

Some aspects of 'aspect' in Mandarin Chinese

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Abstract

Previous analyses of the Chinese verb have defined the suffix -le₁ as a marker of 'past completed action' or 'perfective aspect'. Evidence is presented to show that -le₁ actually indicates 'taxis' or relative tense, specifically the notion of 'anteriority'. The contrasting morpheme zài marks 'simultaneity'. The verbal suffixes -guo and -zhe are shown to express not aspect but rather 'manner of action' (Aktionsart). The only category comparable to aspect in European languages is represented by the sentence-final particles -le₂ and -ne, which do indicate 'entry into a state' and 'continuation of a state' respectively. However, this 'aspectual' function is only one facet of their overall usage: in general, -le₂ expresses a change or different circumstance, while -ne marks identity.

I. As is well-known, the verb in modern Mandarin Chinese is not marked for tense:

- (1) a. { zuótiān
 b. Wǒ { jīntiān chī sān- wǎn fàn.
 c. { míngtiān
 I (adverb) eat three-bowl rice
 a. 'I ate three bowls of rice yesterday'.
 b. 'I am eating three bowls of rice today'.
 c. 'I will eat three bowls of rice tomorrow'.

The time of the narrated event relative to the time of the speech act is indicated in the above sentences only by the time adverbs. In connected discourse, this feature is often not marked at all in Chinese, the reader or listener being left to infer it from the context.

The Chinese verb may be accompanied by various functional markers, one of which is the enclitic particle -le:¹

- (2) Wǒ chī-le₁ sān- wǎn fàn.
I eat-le₁ three-bowl rice
'I ate three bowls of rice'.
- (3) a. zuótiān
 jīntiān chī-le₁ sān- wǎn fàn (yǐhòu), jiù juéde hěn
b. Wǒ shūfu.
 míngtiān
c. I (adverb) eat-le₁ three-bowl rice (after) then feel very comfortable
- a. '(After) having eaten three bowls of rice yesterday, I felt very comfortable'.
- b. '(After) having eaten three bowls of rice today, I feel very comfortable'.
- c. '(After) having eaten three bowls of rice tomorrow, I will feel very comfortable'.

Sentences with *-le₁* typically refer to past time, misleading some researchers into interpreting *-le₁* as a marker of 'completed past time': Dragunov (1952: 129) and Jakhontov (1957: 115). However, examples like (3a-c) show that its use is independent of tense.² Most writers on the subject have analysed *-le₁* as an indicator of 'completed action' or 'perfective aspect': see e.g. Liu (1964: 74), Wang (1965: 458), Hashimoto (1971: 6ff.), Teng (1973: 14) and Henne, Rongen and Hansen (1977: 117).

This analysis fails to account for the relationship of the following sentences:

- (4) a. Tā niàn -le₁ sān- nián Zhōngwén.
b. Tā niàn -le₁ sān- nián Zhōngwén-le₂.
 He study-le₁ three-year Chinese -le₂
a. 'He studied Chinese for three years'.
b. 'He has been studying Chinese for three years'.

Sentence (4b) differs from (4a) by the addition of *-le₂*, whose function is to indicate entry into a state, or 'inchoative aspect', as will be discussed below (see also Teng, 1973). *A priori*, we would not expect to find a sentence marked as both 'perfective' and 'inchoative'. More importantly, in sentence (4b), which contains *-le₁*, the action expressed by the verb is NOT completed.

It is hardly attractive to assume that *-le₁* marks 'completed action', except when it cooccurs with *-le₂*, where this meaning is absent. Furthermore, the contrast of (5) and (6) shows that the meaning of *-le₁* is not simply cancelled out by *-le₂*:

- (5) Tā hē- le₁ jiǔ- le₂.
he drink-le₁ wine-le₂
'He has drunk (some) wine'.
- (6) Tā hē jiǔ-le₂.
'He drinks wine (now)' (he didn't used to).

If *-le₁* does not express 'perfective aspect', what is the common denominator in its usage? The answer is that *-le₁* marks not aspect, but what Jakobson (1971: 135) calls 'relative tense' or 'taxis'. Taxis is not the time of a narrated event in relation to the speech event ('tense' proper), but rather the time of one narrated event in relation to another. Specifically, *-le₁* indicates anteriority, i.e. that one event is prior to another. This function is most clear in examples like (3a-c). To understand the remaining examples, we may compare the interaction of tense and taxis in the Latin verb system (see Kurylowicz, 1964: 90ff.).

Any Latin verb in the indicative mood is marked for both tense (past, present, future) and for taxis (anterior or non-anterior). This may be schematized as in figure 1.

