ASPECT IN MANDARIN CHINESE

by

MEI CHANG SOONG

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Approved by:

[Signature]
Major Professor
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Introduction

Purpose

The purpose of this paper is to present data concerning aspect particles in Mandarin Chinese, to discuss various proposals on the question of aspect selection, and to suggest an overall solution to this question.

The paper is not meant to be exhaustive, and is restricted almost entirely to certain types of aspect markers, namely those particles that take a characteristic position in the sentence directly following the verb.

Tense vs Aspect

The standpoint for the expression of events is different from language to language. Generally speaking, there are two ways to indicate the relationship between an event and time: 1) emphasis on the time of the occurrence of the event, or 2) emphasis on the duration of the event, whether it is completed, in progress, and so on. Tense denotes the time at which an event takes place. Aspect denotes the state of the event.

Mandarin -- in fact, all of Chinese -- relies on aspect more than tense to express the relationship between events and time. There is no verbal conjugation, and if present at all, tense is indicated only by the use of adverbs of time and auxiliaries. Aspect particles can occur only with
what are traditionally called verbal sentences (sentences with an action verb), such as (1). They do not occur with so called descriptive and equivalent sentences, such as (2) and (3).

(1) wo chang je ge
    I sing asp song
    'I am singing a song.'

(2) ta shr maili
    she be beautiful
    'She is beautiful.'

(3) ta shr shiuai chang
    she be student
    'She is a student.'

Classifications of the Mandarin Aspect System

Chinese aspect has been classified in several different ways by different scholars. There are naturally a number of differences due to regional variation or to interaction of nonstandard and standard forms. The following figures show four different classification schemes.

(a) Aspect ---------→ 1) perfective (le, guo)
by Kaw Min-Kay
(1970) 2) resultative (lai je, chi lai, sya chyu)
3) tentative (repetition of the verb)
4) progressive or duration (je)
5) intensive (use of two verbs with same meaning in a V-V series)
(b) Aspect \[\rightarrow\]  1) perfective (le)  
by Li Shy  
(1969)  
2) continuative (je, lai je, chi lai, sya chyu)

(c) Aspect \[\rightarrow\]  1) simple (\(\emptyset\))  
by Wang Li  
(1947)  
2) progressive (je)  
3) perfective (le)  
4) recent (lai je)  
5) inchoative (chi lai)  
6) continuative (sya chyu)  
7) tentative (repetition of the verb)

(d) Aspect \[\rightarrow\]  1) simple (\(\emptyset\))  
by Chao Yuan-Ren  
(1968)  
2) progressive (je)  
3) perfective (le)  
4) experiential (guo)  
5) inchoative (chi lai)  
6) continuative (sya chyu)  
7) tentative (repetition of the verb)

Chao's system reflects most clearly the facts of Modern Mandarin and that form of Chinese taught in the public schools of Taiwan. Lai je, mentioned by Kaw, Li, and Wang, is Pekin slang never used other places.

**Procedure of the Study**

There are four chapters presented in this paper. In chapter one, I introduce the seven types of aspect considered by Chao, in order to familiarize the reader with the general
problem considered in this paper. In chapter two, I present Rand's and Wu's theories on aspect. In chapter three, I critically discuss Rand's and Wu's proposals, and propose my own analysis. In the last chapter, I sum up the proposals considered here, and conclude with remarks on the level of our current knowledge on Chinese aspect.
Chapter I

The Data: Forms and Meaning

According to the analysis of Chao (1968), aspect may take any of seven forms -- simple, progressive (je), perfective (le), experiential (guo), inchoative (chi lai), continuative (sya chyu), or tentative. Aspect is usually indicated by markers following the verb. Simple aspect, however, is unmarked, while tentative is indicated by verb reduplication. These aspect markers are mutually exclusive within a clause.

Chao's seven aspects will be introduced here one by one.

(A) Simple Aspect

The verb in its basic or minimal form, without any overt aspect marking, expresses past action, habitual action and imminent action. Examples are given:

(4) wo shiue juengwen
    I learn Chinese
    'I am learning Chinese.'

(5) wo zuotian kan shu
    I yesterday read book
    'I read a book yesterday.'

(6) ta meitian kan shu
    he every day read book
    'He reads a book every day.'

(7) wo changchang tzai jia kan dianshr
    I often be(at) home watch TV
    'I often watch TV at home.'
(8) ni sheme shrhou hwai jia
you what time return home
'What time are you returning home?'

Meitian 'every day' and changchang 'often' in sentences
(6) and (7) may be extra clues to indicate habitual action.

(B) Progressive Aspect

Progressive aspect indicates that the verbal action is
in progress: the action has already started, is moving toward
the stage of completion, but has not come to the stage of
completion yet. Progressive aspect is marked by je, e.g.,

(9) ta chang je ge
he sing asp song
'He is singing a song.'

(10) nai shrhou wo kan je shu
that time I read asp book
'I was reading a book at that time.'

(11) ta tzai nall shuo je hwa
he be(at) there talk asp word
'He is talking there.'

Besides the particle je, the element tzai sometimes
shows progressive aspect. Depending upon the syntactic
environment, tzai can function as either a verb or an
aspect marker.

Chao (1968: 333) treats tzai only as a verb which is
used either alone or as the first verb with deletable object
in a V-V series.
(12) ta  tzai
    he  be(at)
'She is in.'

(13) ta  tzai  war
    he  be(at)  play
'She is playing.'

(14) ta  tzai  nall  war
    he  be(at)  there  play
'She is playing over there.'

According to Chao, tzai is a main verb in sentence (12), and a first verb in (13) and (14). He says (p. 330):

with tzai and certain typically first-position verbs, the object is sometimes present and sometimes omitted without much difference in meaning.

Chao considers sentence (13) to be a shortened form of (14), without much difference in meaning.

Consistent with Chao's account, we can also have the three sentences below:

(15) ta  tzai  nall  chy  je  fan
    he  be(at)  there  eat  progressive  rice
'He is eating a meal over there.'

(16) ta  tzai  nall  chy  le  fan
    he  be(at)  there  eat  perfective  rice
'He has eaten a meal over there.'

(17) tz  tzai  nall  chy  guo  fan
    he  be(at)  there  eat  experiential  rice
'He once ate a meal over there.'
When null 'there' is omitted, this gives rise to the following forms:

(15) \[\rightarrow\] (18) ta tzai chy je fan

(16) \[\rightarrow\] (19) *ta tzai chy le fan

(17) \[\rightarrow\] (20) *ta tzai chy guc fan

Neither (19) nor (20) is acceptable. Chao's analysis can not offer an answer to this problem, since he considers tzai solely as a verb and not as an aspect marker.

