontinuity" between sentences with definite or indefinite objects to some extent undermines the generalisation of the "terminability/discontinuity" requirement. Events with a definite object require the discontinuity interpretation, whereas such an interpretation is not obligatory for events with indefinite objects. For instance, the computer described in (59a) must have gotten repaired. In contrast, whether or not the computer has been repaired cannot be inferred from (59b).

(59) a. 我弄坏过这台电脑。
Wǒ nòng-huài guo zhè-tái diànnǎo.
1SG make-break EXP DEM-CLF computer
'I once broke this computer.'

b. 我弄坏过一台电脑。
Wǒ nòng-huài guo yī-tái diànnǎo.
1SG make-break EXP one-CLF computer
'I once broke a computer.'

The other property is labelled as "repeatability" (J.-h. Ma 1977; Yeh 1993a, 1996; Smith 1997; J.-S. Wu 2008). For instance, the ungrammaticality of (60a) can be accounted for using the fact that Zhangsan cannot die twice except in certain magical or surreal contexts. As death can be "repeated" among a group of people, (60b) is well formed.

(60) a. * 张三死过。
**Zhāngsān sǐ guo.*
Zhangsan die EXP
Intended: 'Zhangsan once died.'

b. 那栋楼死过几个人。
Nà-dòng lóu sǐ guo jǐ-ge rén.
DEM-CLF building die EXP some-CLF people
'A couple of people once died in that building.'

A few exceptions to the "repeatability" constraint have been reported. For instance, even though Zhangsan cannot be young again just as he cannot die again, (61a) is acceptable. Similarly, the team can only attend the 1992 Olympic Games once, but (61b) is also felicitous. On the basis of her "terminability" account, J.-S. Wu (2008) ascribes the contrast between (61) and (60a) to whether the termination of the events or states has been reached. In (60a), the state of Zhangsan being dead has not terminated or changed; hence the sentence is ruled out. However, Zhangsan being young or the Taiwan baseball team playing in the finals has ended, so the sentences are grammatical. Note crucially that the main point the current study adheres to is that no case (except for copular sentences) has been reported where the "repeatability" requirement has been fulfilled but the sentence containing *guo* is ungrammatical.

(61) a. 张三（也）年轻过。[13]
Zhāngsān (*yě*) *niánqīng guo.*
Zhangsan too young EXP
'Zhangsan was once young.'

b. 中华队打过 1992 年奥运棒球决赛。 (J.-S. Wu 2008: 24)
Zhōnghuáduì dǎ guo 1992 *nián*
Zhonghua.team participate.in EXP 1992 year
Aòyùn bàngqiú juésài.
Olympic.Games baseball final.game
'The Taiwan baseball team played in the finals of the 1992 Olympic Games.'

4.3.2.3 The incompatibility of *shì* with *guo*

This subsection shows that *guo* cannot co-occur with *shì* even if the terminability/discountinuity and the repeatability requirements are both fulfilled. Imagine such a scenario, for instance, where Nancy used to be Steven's girlfriend. They broke up last month, and they are not currently in a relationship with each other. However, there is still a possibility that the relationship will resume at some point in the future. Put differently, the state of Nancy being Steven's girlfriend has terminated and is independent of the current discourse. Moreover, such a state is repeatable in the future. In a word, the semantic requirements of *guo* have all been satisfied. Observe, however, that (62) is ungrammatical.

(62) *南希是过斯蒂夫的女朋友。
**Nánxī shì guo Sīdìfū de nǚpéngyou.*
Nancy COP EXP Steve SUB girlfriend
Intended: 'Nancy was once Steve's girlfriend.'

In addition, neither the use of an extra *yě*, which improves (61a), nor using an indefinite DP, which would have rescued (60a), makes any difference in the grammaticality of (62), as illustrated in (63).