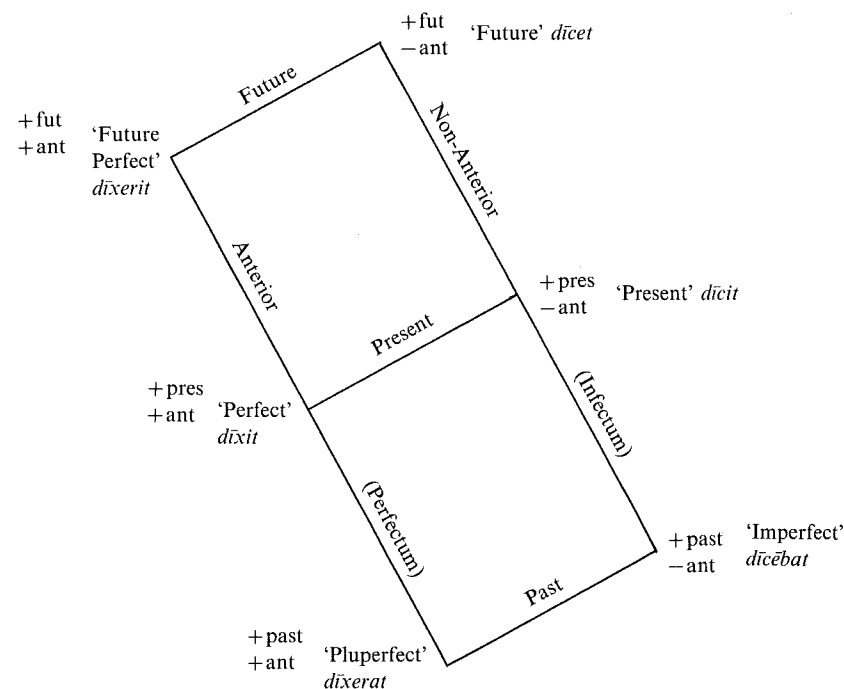


Figure 1³

The forms of the 'inflectum' are [-anterior], and *dīcēbat*, *dīcit* and *dīcet* indicate respectively past, present and future time pure and simple: 'he said', 'he is saying', 'he will say'.⁴ The forms of the 'perfectum' are [+anterior], and *dīxerat* indicates an action prior to another in the past ('he had said'), while *dīxerit* expresses an action prior to another in the future ('he will have said'). Likewise, *dīxit* indicates an action prior to another in the present. Since a genuine present action (i.e. [+present, -anterior]) will necessarily be simultaneous with the speech event, an action which is marked as anterior to that will equate to a preterite in English: *dīxit* 'he said/has said'. From the Latin point of view, however, the tense is present.

In Chinese, where there is no verbal category of tense, $-le_1$ fills the role of the entire Latin perfectum, as shown by examples (3a-c).⁵ However, in Chinese as elsewhere, the functionally 'unmarked' tense is the present. Thus example (1) with no time adverb will, in the absence of information to the contrary, be interpreted as 'I eat/am eating three bowls of rice'. Similarly, then, sentences (2) and (4a), which are marked by $-le_1$ as [+anterior], will normally be interpreted as [+anterior, +present], thus like Latin *dīxit* equating to an English preterite.⁶

Example (4b) remains to be accounted for. In order to understand (4b), we must first define more closely the function of $-le_2$, which marks entry into a state, or so-called 'inchoative aspect'.⁷ More precisely, $-le_2$ implies an (unspecified) starting point for the condition expressed by the predicate, but no end point: schematically, $/A \rightarrow$. Thus in (6), $-le_2$ implies that the condition of his drinking has not always existed, but that it began at some point, now exists, and may exist indefinitely. In (6), the starting point is unspecified, but it may be more closely defined in various ways:

- (7) Tā kuài lái- le_2 .
he soon come- le_2
'He is coming soon'.
(8) Tā lái- le_1 , wǒ jiù kěyǐ zǒu- le_2 .
he come- le_1 I then can leave- le_2
'When he comes, then I can leave'.
(9) Wáng Xiānsheng lái- le_2 .
WangMr. come- le_2
'Here comes Mr. Wang/Mr. Wang is coming!'

In (7) the starting point for his entry into the state of coming is specified as being 'soon'. In (8) the condition of my being able to leave is predicated on the prior event of his coming. In (9) the starting point for his coming is set by extralinguistic factors: as pointed out by Thompson (1968: 73), sentence (9) is appropriate from the moment Mr. Wang comes into view up to the time he actually arrives.

Turning now to (4b), we see that $-le_2$ indicates that the condition of his studying Chinese began at some point, now exists, and may continue to exist. Furthermore, $-le_1$ shows that the starting point for this condition was anterior to something (anterior to the present, unless otherwise specified).⁸ In this example, the time from the entry into the condition until the present is also specified by *sān-nián* 'three years', but this is not necessary. Compare (10) with (2):

- (10) Wǒ chī- le_1 sān- wǎn fàn- le_2
I eat- le_1 three-bowl rice- le_2
'I have eaten three bowls of rice'.

Sentence (2) with $-le_1$ says merely that the action expressed by the verb is anterior (to the present). In sentence (10) the addition of $-le_2$ implies that that action produced a condition which still exists (and may continue to exist). Thus (10), 'I have eaten three bowls of rice', could appropriately follow (11):

- (11) Nǐ è bú è? Bú è.
'Are you hungry? — No, I'm not'.

On the other hand, (2), 'I ate three bowls of rice', would be a rather peculiar response in this context, since in the absence of $-le_2$ there is no necessary connection between the act of eating and the present time. The combination of $-le_1$ and $-le_2$ thus equates roughly to one of the uses of the English present perfect ('present relevance').

Therefore by retaining the received interpretation of $-le_2$ as marking 'entry into a state' (as defined above), and by reinterpreting $-le_1$ not as a 'perfective' marker, but as the sign of 'anteriority', we may account for all uses of $-le_1$, both alone and in combination with $-le_2$.

II. The status and interaction of $-le_1$ and $-le_2$ are complicated by the facts of negation in Chinese. The normal marker of negation is *bù*, which ordinarily appears before the predicate:

- (12) Wǒ bù chī sān-wǎn fàn.
'I do not eat three bowls of rice'.

There is one exception to this: before the verb *yǒu*, which expresses existence, the negative appears as *méi*:

- (13) a. Zhuōzi-shang yǒu shū.
table- on exist book
'There are books/is a book on the table'.
b. Zhuōzi-shang méi (yǒu) shū.
'There are no books/there is no book on the table'.

Except in sentence-final position, *méi yǒu* may be optionally reduced to *méi*. This exceptional deletion of the main verb is undoubtedly made possible by the fact that *méi* occurs only before *yǒu*, so that the deleted verb is always recoverable.