Chen (1978: 99) considers tzai to be a progressive aspect marker when it is followed immediately by the verb. He gives us two types of intransitive verb, one that occurs in construction with tzai and one that does not.

Type I: Intransitive verbs which may occur immediately after tzai.
ku 'cry', pa 'crawl', zou 'walk', fei 'fly' ...

Type II: Intransitive verbs which may not occur immediately after tzai.
die 'fall', shuai 'fall', si 'die', hundau 'faint' ...

Chen says:

A comparison of Type I and Type II verbs reveals that all the verbs of Type I denote actions which are durable or repetitue, actions which occupy a relatively long span of time during the course of their occurrence, whereas verbs of Type II denote
actions which take a very short time from inception to completion... We shall refer to verbs of Type I as durable action verbs, and those of Type II as abrupt action.

The fact that _tzai_ may precede only durable action verbs and may not precede abrupt action verbs clearly indicates that _tzai_ in such a position is a kind of aspect marker, marking a durable commitment, signaling that the actor is engaged in performing the action during a certain period of time.

When followed by the place word _náll_ 'there', _tzai_ is a first verb in a V-V series, and can cooccur with aspect in sentences (15) to (17) respectively. When the verb occurs immediately after _tzai_, _tzai_ is an aspect marker signaling the progress of an action. That is why _tzai_ in sentences (19) and (20) can not coexist with _le_ and _guó_. Two different aspects are mutually exclusive.

_Tzai_ is thus not like other aspect particles that syntactically follow the verb, but its function is to show progressive aspect. We have three kinds of sentences to indicate that action is in progress, in fact.

(21) ta tzai chy je fan

(22) ta tzai chy fan

(23) ta chy je fan

'He is eating a meal.'
Je follows the main verb, while tzai precedes the main verb. The same meaning is retained with the use of one or both, either single or together.

(C) Perfective Aspect

The perfective aspect le indicates that the action named by the verb is completed. Le itself does not relate to a specific time of completion whether in the past, present, or future. Usually we express a specific time of completion by using adverbs of time.

(24) ta zuotian mai le fangtiz
    he yesterday sell asp house
    'He sold the house yesterday.'

(25) ta yang le liangge haitz
    he bring up asp two children
    'He has brought up two children.'

(26) ta shuai duan le shoubi
    he fall break asp arm
    'He has broken his arm.'

(27) mingtian wo hwai dzu haoc le guengke
    tomorrow I will do finish asp homework
    'I will get my homework finished tomorrow.'

(28) wo yijing chy le fan
    I already eat asp rice
    'I have already eaten the meal.'

We can express the specific past time and future time by adding time words like zuotian 'yesterday', mingtian 'tomorrow' and auxiliaries such as hwai 'will'. Yijin
'already' also commonly accompanies le in a sentence.

(D) Experiential Aspect

Guo marks the experiential aspect. By experiential aspect we mean that used to indicate a past action, event and experience. The adverb tsengjieng 'ever, once, before' commonly accompanies guo in a sentence.

(29) ta chiu guo juengguo
    he go asp China
    'He has been to China.'

(30) ta tsengjieng chy guo riben fan
    he ever eat asp Japanese rice
    'He has eaten Japanese food before.'

(31) ta shuai duan guo shoubi
    he fall break asp arm
    'He broke his arm once.'

(32) ta fanyi guo yiben shu
    he translate asp a book
    'He has translated a book before.'

The difference in meaning between the similar sentences (31) and (26) can be distinguished as follows: the aspect marker guo in sentence (31) indicates the action has been experienced, that is, the man has at some time suffered a broken arm. Sentence (26) with the perfective aspect le indicates that the action has been completed, that is, the man has broken his arm. If someone has a broken arm, and he has never had once before, we could say (26) but not (31).
There is not only the experiential aspect particle *guo*, but also the resultative verbal complement *guo*, which indicates completion and allows perfective *le* in the sentence (Henne 1977: 82). So we have two ways to explain sentence (33).

(33) ta chy guo le liyu
     he eat asp carp

If *guo* is an experiential aspect in sentence (33), then it is ungrammatical, because two kinds of aspect markers would not be allowed in the same clause. If *guo* is a resultative complement meaning completion, then it is grammatical to have perfective *le* in the same sentence. So we have the meaning 'He has finished eating a carp.'

(E) Inchoative Aspect

Inchoative aspect is used to show the initiation of an action. The inchoative aspect marker *chi lai* is placed directly after an intransitive verb.

(34) zuotian chywu ta huren ku chi lai
     yesterday afternoon he suddenly cry asp
     'Yesterday afternoon, he suddenly started to cry.'

(35) feije fei chi lai
     plane fly asp
     'The plane started to take off.'

(36) tamen nau chi lai
     they make noise asp
     'They begin to make noise.'

In other cases, when the verb has an object, the inchoative
aspect marker chi lai will be separated by the object. Thus we have:

(37) ta chang chi ge lai
    he sing asp song asp
    'He starts to sing a song.'

(38) tamen dzou chi shr lai hen renjen
    they do asp thing asp very responsible
    'They start to do their job very responsibly.'

If chi lai is not separated, then these sentences will not be acceptable. But there is one situation in which chi lai is not separated by the object, and this is when the object is in focus and transferred from the back of the verb to the front of the verb, there preceded by ba. In such a case, chi lai naturally remains together.

(39) ta ba ge chang chi lai
    he song sing asp
    'He starts to sing a song.'

(40) tamen ba shr dzou chi lai hen renjen
    they thing do asp very responsible
    'They start to do their job very responsibly.'

(F) Continuative Aspect

Continuative aspect is used to indicate the continuation of an action or event. Its marker sya chyu is also added immediately after an intransitive verb.

(41) ni jienguan nian sya chyu
    you just read asp
    'You just go on reading.'
(42) ni dzou sya chyu
    you  do  asp
    'You go on doing it.'

when the verb has an object, the continuative aspect
generally does not appear as sya chyu.

(43) *tamen gai fangtz sya chyu
    they  build  house  asp

(44) *tamen gai sya chyu fangtz

(45) *tamen gai sya fangtz chyu

We have two ways to make sentences (43) to (45) grammatical.
One is that the object can be moved before the verb and marked
with ba. Continuative aspect then appears as sya chyu and
follows the verb, as expected:

(46) tamen ba fangtz gai sya chyu
    they  house  build  asp
    'They go on building the house.'

The other way to make (43) to (45) grammatical is to
omit chyu, with otherwise normal word order where the aspect
marker follows the verb.

(47) tamen gai sya fangtz
    they  build  asp  house
    'They go on building the house.'

The progressive aspect and the continuative aspect are
both concerned with the carrying out of an action, but the
latter is used to indicate a longer duration of time than
the former.
(48) women tzai jege guochia ju sya chyu we be(at) this country live asp
'We are living in this country for some time to come.'