[12]Though the sentence without *yě* is acceptable for many Mandarin speakers, inclusion of *yě* 'too' is in fact preferred. J.-S. Wu (2008) suggests that inclusion of additive *yě* probably contributes to the implication of more than one person being young in the context. In other words, the recurrence of 'being young' is implied, and consequently the "repeatability" requirement is satisfied.

(63) a. *南希也是过斯蒂夫的女朋友。
**Nánxī yě shì guo Sīdìfū de nǚpéngyou.*
Nancy also COP EXP Steve SUB girlfriend
Intended: 'Nancy was once Steve's girlfriend, too.'

b. *这个班有几个人是过斯蒂夫的女朋友。
**Zhè-ge bān yǒu jǐ-ge rén shì guo Sīdìfū de nǚpéngyou.*
DEM-CLF class have some-CLF person SHI EXP Steve SUB girlfriend
Intended: 'A couple of people in this class were once Steve's girlfriends.'

Crucially, to depict the above-mentioned scenario, on the one hand, again, we can substitute the copula *shì* with verbs such as *dāng* 'serve as' or *zuò* 'do'. On the other, adverbs such as *céngjīng* 'before, once upon a time' can be used in addition to *shì*, as shown in (65).

(64) 南希当/做过斯蒂夫的女朋友。
Nánxī dāng/zuò guo Sīdìfū de nǚpéngyou.
Nancy serve.as/do EXP Steve SUB girlfriend
'Nancy was once Steve's girlfriend.'

(65) 南希曾经是斯蒂夫的女朋友。
Nánxī céngjīng shì Sīdìfū de nǚpéngyou.
Nancy before COP Steve SUB girlfriend
'Nancy was once Steve's girlfriend.'

Note that the adverb *céngjīng* frequently co-occurs with non-copular sentences containing *guo* (Z. Ma 2003). (66) lists counterparts of (58) that include *céngjīng*. All of the sentences below are still grammatical, with no interpretative distinctions from those in (58).

(66) a. 达斯汀曾经喜欢过南希。 (cf. (58a))
Dásītīng céngjīng xǐhuan guo Nánxī.
Dustin once like EXP Nancy
'Dustin once liked Nancy.'

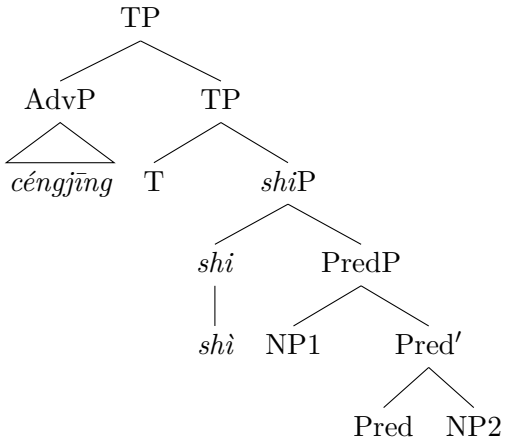
b. 小十一曾经吃过华夫饼。 (cf. (58b))
XiǎoShíyī céngjīng chī guo huáfūbǐng.
little.eleven once eat EXP waffle
'El had once eaten waffles.'

c. 我曾经摔断过腿。 (cf. (58c))
Wǒ céngjīng shuāi-duàn guo tuǐ.
1SG once fall-break EXP leg
'I once broke my leg.'

d. 迈克曾经赢过几次比赛。 (cf. (58d))
Màike céngjīng yíng guo jǐ-cì bǐsài.
Mike once win EXP some-CLF competition
'Mike had won a couple of competitions.'

