

The negative cycle in Chinese

From synthetic to analytic and back to synthetic negation?

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The present discussion proposes that renewal processes in the domain of negation manifest themselves predominantly in the change from bi-morphemic, synthetic negation to analytic negation NEG+AUX by introducing a new auxiliary verb as verbal head. Some of these new verbs may subsequently be merged with the negator resulting into new bi-morphemic negation. The proposed analyticization process accounts for different kinds of complex negation, including aspectual and modal negation, the copula and negative focus markers. I propose a unified mechanism for the morpho-syntactic processes, which change the system of negation in Chinese. Two morpho-syntactic factors contribute to this particular grammaticalization process of Chinese: (1) the diachronically consistent head initial word order within the functional and the lexical (CP/ ν P) domains (with the exception of sentence-final particles); (2) the morpho-phonological rule that negation has to attach directly to AUX, i.e., to a weak verbal head. Based on particularly the second constraint, I propose that only the combination NEG+AUX_{mod} leads to the emergence of new fused negators constituting the head of a Negative/Modal phrase, i.e., a negative phrase (NegP) with modal features. The renewal process of the verbal heads of bi-morphemic negation is caused by semantic bleaching and an increasing intransparency of the negator which triggers the grammaticalization of new (often defective) lexical verbs via upward movement from the lexical to the functional domain. It accounts for the grammaticalization of the aspectual negator *wèi* 未, of the (negative) copula of Early Archaic Chinese into focus marker and complementizer, and for the replacement of synthetic by analytic modal negation NEG_{mod} > NEG+AUX_{mod}.

Keywords: negation, synthetic, analytic, linguistic cycle, Chinese

1. Introduction

Negative cycles have been discussed in the linguistic literature at least since the beginning of the 20th century mostly concentrating on the so-called Jespersen cycle, named after the Danish linguist Jespersen.¹ Different approaches have been taken in order to analyze negative cycles. They include an analysis of syntactic changes within the generative framework, which proposes a negative phrase consisting of a head and a specifier. The analysis involves the weakening and eventual disappearance of the negative head, and the reanalysis of an element in specifier position as a new negative head (van Gelderen 2011) as in Example (1b). Other approaches concentrate on phonological and/or semantic weakening/bleaching and strengthening processes, or on a loss of emphasis which needs to be reinforced by additional negative elements (e.g., van der Auwera 2009).² Van der Auwera (2009) evaluates the different motivations for negative cycles proposed in the literature. He provides some arguments against Jespersen's original hypothesis that phonetic erosion was the trigger for the negative cycle: Erosion caused the weakening of the original negator which required restrengthening by the introduction of a second negative marker in the linguistic cycle. In addition to the Jespersen cycle, another major cycle has been proposed in Croft (1991), which involves existential verbs (van Gelderen 2011).³ The major negative cycles are:

- a. The first and most famous cycle is the so-called Jespersen cycle, proposed mainly for English and French, involving an indefinite phrase: *jeo ne dis* → *je ne dis pas* → *je dis pas*.
- b. Croft (1991) proposes a development of new negative markers by the merging of an existential verb with a negative marker.⁴

1. An overview of the history of research on negative cycles is presented for instance in van der Auwera (2009). Van der Auwera and De Vogelaer (2008) point to Gardiner (1904) as the first to mention cyclical changes in the negative for different stages of Egyptian (cf. van Gelderen 2011: 292).

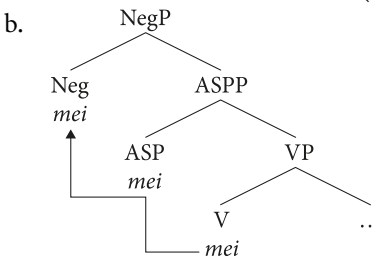
2. Van der Auwera (2009) provides a detailed list of scholars following the respective accounts for negative cycles, specifically in French.

3. Givón (1978: 89) includes negative cycles based on negative main verbs such as 'refuse', 'deny', 'reject', 'avoid', 'fail', or 'lack' which grammaticalize into negative markers. These basically constitute a subgroup of the Croft cycles (see also Zhang 2002).

4. Chinese belongs to the languages that actually possess a negative existential verb. Archaic Chinese has a clear antonymy relation between the existential verb *yǒu* 有 'have, there is' and its negative counterpart *wú* 無 'not have'. The latter is replaced by *méiyǒu* 沒有 in modern Mandarin, while a synthetic negative existential still exists in some Sinitic varieties, e.g., in Southern Min in the reading *bo*⁵ 無: 不 *m*⁷+ 有 *u*⁷ → *bo*⁷. The bilabial nasal [m] denasalizes into a bilabial stop [b] preceding oral vowels (Teng 1992: 611; cf. Yang 2017: 30). Negative existential verbs are

The intricate system of negation in the history of Chinese discussed below evidently involves renewal via grammaticalization of lexical verbs (verbal heads). These include verbs such as ‘stop’ and ‘sink’; pre-modal verbs such as ‘can’, ‘want’, and ‘must’; and existential verbs.⁵ Part of this cycle is briefly discussed in van Gelderen (2011). Based on a concise summary of the complex situation of negators in the history of Chinese, van Gelderen concentrates on the development of the aspectual negator *méiyǒu* 沒有 in Modern Chinese and proposes that it is derived from a verb *mù* (*méi*) 沒 ‘go down, sink’ → ‘die’ → aspect marker → negative marker. According to Lin (2002; cf. van Gelderen 2011: 297), *méi* gradually replaces the existential verb *wú* 無 in this function. The analysis of van Gelderen (idem) is in (1b).

- (1) a. 大衣也 沒有 穿, 就 走 了 出 來。
dayi ye mei you chuan, jiu zou le chulai (Rulin Waishi)
 coat even not PF wear, then walk PF out
 ‘He didn’t even put on his coat and walked out.’
 (Early Mandarin, Lin 2002, cf. van Gelderen)



The present discussion confirms van Gelderen’s basic hypothesis that Chinese belongs to the languages which recruit negative markers from verbs, i.e., where renewal predominantly takes place in the verbal domain. However, my analysis demonstrates that the diachronic picture of the Chinese negative cycle is more complex than suggested by van Gelderen’s analysis. Additionally, I provide supporting evidence from Chinese against Jespersen’s hypothesis that phonetic erosion caused the negative cycle (cf. van der Auwera 2009: 6, and references therein).

In this article, I propose that the cycle in Chinese was mostly set in motion by the semantic weakening of the modal, aspectual, or focus functions of bi-

also attested in other languages of the Tibeto-Burman family. For instance, Post (2015: 454) proposes that the negator **ma(ŋ)* in Proto-Tani (a Tibeto-Burman language) might have its origin in a negative existential verb.

5. This suggests that the Givón and the Croft cycles are more relevant for Chinese than the Jespersen cycle.

morphemic negators in Chinese. Bi-morphemic negators are negative modals ‘must/may not’, aspectual markers ‘not yet’, copulas ‘is.not’, and focus markers. All negators were subject to an analyticization process when the original verbal function of the negator became opaque. Caused by the semantic bleaching of the complex bi-morphemic negators and their reanalysis as simple adverbial negation, new verbal heads were introduced into the cycle replacing the synthetic negator by an analytic construction. This kind of cyclic process repeats itself in the history of Chinese. The phonetic erosion of the negator and its fusion with a new verbal head is a more limited phenomenon in the history of Chinese.

My analysis is based on a comprehensive study of the data of Archaic and Middle Chinese,⁶ followed by a brief sketch of the development of new bi-morphemic negators in Modern Sinitic varieties.⁷ I demonstrate that although negators such as *méi* in *méiyǒu* can be recruited directly from lexical verbs,⁸ the negative cycle in Chinese manifests itself not predominantly in the grammaticalization of a verbal head into a negator. Instead, a bi-morphemic, synthetic negator is replaced by an analytic negator NEG+AUX via the introduction of a new head, i.e., by the grammaticalization of a lexical verb into an auxiliary, which merges with the negator. NEG+AUX subsequently can be phonologically fused into a new

6. Different slightly varying chronologies of Chinese have been proposed; I more or less follow the dating in Peyraube (1996) with a slight modification of the post LAC period: Pre-Archaic Chinese, language of the Oracle Bone Inscriptions (OBI) (14th–11th c. BCE), Early Archaic Chinese (EAC) (10th–6th c. BCE), Late Archaic Chinese (LAC) (5th–3rd c. BCE) (the period of Classical Chinese), Early Middle Chinese (EMC) (transition period) (2nd c. BCE–2ndCE/5th c. CE), Middle Chinese (3rd–6th c. CE), Late Middle Chinese (7th–mid-13th c.), and Pre-Modern (mid 13th–14th c.) (transition period). The EMC and LMC periods referred to here are based on syntactic changes and not on phonological changes; thus, they differ from the EMC and LMC in Pulleyblank (1991). In the following, the period from the 3rd c. to the 10th c. will be referred to as Middle Chinese, acknowledging that it reflects different linguistic strata. The reason for this decision is that during this period, many of the source structures of Modern Chinese developed.

7. Sinitic languages such as Southern Min, Cantonese, but also dialects of Mandarin display considerable grammatical differences from Standard Chinese, particularly when it comes to the employment of function words.

8. In the case of *méi yǒu*, a verb of dying is involved. Another negative marker found in the history of Chinese, *xiū* 休 ‘don’t’, derives from the verbal meaning ‘stop’; it functions as a deontic (imperative) negator. Negative markers can also be recruited from quantifiers as in the case of *mò* 莫 ‘no one’ → ‘don’t’.

bi-morphemic negator;⁹ however, this process only seems to be productive with respect to modal negation.

Five phases have been identified for the cyclic process discussed in this article. In Phase I, the bi-morphemic negators still function as (often defective) verbs in the lexical layer. Phase II is characterized by a complete loss of argument structure of the negative verbs and their grammaticalization into functional categories, e.g., modal markers, markers of the future tense, and focus markers, above νP .¹⁰ In Phase III, the original functions of the negators become entirely opaque and they are reanalyzed as simple adverbial negators; the original verbal meaning is subsequently strengthened by new lexical material (AUX, COP, ADV). Phase IV is characterized by a general replacement of the original negators by the neutral negator *bù* 不 in NEG+AUX in standard varieties of Chinese (Northern Mandarin, Written Chinese). In Phase V, NEG+AUX_{mod} merge in vernacular and non-standard varieties of Chinese; this is similar to Phase I.

The present study proposes a unified mechanism which accounts for the morpho-syntactic processes changing the system of negation in Chinese. Two morpho-syntactic factors contribute to this particular grammaticalization process of Chinese: (1) The diachronically consistent head initial word order within the CP/ νP domains (the only exception is the head final position of a small class of complementizers, i.e., sentence final particles, which emerge in Archaic Chinese); and (2) The morpho-phonological rule that negation has to attach directly to AUX, a weak verbal head, in Chinese proposed in Meisterernst (2020a). Based on particularly the second constraint, I propose that only the combination NEG+AUX_{mod}, i.e., the result of the renewal of a verbal auxiliary, leads to the emergence of new fused negators constituting the head of a negated modal phrase (Neg/ModP), i.e., a Negator Phrase (NegP) with strong modal features. Other combinations of negators with aspectual adverbs or focus markers do not seem to have a similar

9. This possibility is briefly mentioned in van Gelderen (2011:318f) with respect to modal negation, but it is not pursued in detail. Synchronically, this process can be observed particularly well in Southern Min, which displays a great variety of bi-morphemic mono- and disyllabic negators.

10. With νP I refer to a complex verb phrase, which hosts the lexical verb and its arguments. It consists of different functional projections accounting for causation, telicity features, and argument structure. CP refers to the complementizer phrase, which determines the sentence type as finite or non-finite, subordinate or matrix, question, declaration, or exclamation. In Chinese, conjunctions (complementizers) can function to mark particular kinds of subordinate clauses; they are head initial. Sentence-final particles mark sentence types; they are head final. The marking of tense and finiteness is a debated issue in Chinese linguistics. I assume that Chinese had a tense phrase (TP), in which deontic modality is hosted. Aspect can be overtly marked by aspectual adverbs, and most likely also by sentence final particles (Pulleyblank 1995).

effect.¹¹ My discussion also provides syntactic support for the morpho-syntactic functions of the Archaic synthetic negators, which have been reconstructed as results of earlier merging processes.¹² This will be discussed in more detail below.