(49) women tzai jege guochia ju je we be(at) this country live asp
'We are living in this country for a short time.'

Ju 'live' followed by sya chyu implies living in a place
for a long time. But ju 'live' followed by je implies a
temporary act with the intention of moving away soon.

(G) Tentative Aspect

Momentary or tentative action, usually short lived, is
marked by reduplication of the verb. Tentative aspect differs
markedly in not having a fixed form as do all other aspects.

(50) ta meitian kan kan shu he every day read book
'He reads a book every day.'

(51) tamen changchang tzai jia kan kan dianshr they often be(at) home watch TV
'They often watch TV at home.'

(52) women fuxi fuxi juengwen we review Chinese
'We review Chinese.'

(53) ni tzai jianshuo jianshuo wenti you again explain problem
'You explain the problem again.'

These sentences can help to bring out the meaning of
tentative aspect:
The difference here is dependent on the speaker's intention. Sentence (54) implies that I am concentrating my time on learning Chinese, but (55) indicates that I am learning Chinese just for killing time. My objective will probably change once something happens. Thus tentative aspect is only to show momentary action where the subject is relatively 'uninvolved' in a sense.
Chapter II

Proposed Accounts

(A) Introduction

Chinese aspect has attracted the attention of several scholars. The theories I would like to discuss now are both concerned with aspect, but they emphasize different points in its analysis. In section (B), I present Rand's analysis (1969), which says that 1) aspect gains features as a result of adverbs, and 2) inherent features of the aspect node select aspect if no adverbs are present. In section (C), I present Wu's analysis (1971), which says that 1) the verb controls aspect selection if there are no adverbs present, and 2) if both are present, then both contribute to the selection of aspect.

(B) Rand's Analysis

Rand (1969) believes that selection of aspect markers is triggered by adverbs, that is, presence of an adverb controls the selection of aspect. He has a phrase structure rule rewriting Auxiliary as (Polarity) Aspect (Modifier) (Preverb), with only Aspect being obligatory. He says that when Aspect is 'neutral', no overt form appears in the surface structure (thus, simple aspect).

Rand's account of aspect selection is as below (p. 18):
Aspect will pick up features specified by Adverbs. For example, YIJING 'already' is [+completive] and thus in the same sentence Aspect will be specified as [+completive] and LE will be chosen. As CHANGCHANG 'often' is marked as [-completive], Aspect will become [-completive] and LE can not be chosen from the lexicon because it has the feature [+completive]. Aspectual formatives will be selected from the lexicon on the basis of their features. If no adverbs occur in the sentence, then Aspect will be rewritten (i.e., it will be given features), and the appropriate particle will be selected.

Before illustrating Rand's theory, I would like to point out that aspect particles syntactically follow the verb (except tzai, which precedes the verb). So in addition to the phrase structure rule proposed by Rand, one would need a rule shifting the position of aspect particles. In the present paper I assume that aspect is located after the verb, without need of a movement rule. This will not change the substance of Rand's theory on aspect selection.

We have some examples of Rand's account in the following:

(56) S.D. ta yijing lai Aspect jer
     he already come here
     [+completive]

---→ S.C. ta yijing lai Aspect jer
     [+completive] [+completive]
Since the feature [+completive] is assigned to the lexical unit le, this may be inserted into the structure to give ta-yijing-lai-le-jer 'He has come here already.'

In a sentence with changchang 'often', however, le can not be chosen from the lexicon because changchang has the feature [-completive].

(57) S.D. ta changchang lai Aspect jer
     he often come here
     [-completive]

----> S.C. ta changchang lai Aspect jer
     [-completive]    [-completive]
     le
insertion of le blocked
     * [+completive]

When no adverbs occur in the sentence, then the Aspect node will be rewritten (given inherent features) and an appropriate particle will again be selected from the lexicon. For example:

(58) ta lai Aspect jer
     he come here
     [+completive]
     le
lexical insertion
     [+completive]

These three examples give sufficient illustration of Rand's account of aspect selection.
(C) Wu's Analysis

Wu (1971) proposes that the five different types of aspect\(^1\) in Mandarin are represented in feature notation as follows:

\[
\begin{align*}
\text{[V]} & \quad \rightarrow \quad \text{[\text{Aspect}]} \\
\text{ [+Aspect]} & \quad \rightarrow \quad \text{[\text{Compleitive}]} \\
\text{ [+Compleitive]} & \quad \rightarrow \quad \text{[\text{Resultative}]} \\
\text{ [-Compleitive]} & \quad \rightarrow \quad \text{[\text{Repetitive}]} \\
\text{ [+Repetitive]} & \quad \rightarrow \quad \text{[\text{Iterative}]} \\
\text{ [-Repetitive]} & \quad \rightarrow \quad \text{[\text{Progressive}]} \\
\end{align*}
\]

Wu believes that verbs control aspect selection if there are no adverbs present. She says (p. 7):

...If no adverbs occur, only the appropriate features of the verb will be copied onto the aspect, and an appropriate particle will be selected. When the verb has a feature [+Aspect], an appropriate aspectual formative will be selected from the lexicon on the basis of the features of the verb.

For example, in structure (59) the verb has the inherent features [+aspect, -completive, +progressive], among others,

---

\(^1\) Wu chooses Kaw's classification, which is not quite the same as Chao's, but sufficiently similar for the reader to understand the basic idea of Wu's analysis.
and these features are copied onto the aspect node.\(^2\)

\[(59)\quad \text{S.D. } \text{wo} \quad \text{chang} \quad \text{ Aspect } \text{ge} \quad \text{song}\]

\[
\begin{array}{c}
+V \\
+\_ \text{NP} \\
+\text{asp} \\
-\text{compl} \\
+\text{prog} \\
\end{array}
\]

\[\rightarrow \begin{array}{c}
\text{S.C.} \quad \text{wo} \quad \text{chang} \quad \text{Aspect} \quad \text{ge} \\
\begin{array}{c}
+V \\
+\_ \text{NP} \\
+\text{asp} \\
-\text{compl} \\
+\text{prog} \\
\end{array}
\end{array}\]

The features \([+\text{asp.}, -\text{compl.}, +\text{prog.}]\) are assigned to the lexical unit \(\text{je}\), which can thus be inserted into the above structure to give \(\text{wo-chang-je-ge}\ 'I \text{ am singing a song}'\.

When the verb does not carry the feature \([+\text{aspect}]\), no overt aspect particle will appear in the surface structure. Sentence (60) is an example of this simple aspect:

2. Wu does not include the node Aspect. She merely leaves a space between V and NP. I assume she wants the node Aspect to be present in deep structure.
Wu also believes that if an adverb is present in a sentence, both the verb and the adverb contribute to the selection of aspect. She says (p. 33):

"...If the verb carries the feature [+aspect] but also there is an adverb in the sentence, the aspectual features of the verb together with the adverbial features will trigger the selection of the aspectual formative."