Compare now (14), which is the negative counterpart of both (2) and (10):

- (14) Wǒ méi (yǒu) chī sān-wǎn fàn.
'I didn't eat/haven't eaten three bowls of rice'.

One is immediately struck by two facts: first, the negative sentence contains a *yǒu* which does not appear in the positive sentence; second, neither *-le₁* nor *-le₂* appears in the negative sentence. These facts are discussed by Wang (1965), who presents sound evidence involving the question transformation to show that *-le₁* and *yǒu* are suppletive allomorphs of the 'aspect' marker, and that in the underlying structure this marker is generated as *yǒu* preceding the verb. Thus the underlying structures of (2) and (14) would be:

- (2) Wǒ yǒu chī sān-wǎn fàn.
(14) Wǒ NEG yǒu chī sān-wǎn fàn. (first interpretation)

In (14) the verb *yǒu* conditions *méi* as the form of the negative marker; no other changes take place. To produce the surface form of (2), we must assume an obligatory transformation which, in the absence of NEG, moves the *yǒu* after the verb and changes it to *-le₁*.

I believe that Wang's analysis is essentially correct, except that for reasons outlined above I interpret *yǒu ~ -le₁* as a marker of taxis, specifically of anteriority. Since *yǒu* behaves like a verb with respect to negation and question formation, I also suggest that it be analysed as the existential verb *yǒu* functioning as an auxiliary, very much like 'have' in English.

There are some further complications involving *yǒu ~ -le₁* and negation. First of all, there is the 'experiential' marker *-guo* which always occurs as a suffix to the verb and which indicates that the subject has performed an action at least once:

- (15) a. Zhāng Sān chī-guo shēng-yú.
Zhang San eat-guo raw-fish
'Zhang San has eaten raw fish (before)'.
b. Zhāng Sān méi (yǒu) chī-guo shēng-yú.
'Zhang San hasn't eaten raw fish (before)'.

Since *-guo* means that someone has experienced something, the action is necessarily [+anterior], and we are not surprised to find the marker of

anteriority present in the negative sentence (15b). The surface form of the positive sentence (15a) forces us to assume a condition on our transformation of *yǒu*-movement: when the verb is already followed by another suffix, *yǒu* is simply deleted, and *-le₁* never appears. We shall see below that this is not an ad hoc condition required by the facts of *-guo*, but a general rule involving other verbal suffixes.⁹

Wang sets up a compound 'aspect' *yǒu-guo* beside *yǒu*. This analysis should be rejected for two reasons. First, while there is good evidence to show that *yǒu* precedes the verb in underlying structure, there is no evidence to show that *-guo* ever precedes the verb. Second, it is true that *-guo* will occur only when *yǒu* is also present (though not vice-versa). As stated above, this is due to the meaning of *-guo* itself. However, the functions of *yǒu* and *-guo* are quite different. While *yǒu ~ -le₁* marks one action as anterior to another, *-guo* says something about the nature of an action. Therefore these should be treated as two different types of verbal markers: *yǒu ~ -le₁* is generated as an auxiliary preceding the verb and marks anteriority, while *-guo* is generated as a suffix to the verb and marks the action as having been experienced at least once.

I have not yet accounted for the second interpretation of (14): 'I have not eaten three bowls of rice'. One may note that *-le₂* does not appear in this sentence. There are two possible explanations: (1) it is in the underlying structure, but is deleted by some mechanism; (2) it is not in the underlying structure. I believe that the second alternative is correct, for the following reason. Let us look at the underlying structure which would be required if we assumed that *-le₂* were present in (14):

- (14) Wǒ NEG yǒu chī sān-wǎn fàn le₂.

According to the meanings we have established for *yǒu ~ -le₁* and for *-le₂*, the only possible reading for this structure would be: entry into a state brought about by an anterior action (eating), THE EXISTENCE OF WHICH IS DENIED. As already noted by Teng (1973: 32), this structure is semantically ill-formed.

Strictly speaking, then, there is no negative counterpart in Chinese to (10). In other words, the difference expressed in English by 'did not eat' versus 'have not eaten' is not present in Chinese. This is hardly shocking. It should be clear by now that the verbal categories of Chinese and English do not correspond even remotely. The fact that the combination of *-le₁* and *-le₂* happens to produce a meaning roughly equivalent to the English present perfect in one of its uses should not mislead us into equating the Chinese and English structures. Nor should we expect them to behave in parallel fashion with respect to other parts of the grammar, such as negation.

III. Wang's analysis of *yǒu* and *-le₁* as suppletive forms of one morpheme has been criticized by Teng (1973), who presents three pieces of counterevidence. First, there are cases where both *yǒu* and *-le₁* occur. Compare the following:

- (16) a. Tā mai-le₁ tāde chē
he sell-le₁ his car
'He sold his car'.
b. Tā méi (yǒu) mai tāde chē.
'He didn't sell his car'.
c. Tā bǎ tāde chē mai-le₁.
'He sold his car'.
d. Tā méi (yǒu) bǎ tāde chē mai-le₁.
'He didn't sell his car'.

The facts of (16a, b) are accounted for by the analysis given above for (2) and (14), but in (16c, d), where the direct object has been brought forward and marked with *bǎ*, we seem to find evidence for both *yǒu* and *-le₁*. Note, however, that (16c, d) are entirely equivalent to (16a, b) respectively (except for a slight difference in emphasis). Furthermore, this case is parallel to the following:

- (17) a. Tā shuō-le₁ jǐ jù.
he say-le₁ few-sentences
'He said a few words'.
b. Tā méi (yǒu) shuō jǐ-jù.
c. Tā shuō-le₁ méi (yǒu) jǐjù.
'He didn't say a word'.