In a nutshell, copular sentences like (62) fulfil all the semantic requirements licensing *guo*, yet the sentences are still bad. Hence, a syntactically grounded account is expected. In line with what was discussed at the end of previous subsection, assuming that aspectual elements c-select a VP, the incompatibility of *shì* and *guo* indicates that *shì* does not head VP. Again, as *shì* does not select VP as its complement either, copular structures contain no *v*P/VP or AspP. The proposed structure is as (67).[13]

(67)



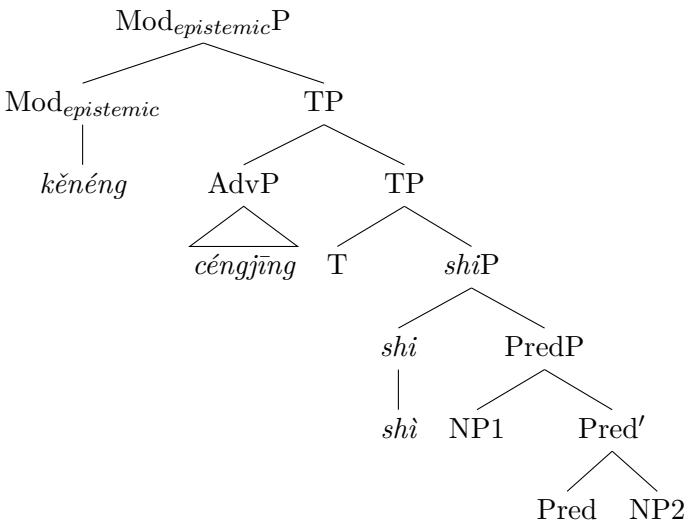
[13]That *shi*P is placed below TP in (67) is simply based on the surface order between the adverb *céngjīng* and *shì*. However, TP may be lower than *shi*P and the temporal adverb may move to a topic position. It can be shown that temporal adverbs such as *céngjīng* can precede an epistemic modal in the surface order. However, Mod_{epis}P is higher than TP in the structure, which was discussed at the beginning of this section and illustrated in (25).

4.3.3 Interim summary

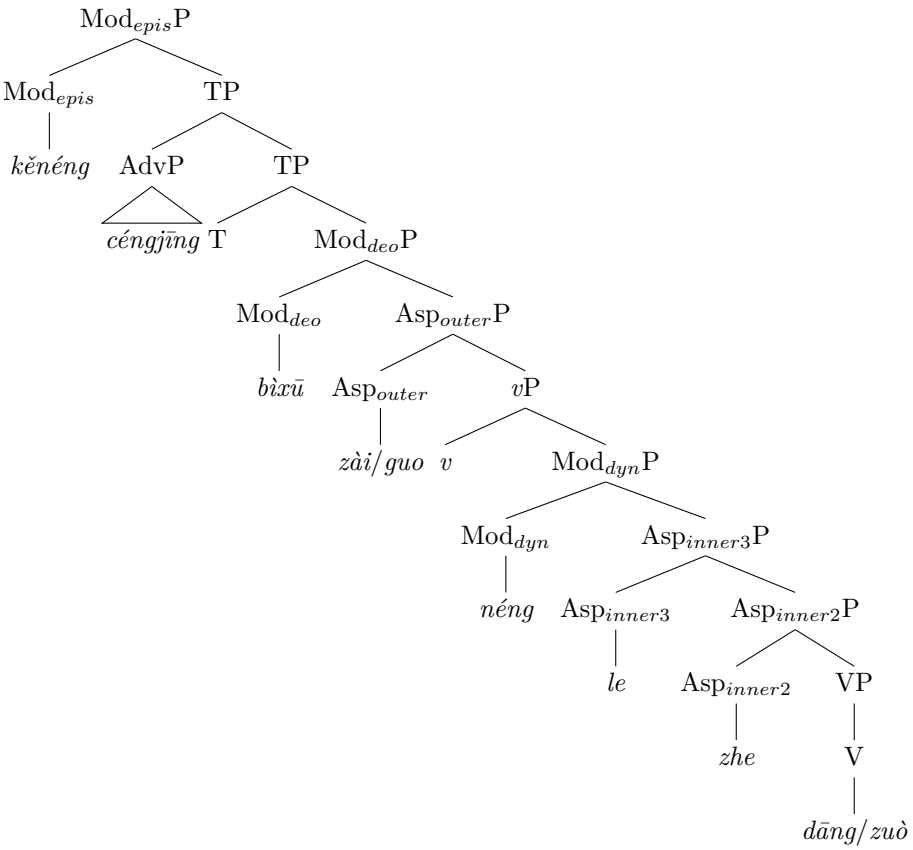
This section examined the distribution of *shì* in relation to modality and aspectual markers. Specifically, *shì* is incompatible with any aspectual markers. It can co-occur with epistemic modals but not with root modals. In contrast, verbs such as *dāng* 'serve as' or *zuò* 'do' are compatible with all above-mentioned constructions. Although analyses resorting to semantic incompatibility may account for part of the data, they cannot explain the incompatibility of *shì* with *guo* – *shì* can fulfil all the semantic requirements of *guo*, but it cannot co-occur with *guo*. I therefore propose that this distribution of *shì* is attributed to its structural properties: *shì* is not the head of VP, and there is no VP in the structure of copular sentences. Also, *shì* is situated high in the structure. It is a position higher than lexical verbs which presumably head V. The structures for copular and non-copular sentences are respectively presented in (68) and (69). Again, assuming that root modals and Aspect c-select VP, the contrasts we observe with respect to the compatibility with modality and aspectual markers between copula *shì* and verbs such as *dāng* 'serve as' and *zuò* 'do', which have a comparable meaning to *shì* in certain cases, are expected. *shì* is incompatible with any of the aspectual markers or the root modals, while *dāng* and *zuò* are compatible with both.