Here is the only example that Wu gives:

(61) S.D. wǒ zuótiān shàngwǔ sē tiān du  Aspect shū
     I yesterday morning 4 o'clock read book
     [+adv]                         [+V
     +time                           [+ NP
     +past                           +asp
                                          -compl
                                          +prog
     ---→ S.C. wǒ zuótiān shàngwǔ sē tiān du  Aspect she
     [+adv]                         [+V
     +time                           [+ NP
     +past                           +asp
                                          -compl
                                          +prog
                                          +past]
The features [+asp., -compl., +prog., +time, +past] are assigned to the lexical unit je, and lexical insertion gives wo-zuo-tian-shangwu-se-tian-du-je-shu 'Yesterday morning, at four o'clock, I was reading a book.'
Chapter III

Discussion

Combining Rand's and Wu's theories, we have four ways to select aspect: 1) adverbs control the selection of aspect (Rand's theory), 2) inherent features of the aspect node select aspect if no adverbs are present (Rand's theory), 3) verbs control aspect selection if no adverbs are present (Wu's theory), and 4) both verbs and adverbs contribute to the selection of aspect, if both are present (Wu's theory).

Here I will discuss their theories one by one to see whether their analyses can do the job in selecting aspect.

When there are no adverbs present, as in structure (62):

\[
\text{(62) } \text{I wo chang sing Aspect ge song} \\
\text{[+V] [+]NP [+]asp [-compl] [+prog]} \\
\]

Wu's theory says that je is selected by the features of the verb \([+\text{asp}., -\text{compl}., +\text{prog}.]\). Rand's theory says that an aspect rewriting rule applies and an appropriate aspect will be selected.

Wu's solution of aspect selection is more reasonable than Rand's. Wu's solution is context free, while Rand's aspect

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rewriting rule will have to be context sensitive (to features of the verb). Consider sentence (63):

(63) *ta chy - wan guo fan
    he eat finish asp rice

With a complex verb whose second element is wan 'finish', guo is not allowed in the sentence. Guo is restricted by the features of the verb.

Consider now sentences with the adverb yijing 'already'. Not only can the perfective aspect le be selected by yijing in sentence (64), but also the experiential aspect guo in sentence (65).

(64) ta yijing lai le jer
    he already come asp here
    'He has come here already.'

(65) ta yijing lai guo jer
    he already come asp here
    'He has come here already.'

The feature [+completive] must be assigned to the lexical unit guo, so that both perfective le and experiential guo can be selected by this same adverb.

But in a sentence with yijing and a complex verb whose second element is wan 'finish', it is ungrammatical to choose guo. Only perfective le is grammatical here (Chao 1968: 499).

(66) *ta yijing chy - wan guo fan
    he already eat finish asp rice

25
(67) ta yijing chy-wan le fan
    he already eat finish asp rice
    'He has already eaten the meal.'

Guo can be chosen by yijing 'already' in sentence (65),
but not in sentence (66). Rand's theory can explain this
fact only with difficulty.

Rand argued that sentence (68) is ungrammatical.

(68) *ta changchang lai le jer
    he often come asp here

Perfective le having the feature [+completive] can not be
chosen from the lexicon because the adverb changchang 'often'
has the feature [-completive]. However, sentence (69) for
example is grammatical even though it presumably has an
aspect particle not in agreement with the adverb.

(69) ta yijing dzou je kuengke
    he already do asp homework
    'He is already doing his homework.'

The deep structure of (69) is:

S.D. ta yijing dzou Aspect kuengke
    [+completive]


---→ S.C. ta yijing dzou Aspect kuengke
    [+completive]           [+completive]
       ↑
        insertion of je
           je
               [-completive]
Even though progressive je has the feature [-completive], not in agreement with the adverb yijing having the feature [+completive], je is still grammatical in (69). Rand's theory is questionable again.

Wu's solution to the problem of aspect selection in sentence (67) is to combine the features of the verb and the adverb. The structure would have to be the following, and le would be selected.

\[
\begin{array}{c}
\text{S.D. ta yijing chy - wan Aspect fan} \\
\text{he already eat finish rice}
\end{array}
\]

\[
\begin{array}{c}
[+\text{completive}] \\
[+\text{V}] \\
[+\text{asp}] \\
[+\text{compl}] \\
[-\text{exper}]
\end{array}
\]

\[
\begin{array}{c}
\text{---\rightarrow S.C. ta yijing chy - wan Aspect fan} \\
\end{array}
\]

\[
\begin{array}{c}
[+\text{completive}] \\
[+\text{V}] \\
[+\text{asp}] \\
[+\text{compl}] \\
[-\text{exper}]
\end{array}
\]

Consider sentences (70) and (71). With wan present in sentence (70), guo is not allowed. However, sentence (71) is grammatical with guo and wan, since the adverb tsengjieng 'ever' is present.

(70) *ta shiue - wan guo juengwen
he learn finish asp Chinese
(71) ta tsengjieng shiue - wan guo juengwen
he ever learn finish asp Chinese
'He has finished learning Chinese before.'

How could Wu account for the presence of guo in sentence (71)? The structure would have to be the following:

\[
\begin{array}{c}
\text{S.D.} \quad \text{ta} \quad \text{tsengjieng} \quad \text{shiue} \quad \text{wan} \quad \text{Aspect} \quad \text{kuengke} \\
\quad [+\text{compl}] \quad [+\text{V}] \\
\quad [+\text{exper}] \quad [+\text{asp}] \\
\quad [+\text{compl}] \quad [-\text{exper}] \\
\end{array}
\]

\[\rightarrow\]

\[
\begin{array}{c}
\text{S.C.} \quad \text{ta} \quad \text{tsengjieng} \quad \text{shiue} \quad \text{wan} \quad \text{Aspect} \quad \text{kuengke} \\
\quad [+\text{compl}] \quad [+\text{V}] \quad [+\text{asp}] \\
\quad [+\text{exper}] \quad [+\text{asp}] \\
\quad [+\text{compl}] \quad [-\text{exper}] \\
\end{array}
\]

But no aspect particle will be assigned by a feature like \([^-\text{exper.}]\) because every aspect must have definite features. Guo never has the feature \([^-\text{exper.}]\). Before solving this problem, we have to check sentence (72), which is the only example Wu gives of the supposed influence of an adverb on aspect selection.

Compare sentences (72) and (73):

(72) wo zuotian shangwu se tian du je shu
I yesterday morning 4 c' clock read asp book
'Yesterday morning, at four o'clock, I was reading a book.'