The syntactic analysis in this study is based on the syntactic grammaticalization framework proposed e.g., in Roberts and Roussou (2003). In this framework grammaticalization is analyzed as upward movement on a functional spine, eventually resulting in direct (late) merge in a functional projection (e.g., van Gelderen 2011). Lexical items – in the present discussion, lexical verbs – grammaticalize into auxiliaries, for instance modals, future markers, focus markers and conjunctions, which are located above the lexical domain (*vP*) in the functional domains of CP/TP. The grammaticalization involves the loss of argument structure of the lexical verbs and a semantic bleaching which allows them to appear as function words (Roberts & Roussou 2003; Meisterernst 2020b for Chinese). According to this theory, movement from the lexical to the functional domain is involved in the early stages of grammaticalization. As soon as a lexical item is fully grammaticalized as a functional morpheme, it is hosted directly in its functional position as a modal, future marker, focus marker, etc. The upward movement of (often already defective) lexical verbs from the lexical to the functional domain is the basis for the renewal of the modal, copula, focus functions of the bi-morphemic negators of Chinese, the semantics of which had become opaque. It accounts for the grammaticalization of the aspectual negator *wèi* 未 and of the EAC copula *wéi* 唯 and its negative counterparts into focus markers and complementizers, as well as for the replacement of synthetic by analytic modal negation $NEG_{mod} > NEG+AUX_{mod}$. The negative copulas have been replaced by the analytic structure $NEG+COP$; whereas negative complementizers have been replaced eventually by new analytic structures.

The discussion is organized as follows. In Section 2, the different negative markers of Archaic Chinese, their semantics, and their respective reconstructions will be introduced. Section 3 discusses the syntactic constraints of particularly negative copulas and focus markers, the aspectual negator *wèi* and modal negation, and their respective diachronic changes from synthetic to analytic negation and back to synthetic negation; Section 4 concludes the discussion. The data is based on the Academia Sinica and the *ctext.org* corpora for LAC and the non-

11. This is however subject to more research. The analysis of the system of negators and their syntactic status is still highly controversial, and little syntactic analysis has been conducted with respect to their diachronic development.

12. Another negative cycle not discussed here would involve the development of negators into C markers, i.e., sentence-final Q particles.

Buddhist MC literature;¹³ the Buddhist data is based on the freely accessible CBETA corpus. If possible, examples have been chosen from texts the language of which is particularly representative for the respective period.

2. Negation in Chinese

The preverbal position is the default position of negators in Chinese at all times; only one negative marker is available for each *vP*; it is consistently a Double Negation language. At no time does it display negative concord, different from many of the Indo-European languages on which the Jespersen cycle is based (see e.g., Zeijlstra 2004 for an overview). According to Zeijlstra's analysis and system, languages with only a single negative marker are either Phase V languages in which only a negative adverb is available, or they are Phase I languages in which the negative marker is directly attached to the finite verb. Zeijlstra argues that Phase V languages do not necessarily have a NegP projection in syntax, whereas in Phase I languages the negator is hosted in a NegP. German is a Phase V language with a negative adverb in postverbal position, the basic underlying word order of German being OV. The proposal of a separate functional projection NegP for negation (Pollock 1989; cf. Zeijlstra 2004: 166)¹⁴ is based on examples in English and French, such as *Mary does not run*, in which a negator appears between the auxiliary and the verb. These examples suggest that there is a separate position for a negator between TP and VP.

Chinese clearly differs from languages in which a negator is permitted to appear between an auxiliary and the verb. The word order particularly of LAC and early Middle Chinese is very strict, and, in unmarked contexts, modal and temporal adverbs precede negation, whereas modal auxiliary verbs follow negation, irrespective of the scope of the negator. In order to account for the different scope relations between modal auxiliaries and the negator in modal negation, I assume that Chinese has a mostly covert polarity phrase (PolP) in a position between TP and VP. In Chinese, negators invariably have to directly precede all auxiliaries which still have a transparent verbal origin (Meisterernst 2020a). There does not seem to be conclusive evidence for a mandatory NegP between TP and VP.

13. The earlier MC Buddhist literature is particularly relevant for linguistic studies because its language is closer to a vernacular of the time than, for instance, the transmitted historical literature.

14. NegP consists of a head, hosting preverbal negative markers, and a specifier, which hosts negative adverbials (Zeijlstra 2004: 166.).

Although Chinese is not a language with a rich morphology, comparative phonological and morphological research suggests that early stages of Chinese had a considerable amount of derivational morphological marking, which became intransparent and started to disappear at the end of the Late Archaic period (e.g., Pulleyblank 2000; Schuessler 2007; Baxter & Sagart 2014; Jacques 2019; Meisterernst 2020b). This is the context in which the negators of Archaic Chinese are discussed in this paper. As will be shown, pre-Modern Chinese, but also Taiwanese Southern Min, has a great variety of negative markers. This contrasts with Modern Mandarin, which has only two main negators *bù* 不 ‘not’, and *méiyǒu* 沒有 ‘not yet’ in its standard variety.

Archaic Chinese negators have traditionally been divided into two morphological classes defined by their initials *p*- versus *m*-. In the historical phonological literature (Graham 1952; Kennedy 1954; Hashimoto 1976; Djamouri 1991; Pulleyblank 1995, 2000; Schuessler 2007; Baxter & Sagart 2014; Unger 2019; to mention only a few), different verbal bases have been assumed for the negators of Archaic Chinese: (a) copula; (b) existential verb; (c) modal (verb), possibly derived from the existential verb; and (d) aspectual (verb). This means that Archaic Chinese possessed numerous synthetic negative markers with predicative functions, which were marked by an affix (prefix) as negators.¹⁵ Corresponding to the semantics of their respective verbal bases (heads), these had different grammatical functions. In Early Middle Chinese, supposedly triggered by the loss of morphological marking (Meisterernst 2020b and references therein), the language underwent a process of changing into a more analytic language. During this process, both the negative affixal element and the verbal head were gradually being spelled out in the form: NEG+AUX/COP; on the other hand, a few new contractions of NEG+AUX emerge particularly in Chinese vernaculars.¹⁶ Thus, the negative cycle in Chinese is one of the many instantiations of the ‘spiral course of languages’, the agglutination cycle proposed in Gabelentz’s Agglutination Theory (1891:296) as a linguistic universal.¹⁷ The least ‘verbal’ and most general

15. Van Kemenade (2000) proposed for Old English that a similar kind of fusion is possibly only a phonological fusion; this may also be the case in Chinese.

16. Different causes have been proposed for the change from a more synthetic to a more analytic language including the loss of morphological distinctions, and/or changes in the prosody of words from LAC to MC (e.g., Feng & Liu 2019). The changes concern syntactic changes, but also a tendency to disyllabification.

17. “Affixes weaken and disappear entirely over time, but their functions or related functions remain and strive for new expression. These expressions are achieved, according to the mechanisms of isolating languages, by word order or by clarifying words. The latter are over time subjected to a new agglutination process, and to their weakening and disappearance (Die Affixe verschleifen sich, verschwinden am Ende spurlos; ihre Functionen aber oder ähnliche bleiben

negative marker of the time, *bù* 不, develops into the default negative marker in NEG+AUX/COP combinations in Standard Mandarin Chinese. Besides verbal heads, obviously also adverbs can serve as a source for new clausal negators; the example to be mentioned here is the negative quantifier *mò* 莫 ‘none’, which is reanalyzed as a modal negative marker, showing that in Chinese also indefinites can serve as a source of renewal (van Gelderen 2011: 310).

2.1 Negative markers in Archaic Chinese

In this section, I provide a brief introduction into the well known negators in Archaic Chinese, which are distinguished into two groups according to their initial consonants.¹⁸

- A. p/f-negations: express simple negation;
- B. m/w-negations: express modal negation. Modal negative markers imply “non-existence”, i.e., irrealis, prohibition, deontic use (obligation, permission, prohibition), and epistemic use (Takashima 1988; Djamouri 1991; Unger 2019, and references therein).

Negators of the second group with the bilabial nasal initial *m-* are omnipresent in the Tibeto-Burman language family (Post 2015 and references therein); for instance, Matisoff (2003; cf. Post 2015) reconstructs a ‘negative auxiliary’ **ma(y)*, and LaPolla (2003: 27; cf. Post 2015) a preverbal partical **ma-*. Bilabial stop negatives in *p-*, by contrast, are typical for Chinese.¹⁹

In the following tables, the most important negative markers of Archaic Chinese are listed together with their reconstructed forms based on Baxter and Sagart (2014) and Schuessler (2007). The table also includes the different fusion hypotheses proposed in the literature on negative markers in Chinese. Following Table 1 and Table 2, I briefly discuss the respective correspondences of the Archaic

und drängen wieder nach Ausdruck. Diesen Ausdruck erhalten sie, nach der Methode der isolirenden Sprachen, durch Wortstellung oder durch verdeutlichende Wörter. Letztere unterliegen wiederum mit der Zeit dem Agglutinationsprozesse, dem Verschleife und Schwunde, ...” (Gabelentz 1891: 269). Van Gelderen (2013) discusses the relevance of the Gabelentz Agglutination Theory in a little more detail.

18. The situation in the Southern varieties of Chinese differs considerably from that of Standard Chinese. This has been discussed e.g., in Hashimoto (1976); Yue-Hashimoto (1991), and Zhang (2002), among many others. Hashimoto (1976) already proposed that Northern and Southern Sinitic varieties can be distinguished according to the initial of their negators, with an oral labial negator being typical for the Northern, and a nasal (mostly bilabial) negator typical for the Southern varieties.

19. I am grateful for one of the reviewers for pointing my attention to Post (2015).

negative markers in Modern Mandarin, which usually are analytic forms NEG+AUX/COP.²⁰

A. *p/f*-negative markers *bù* 不, *fú* 弗, and *fēi* 非

Table 1. *P/f* negative markers

Character	Pinyin	B&S / ABC (OCM)*	MC (B&S)	Meaning	Fusion proposals	Alternative proposals
不	<i>bù</i>	*pə**	pjuw	not		
非 (匪 / 斐)	<i>fēi</i>	*pəi (*pəʔ) prob. < *pui	pj+j	is not	不*p(ə) + 唯/惟 *(g ^w)ij / wi (copula)	
弗	<i>fú</i>	*p[u]t	pjut	not + V _{tr}	V _{tr} ; (不*p(ə) + 之 *tə)	modal (AM) final***
否	<i>fǒu</i>	*pəʔ	pjuwX	not	= <i>bù</i> 不	

* Reconstructions and glosses in the tables are taken from Baxter and Sagart (2014) and from Schuessler's (2007) Minimal Old Chinese (OCM).

** According to Unger (2019: 433), the negator *bù* 不 has an alternative reading identical to the reading of *fú* 弗; this is the variant from which Modern Mandarin *bù* derived. The author thanks one of the reviewers for this clarification.

*** AM refers to Aspect-Modality. Schuessler (2007: 72) proposes that the final consonant *-t* has some kind of modal meaning, borrowing this terminology from Dobson (1959, 1962). Pulleyblank (1995: 105) proposes an aspectual reading for final *-t*; see also Table 2.

Djamouri (1991) proposes that the negative marker *bù* 不 in Pre- and Early Archaic Chinese has attributive, descriptive, non-active functions, appearing with intransitive verbs and adjectives. *Fú* 弗 has been analyzed as the negator of transitive verbs high on the activity level (Djamouri 1991), or as a fusion of *bù* with the object pronoun *zhī* 之 (Wei 2001 and references therein). This syntactic distinction disappears in later stages of Chinese, and *bù* (MC *pjuw*) derived from the variant *fú* (*pjiut*) became the general negator of Modern Mandarin. The negative *fēi* 非 functions as a negative copula 'is.not', supposedly derived from the Early Archaic copula *wéi* 唯; its Modern Mandarin correspondence is the negator *bù*+copula *shì* 是. The latter first appears in EMC during the Han period (Peyraube & Wiebusch 1994). Example (2) shows all three LAC negative markers in one sentence.

20. The negator *fǒu* 否 has a special status as a sentence final negator and will not be included in the discussion.

- (2) 公 弗 許, ... 不 書, 非 公 命 也。
 gōng fú xǔ bù shū Fēi gōng mìng yě
 prince NEG grant NEG record NEG.COP prince order SFP
 ‘but the ruler did not allow it. ... It was not recorded, [because] it was not the ruler’s order.’
 (Zuozhuan, Yin 1, LAC)²¹

B. *m/w-negation markers: Wú 無/毋, wù 勿, wèi 未*



Table 2. M/w-negation markers

無	wú	*ma	mju	not have		
無	wú	*mo	mju	don’t		
無	wú	*ma	mju	volitional prefix		
无	wú	*ma	mju	not have		
毋	wú	*mo	mju	don’t		
勿	wù	*mut	mjut	‘don’t’, ‘not ... it’	V _{tr} ; (勿 *mut + 之 *tə)	modal (AM) final
沒	méi/ mò	*m ^h ut		dive, drown, die		
靡	mǐ	*m(r)ajɹ		not have		
蔑	miè	*m ^h et	met	not have (destroy)	possible derivation of mǐ 靡 (Schuessler 2007)	modal (AM) final
亡 (罔)	wáng	*maŋ	mjang	not have (disappear)		
微	wēi/ wéi	*məj	mj+j	small, it is not	*m + 唯/惟*(G ^w)ij / wi (copula)	
未	wèi	*m(ə)t-s	mj+jH	not yet	*m + 既 *[k]ə[t]-s ‘complete’	irrealis final
莫	mò	*m ^h ak	mak	there is no X such as X/none, nothing	< m + distributive -k (*wək或 < yǒu *wəɹ 有 + distributive -k)	

Table 2 represents an overview of the great variety of modal markers in Archaic Chinese, which morphologically belong to the *m*-group; they include the

21. Examples from the *Zuozhuan*, as one of the texts most representative for the grammar of LAC, have been chosen in this section.

negative existential verb *wú* 無 ‘not have’. The character 無 can also write one of the most frequent deontic negative markers.

