

A TENTATIVE TRANSFORMATIONAL GENERATIVE
ANALYSIS OF MANDARIN SIMPLE SENTENCE TYPES
WITH PARTICULAR REFERENCE TO NOUN PHRASES

by

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Chapter 1

INTRODUCTION

1.0 Statement of Problem

The Chinese language belongs to the Sino-Tibetan family. There are many dialects, some of which are so different that they are mutually unintelligible. In 1911, when China became a republic, a movement to unify the spoken language of the nation chose Mandarin as the national language. At the present, most Chinese speak Mandarin. Mandarin has the greatest number of speakers in the world, with English and Hindi speakers rating second and third in number.

1.01 When foreigners learn Mandarin, they feel Mandarin grammar is very easy. Some Europeans have even said Mandarin has no grammar. This is true insofar as grammar is taken in the narrow sense of having inflection of persons, case, number, tense and the like. But there is orderly organization of parts into wholes in Mandarin, perhaps more than in any other language. Julien Stanislas said "The whole of Chinese grammar depends on position." (1964, P.4)

1.02 A transformational generative grammar of a language is a set of statements (rules) which tells us in a formal and explicit way which strings of the basic elements of the language are permitted.

1.03 A considerable body of literature already exists

devoted to demonstrating that the transformational model has the most adequate explanatory power,¹ but there are very few articles or books of Mandarin grammar using this theoretical approach. In this paper, I will use transformational generative theory to formulate base rules and transformational rules for Mandarin basic sentences. The Noun Phrase will be emphasized.)

1.1 Review of Literature

Many books or articles using the descriptive methods of the traditional grammarians to analyze Mandarin grammar are extant, but few works employ linguistic methods of description.

1.11 Study of Mandarin Grammar

Chao's Chinese Primer (1948) gives us a very brief but important introduction to Chinese grammar. Henry C. Fenn's Speak Mandarin (1967) includes all the basic sentence patterns of Mandarin and is currently in use as a textbook in many United States schools. In 1962, William S. Y. Wang published 'Some Syntactic Rules for Mandarin' which is the first brief outline of modern standard Chinese syntax from the viewpoint of transformational generative grammar. Beverly Fincher's 'A Fragment of Mandarin Syntax' (1966) presents a fragment of Mandarin syntax in the manner of the revised transformational model explicated in Noam Chomsky's Aspects of Syntax (1965) and elsewhere. Pi-Yu Ting's 'Some Morpho-Syntactic Problems in Teaching English to Speakers of Mandarin Chinese' (1968) is based on a transformational generative

grammar approach to discuss the conversion of affirmative to negative sentence. Earl James Rand's 'The Syntax of Chinese Interrogative Structure' (1966) describes four kinds of Mandarin interrogative sentences. Chao's A Grammar of Spoken Chinese (1968) is the first very complete and comprehensive Chinese grammar book. Min-Kay Kaw's Kuo Uy Uy Hua (1970) is a very good grammar book, especially for Mandarin aspect and mood.

1.12 Study of Transformational Generative Grammar

Noam Chomsky's Syntactic Structure (1957) and Aspects of the Theory of Syntax (1965), Emmon Bach's An Introduction to Transformational Grammars (1963), J. Fodor and J. Katz's The Structure of Language (1964), R. B. Lee's The Grammar of English Nominalizations (1960), Andreas Koutsoudas's Writing Transformation Grammar (1966) contain very valuable materials.

1.2 Procedure of Study

Chomsky's transformational generative model (1965) proposed that a grammar must consist of two levels: the base component and the transformational component. The first part is the base rule and lexicon. The rules arise from the branching rules are of two types: the selectional and the strict subcategorizational. These rules generate presentences and explain their deep structure by means of phrase markers. The lexicon is marked positively or negatively with the categorizational and selectional symbols provided for by these two types of base rule. The second

part is the transformational component imposing conditions for well-formedness and filtering out sentences which do not meet particular conditions. The third part is the conclusion.

1.3 Justification of Study

The grammar of a language describes the system of a language in abstract and formalized ways. It describes the underlying regularities obeyed by speakers of that language. A speaker of that language normally is not aware of the rules which account for his capacity to formulate or understand sentences he has never heard before; rules which account for, that is, his "competence" in the language. Transformational generative grammar tries to generate sentences according to the speaker's intrinsic competence.²

1.31 The theory of transformational generative grammar aims toward making the description of grammar as formal, explicit, complete, and simple as possible.³

1.32 This is a basic transformational generative study of the noun phrases of Mandarin with other Base Rules added as background and matrix for the noun phrase rules.

Needless to say, the rules covered in this study are highly tentative and simplified. This is only the first step laying the groundwork for future studies in the preparation of lessons for teaching the Mandarin language.