This example is taken from Teng (1974: 138), who states that, however we are to account for the peculiar word order of (17c), it is clearly equivalent to (17b), and (17a-c) are all simplex sentences. I agree and suggest that (16d) and its relationship to (16a-c) should be treated likewise.

To clarify the situation, consider the following negative sentence with *bǎ* but without the anteriority marker:

- (18) Tā bù bǎ tāde chē mai-gěi wǒ.
he NEG bǎ his car sell- to I
'He isn't selling his car to me'.

This example shows that the feature common to (16d) and (17c) is the position of the negative: on the surface it does not directly precede the verb. The underlying structures are the following:

- (16) d. Tā NEG yǒu mai tāde chē.
(17) c. Tā NEG yǒu shuō jǐ-jù.

In the presence of *yǒu*, the negative appears as *méi*. In (16d) the direct object is then moved in front of the verb (including the auxiliary) and marked with *bǎ*, producing *tā méi bǎ tāde chē yǒu mai*. The *yǒu*-movement rule then produces the surface sentence *tā méi bǎ tāde chē mai-le₁*. Similarly, in (17c) the negative has optionally been moved in front of the direct object, yielding *tā yǒu shuō méi jǐjù*. Once again the *yǒu*-movement rule gives the surface order: *tā shuō-le méi jǐjù*. Since in all other instances other than sentence-final position, *méi* and *méi yǒu* are interchangeable, speakers may then falsely expand *méi* in (16d) and (17c) into *méi yǒu*, thus giving the appearance that the anteriority marker appears twice. Example (18), however, shows that it is really only the negative which appears before *bǎ*. Sentence (16d), then, is only an apparent counterexample to the suppletion of *yǒu* and *-le₁*.

Teng's second objection is that there are negative sentences with *méi* (*yǒu*) whose positive forms do not have *-le₁*. These are of two types. The first is exemplified by (19) and (20):

- (19) Duìbuqǐ, wǒ zuótiān méi (yǒu) néng lái.
sorry I yesterday NEG can come
'Sorry, I couldn't come yesterday'.
(20) Wǒ zuótiān qù zhǎo tā, kěshi tā méi (yǒu) zài jiā.
I yesterday go seek he, but he NEG be-at home
'I went to look for him yesterday, but he wasn't at home'.

Here we have verbs expressing a state (*néng* 'can' and *zài* 'be at'), which cannot cooccur with *-le₁* in positive sentences, but which are negated by *méi* (*yǒu*). This seems to argue for a morpheme *yǒu* separate from *-le₁*.

Teng claims that for most speakers of Mandarin, *méi* (*yǒu*) in the above sentences is freely interchangeable with *bu*. If this is true, then *méi* (*yǒu*) once again is merely a variant of the negative marker, and the *yǒu* has no functional significance. That is, just as in (16d) and (17c) above, *méi* may be falsely expanded into *méi yǒu* in contexts where only the negative marker *méi* is semantically justified.

The question remains as to why the negative appears as *méi* if there is no genuine (functionally significant) *yǒu* in the underlying structure. The answer may be found in the discussion of this type by Chao (1968: 731-732). Chao claims that for some speakers, negative sentences like (19) and (20) with *méi* differ in meaning from the same sentences negated with *bu*. According to this view, the English translations given above are correct only for the sentences with *bu*, where the verbs *néng* and *zài* express a state, as usual. The sentences as given with *méi* mean rather:

- (19) 'Sorry, I didn't succeed in coming/manage to come'.

- (20) 'I went to look for him yesterday, but he didn't happen to be at home'.

In effect, in the presence of *méi* (*yǒu*), the state verbs *néng* and *zài* function as action verbs, which express an event, not a state. Since the event is anterior (to the present), the presence of *yǒu* marking anteriority is justified, in fact expected. The difference between *bù néng lái* and *méi* (*yǒu*) *néng lái* in this dialect is comparable to that in Spanish between (no) *podía venir* 'he was (not) able to come' and (no) *pudo venir* 'he did(n't) succeed in coming'.

In Chinese this contrast is possible only in the negative. This restriction is undoubtedly due to the fact that this use of *méi* (*yǒu*) with state verbs like *néng* and *zài* is analogical to its use with action verbs. That is, it is the existence of forms like *méi* (*yǒu*) *lái* 'didn't come' which permits the reading of *néng* as an action verb in *méi* (*yǒu*) *néng lái* 'didn't succeed in coming'. Based on Teng's evidence, for some speakers the analogy is purely formal: *méi* (*yǒu*), the negative marker with anterior events, is also used as the negative marker of anterior states, thus freely interchanging with *bu* in this context. For some speakers, then, the *yǒu* in examples like (19) and (20) is functionally justified as the marker of an anterior event; for others it is functionally empty. In both cases, the non-appearance of *-le₁* in the corresponding positive sentences is not only understandable but in fact predictable.

The second type of sentence where the negative *méi* (*yǒu*) does not correspond to *-le₁* in the positive form is rather different:

- (21) a. *Tā bì -zhe yǎnjing.*
he close-zhe eye
'He has/had his eyes closed'.
b. *Tā méi (yǒu) bì-zhe yǎnjing.*
'He does/did not have his eyes closed'.
(22) a. *Dàmén suǒ- zhe.*
big door lock-zhe
'The gate is/was locked'.¹⁰
b. *Dà-mén méi (yǒu) suǒ-zhe.*
'The gate isn't/wasn't locked'.

According to Wang's analysis, which I have followed, the appearance of *méi* (*yǒu*) in the negative forms (21b) and (22b) implies that their positive counterparts (21a) and (22a) should contain *-le₁*. Teng points out that *-le₁* does not in fact appear there. Since he interprets *-le₁* as 'perfective aspect' and *-zhe* as 'progressive' or 'continuative', Teng also claims that a configuration of *-le₁* plus *-zhe* would be semantically ill-formed. Thus the

yǒu in (21b) and (22b) which cooccurs with *-zhe* cannot be equated with *-le₁*.