(i) 南希曾经可能喜欢过斯蒂夫。
Nánxī céngjīng kěnéng xǐhuan guo Sīdìfū.
Nancy once be.likely.to like EXP Steve
'It is likely that Nancy once liked Steve.'

(68) Copular structure



(69) Non-copular structure[14]



4.4 *Shì* as a pronominal copula

The previous sections in this chapter argue that Mandarin copula *shì* is not the spell-out of Pred, V, or T, but a functional head high in the structure. This section shows that this analysis is comparable to analyses of other pronominal copulas in various languages.

[14]The distinction between *inner aspect* and *outer aspect* follows Travis (2010) and Sybesma (2017a).

4.4.1 Pronominal copulas in the world's languages

C. N. Li and Thompson (1977) classify copulas in the world's languages into two groups: those that are full-fledged verbs and those that "fall short of being a true verb" (C. N. Li & Thompson 1977: 420). Copulas in most Indo-European, Finno-Ugric, and Altaic languages belong to the first group. Mandarin, Hebrew, Arabic, Wappo, Zway, almost all Austronesian languages, and many less familiar languages have non-verbal copulas. It has been shown in C. N. Li and Thompson (1977) that the non-verbal copulas either originate from or are still homophones of pronominal elements. For instance, Mandarin *shì* originates from a demonstrative meaning 'this' (C. N. Li & Thompson 1977; Xiao 2003; Y. Shi 2005; B. Ma & Cai 2006; Liang 2012; D. Shi & Han 2013). (70) is an example from the book *Zuǒzhuàn*/*The Tso Chuan* '*Commentary on Spring and autumn annals by Zuo Qiuming*', which was written in around 300 BCE. *Shì* in (70) is a demonstrative meaning 'this', and the sentence contains no (overt) copular element.

(70) 是良史也。 *Zuǒzhuàn*
Shì liángshǐ yě.
DEM good.historian SFP
'This is a good historian.'

Hebrew, for another example, has both types of copulas.[15] *h.y.y.* is the verbal copula, and *hu* is its non-verbal counterpart.[16] The non-verbal copula can only be used in the present tense, whereas *h.y.y.* is obligatory in sentences in other tenses or when negated.

[15]In fact, Mandarin also has verbal copulas. For instance, *wéi* 为 originates from a verb meaning 'do'. However, in contemporary Mandarin, its use is very constrained. It is only used in specificational sentences but not in predicational sentences. More crucially, it can only be used in formal contexts. As mentioned in Chapter 1, it can be regarded as the remnant of a copula that was actively used in the past.

