

A TRANSFORMATIONAL GENERATIVE APPROACH TO ASPECT OF VERBS IN MANDARIN
WITH SPECIAL REFERENCE TO THE ASPECT PARTICLE IN COORDINATE STRUCTURES

by

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ABBREVIATIONS USED

| | |
|--------|---|
| Adj | Adjective |
| Adv | Adverb |
| Asp. | Aspect |
| Aux | Auxiliary |
| Compl. | Complete; Complement |
| Conj | Conjunction |
| Dir | Direction |
| Inten. | Intensive |
| Itera. | Iterative |
| M.VP | Main Verb Phrase |
| NP | Noun Phrase |
| N | Noun |
| Part. | Particle |
| PdP | Predicate Phrase |
| Prep.P | Prepositional Phrase |
| Progr. | Progressive |
| Pron. | Pronoun |
| Repet. | Repetitive |
| Resul. | Resultative |
| SQ | Sentence Qualifiers, i.e. question, imperative... |
| Tran. | Transitive |
| V | Verb |
| VB | Verbal |
| VP | Verb Phrase |

Chapter I

INTRODUCTION

1.1 Statement of Problem

Linguists nowadays make a clear distinction between the idea of 'tense' and 'aspect' of verbs. Tense refers to time, while aspect refers to completedness of the action with current relevance. In English they say there are two tenses, past and non-past. Perfective, continuous, and future are considered temporal aspects. The tenses are marked by inflections while the aspects are indicated by combinations of auxiliaries with various forms of the verb, with the first auxiliary carrying the tense marker. In Mandarin, time includes future and is indicated by the use of optional adverbs, while aspect is commonly indicated by a type of particle preceding or following the verb. To illustrate Mandarin time, for example:

1) MINGTIAN WO YOU KE
[[Adv.] [Pron] [V N]]
PdP Time Time NP NP M.VP M.VP PdP

tomorrow I have class

' Tomorrow, I'll have class. '

The use of the adverb MINGTIAN 'tomorrow' indicates that the action of the verb will take place in the future, corresponding to the use of future tense in other languages. Omitting this time adverb, the sentence ambiguously indicates present, past, or future. In a sentence like the following,

2) WO CHI GUO FAN LE.

| | | | | | | | | |
|--------|----|-----|--------|------|------|-----|--------|------------------------|
| [Pron] | [| [V] | [Asp.] | [| [N] |] | [Asp.] |] |
| NP | NP | PdP | M.VP | M.VP | Aux | Aux | M.VP | NP NP M.VP Aux Aux PdP |
| I | | eat | Asp. | | meal | | Asp. | |

' I have eaten my meal. '

no time element is included and instead, the sentence bears the sense of completedness of an action through use of the two particles GUO and LE. Thus we conclude that the structure of Mandarin does not include any tense morphemes, while it does include aspect.

In this paper, I will try to pinpoint those different types of 'aspect' that are found in Mandarin using a transformational generative approach. Since the aspect particle has close connection with the verb, when reduction of the verb in a coordinate structure takes place, the aspect particle is generally deleted together with the verb. Thus my special focus will be on the problem of how aspect particles occur in the coordinate structures and some special restrictions of coordination reduction in Mandarin.

The Chinese dialect under scrutiny has been called Guo-Yu, The National Language, Standard Chinese, Acquired Mandarin, New Chinese, Formal Colloquial Mandarin, and Chinese. I will use the term Mandarin, by which is meant the language taught in the public schools of Taiwan.

The romanization used is the one proposed by the Communist Regime and is called Pin Yin.

1.2 Review of Literature

Books or articles that I found available for this study are:
William S. Y. Wang's article 'Some Syntactic Rules for Mandarin' (1964)
which gives an important picture of the syntactic rules of Mandarin.

He also in his 'Two Aspect Markers in Mandarin' (1965) gives a thorough treatment of the two aspect particles GUO and LE. James Hau-Y Tai's dissertation 'Coordination Reduction' (1969) provides a transformational theory of coordination. Earl Rand's The Syntax of Mandarin Interrogatives (1969) lists rules to generate interrogative sentences and shows the relatedness between sentences. Ray C. Dougherty's article 'A Grammar of Coordinate Conjoined Structures: I' (1970) offers evidences showing that a coordinate conjunction transformation is required in a grammar, and that it should be a substitution transformation, not a reduction transformation. Ling-Mei Ruth Lee's master's report 'A Tentative Transformational Generative Analysis of Mandarin Simple Sentence Types with Particular Reference to Noun Phrases' (1970) gives some base and transformational rules of Mandarin simple sentence types and nominal feature rules for classes of nouns. Pi-Yu Ting's master's report 'Some Morpho-Syntactic Problems in Teaching English to Speakers of Mandarin Chinese' (1968) based on a transformational generative approach, discusses the conversion of affirmative to negative sentences. Min-Kay Kaw's Kuo Yu Yu Fua (1970) includes a chapter dealing with Mandarin aspect from a taxonomic point of view. Chao's Chinese Primer (1948) and A Grammar of Spoken Chinese (1968) are the two basic and complete structural grammar books on which many articles of subsequent authors are based. Noam Chomsky's Syntactic Structures (1957) and Aspects of the Theory of Syntax (1965), of course, serve to the utmost by giving basic theory on transformational grammar.

1.3 Justification of Study

Although it has become clear during the last few years that transformational generative grammar is nowhere near an adequate theory of human language, even so its development and application have been able to point out more adequately details of the inner structure of language which other approaches have described more superficially. In the above review of literature, seven out of twelve references use the transformational generative approach. In their treatment of Mandarin, few traditional or structural scholars focus their attention on digging out the details to give an adequate description of aspect of verbs. Far fewer scholars touch the problem from the transformational viewpoint. Thus this study attempts to summarize previous works on Mandarin aspect and to develop the description in terms of post-1965 Chomskyan theory.

Languages can differ from each other in types of coordination reduction and consequently in types of coordination. The typological differences between languages can be accounted for, according to James Tai, either as due to a special condition on identity deletion, or as a special condition on regrouping. In equi-VP types of coordination reduction, the aspect particle is affected. There are also some particular restrictions on coordination reduction in Mandarin. Thus I decide to lay my secondary emphasis on coordination.

1.4 Procedure of Study

There will be five chapters presented in this paper: 1) the introduction; 2) a general survey of the different types of aspect found in Mandarin; 3) verbs which take the aspect particle in coordinate structures and some special restrictions for coordination

reduction in Mandarin; 4) some transformational rules involved in the aspect particle representation and identity deletion in coordinate structures; and 5) the summary and conclusion.