This analysis is faulty not only from the side of *-le₁*, which marks anteriority, but also from the side of *-zhe*, which does not mean 'progressive', a fact shown by Teng's own examples:

- (23) *Tā chuān- zhe xiézi.* [negative *méi* (*yǒu*)]
he put-on-zhe shoe
'He is/was wearing shoes'.
(24) *Tā zài chuān(-zhe) xiézi.* [negative *bu*]
'He is/was putting on shoes'.

It is clear from (24) that the genuine marker of 'progressive', i.e. of an on-going action, is *zài* preceding the verb. When we note the position of *zài*, its complementary distribution with *yǒu ~ -le₁* (note especially the negatives of 23 versus 24), and its meaning (an action going on at the time of another action), it becomes obvious that *zài* is another marker of taxis in Chinese: namely, of simultaneity. Like *yǒu ~ -le₁*, it is independent of tense, as shown by (24) and (25):

- (25) *Wǒ zuótiān kànjian tā de shíhou, tā zài chuān(-zhe) xiézi.*
I yesterday see he when he zài put-on(-zhe) shoe
'When I saw him yesterday, he was putting on shoes'.

As in the case of *yǒu ~ -le₁*, when the tense is not otherwise indicated, it is taken to be the present, and the unmarked reading of (24) is: 'He is putting on shoes'.

On the other hand, (23) makes it evident that *-zhe* marks not 'progressive', but rather 'durative'. It is independent of tense, as shown by (23), and also independent of taxis, as shown by (23) versus (24). However, since an on-going (simultaneous) action is usually viewed as taking a certain amount of time, *-zhe* often cooccurs with *zài*. The nuance added by *-zhe* in (24) can perhaps be rendered in English as: 'He is/was engaged in (the process of) putting on shoes'.

If we now reexamine (21), (22) and (23), we see that their meaning not only permits, but in fact requires the presence of *yǒu ~ -le₁* in their underlying structure. The actions of closing his eyes, locking the door, and putting on shoes are all anterior (to the present). In effect, (21) means 'He closed his eyes and has kept them closed', (22) 'Someone locked the door, and it is (still) locked', (23) 'He put on shoes and has them on'. Thus (23) *tā (méi) yǒu chuān-zhe xiézi* 'He is (not) wearing shoes' combines anteriority and duration, while (24) *tā (bù) zài chuān-zhe xiézi* 'he is (not) engaged in putting on shoes' combines simultaneity and duration.

Functionally, then, the cooccurrence of *yǒu ~ -le₁* and *-zhe* makes sense.

The formal problem, the non-appearance of $-le_1$ in the surface forms of (21–23), is solved by the rule given earlier: $-le_1$ does not appear when the verb already has another suffix. Compare (15a), (23) and (26):

- (15) a. Zhāng Sān chī-guò shēng-yú. [negative *méiyǒu*]
 'Zhang San has eaten raw fish (before).'
 (23) Tā chuān-zhe xiézi. [negative *méiyǒu*]
 'He is wearing shoes'.
 (26) Tā lái-le. [negative *méiyǒu lái*]
 'He has come'.

The semantics of all three sentences argue that they contain the anteriority marker *yǒu* in the underlying structure, and this is confirmed by the negative forms. However, in (15) and (23) no $-le$ appears in the positive forms, and only one $-le$ is found in (26), where we would expect *Tā lái-le₁-le₂*.¹¹ The appearance of one $-le$ in the latter type has been explained as due to haplology, but the parallel absence of $-le$ in (15a), (23) and (26) suggests that $-le_1$ is deleted in the presence of another verbal suffix.¹²

We have seen evidence for two markers of taxis, or relative tense, in Chinese: *yǒu* ~ $-le_1$ expressing anteriority and *zài* expressing simultaneity. Evidence from interrogatives shows that *yǒu* as well as *zài* is generated in front of the verb. In the absence of a negative, *yǒu* is moved after the verb. In the presence of another suffix, *yǒu* is deleted; otherwise it appears as $-le_1$. We have also discussed the verbal suffixes *-guò* indicating 'experience' and *-zhe* indicating 'duration', thus in general terms the nature or manner of action ('Aktionsart'). Finally, the sentence particle $-le_2$ means 'entry into a (new) state' or more generally a change or different circumstance.

IV. Teng (1973: 25ff.) argues that $-le_2$ is not a sentence particle, as previously claimed, but rather that it must be analysed as an 'inchoative verb' functioning as a higher predicate. In order to understand his argument, which involves the scope of negation, we must begin with the following example:

- (27) a. Tā cháng bù lái.
 he often NEG come
 'Often he doesn't come'.
 b. Tā bù cháng lái.
 'He doesn't come often'.

I agree fully with Teng that these are best characterized as:

- (27) a. It is often the case that [NEG he comes].
 b. NEG it is often the case that [he comes].

In (27a) the scope of negation includes only the lower sentence, but in (27b) it includes the higher sentence. As presented in detail in Teng (1974), this difference may be most elegantly captured by assuming that *cháng* 'often' is a higher predicate which has *tā lái* 'he comes' as its subject. In (27a) the lower S is negated, in (27b) the higher S.

In order to produce the surface forms of (27a) and (27b), we need two transformations: first, a general rule of negative lowering or placement which places the negative marker before the next lower predicate; second, a predicate-lowering rule which lowers time adverbs functioning as higher predicates in front of a lower predicate. This rule also accounts for the behaviour of 'external modals' in Chinese — for a full justification see Teng (1974).