(73) wo chang je ge
I sing asp: song
'I am singing a song.'
According to Wu's theory, the aspect is selected by combining the features of the verb and the adverb. Both in sentence (72) and in sentence (73) we have the same aspect, *je*, even though we do not have the adverb in sentence (73). Thus, we see that in this particular situation, at least, the features of the adverb do not influence the selection of aspect.

Wu's paper does not distinguish between two kinds of sentences. The first type of sentence is one where the features of the verb and the adverb are identical, but the features are specified in opposite values. The second is a sentence where the verb and adverb have different kinds of features. Wu's single example does not assist us in solving these kinds of problems.

For the first type of sentence, consider again sentence (71). Here the features of the adverb *tsengjieng* 'ever' conflict with the features of the verb, and I propose that Wu's theory has either of two assumptions. The first assumption is that aspect is selected just by mechanically combining the features of the verb and the adverb. If this is so, Wu's theory is not capable of explaining sentence (71). The second assumption is that either the verb or the adverb has a dominating influence over the other.

The problem is that we can not see into Wu's thought, because we can not find any sentence like (71) in Wu's paper. We thus can not determine whether her theory is correct or not,
due to its vagueness.

We see that the adverb *tsengjieng 'ever' in sentence (71) is a key word. Having the features [+compl., +exper.], this adverb must overrule the feature [-exper.] of the verb. So we would have the features [+asp., +compl., +exper.] to trigger the aspect particle *guo*.

The same problem can be seen in sentence (69). According to Wu, *je*, for example, is to be selected by the verb and the adverb together.

S.D.  
he  
*already do Aspect homework*

---

S.C.  

Again, no aspect can be assigned by a feature like [*+compl.*]. The features of the verb in sentence (69) must therefore be stronger than the feature of the adverb.

For the second type of sentence, consider sentence (74), where the verb and adverb have different kinds of features. Here the features of the adverb influence the features of the
verb in choosing aspect.

(74) wo zuotian dzou - wan guo shryan
     I yesterday do finish asp experiment
     'I finished my experiment yesterday.'

The deep structure of (74) is:

S.D. ta zuotian dzou - wan Aspect shryan
     [+adverb]    [+V]    [+asp]
     [+time]     [+asp]
     [+past]     [+compl]
              [-exper]

---→ S.C. ta zuotian dzou - wan Aspect shryan
     [+adverb]    [+V]    [+asp]
     [+time]     [+asp]
     [+past]     [+compl]
              [-exper]
              [+time]
              [+past]

Any complex verb whose second element is wan 'finish' is [-exper.] by the redundancy rule given on page 35. According to Wu's theory, the aspect is selected by combining the features of the verb and the adverb. The features [+asp., +compl., -exper.] are assigned to the lexical unit le. But guo, having the features [+compl., +exper.], can also be selected here. The problem is how guo can be selected, if we just combine the features of the verb and the adverb superficially (first assumption). But what mechanism do we have the feature [+exper.] instead of [-exper.]?
We still can use the second assumption to explain sentence (74). The adverb must be a key word which has a dominating influence over the verb. That is, the adverb having the feature [+past] must be able to overrule the verb having the feature [-exper.], allowing [+exper.]. We cannot see a direct relation between the features [+past] and [-exper.], but there must be a rule stating how the feature [+past] possibly overrules the feature [-exper.] to allow selecting the aspect particle 动, as well as the expected le. I will present my solution to this question below.

Rand and Wu simply offer their theories, not analyzing very much data, and their theories can only partially explain aspect selection. In the following, I would like to present more patterns dealing with aspect selection, leading to a solution to this problem.

Listing the patterns, I propose that the verb be given features for the different types of aspect in Mandarin (essentially those of Chao 1968) as follows:

\[
\begin{align*}
[+V] & \rightarrow [\text{+Aspect}] \\
[+\text{Aspect}] & \rightarrow [\text{+Compleative}] \\
[+\text{Compleative}] & \rightarrow [\text{+Experiential}] \\
[-\text{Compleative}] & \rightarrow [\text{+Progressive}] \\
[+\text{Progressive}] & \rightarrow [\text{+Continuative}] 
\end{align*}
\]
[-Progressive] \rightarrow [+Inchoative]
[-Continuative] \rightarrow [+Tentative]

The lexical features of each aspect particle are:

Aspect \rightarrow (A) [-Aspect] \rightarrow (B) [+Aspect]
\begin{itemize}
  \item 1) je, tzai [+prog., -cont., -tent.]
  \item 2) le [+compl., -exper.]
  \item 3) guo [+exper.]
  \item 4) chi lai [+inch.]
  \item 5) sya chyu [+cont.]
  \item 6) tentative [+tent.]
\end{itemize}

The feature [+tentative] will trigger a rule a verb reduplication (see below).

If by the above rewriting rules the verb carries the feature [-aspect], no overt aspect particle will appear in the surface structure, since no particle has this lexical feature (simple aspect). I will return to the details of the aspect particle selection mechanism below.

I turn now to particle patterns, first in sentences with no relevant adverbial element.
(A) $S + V + \text{Aspect} + O$

tzai je $^3$
le
guo
chi lai
sya chyu
tent

In the most neutral situation, the verb is given certain inherent features by the above rules and these features are copied onto the aspect node. So we may have any of six aspects selected by the features of the verb.

I mentioned in the introduction that only action verbs have to do with the concept of aspect. Actually, only durable action verbs are totally free in aspect selection. Certain abrupt action verbs such as si 'die' behave as stative verbs and have the feature [-aspect]. With these verbs only simple aspect can be selected. Other abrupt action verbs such as shuai 'fall' are marked by specific features like [+completive]. That is, only le or guo can be selected by this verb.

In a sentence with a complex verb whose second element has the feature [+result], such as dong 'understand', aspect selection is changed as in (B).

3. Tzai and je will be separated by the verb in surface structure, chi and lai will also be separated by the object in surface structure. Usually chyu will be deleted. See below for rules.
(B) \[ S + \exists [V + [+result]]_v + \text{Aspect} + \text{O} \]

*tzai je
*chi lai
*sya chyu
*tent
le
guo

The complex verb is incompatible with tzai je, chi lai, sya chyu and tentative, and can only take le or guo. To account for this fact, I propose that a lexical redundancy rule apply to all complex verbs, marking them as [+completive].

\[ \exists [V + V]_v \rightarrow [+\text{completive}] \]

With some complex verbs, those whose second element is one of the three verbs wan 'finish', hao 'finish', or guo 'complete', only le can be selected, as in (C).

(C) \[ S + \exists [V + \{ \text{wan} \}]_v + \text{Aspect} + \text{O} \]

*tzai je
*chi lai
*sya chyu
*tent
*guo
le

We may account for this pattern by the following lexical redundancy rule, which applies only to this type of complex verb:

\[ \exists [V + \{ \text{wan} \}]_v \rightarrow [-\text{experiential}] \]
These verbs thus severely limit aspect particle selection, allowing only perfective le.