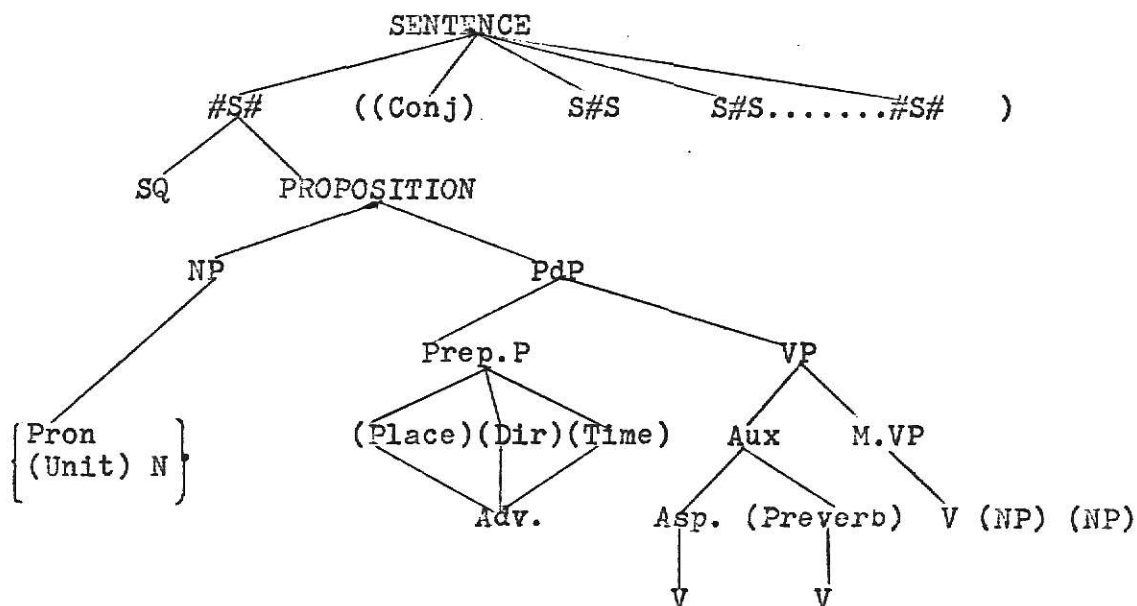
Chapter II

A GENERAL SURVEY OF THE DIFFERENT TYPES OF ASPECT FOUND IN MANDARIN

2.0 Introduction

One of the usual functions of verbs is to indicate the time of an action or deed. Commonly the time is marked by special tense inflections as in Indo-European languages, but in Mandarin time is marked by adverbs, and aspect morphemes carry no time markers. For this reason, Mandarin aspect particles have often been mistakenly equated with tense morphemes of other languages.

For the convenience of later analysis, a brief Mandarin syntactic structure (tree diagram) is given below:



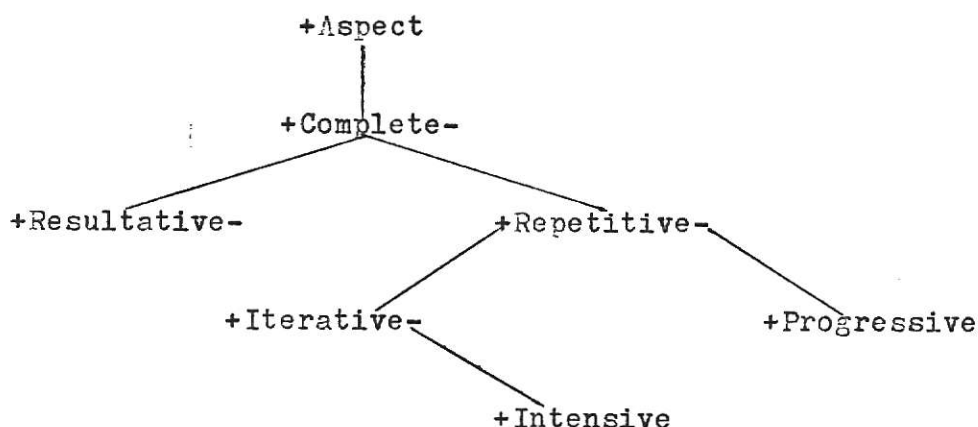
'Mandarin aspect, obligatory on the grammatical tree for all sentences, comes under the auxiliary node. There are five types of aspect found in Mandarin as discussed by Min-Kay Kaw (1970:149).

Those types may include an adverb in the surface structure, but 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 V has a feature [+Asp.], appropriate aspectual formatives will be selected from the lexicon on the basis of the features of the verbs. When the obligatory aspect is neutral, no overt form appears in the surface structure.

I propose here that the five different types of aspect in Mandarin be represented in feature notation as follows:

Aspect -----> [± Complete]
 [+Complete]-----> [± Resultative]
 [-Complete]-----> [± Repetitive]
 [+Repetitive]-----> [± Iterative]
 [-Repetitive]-----> [+ Progressive]
 [-Iterative]-----> [+ Intensive]

This set of features displayed on a tree diagram is as follows:



Each of the five types of aspect is discussed individually below.

2.1 Complete

William S. Y. Wang in his article 'Two Aspect Markers in Mandarin'

discusses thoroughly the two aspect particles GUO and LE. Roughly LE indicates that an action or deed has been completed, and GUO that an action or deed has taken place at least once. According to him, aspect particles LE and GUO are historically derived from the verb YOU 'have', and used as auxiliaries placed after the main verbs of sentences (see Example 3).

- 3) TA CHI GUO FAN
- | | | | | | | |
|--------|----|-----|--------|------|------|-------------------------|
| [Pron] | [| [V] | [Asp.] | [| [N] |] |
| NP | NP | PdP | M.VP | M.VP | Aux | Aux M.VP NP NP M.VP PdP |
| he | | eat | Asp. | | rice | |
- a) ' He has eaten rice. ' or,
- b) ' He has had his meal. '

Example 3 is ambiguous, for it carries the above two possible interpretations. If the particle LE is added to the final position or following GUO, the meaning to which one is referring will be clearly distinguished, such as Example 4,

- 4) TA CHI GUO LE FAN. or TA CHI GUO FAN LE.
- ' He has had his meal. '

Thus in Mandarin an action with the features [+Compl., -Resul., -Exper., -Conti.] will trigger the selection of the cooccurrence of the two sets of particles GUO LE or GUO...LE. But if the action bears the features [+Compl., -Resul., +Exper., --Conti.] only GUO can be selected but there will not be cooccurrence of the two particles.

Wang also points out that in particular cases the situation becomes somewhat complex. Examples 5a, b, and c have the same

meaning 'Has he bought books?' Because of the syntactic complexity, deletion of the particle together with the entire right or left verb phrase is allowed to take place in the A-not-A type of question, similar to the English tag question. But deleting the entire right verb phrase is not permissible in plain A-not-A questions (those with BU) in spoken Mandarin (see Examples 5 and 6).