Let us now look at a negative sentence with $-le_2$:

- (28) a. Tā hē jiǔ -le₂.
 he drink wine- le_2
 'He drinks wine (now)'. (he didn't used to)
 b. Tā bù hē jiǔ-le₂.
 'He doesn't drink wine any more'.

As Teng correctly points out, the only reasonable interpretation of (28b) is: 'It has come about that [NEG he drinks]' or 'He has entered a state of not drinking'. That is, the scope of negation does not include $-le_2$, leading Teng to interpret $-le_2$ as a higher predicate.

However, he realizes that the parallel with (27a, b) predicts that there ought to be another negative corresponding to (28a): 'NEG it has come about that [he drinks]'. He claims that in fact there is one:

- (29) Tā hái bù hē jiǔ.
 'He doesn't drink (wine) yet'.

In order to make (29) the negative of (28a), Teng has to make the following explicit claim (1973: 28): "'NEG it has come about" is to be understood as equivalent to the meaning of "it has not yet come about"'. Likewise, he must claim that the negative of (10) is not (14), but (30):

- (10) Tā chī-le₁ sān-wǎn fàn-le₂.
 'He has eaten three bowls of rice'.
 (14) Tā méi (yǒu) chī sān-wǎn fàn.
 'He hasn't eaten three bowls of rice'.
 (30) Tā hái méi (yǒu) chī sān-wǎn fàn.
 'He hasn't three bowls of rice yet'.

This is patently incorrect. No description of Chinese I am aware of gives *hái méi (yǒu)* as the negative of $-le_1 \dots -le_2$, but simply *méi (yǒu)*. It is easy

to see why. Sentence (14) is the simple negation of (10) with no further implication, but (30) adds the implication that the subject may eat three bowls of rice in the future. Thus (30) is not a negative of (10). Likewise, (29) adds an implication not present in (28a) and is not a simple negative of it. The only negative corresponding to (28a) is (28b): 'He doesn't drink any more'. Yet there is nothing semantically ill-formed about the underlying structure 'NEG it has come about that [he drinks]'.¹³ If $-le_2$ is to be derived from a higher predicate, it is difficult to see why such a negative form does not exist.¹⁴

If Teng's analysis of $-le_2$ as a higher predicate is problematic, then how are we to account for the fact that $-le_2$ is not within the scope of the negative in (29b)? Formally, we may accomplish this with an \bar{S} notation, allowing the category 'sentence particle' to be under \bar{S} , but not under S , and thus not within the scope of the negative.

The question then becomes: is there any independent evidence for such an analysis? We may recall that Teng's reason for denying that $-le_2$ is a sentence particle is the fact that it does not come under the scope of the negative. However, the following sentences show that this is also true of other sentence particles:

- (31) a. Tā hē jiǔ-ma?
'Is it true that he drinks (wine)?'
b. Tā bù hē jiǔ-ma?
'Is it true that he doesn't drink?'
(32) a. Tā hē jiǔ-ba?
'He drinks, doesn't he?'
b. Tā bù hē jiǔ-ba?
'He doesn't drink, does he?'

As pointed out by Hashimoto (1971: 19ff.), questions formed with the particles $-ma$ and $-ba$ are not neutral. In each case, the question presupposes the truth of the corresponding statement. The presupposition is stronger with $-ba$ than with $-ma$: the English translations give an approximation of the degree of presupposition. Like $-le_2$, $-ma$ and $-ba$ are not within the scope of the negative. I know of no independent motivation for interpreting $-ma$ and $-ba$ as higher predicates. The only negatives of (31a) and (32a) are (31b) and (32b). Compare (28a, b) and contrast the situation in (27a-b).

Whatever proves to be the correct formal solution, the fact that $-le_2$ does not fall within the scope of negation is not a feature peculiar to it, but one which it shares with other sentence particles. Therefore this feature cannot be used to argue that it is a higher predicate, and I retain the older interpretation of $-le_2$ as a sentence particle.¹⁵

V. There remains one further morpheme to be discussed in connection with 'aspect' and the Chinese verb: the sentence particle $-ne$.¹⁶ Rygaloff (1973: 114) defines $-ne$ as the marker of 'non-changement'. In positive terms, $-ne$ means 'continuation of a state', as opposed to $-le_2$, which indicates 'entry into a state'. More precisely, $-ne$ implies neither starting point nor end point for the action expressed by the verb: schematically, $-A \rightarrow$. Here are some typical examples:

- (33) Tā hái méi (yǒu) lái- (ne).
he yet NEG ant. come-ne
'He hasn't come yet'.
(34) Wǒ fùqīn hái huó-zhe(-ne).
my father still live-zhe(-ne)
'My father is still living'.
(35) Wǒmen(zhèng) zài chī-zhe fàn- (ne).
we just simul eat-zhe rice ne
'We are just now eating'.

As indicated by Rygaloff, virtually any action which is on-going or viewed as having duration may also be said to be continuing. Hence the frequent cooccurrence of $-ne$ with $zài$, the marker of simultaneity, and/or $-zhe$, the marker of duration. Often there is little discernible difference between the various combinations $zài \dots -zhe \dots -ne$, $zài \dots -zhe$, $zài \dots -ne$, or $-zhe \dots -ne$.

However, Rygaloff is mistaken in implying that the addition of $-ne$ is always redundant. A sentence like (33) without $-ne$ includes only one presupposition: namely, that the subject is expected to come in the future. The addition of $-ne$ implies that he was expected to come before now: his (continued state of) non-arrival is contrary to expectation (see Dragunov, 1952: 146-147). Similarly, Thompson (1968: 73) points out that example (34) without $-ne$ is a general statement of fact. With $-ne$, it would be appropriate in a situation where the speaker's father is known to be seriously ill. The speaker is insisting that his father is still alive, against the possible expectation that he is not.