(i) 报名截止日期为 12 月 31 日。
Bàomíng jiézhǐ rìqī wéi 12 *yuè* 31 *rì.*
register cut.off date COP 12 month 31 day
'The deadline for registration is December 31st.'

(71) a. *Dani yihye more ba universita.*
Dani will.be teacher in.the university
'Dani will be a teacher at the university.'

b. *Dani (hu) more ba universita.*
Dani be teacher in.the university
'Dani is a teacher at the university.'

(Doron 1983: 72)

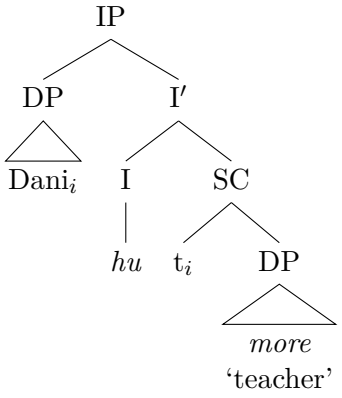
The next subsections will show that the current analysis of Mandarin *shì* is consistent with the previous analyses of Hebrew *hu* (Doron 1983; Rothstein 1995; Shlonsky & Rizzi 2018) and Polish *to* (Citko 2008; Shlonsky & Rizzi 2018). On the one hand, no verb and no *v*P structure is proposed for sentences containing *shì*, *hu*, or a single *to*. On the other, *shi*P in the structure in (68) is comparable to SUBJP, the projection that *hu* and *to* are proposed to head (Cardinaletti 2004; Rizzi 2015b; Shlonsky & Rizzi 2018). Taken together, the structure of pronominal copulas in different languages may share properties distinct from those of verbal copulas.

4.4.2 No VP structure

It has been proposed that a Hebrew sentence like (71b) has no verb and no *v*P structure (Doron 1983; Rothstein 1995; Shlonsky & Rizzi 2018), though the specific head *hu* is proposed to instantiate may vary. For instance, *hu* has been analysed as the spell-out of Infl (Rothstein 1995) or the lexicalisation of SUBJ (Shlonsky & Rizzi 2018).

[16]No present tense inflected form of *h.y.y.* exists in Hebrew. *Hu* is homophonous with the third person singular pronoun, masculine. The other forms of pronominal copulas are *hi* '3SG.FEM, *hem* '3PL.MAS', and *hen* '3PL.FEM'. In addition, note that although in the literature *hu* has been viewed as a copula in Hebrew, a recent study by Shor (2020) argues that *hu* is a second realisation of the subject referent. Sentence types previously regarded as "copular sentences" are viewed as cases of subject doubling in Shor (2020).

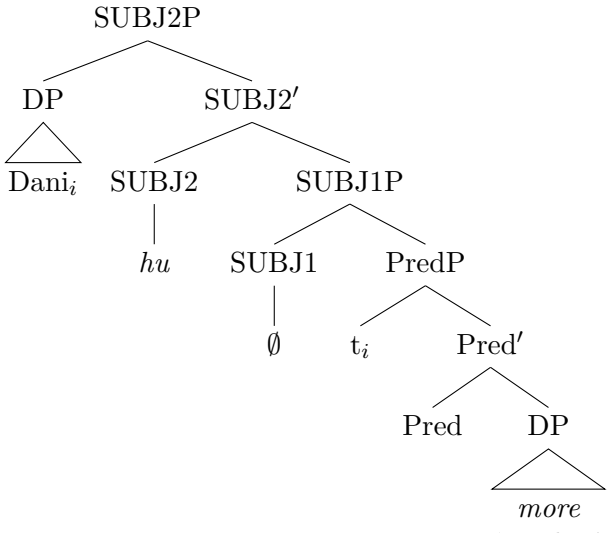
(72) a.