5a) TA MAI LE SHU MEIYOU MAI LE SHU?
 [Pron] [[V Asp. N]] [Adv.] [[V Asp. N]]
 NP NP PdP VP VP PdP Neg Neg PdP VP VP PdP

he buy Asp. book not buy Asp. book

b) TA MAI LE SHU MEIYOU?

c) TA YOU MEIYOU MAI SHU?

' Has he bought books? '

*6) *TA MAI SHU BU?
 [Pron] [[V N]] [Adv.]
 NP NP PdP VP VP PdP Neg Neg

he buy book not

' Does he buy books or not? '

2.2 Resultative

The resultative refers to the fact that an action or deed has an outcome of some type. The progressive aspect marks the on-going of an action or deed. The complete aspect denotes the end of an action, but does not necessarily simultaneously indicate the result. LAI ZHE 'to have just been V-ing', XIAQU 'begin to V down', QILAI 'to begin to V', and ZHAO, DE, DAO are frequently used. They are clearly verbal and also aspectual in use and meaning, but are difficult to translate. Markers like LAI ZHE, XIAQU, QILAI can

来得及 下来 起来

also function as 'directional complements' in particular contexts. Those actions or deeds that yield results occasionally bear complete aspect. So the two aspects, complete and resultative, can cooccur within a sentence. For example:

- 7) TA DZUO XIAQU LE.
 [Pron] [[V] [Asp.Compl. Asp.Part.]
 NP NP PdP M.VP M.VP Aux Aux PdP
 he do Asp.Compl. Asp.Part.
 ' He has done (it). '

Aspect particles and aspect complements are in partial complementation as stated by Rand (1969:18). Generally speaking. "aspect particles do not occur with imperatives; aspect complements do [see Examples 8 and 9] . Aspect particles occur with directional complements, but aspect complements do not [see Examples 10, 11, and 12] " (Rand 1969:18). The only exception is that the particle ZHE can be used in commands with action verbs (see Example 13).

- 8) ZUO XIAQU ! * ZUO LE(GUO, ZHE) !
 [[V] [Asp.Compl.]] [[V] [Asp.Part.]]
 PdP M.VP M.VP Aux Aux PdP PdP M.VP M.VP Aux Aux PdP
 do Asp.Compl.
 ' Go ahead!' (Continue to do it!)

- 9) XING QILAI! * XING LE(GUO, ZHE) !
 [[V] [Asp.Compl.]] [[V] [Asp.Part.]]
 PdP M.VP M.VP Aux Aux PdP PdP M.VP M.VP Aux Aux PdP
 wake Asp.Compl.
 ' Wake up! '

- 10) TA ZHAN QILAI LE.

$$\begin{array}{ccccccc} \left[\begin{array}{c} \text{Pron} \\ \text{NP} \end{array} \right] & \left[\begin{array}{c} \left[\begin{array}{c} \text{V} \\ \text{M.VP} \end{array} \right] & \left[\begin{array}{c} \text{Dir.Compl.} \\ \text{Dir} \end{array} \right] & \left[\begin{array}{c} \text{Asp.Part.} \\ \text{Aux} \end{array} \right] & \left[\begin{array}{c} \text{PdP} \end{array} \right] \\ \text{NP} & \text{PdP} & \text{M.VP} & \text{M.VP} & \text{Dir} & \text{Dir} & \text{Aux} & \text{Aux} & \text{PdP} \end{array}$$

he stand up Asp.Part.

' He has stood up. '

11) WO YU DAO GUO TA.

$$\begin{array}{ccccccc} \left[\begin{array}{c} \text{Pron} \\ \text{NP} \end{array} \right] & \left[\begin{array}{c} \left[\begin{array}{c} \text{V} \\ \text{M.VP} \end{array} \right] & \left[\begin{array}{c} \text{Asp.Compl.} & \text{Asp.Part.} \\ \text{Aux} & \text{M.VP} \end{array} \right] & \left[\begin{array}{c} \text{Pron} \\ \text{M.VP} \end{array} \right] & \left[\begin{array}{c} \text{PdP} \end{array} \right] \\ \text{NP} & \text{NP} & \text{PdP} & \text{M.VP} & \text{M.VP} & \text{Aux} & \text{M.VP} & \text{M.VP} & \text{PdP} \end{array}$$

I meet Asp.Compl. Asp.Part. him

' I have met him somewhere before. '

*12) TA ZUO XIAQU QILAI(XIAQU, LAIZHE,...).

$$\begin{array}{ccccccc} \left[\begin{array}{c} \text{Pron} \\ \text{NP} \end{array} \right] & \left[\begin{array}{c} \left[\begin{array}{c} \text{V} \\ \text{M.VP} \end{array} \right] & \left[\begin{array}{c} \text{Asp.Compl.} \\ \text{Aux} \end{array} \right] & \left[\begin{array}{c} \text{Dir.Compl.} \\ \text{Dir} \end{array} \right] & \left[\begin{array}{c} \text{PdP} \end{array} \right] \\ \text{NP} & \text{NP} & \text{PdP} & \text{M.VP} & \text{M.VP} & \text{Aux} & \text{Aux} & \text{Dir} & \text{Dir} & \text{PdP} \end{array}$$

he do Asp.Compl. Dir.Compl.

*' He continues to do it up. '

13) NA ZHE!

$$\begin{array}{ccccccc} \left[\begin{array}{c} \left[\begin{array}{c} \text{V} \\ \text{M.VP} \end{array} \right] & \left[\begin{array}{c} \text{Asp.Part.} \\ \text{Aux} \end{array} \right] & \left[\begin{array}{c} \text{PdP} \end{array} \right] \\ \text{PdP} & \text{M.VP} & \text{M.VP} & \text{Aux} & \text{Aux} & \text{PdP} \end{array}$$

hold Asp.Part.

' Hold onto it! '

2.3 Iterative

This type of aspect appears in surface structure as the repetition of the same verb (see Examples 14-16). The deep structure consists of a verb having the features [+Asp., -Compl., +Repet., +Itera]. These features are then copied preceding the verb by T-1. T-2 is then obligatory in such sentences where there is the set of features containing [+Itera.] to copy the actual verb form.