In this section, I will briefly introduce the more commonly employed modal negators: *wù* (*mut*) 勿 ‘don’t’, and *wú* (*ma/mo*) 毋/無 ‘don’t’; the aspectual negator *wèi* 未 ‘not yet’, and the quantifier *mò* 莫 ‘none’. The two modal negators *wù* 勿 (*mut*) and *wú* (*mu*毋/無) are differentiated in a way similar to the the *p*-negators *bù* 不 and *fú* 弗. According to Djamouri and in contrast to the proposed fusions seen in the Tables 1 and 2 (see also Wei 2001), the negators with a final *-t* negate transitive verbs, and those without *-t* negate intransitive descriptive verbs. All negators are already attested in the Pre-Archaic Inscriptions. Djamouri (1991) classifies *wù* 勿 as a deontic negator, expressing that the speaker poses an obligation on the addressee: ‘ought to do’. By contrast, *wú* 無/毋 refers to an obligation due to a fact in the real world, an internal obligation, and to epistemic modality: ‘ought to be’ (alethic – epistemic).²² The semantic function of both negators is ‘NECESSARY not □’, the necessity operator scopes over the negation (Meisterernst 2020a). Both negators are bi-morphemic synthetic negators. In Early Middle Chinese, a replacement process of synthetic modal negation by analytic modal negation NEG+AUX_{mod} starts. NEG in NEG+AUX can be both a modal negator or the *p*-negator *bù* 不. The latter had already become the most common clausal negator by that time. In Modern Mandarin, the synthetic modal negators of LAC represented in the Examples (4–6) are usually replaced by BU+AUX_{mod}. Despite this process of analyticization, a tendency to contract NEG+AUX_{mod} again can be observed throughout the history of Chinese.²³ This leads to new synthetic forms particularly in Modern Mandarin vernaculars and other Sinitic languages; a few examples of this process will be discussed in Section 3.4. (3) represents the correspondences of the negators *wú* 無/毋 and *wù* 勿 in Modern Mandarin. The negative existential verb ‘not have’ corresponds to the negative existential *méiyǒu* 沒有 in Modern Mandarin; modal deontic negation usually corresponds to *bùyào* 不要 ‘should not’. The modal verb *yào* grammaticalized from a lexical verb ‘search for, request’.

22. In the LAC literature, this distinction is difficult to maintain.

23. This corresponds well to the proposal in Feng and Liu (2019) that Chinese constantly underwent changes from being more synthetic to being more analytic and back again to being more synthetic.

- (3) *wú* 無 / *wú* 毋, and *wù* 勿
wú 無 ‘not have’ → *méi yǒu* 沒有 ‘not have’
wú 無/毋 ‘don’t / should not’ → *bú yào* 不要 ‘don’t / should not’
wù 勿 ‘don’t / should not’ → *bú yào* 不要 ‘don’t / should not’
- (4) 美 而 無 子
Měi ér wú zǐ
 Beautiful CON not.have child
 ‘She was beautiful, but she did not have any sons.’ (Zuozhuan, Yin 3, LAC)
- (5) 吾 子 其 無 廢 先 君 之 功!
Wú zǐ qí wú fèi xiān jūn zhī gōng
 I son MOD NEG_{mod} abandon former ruler GEN success
 ‘My master should well not abandon the achievements of the former ruler!’
 (Zuozhuan, Yin 3, LAC)
- (6) 勿 翦 勿 伐,
wù jiǎn wù fá
 NEG_{mod} cut NEG_{mod} hew
 ‘Clip it not nor hew it down.’
 (tr. Legge, TLS) (Zuozhuan, Ding 9, from Shijing, EAC)

The aspectual negative marker *wèi* 未 ‘not yet’ in Example (7) corresponds to *méi yǒu* 沒有 ‘not yet’ in Modern Chinese (Pulleyblank 1995; Meisterernst 2015b, 2016 and references therein).

- (7) 周 德 雖 衰, 天 命 未 改。 鼎 之
Zhōu dé suī shuāi tiān mìng wèi gǎi dǐng zhī
 Zhou charisma although decline heaven mandate NEG_{asp} change tripod GEN
 輕重, 未 可 問 也。
qīngzhòng wèi kě wèn yě
 weight NEG_{asp} possible asked SFP
 ‘Although the charismatic power of Zou was declining, the heavenly mandate had not changed yet; thus the weight of the tripods cannot be questioned.’
 (Zuozhuan, Xuan 2, LAC)

The negator *mò* 莫, a negative quantifier, develops into a deontic marker at the end of the LAC period. According to Pulleyblank (2000: 41) *mò* belongs to a class of quantifiers morphologically marked by the coda *-k, which quantify over the subject. The fusion proposals advanced for *mò* are: (a) a contraction of an *m*-negation+the quantifier *huò* 或 (Mulder 1959; Harbsmeier 1981) resulting in an

indefinite phrase without a verbal head;²⁴ and b) a combination of the negative existential with the genitive pronoun *qí* 其: *wú* 無+*qí* 其 (Boodberg 1979), proposing a possible verbal origin for the quantifier. The examples in (8) demonstrate the development from quantifier in LAC to modal negator in EMC and MC. I assume that the quantifier *mò* had been reanalyzed as a modal negator mostly due to its high position in the CP/TP layer but also due to its *m*-initial when the system of modal negators started to disintegrate.

- (8) a. 公 送 葬, 諸侯 莫 在。
gōng sòng zàng zhūhóu mò zài
 duke accompany burial feudal.lord NEG_{quant} be.there
 ‘The duke followed the burial, none of the feudal lords was present.’
 (Zuozhuan, Cheng 10, LAC)
- b. 「莫 如 商鞅 反 者!」
Mò rú Shāng Yǎng fǎn zhě
 NEG_{mod} be-like Shang Yang revolt NOM
 ‘Do not revolt like Yang of Shang.’ (Shiji: 68, 2237, EMC 100 BCE)
- c. 「居士! 莫 悔 也!」
jūshì mò huǐ yě
 layman! NEG_{mod} regret SFP
 ‘Layman, don’t have any regrets!’ (Taishō 4, 2, p. 419a, MC, 5th c. CE)

2.2 The morpho-syntax of negative markers in Archaic Chinese and the negator *bù*

In this section, I discuss the syntactic position of negators in Archaic Chinese under the cartographic approach following Rizzi (1997) and Cinque (1999). Rizzi (1997) proposed a split CP, which hosts several functional projections for topics, focus and finiteness. Cinque (1999, 2001) proposed a universal order of adverbs and functional heads.²⁵ Although Cinque’s ordering of adverbs can certainly be disputed in its details, at least the order of epistemic adverbs, tense/aspectual marking, deontic modal auxiliaries, and dynamic (lexical modals) in Chinese follows his proposed universal ordering. As already mentioned, word order con-

24. One of the reviewers pointed out that this fusion is highly unlikely because of the incompatibility of the rhyme of *huò* with *mò*.

25. The following shows some of the functional projections which are relevant in the present discussion and their order:

(i) MoodP_{speech act} > MoodP_{evaluative} > ModP_{epistemic} > Mod_{epistemic} T(Past) T(Future)
 Mood_{irrealis} Mod_{necessity} Mod_{possibility} ... Mod_{root}

straints in LAC were very strict, the position of negation was fixed with respect to adverbs and auxiliaries and scope relations were not always represented by the overt position of negation. Additionally, there was no evidence for a position of the verb outside *vP*, and according to Aldridge (2019), there was probably no distinction between CP and TP unless necessary. Consequently, I depend on the ordering of negation, adjuncts, *wh*-words, etc., for the analysis of the syntactic position of negation.

Cross-linguistically, sentential negators can be base-generated in different positions according to e.g., Cinque, “What is crucial for determining the scope of sentence negation is not its ‘surface’ position (the one at “Spell-out”), but its base position” (1999: 124f). In the history of Chinese, the position of negators is subject to strict syntactic constraints, which also apply to the cyclical renewal process of negation in Chinese. Evidently, almost all the negative markers of Archaic Chinese have been reconstructed as fusions of a predicative morpheme with a negation marking prefix. The only possible exception is the negative quantifier *mò*. But even for this, a relation with the existential negative verb *wú* 無 cannot be excluded, and the proposed *m*-prefix may actually be a phonological reduction of existential *wú* (**ma*). But no morpho-syntactic analysis of the process leading to the reconstructed forms and no comparison with other diachronic developments in Chinese have been forwarded so far. In Early Archaic Chinese, the syntactic position of bi-morphemic negators is related to their grammatical function and to the degree of grammaticalization of the verbal meaning they include (their verbal head). The most general negator in LAC, *bù* 不, occupies a syntactic position different from the aspectual and modal negators, due to the fact that its verbal origin had already become entirely opaque in LAC.

The negator *bù* 不 functions as negative morpheme in all non-aspectual NEG+AUX constructions in Modern Mandarin, including the negated copula. Ernst analyzes *bù* in Modern Mandarin as a proclitic adverb which can modify an auxiliary in the Spec of AuxP or a verb in the Spec of VP, cliticizing to the following element.²⁶ This explains that it can precede a number of adverbial expressions (Ernst 1995: 694f). Ernst proposes that *bù* “requires unbounded aspectual situations”, assuming that it can attach to an overt or covert aspectual head, following Huang (1988) who “posits an empty modal to which *bù* cliticizes” (Ernst 1995: 694). In LAC, *bù* can be detached from the matrix verb by light verbs or applicatives, by pronominal internal arguments, and by manner adverbs. However, it cannot be detached from modal auxiliary verbs. Meisterernst (2020a) accounts for this by proposing a phonological rule that requires that *bù* (or the

26. Similar analyses have been proposed for *m*⁷ 不 in Southern Min. For an overview see Yang (2017).

negative prefix *m-*) always attaches directly to a defective verb (V^0), whether it is a copula or an auxiliary. It is this rule which allows *bù* or an *m-* negator in Southern Sinitic varieties to be merged with a modal auxiliary, but not with other syntactic elements such as adverbs for instance. The syntactic status of the negator *bù* in Chinese has been discussed quite controversially. Aldridge (2010, 2011) propose an analysis of *bù* as adjunct of vP in LAC and not as projecting a separate negative phrase (NegP). In later work (e.g., Aldridge 2021), she proposes that *bù* originally occupied the same position as the aspectual negator *wèi* 未, i.e., as the head of a NegP taking outer AspP as its complement, following the proposal for *wèi* in Meisterernst (2020a).²⁷ In LAC, *bù* occupied a lower position, and this downward mobility continues up to Modern Mandarin (Aldridge 2021). Meisterernst (2020a) proposes an analysis of *bù* as specifier of either the entire complex verb phrase (v), or as specifier of a modal auxiliary MOD. For LAC, some evidence for the modifying function of *bù*, its non-head status, can be provided by the ‘why not’ test established in Zeijlstra for the determination of the status of NEG as head or as specifier (Zeijlstra 2004: 154); heads do not allow the *wh-* word preceding NEG. Example (9) shows the *wh-*word *hé* 何 ‘why’ preceding *bù*. The fixed position of the *wh-*word with respect to the negator is supported by the fusion 盍 *hé* < hap < *gap < 何+不 attested in the LAC literature.²⁸ Additionally, there is no positive evidence for a separate NegP hosting *bù* in LAC. Based on the lack of evidence for the head status of *bù* in the combination NEG+AUX, I assume that it is a negative adverb as in German, which has to be merged with the auxiliary. But when AUX is incorporated, which only seems to happen with modal AUX, the new fusion form constitutes the head of NegP with strong modal features.

(9) 何 不 吾 諫? 」

Hé bù wú jiàn

Why NEG me admonish

‘Why did you not admonish me?’

(*Zuozhuan, Ai 11*)

Historically, *bù* 不 does not differ from the other negators discussed here. According to Djamouri, it functions as a marker of focalization or predication in the Oracle Bone and Bronze Inscriptions similar to *wù* 勿; Example (10a) shows this function. It can focalize either the subject or the entire sentence (CP). Examples like this are extremely infrequent. More evidence for the predicative function of *bù* as a defective verb (verbal head) in the OBI comes from the fact that it can

27. Meisterernst (2016) proposes an Outer Aspect Phrase which hosts aspectual adverbs. Aspectual adverbs precede the negator *bù*.