'teacher'

(adapted from Rothstein 1995: 39)

b.



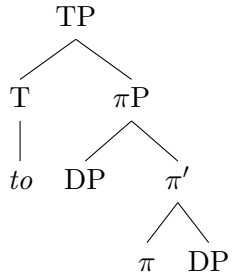
'teacher'

(adapted from Shlonsky and Rizzi 2018: 43)

Similarly, the structure proposed for Polish copular sentences containing a single *to* in Citko (2008) contains no VP, either.[17] Note crucially that in Polish, when *to* is used, the predicate can only be a DP regardless of whether the verbal copula appears in addition to *to*. However, AP and PP predicates can only occur in verbal copular sentences containing no *to* (Citko 2008).

[17] π is used as a different label for Pred.

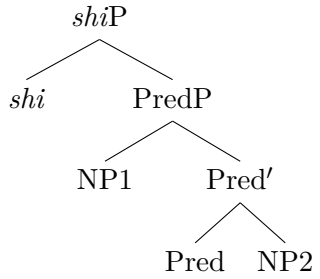
(73)



(adapted from Citko 2008: 290)

As discussed in the previous section, *shì* is incompatible with root modality, regardless of the word order between them, and aspectual marking, regardless of whether the semantic requirements can be fulfilled or not. These phenomena support the analysis that Mandarin copular sentences containing *shì* have a structure containing no VP. Again, for one thing, assuming that root modals and aspectual markers c-select a VP as their complement, the proposal that *shì* does not head VP accounts for the incompatibility of *shì* with root modals and the aspectual markers in a simple and principled way. Furthermore, as will be discussed in Chapter 5, *shì* takes PredP as its complement. The proposed structure is repeated below as (74).

(74)



As a result, copular sentences containing a single pronominal copula in Mandarin, Hebrew, and Polish share a similar base structure. The functional projections headed by the copula project on top of the PredP, though these copulas in different languages may instantiate different functional heads in different analyses (T, SUBJ, or any other heads). Crucially, these structures contain no VP. The pronominal copulas do not instantiate V, and no VP intervenes between PredP and the functional projection headed by the copula.

4.4.3 SUBJP for pronominal copulas

This section proposes that *shi*P in the structure in (68) is in effect identical to SUBJP, following Shlonsky and Rizzi's (2018) proposal for Hebrew *hu* and Polish *to*. In Hebrew and Polish, the *hu* and the *to* are situated very high in the structure. For instance, Hebrew *hu* precedes polarity elements *lo/ken* 'NEG/AFF'. As shown in (75), *hu* precedes the polarity elements, whereas the verbal copula *haya* must follow them, on a par with lexical verbs. Similarly, as shown in (76), the pronominal copula *to* in Polish precedes the negator *nie*, as well as the verbal copula *było* (if *było* also occurs).

(75) a. *Xaver-i ha tov *(hu) (lo/ken) Dani.*
friend-my the good 3SG.M NEG/YES Dani
'My good friend is not/IS Dani.'

b. *Dani lo/ken haya xaver-i ha tov.*
Dani NEG/YES COP.PST friend-my the good
'Dani was not/WAS my good friend.'

c. *Dani lo/ken ohev xacalim.*
Dani NEG/YES like eggplants
'Dani does not/DOES like eggplants.'

(Shlonsky & Rizzi 2018: 43)

(76) *Waterloo *<nie> to <nie> było zwycięstwo.*
Waterloo NEG COP NEG COP.PST victory
'Waterloo was not a victory.'

(Citko 2008: 291)

Note that Mandarin *shì* is not situated as high as *hu* or *to* in the structure. For instance, copula *shì* always follows the negator *bù*, as shown in (77). Assuming negation is in the same position in the structure in all three languages, *shì* must be situated lower than negation.

(77) 迈克 < 不 > 是 *< 不 > 小学生。
*Màike <bù> shì *<bù> xiǎoxuéshēng.*
Mike NEG COP NEG primary.school.student
'Mike is not a primary school student.'