- 14) NI 'KEYI CHA 'CHA ZIDIAN
 [Pron] [[[V] Asp.] [V N]]
 NP NP PdP Aux Preverb Preverb Aux M.VP M.VP PdP
 you can look look dictionary
 ' You can look it up in the dictionary. '
- 15) TA KAI WEN WEN YIN GUO
 [Pron] [[[V] Asp.] [V N N]]
 NP NP PdP Aux Preverb Preverb Aux M.VP M.VP PdP
 he must ask ask cause effect
 ' He must ask about cause and effect. '
- 16) CHELIAN LAI LAI WANG WANG.
 [N] [[Asp.] [V] [Asp.] [V]]
 NP NP PdP Aux Aux M.VP M.VP Aux Aux M.VP M.VP PdP
 cars come come go go
 ' Cars keep coming and going. '

2.4 Progressive or Durative

This type of aspect refers to an action or deed that is in progress at the time the speaker is speaking. If the aspect of the sentence carries the features [+Asp., -Compl., -Repet., +Progr.], one of the three forms is to be chosen. In surface structure, ZHE always follows the main verb, while ZAI and ZHENGZAI always precede the main verb. ZHE and ZHENGZAI(ZAI) may also cooccur, with ZHENGZAI or ZAI preceding ZHE, but the same meaning is retained as the use of either one alone (see Examples 17-19).

- 17) NA ZHI GO SHUI ZHE.
 [Det.Unit N] [[V] [Asp.Part.]]
 NP NP PdP M.VP M.VP Aux Aux PdP
 that Unit dog sleep Asp.Part.
 ' That dog is sleeping. '

- 18) TA ZHENGZAI KAN SHU
 [Pron] [[Asp.] [V N]
 NP NP PdP Aux Aux M.VP M.VP PdP
 he Asp. read book
 ' He is reading books. '
- 19) TA ZHENGZAI CHI ZHE YI GE PINGGUO.
 [Pron] [[Asp.] [V [Asp.] [Det. Unit N]]
 NP NP PdP Aux Aux M.VP M.VP Aux Aux M.VP M.VP PdP
 he Asp. eat Asp. one Unit apple
 ' He is eating an apple. '

2.5 Intensive

While the iterative aspect is indicated by the repetition of the verb morpheme in surface structure, intensive aspect is realized as a general verb preceded by a more specific synonymous one (see Examples 20-22). The features of intensive aspect are copied from the main verb by T-1, as for the iterative. Selection of a synonymous verb morpheme will not be dealt with here in any further detail.

- 20) TA CHUNG LOSHANG JIAO HUAN PONGYO.
 [Pron] [[Prep.P] [Asp.] [V N]
 NP NP PdP Place Place Aux Aux M.VP M.VP PdP
 he from upstairs call shout friend
 ' He calls his friends from upstairs. '
- 21) TA ZAI JIA GUAN KAN DIANSHI.
 [Pron] [[Prep.P] [Asp.] [V N]
 NP NP PdP Place Place Aux Aux M.VP M.VP PdP
 he at home see watch T.V.
 ' He is watching T. V. at home. '

22) HURAN TIANQI FAN BIAN.

[[Adv] [N] [Asp.] [V]]
 PdP Time Time NP NP Aux Aux M.VP M.VP PdP

suddenly weather turn change

' Suddenly, the weather changed. '

Chapter III

VERBS WHICH TAKE THE ASPECT PARTICLE IN COORDINATE STRUCTURES AND SOME SPECIAL RESTRICTIONS FOR COORDINATION REDUCTION IN MANDARIN

3.1 Verbs Which Take the Aspect Particle in Coordinate Structures

3.1.0 Introduction

As stated by Chao (1968:262), a coordinative construction is an endocentric construction with two or more centers, each of which has approximately the same function as the whole construction. Mandarin markers of coordination differ greatly. Here, I am concerned only with the structures including the conjunction GEN 'and' (also called HE, TONG, YEN, and JYI according to different geographic areas.)

3.1.1 Verbs Which Can or Cannot Take the Aspect Particle and Form Coordinate Structures

Transitive and intransitive verbs can co-occur with the aspect particle LE in coordinate structures, while auxiliary, adjective, and copula verbs cannot, as illustrated by examples 23-27.

23) a. NI KAN LE WODE SHU. TA KAN LE WODE SHU. (transitive)

' You have read my book. ' ' He has read my book. '

NI GEN TA KAN LE WODE SHU.

' You and he have read my book. '

b. NI KAN LE WODE HU. NI KAN LE WODE PIJI. (transitive)

' You have read my book. ' ' You have read my notebook. '

NI KAN LE WODE SHU GEN KAN LE WODE PIJI.

' You have read my book and have read my notebook. '

NI KEN LE WODE SHU GEN PIJI.

' You have read my book and notebook. '

24) a. NI PAO LE. TA PAO LE. (intransitive)

' You have run. ' ' He has run. '

NI GEN TA PAO LE.

' You and he have run. '

b. NI PAO LE. NI TIAO LE. (intransitive)

' You have run. ' ' You have jumped. '

NI PAO LE GEN TIAO LE.

' You have run and jumped. '

25) a. *NI NING LE TIAO. *TA NING LE TIAO. (auxiliary)

' You can have jumped. ' ' He can have jumped. '

*NI GEN TA NING LE TIAO.

' You and he can have jumped. '

b. *NI NING LE TIAO. *NI NING LE PAO. (auxiliary)

' You can have jumped. ' ' You can have run. '

*NI NING LE TIAO GEN NING LE PAO.

' You can have jumped and can have run. '

*NI NING LE TIAO GEN PAO.

' You can have jumped and run. '

But; NI NING TIAO GEN PAO LE.

' You can jump and run now. ' (but not previously)

26) *NI TSONGMING LE. *TA TSONGMING LE. (adjective)

' You have been clever. ' ' He has been clever. '

*NI GEN TA TSONGMING LE.

' You and he have been clever. '

But; NI TSONGMING.

' You are clever. '

27) *NI SHI LE CHUNGGUO REN. *TA SHI LE CHUNGGUO REN. (copula)

' You have been a Chinese. ' ' He has been a Chinese. '

*NI GEN TA SHI LE CHUNGGUO REN.

' You and he have been Chinese. '

But; NI GEN TA SHI CHUNGGUO REN LE.

' You and he are Chinese now. ' (but not previously)

A similar series of examples could be given for such aspect particles as ZHE, ZAI, and GUO showing that the occurrence of these three particles with verbs yields almost the same restrictions as LE does. The three particles LE, ZHE, and GUO always follow the main verb in a sentence while ZAI, sometimes a preposition, (when preceding a noun used as an adverb), always precedes the main verb (see Examples 28 and 29).

28) a. NI ZAI KEN SHU. TA ZAI KAN SHU.

' You are reading books. ' ' He is reading books. '

NI GEN TA ZAI KAN SHU.

' You and he are reading books. '

b. NI ZAI KEN SHU. NI ZAI KAN PIJI.

' You are reading books. ' ' You are reading notebooks. '

NI ZAI KAN SHU GEN ZAI KAN PIJI.

' You are reading books and are reading notebooks. '

NI ZAI KAN SHU GEN PIJI.

' You are reading books and notebooks. '

29) a. NI ZAI PAO. TA ZAI PAO.