28. I am grateful to one of the reviewers for suggesting adding this fusion form as corroborative evidence.

appear by itself as a negative answer to a question; in this function, it can be preceded by an epistemic modal adverb, which appears high in the hierarchy of adverbs.²⁹ This can be seen in the examples in (10b, 10c).

- (10) a. $[_{CP} \text{不} [_{CP} \text{父乙} [_{VP} \text{咎婦好}]]]$
Bù fù Yǐ jiù fù Hǎo
 BU father Yi overwhelm lady Hao
 ‘It is not [the ancestral] Father Yi who overwhelms Lady Hao.’
 (Heji 6,032 recto, OBI, cf. Djamouri 2004)
- b. 于大乙告三牛? 不。
yú dà Yǐ gào sān niú? Bù.
 PREP great Yi announce three bull? Is.not.
 ‘Does it announce three bulls for Great Yi? No, it doesn’t.’
 (Tunnan 783, cf. Zhang 2001: 47f)³⁰
- c. 丙子卜: 弗其克? $[_{CP} \text{允} [_{VP} \text{不}]]$ 。
bǐng zǐ bǔ fú qí kè yǔn bù
 Bing zi divine NEG_{tr} FUT defeat certainly is.not
 ‘On the day bingzi they divined: Will we defeat them? We certainly won’t.’
 (Heji 200572, cf. Zhang 2001: 47)

In Early Archaic and Late Archaic Chinese, *bù* is not permitted to appear without a verbal complement anymore.³¹ However, a focalizing function connected to polarity is still present in rhetorical questions, for instance with the modal adverbs *yì* 亦 or *qí* 其. In these constructions, *bù* functions as polarity marker and precedes the adverb; this is not the regular position in LAC. These adverbs are characterized by their high syntactic position generally preceding temporal and aspectual adverbs. The position of *bù* before these high adverbs is a vestige from the focalizing function in the Inscriptions, *bù* appears in a high focus position, in PolarityP (Meisterernst 2018). (11a) is an example from the OBI, (11b) is a rhetorical question from LAC. The predicate is usually stative, expressing realis mood.

29. According to Zhang (2001: 61), *yǔn* 允 expresses certainty; it is discussed under the label of adverb. More research on the syntax of the OBI has to be conducted in order to confirm this analysis. Many of the examples discussed in Zhang under the label ‘adverb’ (*fùcí* 副詞) seem to involve bi-clausal structures (see Example (11a)). This suggests that they are rather verbs than adverbs.

30. Glosses, translations, and analysis of (10b) and (10c) are mine.

31. For instance, of the 613 instances of *bù* in the *Shijing* (11th–7th c. BCE), not a single one appears without a verbal complement.

- (11) a. 貞： 不 允 出？ 允 出？
 Zhēng bù yǔn chū yǔn chū
 Submit.to.oracle NEG certain depart certain depart
 ‘Submitted to the oracle: Not necessarily depart? Necessarily depart?’
 (Heji 6086, cf. Zhang 2001: 62)
- b. 有 朋 自 遠 方 來， [CP[PolP 不[CP亦[VP樂乎]]]]？
 Yǒu péng zì yuǎn fāng lái bù yí lè hū
 Have friend PREP distant region come NEG MOD happy QSFP
 ‘To have a friend come from afar, is this not delightful?’ → this is very
 delightful!
 (Lunyu 1.1, LAC)

The regular position of *bù* in simple, non rhetorical or marked negation is lower; it precedes the verb, and only *vP* internal material is permitted between NEG and V. This can be seen in the examples in (12). In (12b), *bù* precedes YI, a light verb or applicative head within the complex verb phrase (*vP*), following the analysis in Aldridge (2012). (12a) with the epistemic adverb *bì* 必 ‘necessarily, certainly’ demonstrates that *bù* follows modal adverbs in unmarked contexts. When *bì* is preceded by *bù* → *bù bì*, *bì* has to be interpreted as verb ‘need, must’.

- (12) a. 「五父必 不 免， 不 賴 盟 矣。」
 Wú fù bì bù miǎn bù lài méng yǐ
 Wufu certainly NEG escape NEG profit covenant SFP
 ‘Wufu will certainly not escape, he will not profit from the covenant.’
 (Zuozhuan Yin 7, LAC)
- b. [CP 吾[VP 不[AppIP 以妾[VP 為 姒]]]]。
 wú bù yǐ qiè wéi sì
 1P NEG YI concubine make sister.in.law
 ‘I will not consider a concubine as my sister-in-law.’
 (Zuozhuan, Cheng 11, LAC)

3. Bi-morphemic negators and their functions

In this section, the internal structure of the negated copulas and focus markers *fēi* 非 and *wēi* 微, of the aspectual negator *wèi* 未, and of modal negators will be analyzed. For *fēi* and *wēi*, I propose a grammaticalization from copula (a verbal head) into focus markers. These focus markers can be located at the edge of *vP* in a low focus position or in a high focus position in **in** the functional domain (CP) in a PolarityP. For the aspectual negator *wèi*, I propose a grammaticalization from an aspectual verb (verbal head) into an aspectual negator as head of NegP. The negator scopes over grammatical aspect, i.e., it takes OuterAspect P as its complement,

based on a proposal in Meisterernst (2020a). The discussion of the negative focus markers and copulas is based on a comparison of their functions with the Early Archaic copula 唯.

3.1 Copulas, focalization markers, complementizers

Other markers of predication and focalization in the Inscriptions besides *bù* are the modal negative marker *wù* 勿 ‘don’t’,³² the copula *wéi* 維/唯/惟, ‘be (the one who)’, the modal *huì* 惠, ‘must’, and the future marker *qí* 其 ‘will’ (Djamouri 2004:144). Djamouri’s arguments for their function as markers of predication (copulas) are that (a) they can be preceded by adverbs, (b) they can be negated, and (c) they can be preceded by temporal and modal markers. This implies that they have verbal features, although they seem to be defective with respect to argument structure. *Wéi* 維/唯/惟, *huì* 惠, and *qí* 其 in Pre- and Early Archaic Chinese (Inscriptions) can focalize the subject, object, recipient, and locative (Djamouri 2004:149). In LAC, the copula functions of *wéi* had mostly disappeared and only the focalizing functions prevailed; in Early Middle Chinese, a new copula emerges. Van Gelderen (2013:243) claims that a copula can move to the left periphery and function as cleft or topic marker as its natural extension. I will propose a similar path of grammaticalization for the copula *wéi* 唯 and its negative variants, *fēi* 非 and *wēi* 微. As copula, only the negative version of *wéi*, *fēi* 非, a fusion of *bù* and *wéi*, prevailed. In the Oracle Bone Inscriptions *fēi* is already occasionally attested in complementary distribution with NEG+*wéi* (Djamouri 1987:256) (see Example (13c)).

Before I analyze the negative copulas, I briefly discuss the copula *wéi* as basis for the syntactic analysis of the negated variants. The status of *wéi* as copula (Pulleyblank 1995:131) in EAC is not uncontroversial; Zhang (2001) labels it as an adverb and discusses it together with negative markers and different kinds of modal, aspectual, and temporal markers.³³ Arguments for the copula analysis come from the examples in (13).³⁴ (13a) does not have a subject which can be focalized; accordingly, it is the entire sentence (CP) that is in the scope of *wéi*.

32. For a more comprehensive discussion of the syntax of modal markers and their grammaticalization, see Meisterernst (2020a).

33. See also Djamouri (1987) for a comprehensive discussion of *wéi* in the Inscriptions.

34. One of the reviewers raised a question regarding the syntactic position of the copula based on Huang’s (1988) location of the Modern Mandarin copula *shì* 是 in INFL(TP). In EAC and LAC, there is no evidence for the movement of auxiliary verbs, including copulas out of *vP*. Under certain circumstances, modal auxiliaries can be interpreted in TP as deontic due to covert movement. However, there is no evidence for their overt movement out of *vP* before the EMC period (see Meisterernst 2020b).

The same analysis is proposed here for (13b), where *wéi* has a CP as its complement in a biclausal structure. I prefer this analysis over a subject focalizing analysis, because the subject *dì* 帝 ‘the god, the deified ancestor’ is not in contrast to another possible entity which has the power to harm the harvest. In (13c), *wéi* functions again as a copula connecting a nominal predicate. In Example (13d), *wéi* is preceded by a modal auxiliary expressing possibility and followed by the future marking auxiliary *qí* 其. This strongly argues for a bi-clausal analysis of the sentence and for a verbal analysis of *wéi*, since the future marker regularly precedes modal verbs in Archaic Chinese. All examples in (13a–13c) show contrastive use of affirmative and negated *wéi*. In (13b, 13c), *wéi* is negated by the negator *bù*; in (13c), *wéi* appears in complementary distribution with the negated copula *fēi*, which increases in frequency in LAC.³⁵

- (13) a. 唯 有 害? 不 唯 有 害?
wéi yǒu hài bù wéi yǒu hài
 COP have harm NEG COP have harm
 ‘Is it the case that there is harm? Is it not the case that there is harm?’
 (Heji 1773, cf. Zhang 2001: 37)
- b. 唯 帝 害 我 年? 不 唯 帝 害 我 年?
wéi dì hài wǒ nián bù wéi dì hài wǒ nián
 COP god harm our harvest NEG COP god harm our harvest
 ‘Is it the case that the god harms our harvest? Is it not the case that the god harms our harvest?’
 (Heji 10124, cf. Zhang 2001: 37)
- c. ... 日 月 有 食, 唯 若? ... 日 月 有 食, 非
Rì yuè yǒu shí wéi nuò³⁶ rì yuè yǒu shí fēi
 Sun moon have eclipse COP affirmation Sun moon have eclipse NEG.COP
 若?
nuò
 affirmation
 ‘That sun and moon have an eclipse, is this a confirmation? Is this not a confirmation?’
 (Heji 33694, cf. Zhang 2001: 37f)
- d. 庚申 卜, 貞: [CP[CP 異 [VP 唯]] [CP 其 [VP 不 雨]]]?
gēng shēn bǔ zhēn yì wéi qí bù yǔ
geng shen divination submit.to.oracle MOD_{poss} COP FUT NEG rain
 ‘At the divination of the day *Gengshen* they submitted to the oracle: Is it possibly the case that there will not be rain?’
 (Qian 6.56.7)

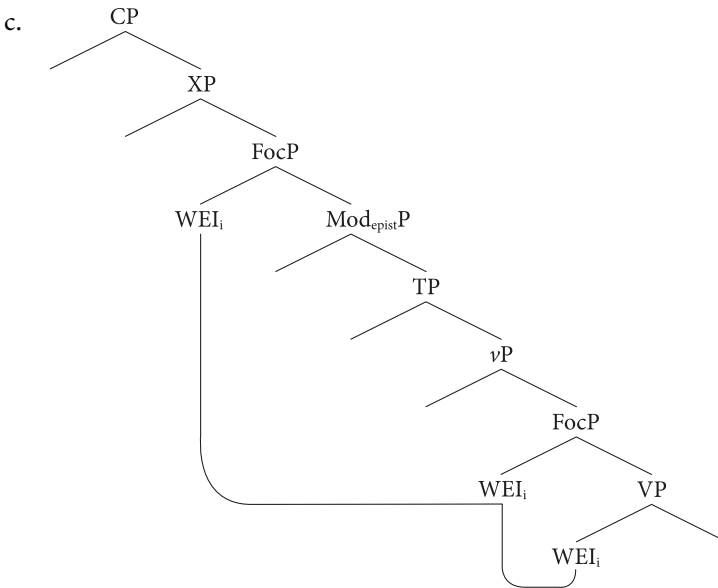
35. The ratio between *fēi* and *bù wéi* in the two LAC texts *Zuozhuan* and *Guoyu* is 415 instances of *fēi*, 19 instances of *bù wéi* in *Zuozhuan*, and 2 in *Guoyu*.

36. This follows Djamouri’s analysis of *ruò* 若 as a noun ‘approbation’ in the OBI (1987: 256), later written 諾, pronounced *nuò*.

Two different syntactic positions have been proposed for focus markers in LAC, one in a high position in the sentence in CP (Meisterernst 2018), one in a low position at the edge of ν P (Aldridge 2010). Arguments for a ν P-internal focus position come from the fact that the focalized element follows modal adverbs such as *yì* 亦, and temporal adverbs such as *jiāng* 將. Temporal adverbs are characterized by their preverbal position, but they precede all elements which are allowed within the complex verb phrase (Meisterernst 2015b). The examples in (14) show the different focus constructions. In (14a), the subject is focalized in a rhetorical question;³⁷ in (14b), an object is focalized by *wéi*, labeled as copula (cleft) construction in Meisterernst (2010). I propose that *wéi* grammaticalizes from a copula (a V^0), which can select a nominal (DP) or sentential (CP) complement, into a focus marker by moving from VP to a focus position (Foc^0) in both low and high focus constructions. The analysis of this is in (14c).