Chapter II

A. BASE COMPONENT OF MANDARIN

2.0 Mandarin has a relatively larger number of basic sentence patterns than English,⁴ but like English has basic noun phrase and predicate phrase in deep structure.

Rule 1 $S \longrightarrow NP \text{ (Neg) PdP } \left(\begin{Bmatrix} Q \\ \text{Imp} \end{Bmatrix} \right)$

A Sentence (S) rewrites as an obligatory Noun Phrase (NP), an optional Negative (Neg), an obligatory Predicate Phrase (PdP) and either an optional Interrogative (Q) or an optional Imperative (Imp).

e.g., 1. t'a may su
 $\begin{Bmatrix} N \\ \text{NP} \end{Bmatrix}$ $\begin{Bmatrix} V & N \\ \text{PdP} & \text{PdP} \end{Bmatrix}$
 He buy book
 'He buys books'

2.01 Some basic sentences of Mandarin have only the predicate phrase without an overt noun phrase as the subject in the surface structure.

e.g., 2. keyi c'ac'a cehtian
 $\begin{Bmatrix} \text{Aux} & V & N \\ \text{PdP} & & \text{PdP} \end{Bmatrix}$
 Can look up dictionary
 '(One) can look up in the dictionary'

This kind of sentence will be discussed in transformational rule 20.

2.02 Example with the noun phrase and predicate separated by a particle of pause /a/ is:

e.g., 3. ni .a tay kaw
 $\text{NP} \left(\text{N} \right)_{\text{NP}}$ Prt $\text{Pdp} \left(\text{Adv} \quad \text{Adj} \right)_{\text{Pdp}}$
 You too tall
 '(As for) you, you are too tall'

This kind of sentence will be discussed in T-rule 13.

2.03 The 'actor-action goal' relationship ascribed to English surface structure word order does not hold for Mandarin, but rather, these relationships are inferred from the semantic component. For example /ce tifaŋ keyi yowüen/ 'One can swim in this place (lit. 'This place can swim')'. /ci pu c'e le/ means both 'The chickens are not eating' in reference to feeding poultry and 'I do not want any more chicken' referring to dining. There is no overt distinction of voice in Mandarin verbs.

2.1

Rule 2 PdP $\longrightarrow$ (T) (AdvP) (Aux) VP

A Predicate Phrase (PdP) rewrites as an optional Time (T), an optional Adverb Phrase (AdvP), an optional Auxiliary (Aux), and an obligatory Verb Phrase (VP).

2.11

Rule 3 AdvP $\longrightarrow$ $\left\{ \begin{array}{l} \text{Adv} \\ \text{Prep NP (Prep NP) (Adv)} \end{array} \right\}$

An Adverb Phrase (AdvP) rewrites either as an obligatory Adverb (Adv), or an obligatory Preposition plus a Noun

Phrase (PreP NP) with an optional Preposition plus a Noun Phrase (PreP NP) and an optional Adverb (Adv).

2.12 Monosyllabic adverbs are bound forms in the surface structure.

e.g., 4. ta- siow
 {Adv} $\sqrt{V}$ VP
 Big laugh
 'Laugh loudly'

2.13 In surface structure, adverbs of two or more syllables are free forms. A pause or a particle of pause may separate a VP and an Adv.⁵

e.g., 5. ni yician su le
 NP {N} NP {Adv VP {V Prt} VP} NP
 You already lost
 'You have already lost'

Separated by a particle of pause.

e.g., 6. ni .a yician .a su le
 NP {N} NP Prt Adv Prt NP {V Prt} NP
 You already lost
 'You have already lost'

This kind of sentence will be discussed in T-rule 14.

2.14

Rule 4

Prep $\longrightarrow$ $\left\{ \begin{array}{l} \text{Place} \\ \text{Means} \\ \text{Manner} \end{array} \right\}$

A Preposition (Prep) rewrites as one of the following

an obligatory Place, an obligatory Means, or an obligatory Manner.

e.g., 7. ta nar pi sie ci
 $N_P[N]_{NP}$ $AdvP[Means$ $N]_{AdvP}$ V $N]_{VP}$
 He taking pen write word
 'He write (word) with a pen'

2.15 If a Prep+NP will be emphasized, then Prep+NP becomes a Verb Phrase.

e.g., 8. ta nar pi sie ci
 $N_P[N]_{NP}$ $VP[V$ N $N]_{VP}$
 He take pen writing word
 'He uses pens for writing words'

2.16

Rule 5 Aux $\longrightarrow$ $\left\{ \begin{array}{l} \text{Aspect} \\ \text{Model} \end{array} \right\}$

An Auxiliary (Aux) rewrites as either an obligatory Aspect or an obligatory Model.