Chao (1968: 803) offers examples to show that $-ne$ may indicate a fact contrary to expectation even where 'continuation of a state' does not seem to be present:¹⁷

- (36) Tā hái huì chě-huǎng-ne.
he even can pull-lies- ne
'He can even tell lies'. (I didn't think he was that clever)
(37) Hòu-yuán hái yǒu yì-ge jīn- yú- chí- ne.
back-yard even exist a gold-fish-pond ne
'There is a goldfish-pond in the backyard too!' (to my surprise)

Chao (1968: 802) also cites one more function of *-ne*, to reinforce the expression of the equative degree:

- (38) Yǒu yībǎi chǐ ne, shēn de hěn-ne.
 attain 100 foot ne deep very ne
 'It's as much as a hundred feet, it's very deep'.

These three functions of *-ne* (continuation of a state, fact contrary to expectation, reinforcement of equative degree) do not seem related: what is the common denominator? I suggest that the basic function of *-ne* is to indicate identity: in the case of the equative, identity of the two things being compared; in the case of continuation of a state, identity of the current state with a past one. That is, the situation remains the same: a given state continues. The implication that something is contrary to expectation is apparently a nuance which accrues to *-ne* secondarily due to the circumstances of its use (e.g. frequent cooccurrence with *hai* 'still; yet').

I am led to this analysis by a striking parallel from an unlikely source: the Hittite language of ancient Anatolia. Hittite possesses an enclitic particle *-pat*, whose basic function is to mark identity, as shown convincingly by Hart (1971), from whom most of the following examples are taken:

- (39) ašeššar- ma ^{LÚ}UBARUMTIM arantari-pat.
 assembly-but foreigners stand- pat
 'But the assembly (and) the foreigners remain standing'.
- (40) nu INA 5 MUŠI INA É ^{LÚ}IŠ aranta nu
 and in 5 nights in stable they stand and
 ŠĀ.GAL azzikkanzi GE₆-ti GE₆-ti-ma tūriškizzi -pat.
 fodder they eat night night- but he hitches up -pat
 'They (the horses) stand in the stable five nights and eat fodder, but he continues to hitch them up every night'.
- (41) nu-za mān irmalanza ēšta, ^{UTU}ŠI -ma-tta
 and (part.) although ill you were His Majesty-but-you
 ANA AŠAR ABI-KA tittanun-pat.
 in place your-father I put -pat
 'Although you were ill, I, His Majesty, went ahead and put you in the place of your father'.
- (42) namma-za-kan DINGIR.MEŠ-aš ištarna zik-pat
 further (part.) gods (dative) among you-pat
^{UTU}URU Arinna nakkiš šallišš-a- z
 Sun-goddess (of) A. important great-and-(part.)
 zik-pat ^{UTU}URU Arinna.
 you-pat Sun-g. of A.

'Furthermore, it is you, the Sun-goddess of Arinna, who are important among the gods, and it is you, the Sun-goddess of Arinna, who are great'.

The first two examples, (39) and (40), illustrate the use of *-pat* to express continuation of a state. It should also be noted that *tūriškizzi* in (40) is an iterative-durative form of *tūriya-* 'yokes, hitches up'. The frequent cooccurrence of *-šk-* forms with *-pat* in Hittite is directly comparable to that of *-zhe* with *-ne* in Chinese. Example (41) shows how *-pat*, like *-ne*, comes to imply a fact contrary to expectation. This use of *-pat* is more common with reference to continuation of a state, but example (41) shows that in this function *-pat* was extended to other situations as well (cf. (36) and (37) above with *-ne*). In example (42), *-pat* may be said to be 'emphasizing', but this usage also derives from the basic function of expressing identity. The use of *-pat* insists on the identity of the subject and the predicate adjective: it is *you* who are important/great (and no one else).

I do not wish to overstate the parallelism between *-pat* and *-ne*. The former is also used with nouns and pronouns to express 'the very (same) X' or the emphatic 'X itself'. There is nothing comparable to this in the usage of *-ne* in Chinese. Nevertheless, I believe that the Hittite parallel does show how the three different uses of *-ne* in Chinese may be accounted for starting with one basic function: the expression of identity.

VI. Our investigation has led to the conclusion that the term 'aspect' has been too freely applied to what are three fundamentally different verbal categories in Chinese. Furthermore, these different functions are matched by formal differences. Taxis, or relative tense, is indicated by markers which precede the main verb in the underlying structure: *yǒu* for 'anteriority' and *zài* for 'simultaneity'. Manner of action is expressed by verbal suffixes: *-guo* for 'experience' and *-zhe* for 'duration'.¹⁸ The only function even comparable to aspect in European languages is carried by sentence-final particles: *-le₂* marks 'entry into a state', *-ne* 'continuation of a state'. However, the 'aspectual' functions of these particles are only one facet of their more general meanings: *-le₂* expresses a change or new circumstance, while *-ne* marks identity.

The only syntactic transformation immediately affecting these morphemes is that of *yǒu*-movement, which in the absence of a negative moves *yǒu* after the verb. In the presence of another suffix, the *yǒu* is deleted; otherwise it appears as *-le₁*.