- (14) a. 吾子之請，諸侯之福也。豈唯寡君
wú zǐ zhī qǐng zhūhóu zhī fú yě qǐ wéi guǎ jūn
 1P son GEN request feudal.lord GEN fortune SFP MODQ FOC lonely ruler
 賴之。』
lài zhī
 profit OBJ
 ‘Your request is the fortune of the feudal lords, will only the lonely ruler
 profit from it?’
 (Zuozhuan, Xiang 2, LAC)
- b. 將唯命是從，豈其愛鼎？』
jiāng wéi mìng shì cóng qǐ qí ài dǐng
 FUT FOC/COP order SHI follow MOD/Q MOD begrudge cauldron
 ‘They will only listen to your order; how can they begrudge you the caul-
 dron?’
 (Zuozhuan, Zhao 12, LAC)

37. For an analysis of focalized subjects, see Aldridge (2019).




In Early Middle Chinese, a new copula, *shì* 是, derived from a demonstrative pronoun and focus marker, emerges (Peyraube & Wiebusch 1994; Deng 2017). Deng (2017) proposes that *shì* has double functions in Archaic Chinese as “anaphoric and focalizing pronominal demonstrative strongly related to the structural expression of the identificational focus” (Deng 2017: 20). According to Deng (2017: 23), the development from demonstrative to copula features a change from a bi-clausal to a monoclausal construction, i.e., a typical grammaticalization scenario as proposed in Roberts and Roussou (2003).

3.2 The negative markers *wēi* 微 and *fēi* 非

Two different negative markers have been proposed as fusions of the copula *wéi* and a negative prefix: (1) the marker *fēi* (*pəj) ‘is not’, ‘unless’, and (2) the modal correspondent of *fēi*, *wēi/wéi* (*məj) 微 ‘were it not for’. The markers are used in indicative, realis, and subjunctive, irrealis predication, respectively. The negative copula *fēi* 非 has been assumed to be a fusion of BU+COP, 不*p(ə)+唯*(G^{wi})j/wi,³⁸ functionally identical with *bù wéi* 不唯. Jacques (2000) proposes an explanation for the discrepancy between the rhymes -əj in *fēi* and *wēi*, and -ij in the copula *wéi*, respectively. This discrepancy is caused by the relative chronology of the fusion of *bù+wéi* and the merger of the *-uj/*-ij and *-uj/*-ij distinctions in particular environments. The merger of the two rhymes had taken place around the

38. The reconstructions are again taken from Baxter and Sagart (2014).

time of the *Shijing* (Jacques 2000: 205); whereas the fusion of *bù+wéi* had already taken place earlier, *fēi* was well attested already in the OBI. *Fēi* is the *p*-variant of *wēi* 微, *wēi/wéi* 微 (*m*+唯*(*G^w*)ij/wi) ‘were it not for’, discussed in the examples in (18), according to Yen (1977). The phonological derivation is based on dropping both the rhyme of the negator and the initial of the verbal head; this seems to be a common feature when it comes to fusion processes in Chinese.³⁹ The morphemes *p*- and *m*- express negation and supposedly derived from an independent negator. Similar morphophonological processes can account for the reconstruction of the aspectual negator *wèi* 未, discussed in Section 3.3, for the fusion *pǒ* 𠄎 ‘cannot’ from *bùkě* 不可 ‘not.can’, emerging in EMC 𠄎 (Example (26)), and for the fusions of NEG+AUX in modern Sinitic varieties. 

Fēi functions as a ‘polemic’ negative marker and as a marker in conditional/concessive clauses (Djamouri 1991). As a focalizer, it can appear in combination with adverbs such as *tú* 徒 ‘alone, only’, *dú* 獨 ‘alone, only’, *wéi* 唯 ‘only’, and *zhēn* 真 ‘really’ (Djamouri 1991: 42). These combinations are very infrequent in LAC texts though; they only slightly increase in number in EMC.⁴⁰ The combination with focalizing adverbs provides an argument for the weakening of the original functions of *fēi* and for its reanalysis from a verbal (head) to an adverbial negator similar to what happened to *bù*. Hong and Dong’s (2004) analysis of the construction *fēi* X *bùkě* 非X 不可 ‘unless X, it is impossible that ...’ supports the grammaticalization of *fēi* from a copula to an adverb.⁴¹ In the Archaic literature, *fēi*

39. This is a common morpho-phonological process in Chinese, widely attested in the *fǎnqiè* 反切 spelling system devised in Early Middle Chinese, which divides each syllable into an initial and a rhyme and combines the initial of the first with the rhyme of the second syllable in order to explain the pronunciation of a word. It is also well attested in other kinds of morphological fusions; it is not confined to negative markers. See also Branner (2013) on *yán* 焉, the fusion of a preposition with a pronominal element. One of the examples Branner presents is the fusion *pǒ* 𠄎 for *bù kě* 不可 ‘cannot, impossible’ (*phajʔ ← *p(jut+k)hajʔ). According to Pulleyblank (1995: 167, note 59) the fused form retains the aspiration from the initial consonant of the second syllable.

40. Out of 1212 instances of *fēi* in the *Shijing*, *Shujing*, *Lunyu*, *Mengzi*, *Xunzi*, *Zhuangzi*, *Zuozhuan*, and *Guoyu*, 8 representative texts of EAC and LAC, there are 4 instances of *fēi tú* 非徒, 2 of *fēi dú*, 3 of *fēi wéi*, and none of *fēi zhēn*. In the EMC text *Shiji* (around 100 BCE), there are in total 747 instances of *fēi*; out of those: 1 is combined with *tú*, 10 are combined with *dú*, 2 with *wéi*, and 3 with *zhēn*. In the *Hanshu*, 1st–2nd c. CE, there are 1119 instances of *fēi*, 4 combined with *tú*, 18 with *dú*, and 2 with *zhēn*. In the 1st c. CE text *Lunheng*, there are 1070 instances of *fēi*, 38 with *tú*, 10 with *dú*, 6 with *wéi*, and 15 with *zhēn*.

41. Hong and Dong (2004) show that the construction undergoes a process from a bi-clausal to a mono-clausal construction from LAC to MC (Hong & Dong 2004: 257). They analyze *fēi* as a modal adverb in this construction and propose that it grammaticalizes from a copula; according to them, *fēi* had lost its function as a negative copula in Middle Chinese.

basically functions as negative copula which selects a nominal (DP) or sentential (CP) complement; in (15a) it selects a DP, in (15b) a relative clause, which is nominalized (DP), and in (15c) a causal CP; the first causal clause is contrasted to the second.

- (15) a. 不 書, 非 公 命 也。
Bù shū fēi gōng mìng yě
 NEG report NEG.COP duke order SFP
 ‘It is not reported; it is not the duke’s order.’ (Zuozhuan, Yin 1, LAC)
- b. 是 陰 陽 之 事, 非 吉 凶 所 生 也,
shì yīn yáng zhī shì fēi jí xiōng suǒ shēng yě
 this *yin yang* GEN affair NEG.COP fortune misfortune REL arise SFP
 ‘This is an affair of *yin* and *yang*, it is not where fortune and misfortune arise.’ (Zuozhuan, Xi 16)
- c. 群 臣 不 盡 力 于 魯 君 者, 非 不 能
qún chén bù jìn lì yú Lǔ jūn zhě fēi bù néng
 flock minister NEG exhaust strength PREP Lu ruler REL NEG.COP NEG able
 事 君 也, 然 據 有 異 焉,
shì jūn yě rán jù yǒu yì yán
 serve ruler SFP but hold have different PREP.OBJ
 ‘That all the ministers do not exhaust their strength with respect to the ruler of Lu, it is not, because they cannot serve him, but because they have to hold on to something different there.’ (Zuozhuan, Zhao 26)

In the examples in (16), *fēi* has focalizing functions. In (16a), it appears in the copula (cleft) construction in complementary distribution with *wéi*; in (16b), *fēi* focalizes the subject; and in (16c), it appears as a negative conditional complimentizer. In the examples (16d, 16e), *fēi* is attested in combination with *wéi* as a focalization marker. (16f) shows the analysis of the grammaticalization of *fēi* from a copula in the lexical domain to a high focus marker (the function as a low focus marker is left out here) in a high functional position, similar to the grammaticalization of *wéi*. The last step shows a possible replacement scenario of the high focus marker *fēi* by a combination of *fēi* with another focus marker, which suggests a reanalysis of *fēi* as an adjunct negative marker. One argument for this development is a possible weakening of the focalizing function of *fēi*, which was accordingly reinforced by *wéi* or another focus marker. The combination *fēi wéi* is almost unattested in LAC; it is an EMC innovation providing evidence for the

general tendency of fused synthetic negators to become analytic in combining with a new head.⁴²

- (16) a. 「 諺 曰：『非 宅 是 卜， 唯 鄰 是 卜。』
Yàn yuē fēi zhái shì bǔ wéi lín shì bǔ
 Saying say NEG.COP dwelling SHI divine COP neighborhood SHI divine
 ‘The saying says: It is not the dwelling we are divining; it is the neighborhood.’
 (Zuozhuan, Zhao 3, LAC)
- b. 非 我 有 成， 其 在 人 乎？
Fēi wǒ yǒu chéng qí zài rén yě
 If.not I have success MOD be.at people Q
 ‘If it is not me who has success / If I do not have success, would it then depend on others?’
 (Zuozhuan, Xiang 30, LAC)
- c. 國 家 無 事， 非 遇 水 旱 之 災，
guó jiā wú shì fēi yù shuǐ hàn zhī zāi
 state family not.have affair unless meet water drought GEN misfortune
 民 則 人 給 家 足，
mín zé rén jǐ jiā zú
 people then man supply family suffice
 ‘If the state did not have any difficulties, and unless they met with floods or droughts, with respect to the people, everyone was well provided and the families had sufficient supplies.’
 (Shiji 30, 1420, EMC, 100 BCE)
- d. 非 唯 人 行， 物 亦 有 之。
fēi wéi rén xíng wù yì yǒu zhī
 NEG COP/FOC man behavior thing also have OBJ
 ‘This is not only human behavior; animals also have it.’
 (Lunheng, Xing Ou, EMC)
- e. 古 今 凶 驗， 非 唯 虎 也，
gǔ jīn xiōng yán fēi wéi hǔ yě
 ancient today misfortune evidence NEG COP/FOC tiger SFP
 ‘Ancient and present proofs for misfortune; these are not only tigers.’
 (Lunheng, Zao hu, EMC)
- f. $[VP [NEG [V^{COP} [XP]]] \rightarrow [CP fēi [CP/TP [vP]]] \rightarrow [CP NEG [C' wei [TP [vP]]]]$

Whereas *fēi* is still regularly attested in Pre-Modern Chinese, **BU**+*shì* 是, the new copula, gradually replaces *fēi* not only in the function of simple copula negation, but also as focus marker. Hong and Dong (2004: 257) claim that during the Tang



42. According to the ctext Pre-Qin and Han database, merely two instances of *fēi wéi* are attested in Pre-Han texts. Although the combination never became very frequent, it is more frequently attested in EMC and MC texts.

and Song periods the copula *fēi* was already replaced by *fēi shì* 非是 or by *bù shì* 不是 in the vernacular language, although it prevails longer in the transmitted documents. In the examples in (17), *bùshì* focalizes an entire proposition. Table 3 displays the slow increase of instances of *bùshì* from Early Middle to Early Mandarin Chinese.

- (17) a. 不是 只 認識 部分 的 理, 而是 認識 理 的 全體。
Bùshì zhǐ rènshi bùfēn de lǐ ér shì rènshi lǐ de quántǐ
 Not.be only know part GEN essence but be know essence GEN entirety
 ‘It is not only to know the essence of the parts, but it is knowing the entirety of the essence’
 (Zhuxi yu Zhuzi yulei, EM)
- b. 今日 不 好, 明日 好, 不是 將 好 底 換 了 不
jīnrì bù hǎo míngrì hǎo bùshì jiāng hǎo de huàn le bù
 today NEG good tomorrow good Not.be APPL good GEN change PFT NEG
 好 底。
hǎo de
 good GEN
 ‘If today is bad and tomorrow is good, it doesn’t mean that the bad has been exchanged with the good.’
 (Zhuzi yulei, 3, EM)

Table 3. *fēi* 非 → *bù shì* 不是^a

	<i>Lunheng</i>	Buddhist (384–417)	Buddhist (618–907)	<i>Zhuzi yulei</i> (13th c. CE) ^b
<i>fēi</i> 非 ^c	1070	9999+	9999+	3651
<i>bù shì</i> 不是 ^d	3	108	2537	2163

a. It would be desirable to have statistics for the numbers provided in the tables, but the databases used do not provide reliable bases for that. Accordingly, I confine myself to absolute numbers of occurrences. Additionally, the databases used are not parsed, accordingly reliable statistics would require to check every single instance of the respective morphemes. This would be a considerable effort with relatively little profit for the present study.

b. The transmitted version dates to the 17th century.

c. In not all of the examples *fēi* appears as a negator, it can also be the antonym to *shì* 是 ‘correct’.

d. *Shì* in the examples in *Lunheng* has the meaning ‘correct’. The same meaning can be assumed for parts of the data in the MC and Early Modern Chinese literature. I am not pursuing this issue further, because a precise analysis of the grammaticalization process of the copula and its negation are not at issue in this study.