Consider now particle patterns in sentences having temporal adverbials.

Some temporal adverbs denote frequency, e.g.,

- changchang 'often'
- tongchang 'usually'
- meitian 'every day'
- yu shr 'sometimes'
- mei 'every'
- fuhuo 'Easter'...
- shienchiyi 'Monday'...
- yiyue 'January'...
- chuentian 'Spring'...

With a simple frequency adverbial, the pattern is as in (D-1).

\[(D-1) \quad S + \text{Adverb}_{freq} + V + \text{Aspect} + O\]

<table>
<thead>
<tr>
<th>Adverb</th>
<th>Particle</th>
<th>Aspect</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>changchang</td>
<td>tzai</td>
<td>je</td>
<td>*tza je</td>
</tr>
<tr>
<td>meitian</td>
<td>chi</td>
<td>lai</td>
<td>*chi lai</td>
</tr>
<tr>
<td>mei fuhuo</td>
<td>sya</td>
<td>chyu</td>
<td>*sya chyu</td>
</tr>
<tr>
<td></td>
<td>guo</td>
<td></td>
<td>*guo</td>
</tr>
<tr>
<td></td>
<td>le</td>
<td></td>
<td>*le</td>
</tr>
<tr>
<td></td>
<td>tent</td>
<td></td>
<td>tent</td>
</tr>
</tbody>
</table>

In this situation, only tentative aspect can be selected. I propose to account for this pattern by restricting the

---

4. See Nilsen (p. 141-151) for discussion of these and the other adverbial notions below.
adverbial element so that it can occur only with a verb whose features include [+tentative], if [+aspect] is also present. (Frequency adverbs can also occur with simple aspect, that is, with verbs whose features include [-aspect]). Frequency adverbs therefore have the feature \( \{+[+tentr.],[-asp.]\} \).

But it will be grammatical to choose chi lai or sya chyu with the above frequency adverbs if we include an additional phrase such as tsueng X 'from X', where X is a point in time (e.g., '8 o'clock', 'early morning', etc.). Thus:

\[
(D-2) \quad S + \text{Adverb}_{freq} + \text{tsueng } X + V + \text{Aspect} + O
\]

\[
\begin{array}{ll}
\text{changchang} & *\text{tzai je} \\
\text{meitian} & *\text{le} \\
\text{mei fuhuo} & *\text{guo} \\
\text{:} & \text{chi lai} \\
\text{:} & \text{syu chyu} \\
\text{:} & \text{tent}
\end{array}
\]

In this case, the total adverbial phrase allows both chi lai and sya chyu in addition to tentative aspect. I am not going to account for this particular data because I have not found any elegant solution. I suppose the restriction could be stated mechanically, but I leave it unsolved.

No frequency adverbs are possible in sentences having a complex verb:

\[
(D-3) \quad *S + \text{Adverb}_{freq} + \left[ V + V \right] + \text{Aspect} + O
\]

In pattern (B), the complex verb selects the aspect particles
le and guo because these verbs are redundantly marked [+completive]. Since frequency adverbs, by the mechanism proposed above, can occur only in sentences with simple or tentative aspect, they can not cooccur with the complex verbs.

Other temporal adverbs denote relations, e.g.,

Past — yichian 'long ago, before'
tzueijien 'lately, recently'
tsengjieng 'ever, once'
zuotian 'yesterday'

at fuhuo 'Easter'...
last shienchiyi 'Monday'...
in yiyue 'January'...
on chuentian 'Spring'...

Present — shiantzai 'now'
jiantian 'today'

Future — henkuai 'soon'
ranchou 'then'
mingtian 'tomorrow'

next fuhuo 'Easter'...
during shienchiyi 'Monday'...
yiyue 'January'...
chuentian 'Spring'...

Here are some patterns with past, present, and future time adverbials.
(E-1) \[ S + \text{Adverb}_{rel} + V + \text{Aspect} + O \]

\[
\begin{align*}
\text{yichian} & \quad \text{tzai je} \\
\text{tzueijien} & \quad \text{le} \\
\text{zuotian} & \quad \text{guo} \\
\vdots & \quad \text{chi lai} \\
\text{(all past)} & \quad \text{sy a chyu} \\
& \quad \text{tent}
\end{align*}
\]

If we compare (E-1) with pattern (A), we find that the aspects selected are the same, so that the adverb of past time does not confine aspect selection.

Consider pattern (E-2) with present adverbs.

(E-2) \[ S + \text{Adverb}_{rel} + V + \text{Aspect} + O \]

\[
\begin{align*}
\text{shiantzai} & \quad \text{tzai je} \\
\text{jiantian} & \quad \text{le} \\
\vdots & \quad \text{guo} \\
\text{(all present)} & \quad \text{chi lai} \\
& \quad \text{sy a chyu} \\
& \quad \text{tent}
\end{align*}
\]

It is apparent that only experiential \text{guo} can not be selected if an adverb of present time is in the sentence. Other aspects have no influence from the adverb.

(E-3) \[ S + \text{Adverb}_{rel} + V + \text{Aspect} + O \]

\[
\begin{align*}
\text{henkuai} & \quad \text{tzai je} \\
\text{ranhou} & \quad \text{le} \\
\text{mingtian} & \quad \text{guo} \\
\vdots & \quad \text{chi lai} \\
\text{(all future)} & \quad \text{sy a chyu} \\
& \quad \text{tent}
\end{align*}
\]
The pattern (E-3) is the same as (E-2). Checking the three patterns immediately above, we see that experiential guo can be selected only when the adverb indicates past time. An adverb of present or future time does not allow guo. I propose to account for this as a restriction on the adverb, not aspect particles. I therefore analyze shiantzai 'now', mingtian 'tomorrow'; and similar adverbs as having the feature \([-\_\_\_\_[+exper.]]\), which would block their insertion into a sentence having a verb or complex verb with the feature \([+exper.]]\).

Since we know from the redundancy rule given on page 35 that the complex verbs whose second element is wan, hao, or guo are \([-\text{experiential}]\), we expect that these complex verbs will not co-occur with present or future adverbs. This is the case, as the following pattern shows:

\[(F-1) \quad S + \text{Adverb}_{rel} + \left[ V + \{\text{wan}\} \right] + \text{Aspect} + 0\]

shiantzai

*tzai je
*chi lai
*sya chyu
*tent
*guo
le

mingtian

How we consider past time adverbials in sentences with complex verbs:
Comparing this pattern with (B), we see that again the adverb does not have any influence on the selection of aspect, which is controlled totally by the complex verb. Recall that guo, however, can not be chosen by a complex verb redundantly marked [-experiential] when there is no adverb in the sentence (see pattern (C)), but now in (F-2) with an adverb of past time in the sentence, guo is possible. We conclude that the adverb of past time overrules the normally restricted complex verb to allow selecting the aspect guo in this pattern. Because of this slight irregularity, the following rule must apply to these forms.