These results may be conveniently summarized as follows:

Taxis	Manner of Action	'Aspect'
yǒu (→ -le ₁) VERB	-guo	-le ₂
zài	-zhe	-ne

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Notes

- Here designated -le₁, to distinguish it from a homophonous particle -le₂, which will be discussed shortly.
- Dragunov, loc. cit., recognizes the existence of examples like (3c), but persists in restricting -le₁ to 'past' time, forcing him into the bizarre characterization of the counterexamples as 'past in the future'.
- I am indebted to Calvert Watkins of Harvard University for first bringing the Latin facts to my attention in the form of a diagram very much like that presented here.
- As the functionally 'unmarked' tense, the present tense may also be used for timeless statements, as well as for past or future, but this is irrelevant to the present discussion.
- This equivalence is even clearer if one chooses the alternate translations of (3a) and (3c) respectively: 'After I had eaten three bowls of rice ...'/'After I (will) have eaten three bowls of rice ...'.
- These relations of tense and anteriority are correctly stated by Rygaloff (1973: 104), who nevertheless proceeds to define -le₁ as marking completed action! See also the insightful comments of Thompson (1968: 71-73). However, his claim that the usage of -le is not comparable to verbal categories in other languages is false.
- I have enclosed 'inchoative aspect' in quotes, because the functions of -le₂ go beyond what is normally covered by 'aspect' in European languages. Dragunov (1952: 136ff.) terms -le₂ a 'modal' particle, but this is even more misleading. The basic function of -le₂ is to indicate entry into a new situation or circumstance (versus -ne which indicates continuation of the same state). As in the case of all grammatical categories, the perception of 'new situation' rests with the speaker. Hence the following example provided by a referee of this article: *qiáng-shang pá-le₂ hěn duō zhānglang* ('Look, there are a lot of cockroaches crawling on the wall'. It does not matter how long the cockroaches have actually been on the wall. The use of -le₂ indicates that the situation described is a discovery of the speaker, therefore a new situation.
 Despite the word order, we are dealing here with -le₂. The subject has been postposed, but in the underlying structure sentence-final and verb-final position coincide. In such cases, Chao's attempt to distinguish -le₁ and -le₂ on purely formal grounds as 'verb-le' and 'sentence-le' fails. Occurrences of -le must be assigned to -le₁ or -le₂ based on their function in the sentence. On the problem of 'indeterminacy' of -le₁ and -le₂ see the excellent treatment of Teng (1973: 32ff.). Teng (1973: 34) also shows how -le₂ acquires the secondary meaning of 'too X' with state verbs.
- I stress again, however, that -le₁ is independent of tense. If one sets (4a) and (4b) in a past context, they will refer to a past event prior to another: *Wǒ qùnián huíjian tā de*

- shíhou, tā niàn-le₁ sān-nián Zhōngwén(-le₂)* 'Last year when I met him, he had studied Chinese for three years'/'had been studying Chinese for three years'.
- As Teng (1973: 19-20) rightly claims, Wang's formulation of *yǒu*-movement in *Language* 41(1965), 465 makes deletion of *yǒu* in the presence of -*guo* optional, a position Teng shows to be untenable. The correct formulation is given in the original version of Wang's article in *Project on Linguistic Analysis* No. 8 (Ohio State Univ.) 1964, p. 134. Here Wang also has the deletion of *yǒu* apply obligatorily in the presence of -le₂ as well as -*guo* (see below).
 - It is not clear why the verb is interpreted as passive in this sentence, but this feature is surely irrelevant to the matter at hand.
 - In the reading given. Sentence (26) is of course ambiguous, since the single surface -le could also be taken as -le₁ alone ('He came') or as -le₂ alone ('He is coming'/'Here he comes').
 - More precisely, when the verb does not already have another suffix marking one of the verbal categories. Resultative and directional suffixes do cooccur with -le₁: *chī-wán-le₁* 'eat up/finish eating', *ná-chū-lai-le₁* 'take out'.
 - This is confirmed by the parallel cited by Teng (1973: 32). The auxiliary verb *kāishǐ* 'begin', which is semantically very close to 'entry into a state', occurs within as well as outside the scope of the negative: *tā bù kāishǐ gōngzuò* 'He doesn't begin to work' beside *tā kāishǐ bù gōngzuò* 'He begins not to work' (grammatical in Chinese according to Teng).
 - There is also a serious formal problem with Teng's analysis of -le₂ as a higher predicate. Let us assume that (14) (or for that matter (30)) is the negative form of (10): 'NEG it has come about that [he eats three bowls of rice]'. According to Teng's own negative placement rule, which is well-motivated, the negative should be lowered in front of the NEXT LOWER predicate. This means that it should be lowered in front of the 'inchoative verb' -le₂ 'it has come about'. In order to produce the surface form of (14) or (30), Teng must assume that in this case, and in this case alone, the negative is lowered in front of the second lower predicate *yǒu chī*. This is manifestly *ad hoc*, as is the accompanying deletion of -le₂. The sentence particle -le₂ does not appear in (14) because it is not present in the underlying structure at all, for reasons given above.
 - I use the label 'sentence particle' as a cover term. As one would expect from their functions, the 'aspect' markers -le₂ and -ne can cooccur with the question particles -*ma* and -*ba*. Thus a complete account of sentence particles will have to include more than one functional 'slot'.
 - Along with Chao (1968: 801ff.) I assume that the -ne marking continuation (originally -*ní* and preserved as such in some dialects) is distinct from the -ne appearing in questions. Huang and Stimson (1976: 204-205) also distinguish 'continuative' -ne from that used in questions. The discussion here is limited to 'continuative' -ne (*ní*).
 - Each of these sentences does of course express a state or condition, but the point is not that the condition is continuing, but that its existence is surprising. Note that *hai* here means 'even', not 'still'.
 - In subsuming -*guo* under the heading 'manner of action', I am admittedly motivated in part by formal criteria, not functional ones: -*guo* appears in the same position as, and is in complementary distribution with, -*zhe* the durative marker. Since -*guo* does say something about the nature of the action, simplicity leads me to place it in the same category as -*zhe* until evidence is presented to the contrary.

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