In fact, on the basis of her observations that a subject in Italian can precede various adverbs, Cardinaletti (2004) proposes that subjects of a

particular language may occupy a number of positions in the structure. In structural terms, she proposes that either a SUBJP can be freely generated at the IP-edge or there are multiple SUBJPs in the structure. Her analysis is in line with Cinque's (1999) hierarchy in which adverbs present a rigid order within and across languages. Assuming that adverbs occupy the specifier position of the corresponding functional projections, the relative orders between a certain element in relation to different adverbs reflect the position the specific element occupies in the structure in relation to the adverbs. Similarly, as mentioned in Section 4.1.4, two distinct SUBJP projections are proposed for *hu* and the subject in different types of copular sentences (Shlonsky & Rizzi 2018) on the grounds of the same reasoning.

Additionally, variations between languages have also been observed. Cardinaletti (2004) addresses the differences between French and Italian. In French, unlike Italian, no adverb can intervene between a subject and a finite verb. Shlonsky and Rizzi (2018) also points out differences between Polish and Hebrew in that the subject in Polish does not exploit the lowest subject position, since the equivalent of Hebrew bare copular sentences (e.g. (71b) without an overt *hu*) is unavailable. The current study follows their reasoning of flexibility of the subject position in the structures, be it the case that a SUBJP can be flexibly generated at the IP-edge or that multiple SUBJPs are proposed in the structure. Specifically, subjects in different languages surface in different functional projections, i.e. the specifier of varied level(s) of SUBJP. Similarly, the copulas in different languages and/or in different structures may also lexicalise different instances of SUBJP in the structure. When it comes to Mandarin, *shì* lexicalises one of the lowest instances of SUBJPs, as opposed to *to* in Polish and *hu* in Hebrew, which lexicalise the higher/highest instances of SUBJPs.

Bearing in mind language variations in terms of the possible positions of SUBJP in the structure, it is crucial that the SUBJPs share core properties across languages (Cardinaletti 2004; Rizzi 2015b; Shlonsky & Rizzi 2018). Recall that it is the distinction between the "subject-of-predicate" feature checking and phi-feature checking that favours the multiple-layer cartography of subjecthood (Cardinaletti 2004). The idea has been developed in Rizzi (2015a, 2015b) and Shlonsky and Rizzi (2018) that SUBJP provides a Subject Criterion, in which a criterial

feature, [Subj], which expresses the "aboutness" semantics, is checked. Like *to* in Polish and *hu* in Hebrew, the context of use of *shì* complies with what has been proposed for SUBJP. On the one hand, *shì* is directly relevant to a subject–predicate relation. On the other hand, as will be discussed in the next chapter (Section 5.2), the precopular position in Mandarin is closely associated with information structural properties. The functional projection headed by *shì* can be viewed as the Subject Criterion in the sense of Rizzi (2015a, 2015b).

In a word, the pronominal copulas in Mandarin, Hebrew, and Polish share properties in terms of syntactic distribution. They are situated high in the structure (though different heights might be proposed). Furthermore, they are crucial for the features in relation to the predication relation other than other inflectional or agreement features such as tense or phi-features. Hence, following the cartography of the multiple-layer subjecthood, these pronominal copulas lexicalise one of the SUBJ heads. The choice of which SUBJ to instantiate is subject to language variation and the type of copular sentences (e.g. bare or not so bare, predicational or specificational).