**Completive Selection**

\[
X \rightarrow \overset{(+\text{past})}{[V+w\la h\ra]} \rightarrow Y
\]

\[
1 \ 2 \ 3 \ 4
\]

\[
1 \ 2 \ 3 \ 4 \rightarrow \overset{\text{Obligatory}}{[\alpha \text{ experience}]}
\]
When these complex verbs do not occur with past adverbs, they cannot take the experiential particle guo, due to the application of the redundancy rule given on page 35. But in the presence of a past adverb, these verbs are marked [\textit{\textless} exper.], that is, either [+]exper. or [-exper.], thus allowing either guo or le.

Synthesizing all the patterns above, we can see that durable action verbs are almost totally free in aspect particle selection, having only certain defined restrictions. In a sentence with no relevant adverbial element, aspect selection is controlled by inherent features of the verb. When a frequency adverbial is in a sentence, only tentative aspect can be selected. But if we add another adverbial phrase after this adverb, then the total adverbial phrase allows both \textit{chi lai} and \textit{sya chyu} in addition to tentative aspect. We do not find frequency adverbials and complex verbs in the same sentence, since the latter are redundantly [+completive].

When a relation adverbial is present, aspect selection is also by the features of the verb. Selection is influenced only by an adverbial of past time in a sentence with a complex verb whose second element is \textit{wan} 'finish', \textit{hao} 'finish', or \textit{guo} 'complete'. In this situation the adverbial of past time overrules the verb to allow selecting the aspect particle guo as well as le.
The following rule copies the inherent 'aspect' features of the verb under the aspect node before lexical insertion of aspect particles.

**Aspect Feature Copying**

\[
X \rightarrow V \rightarrow \text{Aspect} \rightarrow Y
\]

\[
\begin{array}{c}
\text{asp} \\
\beta \text{compl} \\
\gamma \text{exper} \\
\delta \text{prog} \\
\varepsilon \text{inch} \\
\text{cont} \\
\text{tent}
\end{array}
\]

\[
1 \quad 2 \quad 3 \quad 4
\]

\[
\begin{array}{c}
\text{asp} \\
\beta \text{compl} \\
\gamma \text{exper} \\
\delta \text{prog} \\
\varepsilon \text{inch} \\
\text{cont} \\
\text{tent}
\end{array}
\]

\[
1 \quad 2 \quad 3 \quad 4
\]

Obligatory

where \( \lambda, \beta, \gamma, \ldots = + \) or -

In order to account for the irregular position of certain aspect particles, I propose the following.
Recall that when an object is preposed the inchoative appears regularly as chi lai and the continuative as sya chyu. Object preposing is by the following rule.

**Object Preposing**

\[
\begin{array}{ccccc}
X & V & \text{Aspect} & \text{NP} & Y \\
1 & 2 & 3 & 4 & 5 \\
\end{array}
\]

Optional \[\longleftrightarrow\]

\[
\begin{array}{cccccc}
1 & \text{ba} & 4 & 2 & 3 & \emptyset & 5 \\
\end{array}
\]

If the object is not preposed, then we must slightly adjust the particles for inchoative and continuative aspects. The second syllable of inchoative chi lai moves to the right of the object, and the second syllable of continuative sya chyu deletes.

**Aspect Adjustment**

\[
\begin{array}{ccccc}
X & \text{(lai)} & \text{(chyu)} & \text{NP} & Y \\
1 & 2 & 3 & 4 & 5 \\
\end{array}
\]

Obligatory \[\longleftrightarrow\]

\[
\begin{array}{ccccc}
1 & \emptyset & \emptyset & 4 & 2 & 5 \\
\end{array}
\]

Tzai precedes the verb if it is present at all in surface structure, so we need a rule obligatorily deleting tzai after the verb and optionally placing it before the verb.
**Tzai Adjustment**

\[ X \rightarrow V \rightarrow \text{tzai} \rightarrow \text{je} \rightarrow Y \]

\[
\begin{array}{cccc}
1 & 2 & 3 & 4 & 5 \\
\end{array}
\]

\[
\begin{array}{cccc}
1 & (3) & 2 & \emptyset & 4 & 5 \\
\end{array}
\]

Obligatory

Since a sentence may have only tzai, we need a rule optionally deleting je from its position following the verb. This rule can apply only if tzai precedes the verb, not when tzai has been deleted.

**Je Deletion**

\[ X \rightarrow \text{tzai} \rightarrow V \rightarrow \text{je} \rightarrow Y \]

\[
\begin{array}{cccc}
1 & 2 & 3 & 4 & 5 \\
\end{array}
\]

Optional

\[
\begin{array}{cccc}
1 & 2 & 3 & \emptyset & 5 \\
\end{array}
\]

Finally, I assume a phonological or readjustment rule (see Chomsky & Halle, 1968) for reduplication of the verb taking tentative aspect.

**Tentative Aspect**

\[ X \rightarrow V \rightarrow [+\text{tentative}] \rightarrow Y \]

\[
\begin{array}{cccc}
1 & 2 & 3 & 4 \\
\end{array}
\]

Obligatory

\[
\begin{array}{cccc}
1 & 2 + 2 & \emptyset & 4 \\
\end{array}
\]

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In the following, I will illustrate all the above rules in the analysis of several examples:

Example 1: ta tsengjieng kan - wan guo jeben shu he once read finish asp this book

'He once finished reading this book.'

The deep structure of example (1) is (a):

(a) ta tsengjieng kan - wan Aspect jeben shu

\[
\begin{array}{c}
\text{[+past]} \\
\text{[+V]} \\
\text{+asp} \\
\text{+compl} \\
\text{-exper}
\end{array}
\]

When the second element of a complex verb is wan and a past time adverbial is in the same sentence, the completive selection rule must apply to allow the verb to be either [+exper.] or [-exper.], and we get (b):

(a) ---→ (b) ta tsengjieng kan -wan Aspect jeben shu

\[
\begin{array}{c}
\text{[+past]} \\
\text{[+V]} \\
\text{+asp} \\
\text{+compl} \\
\text{+exper}
\end{array}
\]

(b) is converted to (c) by the aspect feature copying rule.

(b) ---→ (c) ta tsengjieng kan -wan Aspect jeben shu

\[
\begin{array}{c}
\text{[+V]} \\
\text{+asp} \\
\text{+compl} \\
\text{+exper}
\end{array}
\]

\[
\begin{array}{c}
\text{guo} \\
\text{[+asp]} \\
\text{+compl} \\
\text{+exper}
\end{array}
\]

lexical insertion

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Finally, since the particle 聽 has the feature [+exper.], we arrive at the desired sentence.