' You are running. ' ' He is running. '

NI GEN TA ZAI PAO.

' You and he are running. '

b. NI ZAI PAO. NI ZAI TIAO.

' You are running. ' ' You are jumping. '

NI ZAI PAO GEN ZAI TIAO.

' You are running and are jumping. '

NI ZAI PAO GEN TIAO.

' You are running and jumping. '

3.2 Special Restrictions for Coordination Reduction in Mandarin

3.2.0 Introduction

Since conjoined structures are usually somewhat awkward, coordination reduction is somehow necessary in a grammar. But it should be noticed that languages can differ from each other in types of coordination reduction and consequently in types of coordination. James Tai (1969:92) points out that the particular restrictions on coordination in Mandarin are due to a special condition on identity deletion. He proposes the 'Immediate Dominance Condition (IDC)' by which in a coordinate structure only constituents which are immediately dominated by conjuncts can undergo identity deletion.

This section will be concerned with those identity deletions in coordinate structures such as Equi-NP, Equi-VP, Equi-V deletions, gapping, 'respectively' and reciprocal transformations. In ordinary

speech, zero is the commonest marker of coordination. Thus the conjunction GEN is deleted in most coordinate structures such as in example 30. In cases of Equi-VP or Equi-V deletion, the conjunction is preserved between the two remaining NP's such as in example 31.

3.2.1 Restrictions

Equi-NP (Subject) or Equi-VP deletion is optionally allowed in a coordinate structure in Mandarin. Examples:

30) a. WO ZAI CHANG GE. WO ZAI TIAO WU.

' I am singing. ' ' I am dancing. '

b. WO ZAI CHANG GE, TIAO WU.

' I am singing and dancing. '

31) a. PAPA DU GUO SHENGJING. MAMA DU GUO SHENGJING.

' Father has read the Bible. ' ' Mother has read the Bible. '

b. PAPA GEN MAMA DU GUO SHENGJING.

' Father and mother have read the Bible. '

Equi-NP (Object) deletion cannot take place in a coordinate structure like the following:

32) a. WO MAI LE SHU. TA MAI LE SHU.

' I have sold books. ' ' He has bought books. '

*b. WO MAI LE, TA MAI LE SHU.

' I have sold, and he has bought, books. '

33) a. WO TANG ZHE KANSHU. TA CHAN ZHE KANSHU.

' I am lying down, reading. ' ' He is standing up reading. '

*b. WO TANG ZHE, TA CHAN ZHE, KANSHU.

' I am lying down, and he is standing up, reading. '

Since coordination reduction is redundant, it can be reapplied to a sentence. Equi-NP (Object) and Equi-V deletion are possible if and only if there is prior reduction of subject (James Tai 1969:80). Example:

34) a. ZUOTIAN, TA CHI LE LI. ZUOTIAN, TA CHI LE TAO.

' Yesterday, he ate a pear. ' ' Yesterday, he ate a peach. '

b. ZUOTIAN, TA CHI LE LI, CHI LE TAO.

' Yesterday, he ate a pear and ate a peach. '

c. ZUOTIAN, TA CHI LE LI GEN TAO.

' Yesterday, he ate a pear and a peach. '

Although CHI LE is not immediately dominated by the S conjuncts in 34a, it is immediately dominated by the VP conjuncts in 34b.

Therefore, coordination reduction will apply to 34b to yield 34c.

Furthermore, just as in English, derived subject NP's and VP's can optionally undergo coordination reduction. Example:

35) a. TA DA LE GO. TA BEI GO YIAO LE.

' He has bitten the dog. ' ' He has been bitten by the dog. '

b. TA DA LE GO, BEI GO YIAO LE.

' He has bitten the dog and has been bitten by the dog. '

Since the sentence with a BEI construction is derived from the passive transformation, coordination like 35b can not plausibly be accounted for except by reduction (James Tai 1969:79).

There is no gapping in Mandarin (James Tai 1969:78). Examples:

36) a. WO ZAI CHI LI. NI ZAI CHI TAO.

' I am eating a pear. ' ' You are eating a peach. '

*b. WO ZAI CHI LI, NI, TAO.

' I am eating a pear and you, a peach. '

37) a. WO KAN LE SHU. TA KAN LE PIJI.

' I have read a book. ' ' He has read a notebook. '

*b. WO KAN LE SHU, TA, PIJI.

' I have read a book and he, a notebook. '

The only way to conjoin these two sentences of a and b is simply by putting the conjunction GEN between the two sentences, or using a pause (comma in writing) instead of the conjunction. For example:

38) WO ZAI CHI LI GEN NI ZAI CHI TAO. or,
WO ZAI CHI LI, NI ZAI CHI TAO.

' I am eating a pear and you are eating a peach. '

Since KAN and CHI are immediately dominated by V, it is impossible to delete the second identical V in a coordinate structure without previous deletion of the subject.

There is no 'respectively' transformation in Mandarin (James Tai 1969:83), even though there are morphemes GEZI, FENBIE which are usually translated as the English 'respectively'. For example, a sentence like the following:

39) NI GEN WO GEZI KAN LE SHU GEN PIJI.

should be translated as 'You and I have read the book and the notebook respectively.' It doesn't mean that you have read the book and I have read the notebook. A sentence like:

40) NI GEN WO FENBIE KAN LE SHU GEN PIJI.

is translated as 'You and I, one has read the book, and the other has read the notebook'.

The above two examples do not clearly designate who has read what. They only mark out that you might have read the book or the notebook, but not both, nor have I. To express the meaning of 'respectively', Mandarin includes the two sentences, undeleted and conjoined by GEN or simply by a pause. For example:

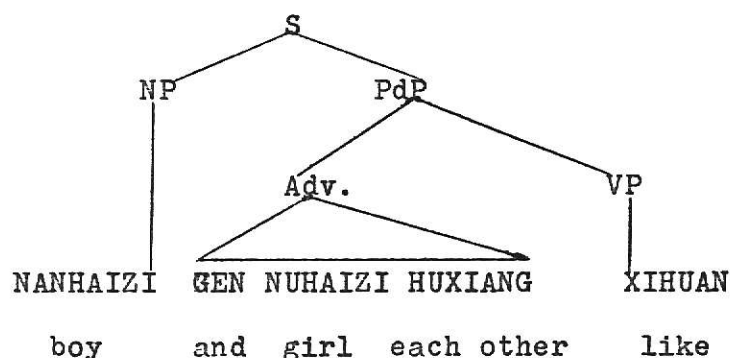
- 41) NI KAN LE SHU GEN WO KAN LE PIJI. or,
 NI KAN LE SHU , WO KAN LE PIJI

' You and I have read the book and the notebook respectively.'