The negative marker *wēi/wéi* 微 ‘were it not for’ is the *m*(modal)-variant of *fēi* 非 (Yen 1977). Yen (1977: 476) claims that the marking of mood, realized in the contrast of *m*- and *p*- negation, is not only attested with regard to “adverbial” negation, but also to nominal and sentential negation. The negative marker *wēi*

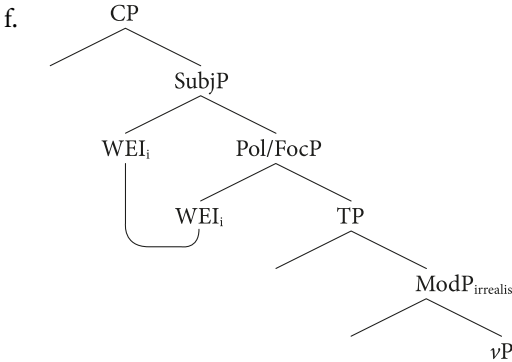
first appears in EAC; it is regularly attested in LAC, but it is less frequent than *fēi*. Its frequency decreases after the LAC period. It by default expresses irrealis and counterfactual meanings (Meisterernst Forthcoming). Very occasionally and interestingly, it combines with the concessive conjunction *suī* 雖 ‘even if, although’ as in (18e). *Suī*, too, is a derivation of the copula *wéi* with an *s- prefix: *swij (*s-qwij (Jacques 2019: 23f)), possibly with a gerundial meaning. Similar to *fēi*, *wēi* selects a sentential (CP) or nominal (DP) complement. In (18a), *wēi* functions as the modal copula, expressing subjunctive mood, selecting a CP; in (18b, 18c) it selects a DP; in (18d), it functions as a complementizer (C-head), expressing counterfactual modality, and in (18e), it appears in combination with the concessive complementizer *suī*. I propose that *wēi* is hosted in a high CP position, in a Mood phrase expressing subjunctive mood. It grammaticalizes from the high focus marker *wēi*; this can be seen in (18f). *Wēi* as a negative irrealis conditional introduces the conditions which function as the premise for the possible worlds in which the event (or its negation) expressed in the matrix clause may happen. Contrastingly, *fēi* introduces the conditions under which the event expressed in the matrix clause happens in the actual world.⁴³

- (18) a. 微 我無 酒、以敖 以遊。
Wēi wǒ wú jiǔ yǐ áo yǐ yóu
 were.not.for I not.have wine YI wander YI saunder
 ‘Wouldn’t I have no wine, I would wander and saunder about.’
 (Shijing, Beifeng, EAC)
- b. 『微 我，晉不戰矣！
wēi wǒ jìn bù zhàn yǐ
 were.not.for I Jin NEG fight SFP
 ‘Were it not for me, Jin would not have fought.’ (Guoyu, Zhouyu zhong)
- c. 微 楚之惠 不及此，
Wēi chǔ zhī huì bù jí cǐ
 it.is.not Chu GEN benevolence NEG reach this
 ‘Were it not for the benevolence of Chu, we would not have come this far ...’
 (Zuozhuan, Xi 28, LAC)⁴⁴

43. Mood distinctions of this kind have not been studied for Archaic Chinese, and this is also not the purpose of the present discussion. I leave this for future research.

44. One of the reviewers pointed out that this construction appears several times in the *Zuozhuan*, a fact that I omitted to mention. Many of the examples with *wēi* seem to be idiomatic and almost formulaic, particularly those with a DP complement of *wēi*.

- d. 微 君 言, 臣 故 將 謁 之。
Wēi jūn yán chén gù jiāng yè zhī
 If.not ruler speak subject therefore FUT visit OBJ
 ‘If you had not mentioned it, I would have visited you.’
 (Han Feizi 36.05, LAC)
- e. 雖 微 秦 國, 天 下 孰 弗 患? 」
suī wēi Jīn guó tiānxià shú fú huàn
 although were.not Jin state empire which NEG_{tr} worry
 ‘Even if it weren’t for the state of Jin, who in the empire wouldn’t worry
 about it?’
 (Guoyu, Jin 3)



Modern Mandarin does not have a corresponding negator; the function of *wēi* is regularly expressed by the combination of conditional complementizer with either a negated modal, e.g., *bùhuì* 不會 ‘will not, not at all’, the aspectual negator *méiyǒu* 沒有, or the negated copula *bùshì* 不是. (19a) shows a Modern Mandarin counterfactual example in which the function of *wēi* is expressed by a conditional complementizer followed by the aspectual negative marker *méiyǒu*, which by itself is the negator of realis mood (Tsai 2015:280). In Example (19b), *bùshì* is employed in the same function as *wēi* in LAC, introducing a counterfactual. According to Yong (2016:897), *bùshì* could appear in the left-most position in counter-factuals, only preceded by conjunctions; the conjunction could be elided. In EMC, the number of conditional markers⁴⁵ increases considerably, and I assume that *wēi* had gradually been replaced by conditional complementizers in combination with NEG. The different steps of this process still have to be figured out.

45. Similar to the focus markers discussed, conditional and concessive complementizers grammaticalized from verbs.

- (19) a. 如果 沒有 這些 鼓勵, 我想 我是 支持 不到
Rúguò méiyǒu zhèxiē gǔlì wǒ xiǎng wǒ shì zhīchí bù dào
 If NEG_{Asp} these encouragement I think I COP support NEG RES
 今天 的。
jīntiān de
 today DE
 ‘Without this encouragement, I would not be here today.’
 (cf. Yong 2016: 897)
- b. 不是 你 出手 大方, 他 早就 餓死 了。
Bùshì nǐ chūshǒu dàfang tā zǎojiù èsǐ le
 Not.be you dispose generous he earlier starve.die SFP
 ‘Had you not been so generous, he would have starved to death long ago.’

3.3 The aspectual negative marker *wèi* 未 ‘not yet’

For the aspectual negative marker *wèi* 未 ‘not yet’, a fusion with a verbal head ‘complete’ has been assumed in Chinese historical phonology: *wèi* 未 (**m*+既 **[k]ə[t]-s* ‘complete’) ‘not yet’. Jacques (2000: 218f) reconstructs “*mjijH* < **b*^m*mits* < **b*^m*ma* + *kits*”. Jacques’ reconstruction of *wèi* for the character 未, which also writes the 8th of the Earthly Branches of the Chinese cyclical system, is based on the stop final in the respective year name in Tai, i.e., the reading *mot* in Siamese and Lao (Jacques 2000: 218). Functionally, the negator corresponds to *méi yǒu* 沒有 ‘not yet’ in Modern Chinese (Pulleyblank 1995; Meisterernst 2015a, 2015b, 2016, and references therein).⁴⁶ The reconstruction of the verbal head of VP/AspP is based on the reconstructions of Baxter and Sagart (2014) and Schuessler (2007). As reconstructed basis for the verbal head of *wèi*, the LAC aspectual adverb *jì* [*k]ə[t]s* 既 has been assumed, which supposedly grammaticalized from a verb ‘complete’ in Pre-Archaic time.⁴⁷ I propose the same morphophonological process for the derivation of the aspectual negator *wèi* as for *fēi* and *wēi* above.⁴⁸ The aspectual

46. That the initial [*k*] of **kət-s* appears in brackets signifies that Baxter and Sagart are not entirely certain about the exact reconstruction of the initial. Southern Min still has a synthetic aspectual negator *bue*⁷ 未 (Yang 2017: 131f).

47. Some instances of the verbal use of *jì* are still attested in LAC (Meisterernst 2015b and references therein), but it is already fully grammaticalized as a perfective adverb; it is not entirely certain that it really constitutes the basis for the fusion *wèi*.

48. According to Baxter and Sagart (2014), the change of *m* + *k* seems to result in voicing of the voiceless stop and not in the loss of the voiceless stop. The assimilation of a nasal + uvular consonants in Old Chinese into an intital *w-* in Modern Mandarin is occasionally attested, but the Old Chinese initials are reconstructed from a Middle Chinese velar nasal *ŋ-* and not from *m-*. This makes a purely phonological derivation of the Modern Chinese pronunciations unlikely.

verb/negator *wèi* is not attested yet in this function in the OBI; it seems to be an innovation in Early Archaic Chinese with a few examples in the *Shangshu* and numerous examples in the *Shijing*. In LAC, *wèi* is not only attested as an aspectual negator, but also occasionally as a negated aspectual verb expressing a situation that is anticipated for the future as in the examples in (20). In (20a), the theme argument appears in subject position, the aspectual verb *wèi* is followed by the sentence final particle *yě* 也, which typically co-occurs with *wèi* as an aspectual negator; in (20b), *wèi* selects a nominal (DP) complement, and in (20c) it selects a nominalized sentential (CP) complement.

- (20) a. 晉國懼則甚矣, 亡猶未也!
Jìn guó jù zé shèn yǐ wáng yóu wèi yě
 Jin state afraid then extreme SFP king still not.finish SFP/NOM
 ‘The state of Jin is afraid to the extreme, but its ruin has not yet taken place.’
 (Guoyu, Jinyu 1, LAC)
- b. 五年, 秋, 邠犁來來朝, 名, 未王命
Wǔ nián qiū ní lí lái lái cháo míng wèi wáng mìng
 Five year autumn Ni Li Lai come court name not.finish king mandate
 也。
yě
 SFP
 ‘In the autumn of the fifth year Li Lai from Ni came to court, he received a name, but it wasn’t yet a royal mandate.’
 (Zuozhuan, Zhuang 5, LAC)
- c. 汝惟小子。未其有若汝封之心。
Rǔ wéi xiǎo zǐ wèi qí yǒu ruò rǔ fēng zhī xīn
 2P COP small child not.finish GEN have like 2P Feng GEN heart
 ‘You are young, but there does not seem to have been anyone yet who has a heart like you, Feng.’
 (Shangshu, Zhoushu, Kanggao 29.14, EAC)

In most of the instances in LAC, *wèi* functions as an aspectual negative marker, **though** located in TP. Meisterernst (2020a) proposes that *wèi* is the head of a NegP, which selects Outer Aspect as its complement. This analysis accounts for (21b) with the aspectual adverb *cháng* in Outer Aspect following *wèi*. The combination expresses habitual aspect in the past (Meisterernst 2015b); adverbs are modifiers and accordingly, *cháng* appears in the specifier of OAspP. The example in (21a) demonstrates that *wèi* follows the high modal adverb *yì* 亦. This provides evidence for its position in the TP layer. The development from an aspectual verbal head to a negative head is shown in (21c). The analysis of verbal *wèi* is similar to the analyses of the negative copula *fēi* above and of the modal negator *wù* below.



- (21) a. 人 之 可 盡 不 可 盡 亦 未 可 智。
rén zhī kě jìn bù kě jìn yì wèi kě zhì
 people GEN KE be.exhausted NEG KE be.exhausted also NEG_{asp} KE known
 ‘Whether men can be exhausted or not can likewise not be known.’
 (Mozi 2.73.1, LAC)
- b. 「昔 先 大夫 相 先 君 適 四 國, 未
Xī xiān dàifū xiàng xiān jūn shì sì guó wèi
 Formerly former dignitary assist former ruler go.to four state NEG_{asp}
 嘗 不 為 壇。
cháng bù wéi tán
 ASP NEG make altar
 ‘In ancient times when the former dignitaries assisted the former ruler to go to the Four States, they always made an altar.’
 (Zuozhuan, Xiang 28, LAC)
- c. [VP_{ASP} [NEG [VVP_{ASP} [XP]]] → [NegP wei [O_{ASP}P chang [O_{ASP}[_{vP}]]]]

The replacement of the aspectual negative marker *wèi* 未 by *méi* (yǒu) 沒(有) in the same function starts relatively late, and *wèi* is not directly replaced by *méi* (yǒu) (Jiang & Cao 2005: 135f). According to Jiang and Cao (2005), *méi* first replaces the existential verb *wú* 無 with a nominal complement before it moves up to the functional layer, probably to OuterAspP, allowing a verbal (*vP*) complement. Before *méi*(yǒu) fully replaces *wèi* in Early Mandarin, several alternative negators and combinations of negators with aspectual adverbs are attested, such as *wèicéng* 未曾 in (22a), already attested in EMC as an alternative to *wèi cháng* in Example (21b) (Meisterernst 2015b), *bùcéng* 不曾 (22b), and *méicéng* 沒曾.⁴⁹ Obviously, several replacements and reanalyses of the aspectual negator were involved, all triggered by the semantic weakening of the aspectual function of *wèi*. Due to this, the aspectually neutral negator *bù* was able to replace *wèi* in combination with an aspectual adverb located in Spec, AspP as in (22b). In LAC and EMC, Outer Aspect had been marked by a sentence-final particle, if at all, but aspectual adverbs could be employed to enforce the aspectual reading of OAsp (Meisterernst 2016); the negator *bù* adjoins to the aspectual adverb. In Early Mandarin, Outer Aspect was possibly already marked by the aspectual suffix *le* 了, functioning as perfective marker in Modern Mandarin.