Example 2: ta kan kan shu
he read book
'He is reading a book.'

The deep structure of (2) is (a):

(a) ta kan Aspect shu

We apply the aspect feature copying rule to copy the inherent features of the verb under the aspect node.

(a) ---→ (b) ta kan Aspect shu

(b) is converted to (c) by the tentative aspect rule, giving example 2.

(b) ---→ (c) ta kan kan shu
Example 3:  

(A) ta tzai kan je shu  
    he asp read asp book  
(B) ta tzai kan shu  
(C) ta kan je shu  

'He is reading a book.'

Sentences (A), (B) and (C) have the same deep structure, as in (a):

(a) ta kan Aspect shu  
    +V  
    +asp  
    -compl  
    +prog  
    -cont  
    -tent

(a) is converted to (b) through the aspect feature copying rule.

(a) ---→ (b) ta kan Aspect shu  
    +V  
    +asp  
    -compl  
    +prog  
    -cont  
    -tent

    ↑

lexical insertion tzai je  
    +asp  
    -compl  
    +prog  
    -cont  
    -tent

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The features \([+\text{asp.}, -\text{compl.}, +\text{prog.}, -\text{cont.}, -\text{tent.}]\) are assigned to the lexical unit \(\text{tzai je}\). \(\text{Tzai}\) may precede the verb or be deleted. The \(\text{tzai}\) adjustment rule gives either (c) or (d).

\[(b) \rightarrow (c) \quad \text{ta tzai kan je shu} \quad \text{(example 3A)}\]
\[(d) \rightarrow (d) \quad \text{ta kan je shu} \quad \text{(example 3C)}\]

In order to get example 3B, the \(\text{je}\) deletion rule applies to (c).

\[(c) \rightarrow (e) \quad \text{ta tzai kan shu} \quad \text{(example 3B)}\]

Example 4: \(\text{ta zuotian dzou chi shryan lai he yesterday do asp experiment asp}
\'He began doing the experiment yesterday.\'

The deep structure of (4) is:

\[(a) \quad \text{ta zuotian dzou Aspect shryan}\]
\[
\begin{array}{c}
\text{[+V]}
\text{[+asp]} \\
\text{[-compl]} \\
\text{[-prog]} \\
\text{[+inch]} \\
\end{array}
\]

(a) is converted to (b) through the aspect feature copying rule.

\[(a) \rightarrow (b) \quad \text{ta zuotian dzou Aspect shryan}\]
\[
\begin{array}{c}
\text{[+V]} \\
\text{[+asp]} \\
\text{[-compl]} \\
\text{[-prog]} \\
\text{[+inch]} \\
\end{array}
\]
The feature [+inch.] is assigned to the lexical unit chi lai. So we have (c) by lexical insertion.

(b) \[\rightarrow\] (c) ta zuctian dzu chi lai shryan

Object preposing can optionally apply at this point to give (d):

(c) \[\rightarrow\] (d) ta zuctian ba shryan dzu chi lai

If object preposing does not apply to (c), then aspect adjustment is obligatory. This moves lai after the object and gives example 4.

(c) \[\rightarrow\] (e) ta zuctian dzu chi shryan lai

Finally, I present the ordering of all rules which are discussed above.

Ordering of all Rules Given

\[
\begin{array}{lcl}
\text{Compleative Selection} & \rightarrow\rightarrow & \text{Oblig} \\
\text{Aspect Feature Copying} & \rightarrow\rightarrow & \text{Oblig} \\
\text{Object Preposing} & \rightarrow & \text{Opt} \\
\text{Aspect Adjustment} & \rightarrow & \text{Oblig} \\
\text{Tzai Adjustment} & \rightarrow & \text{Oblig} \\
\text{Je Deletion} & \rightarrow & \text{Opt} \\
\text{Tentative Aspect} & \rightarrow & \text{Oblig}
\end{array}
\]
Chapter IV

Summary and Conclusion

Chinese uses aspect more than tense to express the relationship between event and time. Only sentences with action verbs have to do with the concept of aspect.

Chao presents seven types of Mandarin aspect, usually indicated by markers following the verb, and mutually exclusive within a clause.

Rand and Wu are concerned with aspect selection. Rand presents two ways to trigger aspect: 1) aspect gains features as a result of adverbs, and 2) inherent features of the aspect node select aspect if no adverbs are present. Wu also points out two ways to select aspect: 1) the verb controls aspect selection if there are no adverbs present, and 2) if both are present then both contribute to the selection of aspect. As they present theories, both Rand's and Wu's theories only partially explain selection of aspect.

Durable action verbs are almost totally free in aspect selection, having only certain defined restrictions. In a sentence with no relevant adverbial element, aspect selection is by the features of the verb. When a time adverbial element is present, aspect is also by the features of the verb, but a complex verb whose second element is wan, hao or guo is influenced by an adverbial of past time.
In this paper, I have offered various rules regarding aspect selection. When durable action verbs are totally free in aspect selection, we copy the inherent features of the verb under the aspect node by the aspect feature copying rule. In a sentence involving a complex verb whose second element is wan, hao or guo and also a past adverbial, a completive selection rule must apply before the aspect feature copying rule, because the complex verb is overruled by the adverb. For tentative aspect, we need a rule for reduplication of the verb. Object preposing may move an object before the verb and mark it with ba. If not, the aspect adjustment rule moves the second syllable of inchoative chi lai to the right of the object and deletes the second syllable of continuative sva chyu. With progressive aspect, tzai adjustment moves tzai before the verb or deletes it, leaving je after the verb. Finally, if tzai precedes the verb, je may optionally be deleted.

There are still many problems I have not solved. One big problem is that I have not found any reasonable solution for the complicated restrictions involving frequency time adverbials (but mechanically suppose the restriction could be stated).

To my knowledge, no one has published a detailed analysis of Mandarin aspect selection. This paper is an initial attempt at working out a set of rules. While I feel I have
accounted for much of the data, further investigation is very necessary.
Bibliography


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by

MEI CHANG SOONG

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Department of Speech

KANSAS STATE UNIVERSITY

Manhattan, Kansas

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ABSTRACT

This paper looks at seven aspects of Mandarin Chinese. I begin with a brief discussion of the aspects and their markers: simple (unmarked), progressive (tza i je), perfective (le), experiential (guo), inchoative (ch i lai), continuative (sya chyu), and tentative (verb reduplication).

I then discuss the proposals concerning aspect selection made by Earl Rand and Christina Wu, showing that certain problems remain.

Finally, I suggest an overall solution to the problem of aspect selection, based on features of both verbs and adverbials.