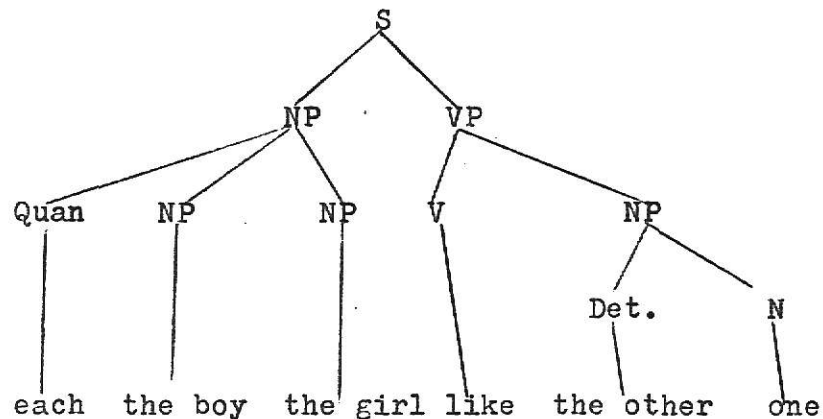
In the English-Chinese dictionary 'each other' is translated as HUXING in Chinese, but the deep structure provides evidence that there is no genuine reciprocal construction in Mandarin (James Tai 1969:84). HUXING does not function as a pronoun like 'each other' in English. We can justify the above statement by comparing the deep structures of the following two examples. Example 42 is borrowed from James Tai's dissertation (1969:86), while in example 43, I follow Ray C. Dougherty's device in analyzing reciprocal constructions in his article 'A Grammar of Coordinate Conjoined Structures:I' (1970:883).

- 42) NANHAIZI GEN NUHAIZI HUXING XIHUAN.

' The boy and the girl like each other. '



43) The boy and the girl like each other.



HUXING 'each other' in Mandarin, functions as part of the adverb in a coordinate structure. From the two examples above, we can see that there is no 'each other' construction in Mandarin, and thus also no 'reciprocal transformation in the T-Rules of Mandarin.

Chapter IV

SOME TRANSFORMATIONAL RULES INVOLVED IN ASPECT PARTICLE PRESENTATION AND IDENTITY DELETION IN COORDINATE STRUCTURES

4.0 Introduction

The function of transformational rules is to map the deep structure into surface structure. The ordering of the application of several different transformational rules to one deep structure might result in several totally different surface structures though these surface structures carry the same meaning internally. Thus the ordering of transformational rules is definitely relevant. The following transformational rules are ordered and stated in two parts: 1) structural description (SD), referring to the string to which the rule applies, and 2), structural change (SC), employing numbers, referring to the segments specified by the structural description.

4.1 Transformational Rules

T-1 Aspect Feature Copying Rule 1 (obligatory)

$$\begin{array}{c}
 \text{SD: N} \quad \quad \text{V} \quad \quad \text{N} \quad \Rightarrow \quad \text{SC: N} \quad \quad \quad \text{V} \quad \quad \text{N} \\
 \left[\begin{array}{c} +\text{VB} \\ +\text{V} \\ \text{! Tran.} \\ +\text{Asp.} \\ \text{.....} \\ \text{.....} \end{array} \right] \quad \quad \quad \left[\begin{array}{c} +\text{Asp.} \\ \text{.....} \\ \text{.....} \end{array} \right] \left[\begin{array}{c} +\text{VB} \\ +\text{V} \\ \text{! Tran.} \\ +\text{Asp.} \\ \text{.....} \\ \text{.....} \end{array} \right]
 \end{array}$$

If the V bears the feature [+Asp.], some of the features of the verb will be obligatorily copied to the left of the verb so that

the appropriate aspectual formative can be chosen.

Example 44:

SD: WO CHANG GE \Rightarrow SC: WO CHANG GE

| | | | | | | | |
|---|---|---|--|---|--|---|---|
| N | +VB +V -Tran. +Asp. -Compl. -Repet. +Progr. | N | | N | +Asp. -Compl. -Repet. +Progr. | +VB +V -Tran. +Asp. -Compl. -Repet. +Progr. | N |
|---|---|---|--|---|--|---|---|

The features [+Asp., -Compl., -Repet., +Progr.] will be assigned the lexical unit ZAI which carries these features. Thus the output will be WO ZAI CHANG GE 'I am singing.' In this example the presence of one verb with the feature [+Progr.] results in a single application of the rule T-1.

T-2 Verb Copying Rule (obligatory)

SD: X V Y

| | |
|------------------------------------|---|
| +Asp. +Itera. | +VB +V +Asp. +Itera. |
|------------------------------------|---|

SC: 1 2 3 \Rightarrow 4 1 3 3 4

Condition: The rule is obligatory only for verbs with Iterative aspect.

Example 45:

The following example having two verbs with the features [+Asp.,, +Itera.] results in two applications of the rules T-1 and T-2.

| | | |
|---|---|---|
| SD: CHELIAN LAI WANG \Rightarrow SC: CHELIAN LAI WANG | | |
| N | $\begin{bmatrix} +VB \\ +V \\ -Tran. \\ +Asp. \\ -Compl. \\ +Repet. \\ +Itera. \end{bmatrix}$ | $\begin{bmatrix} +VB \\ +V \\ -Tran. \\ +Asp. \\ -Compl. \\ +Repet. \\ +Itera. \end{bmatrix}$ |
| N | $\begin{bmatrix} +Asp. \\ -Compl. \\ +Repet. \\ +Itera. \end{bmatrix}$ | $\begin{bmatrix} +VB \\ +V \\ -Tran. \\ +Asp. \\ -Compl. \\ +Repet. \\ +Itera. \end{bmatrix}$ |
| | | $\begin{bmatrix} +Asp. \\ -Compl. \\ +Repet. \\ +Itera. \end{bmatrix}$ |
| | | $\begin{bmatrix} +VB \\ +V \\ -Tran. \\ +Asp. \\ -Compl. \\ +Repet. \\ +Itera. \end{bmatrix}$ |

The features $[+Asp., -Compl., +Repet., +Itera.]$ will be assigned the lexical units LAI and WANG which are the repetition of verbs, and the output is CHELIAN LAI LAI WANG WANG 'Cars keep coming and going!.

In contrast to the preceding examples, which include verbs bearing the feature $[+Asp.]$, the following example illustrates the above rule while including a verb bearing the feature $[-Asp.]$.

Example 46:

| | | |
|---|--|--|
| SD: WO CHANG GE \Rightarrow SC: WO CHANG GE | | |
| N | $\begin{bmatrix} +VB \\ +V \\ -Tran. \\ -Asp. \end{bmatrix}$ | N |
| | | N |
| | | $\begin{bmatrix} +VB \\ +V \\ -Tran. \\ -Asp. \end{bmatrix}$ |
| | | N |

Since the verb does not carry the feature $[+Asp.]$, no overt form will appear in the surface structure. Thus the output, WO CHANG GE 'I sing', is the same as the input.