49. In the 16th century novel *Jin ping Mei*, the ratio of *méi* to *méiyǒu* is 323 to 10 (Jiang & Cao 2005: 137).

- (22) a. 皆君子 所未 曾 聞。
Jiē jūnzǐ suǒ wèi céng wén
 All gentleman REL NEG_{ASP} ASP hear
 ‘This is all what a gentleman has never asked.’ (Lunheng 17)
- b. 不 曾 事 諸 佛, 未 聞 如 是 行。
bù céng shì zhū fó wèi wén rúshì xíng
 NEG ASP serve PL Buddha NEG_{ASP} ask such act
 ‘... they have never served the Buddhas nor have they asked about such acting.’ (Taishō 279, 77 (695–699))

The complex replacement situation of *wèi* can be seen in Table 4.⁵⁰ *Wèicháng* and *wèicéng* constitute 0.1% and 0.13%, respectively, of the total occurrences of *wéi* in the Lunheng. The earlier Buddhist corpus shows a considerable increase of incidence, particularly of *wèicéng*. For the Tang period corpus, only the relation between the occurrence of *wèicháng* and *wèicéng* had been calculated, because the total number of instances of *wèi* could not be ascertained. In contrast to the Buddhist literature, the Song period *Zhuizi yulei* displays a higher incidence of the older *wèicháng*. With (92.23%) of the total of *wèicéng* and *bùcéng*, *wèicéng* seems to be replaced by *bùcéng*. Neither *méicéng* nor *méiyǒu* as aspectual negator are attested in the data investigated.

Table 4. *wèi* 未 → *méiyǒu* 沒有

	Lunheng	Buddhist (384–417)	Buddhist (618–907)	Zhuizi yulei (13th c. CE)*
<i>wèi</i> alone	3065	7932	9999+	5022
<i>wèicháng</i>	3 (0.1%)	25 (0.29%)	2537 (36.96%)	333 (6.13%)
<i>wèicéng</i>	4 (0.13)	567 (6.65%)	4327 (63.04)	78 (1.44%)
total	3072	8524	6864 (only <i>wéi</i> +)	5433
<i>bùcéng</i>	0	11 (1.9%)	461	926 (92.23%)
<i>méicéng</i>	0	0	0	0
<i>méiyǒu</i>	0	0	0	3 (+DP)

* The transmitted version dates to the 17th century.

50. The Jindai (pre-Modern) data has to be taken with a grain of salt because many of the texts included in the respective corpora are *wenyan* texts, which preserve a considerable amount of archaisms as the official written language.

3.4 Modal negation

The system of modal markers is the earliest to disintegrate in the history of Chinese, and it is also the only one in which the emergence of new bi-morphemic synthetic negators is productive. The renewal of the system is based on the grammaticalization of premodal verbs into possibility modals in the lexical layer, which further grammaticalize into deontic modals in the functional layer in TP (Meisterernst 2020a, 2020b). In the Middle Chinese Buddhist literature, the only true bi-morphemic modal negators still widely attested are *wù* 勿 and *mò* 莫.⁵¹ However, a replacement process by analytic modal negation NEG+AUX had already started particularly with the possibility modals *kě* 可 ‘possible, can’ and *dé* 得 ‘can, manage to’.⁵² Meisterernst (2020a) demonstrates that this is triggered by the ambiguity of NEG+AUX_{poss} between a possibility reading ‘not possible’ and a deontic reading ‘must/should not’, due to the logical correspondence of ‘not possible that $p \diamond p$ ’ and ‘necessary that not $p \square p$ ’. Only in the possibility reading, the scope of the negator corresponds to its actual overt (PF) position; as a prohibitive, the NECESSITY modal always scopes over negation NECESSARY NOT. In order to account for the scope relations in deontic modality, Meisterernst (2020a) introduced a polarity phrase between tense (TP) and the verbal domain (vP), which distinguishes the necessity modal Mod₁ from the possibility modal Mod₂. In LAC and EMC, the deontic reading of root possibility modals in Mod₁ is to a great extent confined to particular syntactic constraints: (1) the combination with negation: NEG+AUX_{poss}, and (2) the reverse polarity of rhetorical questions. The scope ambiguities can be seen in (23b); in (23a), the negator clearly scopes over the modal. (23c) shows the order of the two modals with respect to the polarity phrase.

- (23) a. 終 不 可 就, 已 而 棄 之。
Zhōng bù kě jiù yǐér qì zhī
 Finally NEG can finish then abandon OBJ
 ‘... when eventually it could not be finished, they gave it up.’ NOT[POSSIBLE
 (*Shiji*: 112; 2961, EMC 100 BCE)

51. In the unearthed texts, the modal negative *wù* 勿 is much less frequent than in the transmitted texts, despite its early appearance in the Bronze Inscriptions (Xu 2006: 223f). In the transmitted parallels, *wú* 毋 is frequently replaced by *wù* 勿, the predominant negative marker in later texts, which became fixed in its prohibitive function (Xu 2006: 227; Meisterernst 2015a).

52. Particularly the modal auxiliary verb *kě* is regularly attested in combination with negation in Archaic Chinese. In the structure NEG+KE+NEG, it is the default marker of obligation (see Meisterernst 2020a and references therein).

- b. 臣 聞 敗 軍 之 將, 不 可 以 言 勇,
chén wén bài jūn zhī jiàng bù kě yǐ yán yǒng
 subject hear defeat army GEN general NEG can YI speak bravery
 ‘I have heard that the general of a defeated army should not speak about
 bravery.’

1. It is not possible that the general of a defeated army speaks about ... =
 a general of a defeated army is not able to speak about ... NOT [POSSIBLE / CAN,
2. It is not permitted that the general of a defeated army speaks about ...
 → = it is advisable that a general of a defeated army does not speak
 about ...’ NECESSARY [NOT

(*Shiji*: 92;2617, EMC 100 BCE)

- c. $[_{CP/TP} [_{ModIP} [_{Mod'} NECESSITY [_{Pol(NEG)P} [_{VP} [_{ModzP} [_{Modz'} POSSIBILITY [_{VP/VP}]]]]]]]]$
 (Meisterernst 2020a)

As deontic modals, synthetic modal negators are hosted in the TP layer in a ModP expressing necessity. This is shown in (24a), where *wù* follows the high adverb *yì* 亦, which regularly precedes temporal and aspectual adverbs; the English word order reflects the scope of NEG in LAC. The example in (24b) shows an alternation between analytic modal negation with *mò*+MOD_{poss} and synthetic negation. The examples in (24c, 24d) show the neutral negator *bù* in combination with MOD_{poss} and with the deontic modal auxiliary *yīng*, both expressing prohibition, semantically identical to *wù* in (24a). In EMC, a new group of modal verbs with independent deontic meaning emerges (Meisterernst 2020b; Wu 2014; Xiong & Meisterernst 2019): MOD_{deontic}. These are particularly the verbs *dāng* 當 ‘should’, and *yīng* 應 ‘should, ought’.

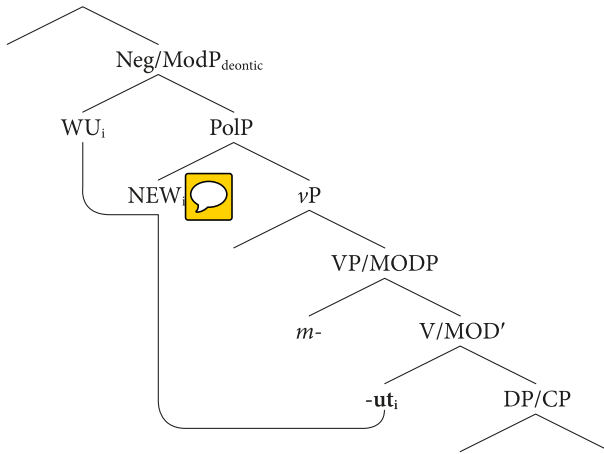
- (24) a. 王 必 勿 與。
Wáng bì wù yǔ
 King certainly NEG_{deontic} give
 ‘You certainly should not give it away.’ (*Zhanguo ce* 20.10.18, LAC-EMC)
- b. 『汝等 莫 得 樂 住 三 界 火 宅, 勿
rǔ děng mò dé lè zhù sān jiè huǒ zhái wù
 You PL NEG_{deontic} DE happy dwell three world fire house NEG_{deontic}
 貪 羶 弊 色 聲 香 味 觸 也。
tān cū bì sè shēng xiāng wèi chù yě
 desire coarse worthless shape tone scent taste feeling SFP
 ‘You must not be happy to stay in the burning house of the threefold
 world! Do not desire coarse and worthless shapes, tones, scents, tastes,
 and feelings!’
 (*Taishō* 9, 262, p.13b, EMC)

- c. 淨人 益 食 不 得 相 喚。 但 以 手 指 麾。
Jìng rén yì shí bù dé xiāng huàn dàn yǐ shǒu zhǐ huī
 Server add food NEG DE mutual call.out only with hand show wave
 ‘If the servers are supposed to add food, one must not call them, only wave with the hands.’
 (Taishō 51, 2085, 857b, Faxian 5th c. CE)
 Paraphrase: it is NECESSARY NOT to call (out loud) to them;
 → NECESSARY [NOT = clear obligation, the theoretical possibility to call still exists.
- d. 王 告 之 言：『象 若 不 調， 不 應 令 吾 乘
Wáng gào zhī yán xiàng ruò bù tiáo bù yīng líng wú chéng
 King tell OBJ say elephant if NEG tame NEG YING make me ride
 之；
zhī
 OBJ
 ‘The king told him: “If the elephant is not tamed, you should not make me ride it”’.
 NECESSARY / SHOULD[NOT (Taishō 4, 202, 372c Xianyujing, MC)

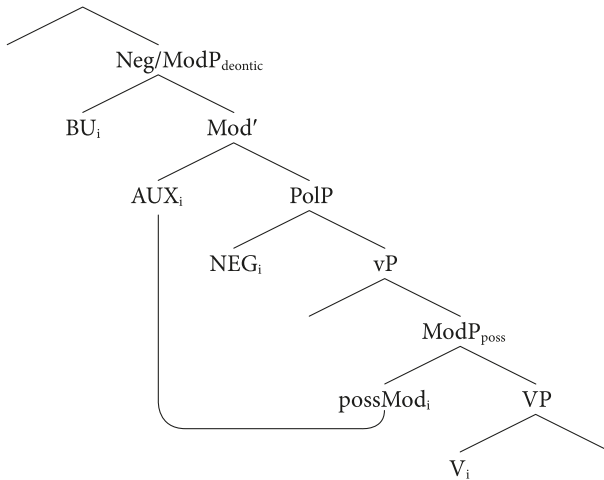
(25a, 25b) provide the analysis of the synthetic and the analytic modal negators. It follows Meisterernst (2020a) but goes one step further in proposing that the negator WU actually heads a Neg/ModP at least in its original function, i.e., that there is a separate negated modal phrase which combines negation with modal features. It is syntactically different from the adjunct negator *bù*. In contrast to the aspectual negator *wèi*, the modal negator does not head an independent NegP, which selects a ModP as its complement, because this would yield the wrong scope relations. Prohibitive negators differ from the other negators, in which the NEG morpheme has wide scope with respect to the incorporated head. I propose that modal negators originally grammaticalized from premodal VP with a negative prefix, in which the NEG-feature is parasitic on the premodal verbal head (this possibility has been proposed in Haegeman 1995:127). During the grammaticalization process, the original negative verb moved up overtly via head movement from its original position as a lexical verb in *v*P through the polarity phrase (PolP) to the position of a deontic modal (ModP). After the completion of the grammaticalization process, it was directly merged in ModP. The negative feature is interpreted in PolP between ModP_{deontic} and *v*P. PolP is introduced in order to account for the scope relations between negation and necessity operator, and negation and possibility modals in the lexical layer (see Meisterernst 2020a). In the process of analyticization into the NEG+AUX structure, the negator/prefix is merged to the

modal.⁵³ This is triggered by the phonological requirement of negation to immediately precede AUX/VP. This mechanism accounts for the merging of NEG to the modal (in Spec, ModP) in order to obtain the correct linear order with respect to the modal. The loss of semantic distinctions within the category of modal negators together with the loss of transparency of the verbal origin of the *m*-negators subsequently led to the introduction of a new overt modal head.