4.4.4 Pronominal copulas and the Copular Cycle

This section provides a generalisation about the grammaticalisation of copulas, which may lend support to the analysis that pronominal copulas such as Mandarin *shì*, Hebrew *hu*, and Polish *to* lexicalise SUBJ, with the subject of a copular sentence occupying the specifier of SUBJP. The grammaticalisation path of pronominal copulas has been proposed as the "copular cycle" (Lohndal 2009; van Gelderen 2015), on the basis of the seminal work of C. N. Li and Thompson (1977). This proposal depicts two grammaticalisation paths for the two types of copulas. For verbal copulas such as English *be*, there is no categorical change in the course of the grammaticalisation. The copula originates from a lexical verb and ends up as an auxiliary. In contrast, the grammaticalisation of pronominal copulas involves a spec–head relation, which engages a categorical change. Specifically, the copula originates from a demonstrative or a pronoun, which occupies the specifier position of a functional projection. When it has developed to a copula, it instantiates the head of the functional projection (presumably, SUBJP). The pronominal copula might further develop into an affix-like grammatical marker. The whole

process can be schematized as in (78).

(78)

demonstrative/pronoun	>	copula	>	grammatical marker
specifier	>	head	>	affix

(Lohndal 2009: 218)

The generalisation of "copular cycle" particularly stipulates the spec–head relation associated with grammaticalisation of pronominal copulas. Crucially, the stipulation of SUBJP involves the spec–head relation. Although the two analyses are independently motivated, they converge on emphasising the same structural relation. The specific spec–head relation associated with pronominal copulas motivates analyses which propose that pronominal copulas head projections whose specifier is occupied by the subject. In proposals that do not assume SUBJP, Hebrew *hu* and Polish *to* have been analysed as T (Doron 1983; Rothstein 2004; Citko 2008). The subjects occupy the specifier position of TP. It has also been proposed in Tse (2016) that Mandarin *shì* should be analysed as T, taking into consideration the "copular cycle". However, as argued in Section 4.2.2, *shì* should not be taken as the spell-out of T. Instead, the current thesis proposes that *shì* heads one of the SUBJP projections, as discussed in the previous chapter. The subject of copular sentences occupy the specifier of the SUBJP, which is headed by *shì*.

Before closing the section, I briefly present the development of Mandarin *shì*, following the path sketched in (78). As mentioned in Section 4.4.1, *shì* originates from a demonstrative meaning 'this', and then develops into a copula. Nowadays, in Mandarin and other relevant varieties of Chinese, *shì* functions as the most frequently used copula. Interestingly, it has been reported in a recent cross-dialectal study that the copula can be used as a topic marker in some dialects in southern China (Jin 2020) (e.g. (79)). This phenomena that the copula has been grammaticalised to some other grammatical marker may lend support to the grammaticalisation path that proposed for pronominal copulas, as sketched in (78) .

(79) a. Fuzhou Gan
Lau^{45} wɔŋ^{213} ɕi ŋo^{45} tsau^{45}kan^{11} ts^{h}ai^{24} p^{h}ʊŋ^{41}tau^{11}
old Wang COP_{TOP} 1SG morning just meet
kɛ^{45}.
3SG
'(Speaking of) Old Wang, I just saw him this morning.'
(Jin 2020: 96)

b. Wuyuan Hui
Lɔ$^{31\rightarrow24}$ li$^{31\rightarrow24}$ ɕi^{31} tsu^{35} bu^{515}kəŋ^{15}.
old Li COP_{TOP} do carpenter.work
'(Talking about) Old Li, (he) makes a living as a carpenter.'
(Jin 2020: 98)

4.5 Conclusion

This chapter examined the position of *shì* in the structure, in the context that the position of copular elements in different languages shows great diversity. I argue that *shì* does not head Pred, V, or T. Instead, it instantiates a high functional head as one of the instances of SUBJ, which has been proposed for pronominal copulas in other languages. In addition, the last section shows that pronominal copulas such as Mandarin *shì*, Hebrew *hu*, and Polish *to* share properties distinct from verbal copulas in the world's languages. Hence, they can be analysed in the same way. For one thing, structures containing only a pronominal copula have no VP. Furthermore, these pronominal copulas supposedly lexicalise one of the SUBJ heads. A spec–head relation between the subjects of the copular sentences and the copulas is thus established. The next chapter will propose structures of canonical and inverse copular sentences in Mandarin.