If the verb carries the feature $[+Asp.]$ but also there is an adverb in a sentence, the aspectual features of the verb together with the adverbial features will be copied to the left of the verb.

T-3 Aspect Feature Copying Rule 2 (obligatory)

SD: N Adv. V X \Rightarrow SC: N Adv. V X

| | | | | |
|-------------------------|--|-------------------------|---|--|
| +Adv. +Time αPast | +VB +V αTran. +Asp. | +Adv. +Time αPast | +Asp. +Time αPast | +VB +V αTran. +Asp. |
|-------------------------|--|-------------------------|---|--|

Example 47:

SD: WO ZUOTIAN SHANGWU SE TIAN DU SHU

Time Time

N Adv. V N

+Adv.
+Time
+Past

+VB
+V
+Tran.
+Asp.
-Compl.
-Repet.
+Progr.

SC: WO ZUOTIAN SHANGWU SE TIAN DU SHU

Time Time

N Adv. V N

+Adv.
+Time
+Past

+Asp.
-Compl.
-Repet.
+Progr.
+Time
+Past

+VB
+V
+Tran.
+Asp.
-Compl.
-Repet.
+Progr.

The features [+Asp., -Compl., -Repet., +Progr., +Time, +Past] will be assigned a lexical unit either ZAI or ZHENGZAI and the output is WO ZUOTIAN SHANGWU SE TIAN ZAI DU SHU 'Yesterday morning, at four o'clock, I was reading'.

In all the above rules, the output retains the same order except when the features [+Asp., +Compl., -Resul.] (see Example 48) or [+Asp., -Compl., -Repet., +Progr.] (see Example 49), are

included Aspect with those features requires the following obligatory rule.

T-4 Aspect Particle Permutation Rule (obligatory)

SD: X Asp. V Y .

SC: 1 2 3 4 \Rightarrow 1 3 2 4

Condition: The rule will not apply to a sentence having the aspectual formative ZAI or ZHENGZAI which also carry the features [+Asp., -Compl., -Repet., +Progr] .

Example 48:

| | | | | |
|-----|-------------------------|-------|-------|------|
| | TA | LE | CHANG | GE |
| SD: | N | Asp. | V | N |
| SC: | N | V | Asp. | N |
| | TA | CHANG | LE | GE |
| | he | sing | Asp. | song |
| | ' He has sung a song. ' | | | |

Example 49:

| | | | | |
|-----|--------------------------|-------|-------|------|
| | WO | ZHE | CHANG | GE |
| SD: | N | Asp. | V | N |
| SC: | N | V | Asp. | N |
| | WO | CHANG | ZHE | GE |
| | I | sing | Asp. | song |
| | ' I am singing a song. ' | | | |

T-5 Conjunction GEN Deletion Rule (optional)

SD: #S# GEN #S#

SC: 1 2 3 \Rightarrow 1 \emptyset , 3

Example 50:

WO KAN LE SHU GEN NI KAN LE PIJI.
 SD: N V Asp. N GEN N V Asp. N
 SC: N V Asp. N \emptyset , N V Asp. N
 WO KAN LE SHU , NI KAN LE PIJI.
 I read Asp. book , You read Asp. notebook.
 ' I and you have read a book and a notebook respectively.'
 or ' I have read a book and you have read a notebook. '

T-6 Equi-VP Deletion (optional)

SD: # N₁ VP # , # N₂ VP #
 SC: 1 2 , 3 4 \Rightarrow 1 \emptyset , 3 4

Condition: The input to this rule is from T-5.

Example 51:

WO ZAI CHANG GE, TA ZAI CHANG GE.
 SD: N₁ VP , N₂ VP
 SC: N₁ \emptyset , N₂ VP
 *WO , TA ZAI CHANG GE.
 I , he Asp. sing song
 *' I, he are singing. '

The conjunction GEN is deleted in most coordinated structures, but in cases of Equi-VP or Equi-V deletion, the conjunction is preserved between the two remaining NP's. This rule provides only an intermediate stage of transformation. In order to give a grammatical sentence, the above sentence has to undergo T-7.

T-7 Conjunction GEN Insertion Rule (obligatory)SD: N₁ , N₂ VPSC: 1 2 3 4 \Rightarrow 1 \emptyset GEN 3 4

Condition: The rule is obligatorily applied to sentences that
have undergone T-6.

Example 52:

* WO , TA ZAI CHANG GE

SD: N₁ , N₂ VPSC: N₁ GEN N₂ VP

WO GEN TA ZAI CHANG GE

I and he Asp. sing song

' He and I are singing songs. '

T-8 Equi-NP (Subject) Deletion Rule (optional)SD: NP PdP₁ , NP PdP₂SC: 1 2 , 4 5 \Rightarrow 1 2 3 \emptyset 5

Example 53:

WO CHANG GUO GE , WO TIAO GUO WU.

SD: NP PdP₁ , NP PdP₂SC: NP PdP₁ , \emptyset PdP₂

WO CHANG GUO GE , TIAO GUO WU.

I sing Asp. song , dance Asp. dance

' I have sung a song and danced a dance. ' (Lit.)

' I have sung and danced. '

T-9 Equi-V Deletion Rule (optional)

SD: NP V₁ Asp. N₁ , V₁ Asp. N₂
 SC: 1 2 3 4 , 5 6 7 \Rightarrow
 1 2 3 4 , \emptyset \emptyset 7

Condition: The input to this rule is from T-8.

Example 54:

WO CHI GUO LI , CHI GUO TAO.
 SD: NP V₁ Asp. N₁ , V₁ Asp. N₂
 SC: NP V₁ Asp. N₁ , \emptyset \emptyset N₂
 *WO CHI GUO LI , TAO.
 I eat Asp. pear, peach.
 ' I have eaten pear, peach. '

To give a grammatical structure of this example, conjunction GEN should be inserted after this rule. Thus the sentence will be:
WO CHI GUO LI GEN TAO ' I have eaten a peach and a pear. '.

T-10 Equi-NP (Object) Deletion Rule (optional)

SD: NP X NP₁ , Y NP₁
 SC: 1 2 3 , 4 5 \Rightarrow 1 2 \emptyset , 4 5

Condition: Before the application of this rule, the subject should have been deleted.

Example 55:

WO KAI GUO FEIJI , XIOLI GUO FEIJI.
 SD: NP X NP₁ , Y NP₁
 SC: NP X \emptyset , Y NP₁
 WO KAI GUO , XIOLI GUO FEIJI.
 I drive Asp. , repair Asp. airplane

' I have flown and repaired airplanes. '

T-11 Conjunction GEN Insertion Rule (optional)

SD: NP X , Y NP₁

SC: 1 2 3 4 5 \Rightarrow 1 2 GEN 4 5

Example 56:

WO KAI GUO , XIOLI GUO FEIJI.