(25) a. TP



b. TP



The modal negation of *vP* *bù dé* 不得*V*, which is frequently attested in Middle Chinese, is not available in Modern Chinese anymore, and it is replaced by other

53. This happens postsyntactically in a semantically vacuous operation at PF (Wurmbrand 2003).

Table 5. MOD_{poss} *dé* 得 + NEG_{mod}/NEG

	EMC corpus (non-Buddhist)	EMC (Buddhist 25–460 CE)
<i>wù dé</i> 勿得	13	88
<i>mò dé</i> 莫得	20	68
<i>bù dé</i> 不得	1309 (partly lexical verb)	9999+ (partly lexical verb)

combinations of NEG+AUX V (Li 2004). The relation between overt structure and scope relations does not change in deontic modal expressions in MC: □*p* ‘necessary that not *p*’ is invariably expressed by NEG+AUX (Li 2004: 187); the position of NEG with respect to AUX remains unchanged in Chinese.

In early Middle Chinese, the new bi-morphemic *p*-negator *pǒ* 叵 (EMC *p^{ha}*) ‘not possible’, ‘not permissible’ (Pulleyblank 1991: 106, 241) emerges as a fusion of the general negator *bù* and the possibility modal *kě* 可 ‘possible’: *bù kě* 不可 [p(ut+ k)^{ha} > p^{ha}]. This form is attested in the Buddhist and (less frequently) in the Non-Buddhist Middle Chinese literature;⁵⁴ in Non-Buddhist Chinese, it only becomes more frequent in Early Mandarin. This form is exemplified in (26); (26a) shows both the analytic form *bù kě* and the synthetic form *pǒ*.⁵⁵

- (26) a. 欲 令 水 鹹 不 可 得 飲。... 此 一 兩 鹽, 能
Yù líng shuǐ xián bù kě dé yǐn... cǐ yī liǎng yán néng
 Wish make water salty NEG KE manage drink this one ounce salt able
 令 少 水 鹹 叵 飲 耶? 」
líng shǎo shuǐ xián pǒ yǐn yé
 make little water salty NEG_{Mod} drink SFPQ
 ‘(It is like someone who is throwing an ounce of salt into a little bit of water) and wishes to make the water so salty that it is impossible to manage to drink it. ... This one ounce of salt can it make a little bit of water so salty that is impossible to be drunken/undrinkable?’
 (*Taishō* 26, n.3, p. 433, 4th–5th c. CE)
- b. 「何 緣 叵 求 那 比 丘 不 得 諸 根 欣 悅,
hé yuán pǒ qiú nà bīqiū bù dé zhū gēn xīnyuè...
 what reason NEG_{Mod} search that bhikṣu NEG gain all organ happy
 ‘Why is it impossible to wish that this bhikṣu does not obtain the happiness of the Five Organs ...?’
 (*Taishō* 99, n.37, p. 269, 5th c. CE)

54. The ratio between in the early Buddhist literature (25–460 CE) of *pǒ* to *bùkě* is: 129:9999+, demonstrating that the fused form is the exception.

55. The constraints on the employment of the *pǒ* are not at issue in this paper.

The following examples of bi-morphemic negators are from Modern Sinitic varieties. Diachronic studies on bi-morphemic synthetic negators in Sinitic languages are relatively limited, although the variety of negators and the diversity of their functions are relatively high in the non-Standard varieties of Sinitic. It is particularly high in Southern Min (Zhang 2002; Lien 2015; Yang Y.-R. 2017),⁵⁶ for which at least some historical data is available. Most studies focus on the synchronic analysis and distribution of negators and their connection with modality (and aspect) (see Yang Y.-R. 2017) though. It is not my purpose to contribute to this discussion; I only want to present a few typical examples which demonstrate the existence of synthetic negation in Modern Sinitic varieties. These examples demonstrate the morphological similarity to the negators of Archaic Chinese, but they also show the difficulties in analyzing the bases of even the more recent and contemporary negators phonologically. Similar to the archaic negators, modern bi-morphemic negators have usually been divided into a negative morpheme and a modal auxiliary (e.g., in Li 1971; cf. Yang Y.-R. 2017: 26; Hashimoto 1976; Saillard 1992; Yang Y.-R. 2017: 33; Lin 2004; and others). The bi-morphemic negators exist beside analytic NEG+AUX forms. Lien (2015) distinguishes between non-fusional and fusional types of imperative (deontic) negative markers.

- A. non-fusional imperative negative markers: NEG m^7 𠵹 + a verbal head with modal functions: sai^2 使 / eng^7 用 / $thang^t$ 通 / ai^3 愛 (Lien 2015: 188).⁵⁷
- B. Fusional imperative negative markers; an example is mai^3 .⁵⁸ Lien proposes two different derivation scenarios for mai^3 (Lien 2015: 189):
1. mai^3 𠵹 < m^7 [𠵹 不] + ai^3 愛, or
 2. mai^3 𠵹 < m^7 [𠵹 不] + sai^2 使

Phonologically, both versions are possible; the first derivation is straightforward, and the second one involves the deletion of the initial of the second morpheme, similar to what I saw in historical reconstructions. Semantically, the verb ai^3 ‘like, love’ has a desiderative modal meaning, whereas sai^2 as verb has the meaning ‘use’; in combination with the negator m^7 不, it has the meaning ‘no need’ (Lien 2015: 196). Based on the semantics of the verbal head, Lien argues in favour of the



56. Particularly Lien Chinfa published numerous diachronic and synchronic studies on modals and negators in Taiwanese Southern Min (for references, see Yang 2017).

57. Lien divides the negators (fusional and non-fusional) of Southern Min into those with a bilibial nasal and a bilabial stop initial.

58. Other negators confined to Zhangzhou and Chaozhou dialect are: $bang^3$ 莽 < m^7 𠵹 + $thang^t$ 通 (Zhangzhou dialect), and mo^2 < m^7 𠵹 + ho^2 好 (Chaozhou dialect). They are not discussed further in Lien (2015).

The second tone reading *béng* with a voiceless stop initial and a nasal rhyme is not part of the phonological inventory in Chinese (Branner 2011: 73), and it cannot be derived directly from a fusion of *bú yòng* [p(ut+j)uawŋ^h].⁶¹ Particularly problematic are the voiceless unaspirated initial and the tone of *béng*. A regular second tone reading would require a voiced initial of the first morpheme and the *pingsheng* (level tone) of the rhyme in Middle Chinese in order to derive the Modern Mandarin tone; however, the negator *bù* has a voiceless initial, and the rhyme *yòng* has a *qusheng* (falling tone) reading.

- (28) 甬 愴記 張三
Béng diànji Zhāngsān
 don't concern Zhangsan
 'Don't be concerned about Zhangsan.' (Mandarin)

The second negator *bié* (Standard Mandarin reading) in (29a), and its Zhongyuan Mandarin variant *bai*⁴⁴ in (29b), is supposed to be a fusion of *bù yào* 不要 'don't, must not' [pu(t+ ?)jiaw]. In the earliest unambiguous instances in Ming period literature, *bié* appears alternatingly with *bié yào*. The origin of *bié* has been discussed in numerous articles, and many different hypotheses have been proposed in the literature (e.g., Jiang 1991; Yang Y. 2017, and references therein). Jiang proposes the phonological derivation of *bié* from *bù yào* [pu+iəu → p_uiəu → piəu → pié] (Jiang 1991: 43). The result of the phonological process has subsequently been split into a synthetic form *bié* and an analytic form *bié yào*.⁶² The second tone reading *bié*, which would normally derive from a voiced initial, has been explained by a particular phonological rule applying to numbers and negators, changing their regularly first tone reading into a second tone reading (Wei 2020: 153). The analysis in (28d) is similar to the analysis of the Southern Min deontic (imperative) modal and to the synthetic deontic negator *wù* of LAC.

61. This reconstruction follows Pulleyblank. Reconstructions in Baxter and Sagart (2014) are slightly different.

62. Yang Y. (2017) more or less follows Jiang's analysis, but they propose that *bié yào* preceded the bi-morphemic monosyllabic *bié*, based on a statistical analysis of the data. Jiang (1991) also concedes that *bié yào* is more frequent in the earliest attested instances than *bié* alone. Yang Y. (2017) proposes a subsequent loss of *yào*, similar to what can be found in the analytic deontic negations *xiū yào* 休要 and *mò yào* 莫要 'don't'. The latter is definitely a case of analyticization from *mò* to *mò yào*, because *mò* appears as a deontic negator long before *yào* grammaticalized into a modal auxiliary.

- (29) a. 別 浪費 水
bié làngfèi shuǐ
 don't waste water
 'Do not waste water.' (Mandarin)
- b. 別 請 張三
bai⁴⁴ qǐng Zhāngsān
 don't invite Zhangsan
 'Do not invite Zhangsan.' (Zhongyuan Mandarin)
- c. $[_{TP} [_{Neg/ModIP} \textit{bie/bai} [_{Pol(Neg)P} [_{vP}]]]] < [_{TP} [_{ModIP} \textit{NEG}_{bu} [_{ModI} \textit{DEONTIC} [_{Pol(Neg)P} [_{vP}]]]]]$

4. Conclusion

Both syntactic evidence and diachronic development argue for a derivation of almost all negative markers in Chinese from lexical verbs with reduced argument structure, i.e., copulas, modal, or aspectual verbal heads. They all show the same path of grammaticalization from lexical into functional categories. The process involves modal and aspectual verbal heads, just as well as copulas; the latter grammaticalize into focus markers. Since negators have to immediately adjoin to defective v/AUX^0 , phonological fusion becomes available in some cases. This analysis provides supportive evidence for the proposed reconstructions of the internal structure of bi-morphemic negators in the early stages of Chinese as the result of proto-Sinitic, or pre-Early Archaic Chinese fusion processes, even if the actual verbal roots and the origins of the negative prefixes cannot be identified with certainty. All negators are subject to an analyticization process, when the original verbal function of the negator becomes opaque, and new verbal heads are introduced into the cycle. This kind of cyclic process repeats itself in the history of Chinese. But so far, only a few modal $NEG+ AUX$ combinations show a tendency to fuse into new bi-morphemic negators. One of the requirements for this kind of fusion seems to be a grammaticalization of the auxiliary verb (AUX^0) from a lexical verb. Fusion never takes place in combination with adverbs which, for instance, function as additional focus heads, when the semantics of the original copula-negator weakens. Another feature which distinguishes modal negators from other bi-morphemic negators is the scope of the negative morpheme with respect to the AUX head. I take this as an argument for a fused negative modal phrase ($Neg/ModP$), i.e., a $NegP$ with strong modal features, whereas the aspectual negator constitutes its own $NegP$, selecting $OuterAsp$. Negative copulas display the same syntactic features as their non-negative counterparts. Accordingly, they are analyzed as heads of negative copulas ($Neg/CopP$) or negative focus markers ($Neg/$

FocP). When the original semantics of the bi-morphemic negators weaken, they are reanalyzed as adjoint negator in specifier position in analogy to the negator *bù*. *Bù* frequently replaces the original bi-morphemic negators during the process of analyticization. As I have shown, there is not much evidence for the head status of mono-morphemic negators such as *bù*. This proposal contrasts at least to a certain extent with van Gelderen (2011: 318f), who proposes an analysis of *méi* and *bù* as heads of NegP. The negative cycle discussed in this paper is a perfect example of the Agglutination Theory proposed in Gabelentz (1891). The analysis also demonstrates that the Chinese cycle is not caused by phonological erosion of the actual negator; as the examples show, the class of negative morphemes remains comparatively stable over the course of up to three millennia with the negative marker *bù* as one of the default negative markers from the OBI to Modern Mandarin. Renewal takes place due to semantic weakening of the non-negative function of the complex negator (Neg/XP) and is subject to strict morpho-syntactic constraints.

My proposal for the negative cycle in Chinese involving aspectual and modal negation involves the following stages:

- Phase I: Bi-morphemic negators, originally located in the lexical layer (VP), consisting of a negative prefix and a verbal head (COP, ASP, MOD) (EAC – LAC), selecting sentential or nominal (CP/DP) or zero complements.
- Phase II: Following a complete loss of argument structure, grammaticalization via head movement of the negative verbs from the lexical domain (ν P) to different functional projections in TP/CP, allowing only AspP/ ν P complements. After completion of the grammaticalization process, the functional heads are directly merged in their respective positions; no movement is required.
- Phase III: Semantic weakening of the original verbal functions of the negators, reanalysis as simple adjoint negators and consequently strengthening by additional lexical material (AUX, COP, ADV). AUX grammaticalizes from lexical verbs in the same way as the original verbal negators.
- Phase IV: Gradual replacement of the different original negators by the neutral negative marker *bù* 不 in NEG+AUX in standard varieties of Chinese (Northern Mandarin, Written Chinese).⁶³

63. I have not discussed the split of negators into Northern with a *p*-initial and Southern with an *m*-initial. This was not relevant to the point I want to make.

Phase V: Merging of the negative marker *bù* or variants with different initials with modal auxiliary verbs in vernacular and non-standard varieties of Chinese → similar to Phase I. The last stage is evidently subject to strict semantic constraints.

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