SD: NP X , Y NP₁

SC: NP X GEN Y NP₁

WO KAI GUO GEN XIOLI GUO FEIJI.

I drive Asp.and repair Asp. airplane

' I have flown and repaired airplanes. '

Chapter V

SUMMARY AND CONCLUSION

5.1 Summary of Previous Discussion

Various types of Mandarin aspect, with particular reference to the aspect particle in coordinate structures, are carefully discussed in the preceding chapters. To summarize briefly I would make the following points:

- 1) According to Wang (1965), Mandarin aspect particles are historically derived from verbs used as auxiliaries placed before or after the main verbs of sentences.
- 2) In accordance with Min-Kay Kaw's brief statement, the five types of Mandarin aspect are given here: a) Complete, b) Resultative, c) Iterative, d) Progressive, and e) Intensive.
- 3) In setting up the features of Mandarin aspect I build on the broader analysis found in Ling-Mei Ruth Lee's work on Mandarin major sentence types (1970:8), and Earl Rand's Syntax of Mandarin Interrogatives (1969:25).
- 4) In my analysis, when the obligatory aspect is neutral, i.e. the verb of a sentence has the feature [-Asp.], no overt form appears in the surface structure. If the verb has a feature [+Asp.] , the appropriate aspectual formative will be selected from the lexicon on the basis of the features of the verb. If the verb carries the feature [+Asp.] 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.

- 5) In this analysis I specify that Complete and Resultative aspect can cooccur within a sentence.
- 6) According to Rand (1969), aspect particles and aspect complements are in partial complementation.
- 7) Rand also clarifies that usually aspect particles do not occur with imperatives except the particle ZHE which can be used in commands with action verbs.
- 8) I add the generalized statement that aspect particles ZHE, LE and GUO always follow the main verb while ZAI and ZHENGZAI always precede the main verb in a sentence.
- 9) In my analysis in Chapter III, I find that transitive and intransitive verbs can take aspect particles and form coordinate structures, whereas auxiliary, adjective, and copula verbs cannot.
- 10) Since zero is the commonest marker of coordination in Mandarin, I find that the conjunction GEN is generally deleted in coordinate structures, except when they undergo Equi-VP or Equi-V deletion, in which case the conjunction is preserved between the two NP's
- 11) James Tai in his dissertation (1969) points out that Equi-NP (Object) and Equi-V deletion in Mandarin are permissible if and only if there is prior reduction of subject. Meanwhile, there is no gapping, no 'respectively', and reciprocal transformations in Mandarin.

5.2 Conclusion

Several conclusions can be drawn from the total study:

- 1) Aspect of the Mandarin verb differs from English aspect in several ways:
 - a) Mandarin aspect is obligatory on the grammatical tree; English aspect is not.
 - b) There are five types of Mandarin aspect in contrast to only two in English which are continuous and perfective.
 - c) Features of the verb together with the adverb, if any, trigger the selection of the lexical unit in Mandarin, but only the features of the verb dominate the selection of the lexical unit in English.
- 2) Min-Kay Kaw in his Kuo Yu Yu Fua briefly mentions types of Mandarin aspect and gives some examples in classical Chinese. I represent those types of aspect in feature rules so that their connection can be clearly shown and give my examples in modern colloquial Chinese to make it more understandable for the beginner. In his extremely general statement of occurrence (translated here) that "all the progressive aspectual formatives should precede the main verbs in sentences" (1970:161), he neglects to exclude the morpheme ZHE which actually follows the main verb.
- 3) William S. Y. Wang in his articles 'Some Syntactic Rules for Mandarin' and 'Two Aspect Markers in Mandarin' treats aspect of verb as an optional formative, whereas I treat them as obligatory to make the grammar more explicit. For him, there

is no distinction between progressive and zero aspect. He treats a sentence like TA KAN WODE SHU BU KEN WODE SHU as having progressive aspect (i.e. 'Is he reading my books?') while I treat it as having zero aspect (e.i. 'Does he read my books or not?').

- 4) William S. Y. Wang does not point out that the feature of [+Experience] has a definite effect on the cooccurrence of the two particles GUO and LE. Usually an action with the features [+Compl., -Resul., -Exper., -Conti.] will trigger the selection of the two particles GUO LE or GUO...LE. But if the action bears the features [+Compl., -Resul., +Exper., -Conti.] only GUO can be selected but there will not be cooccurrence of the two particles.
- 5) Since the aspect particle has close connection with the verb, when reduction of the verb takes place, the aspect particle is generally deleted together with the verb.
- 6) James Tai in his dissertation devotes several pages to Mandarin coordination. Concerning the reciprocal construction, he maps a tree diagram of a sentence with HUXIAN 'each other' without giving a parallel analysis of English. In contrast, I follow Ray C. Dougherty's device to analyze the reciprocal construction of the same sentence in English.

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A TRANSFORMATIONAL GENERATIVE APPROACH TO ASPECT OF VERBS IN MANDARIN
WITH SPECIAL REFERENCE TO THE ASPECT PARTICLE IN COORDINATE STRUCTURES

by

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ABSTRACT

Verbals, like nouns, have inherent syntactic properties represented as features. One of the most complex inherent properties of verbals is referred to as Aspect. This study attempts an investigation of the aspect properties in Mandarin with special reference to the aspect particle and the transformations through which the aspect features are converted into lexical items in the surface structure. Meantime, since the aspect particle has close connection with the verb, when reduction of the verb in a coordinate structure takes place, the aspect particle is generally deleted together with the verb. Thus I lay my secondary emphasis on coordination and some of the special restrictions on coordination reduction in Mandarin.

The first chapter gives a detailed discussion of the five types of Mandarin aspect presented in feature rules after the style of Jacobs and Rosenbaum's treatment of English. The second chapter is presented in two parts: 1) verbs which take aspect particle and form coordinate structures, 2) some special restrictions for coordination reduction in Mandarin. In 1), I find that transitive and intransitive verbs can take the aspect particle and form coordinate structures, whereas auxiliary, adjective, and copula verbs cannot. In 2), I introduce James Tai's idea that Equi-NP (Object) and Equi-V deletion in Mandarin are permissible if and only if there is prior reduction of subject. Also, there is no gapping, and no 'respectively' and reciprocal transformations in

Mandarin. The third chapter includes some transformational rules involving the aspect particle in surface structure and identity deletion in coordinate structures through the devices of permutation, deletion, and addition. The last chapter summarizes previous authors' and my own work on aspect, and draws some conclusions comparing different approaches to this one.