2.17

Rule 6 Aspect $\longrightarrow$ CS [+complete]

Rule 7 [+Complete] $\longrightarrow$ [+resultative]

Rule 8 [-Complete] $\longrightarrow$ [+Repetitive]

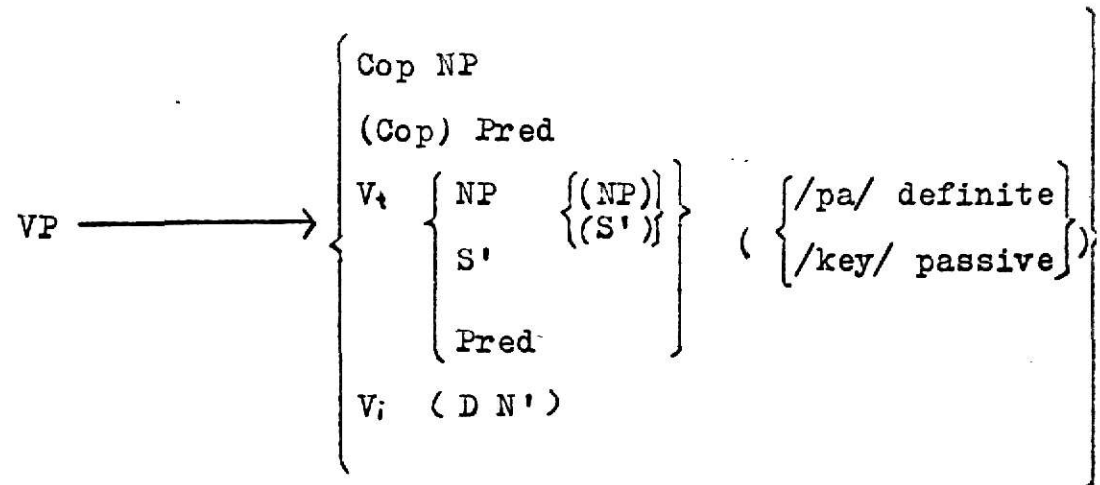
Rule 9 [-Repetitive] $\longrightarrow$ [+Progressive, +Front]

2.18 Mandarin verbs have no tense morphemes. When it is desired to state time explicitly, time words or adverbial expressions occur preceding the verb. In Mandarin, the

kind of action, i.e. aspect, is more important than its time.

2.2

Rule 10



A Verb Phrase (VP) rewrites as one of four constructions with an optional /pa/ definite or an optional /key/ passive;

(1) an obligatory Copula (Cop) and an obligatory Noun Phrase (NP).

(2) an optional Copula (Cop) and an obligatory Predicate (Pred).

(3) a. an obligatory Verb (V), an obligatory Noun Phrase (NP) and an optional Noun Phrase or an optional Embedded Sentence (S').

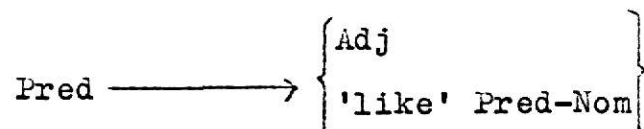
b. an obligatory Verb (V) and an obligatory Predicate (Pred).

c. an obligatory Verb (V) and an obligatory Embedded Sentence (S').

(4) an obligatory Verb (V) and an optional Determiner N' Compound (D N').

2.21

Rule 11



A Predicate (Pred) rewrites as an obligatory Adjective (Adj) or obligatory verb /sian/ meaning 'like' plus a Predicate Nominal (Pred-Nom).

2.22 The VP will dominate such strings as the following.

- | | |
|-----------------------|--|
| 1) V | /kuw/ 'cry' |
| 2) V NP | /kan si/ 'see a play' |
| 3) V NP NP | /key t'a i pen şu/ 'give him a book' |
| 4) V NP S' | /c'ian t'a pu yaw ay c'ian/
'persuade him that does not love
wealth' |
| 5) V Adj | /çuan ta le/ 'becomes tall' |
| 6) V S' | /çu tuaw we iaw si le/
'know that I will die' |
| 7) V D N' | /p'a san c'i/ 'run three times' |
| 8) Cop NP | /şi i ci ma/ 'is a horse' |
| 9) Cop Adj | /şi c'ien/ 'is poor' |
| 10) Cop /sian/ 'like' | /şi sian tianyen mienşien/
Pred-Nom 'is like a movie star' |

2.23 Mandarin VP rewrites as adjective without requiring the copula /şi/. The copula /şi/ preceds an adjective only under the following conditions: ⁶

e.g., 9. Emphatic assertion

t'a şi c'ien

'He is poor'

10. For contrast

t'a şi teyi pu şi ciaw uaw

'He is proud not conceited'

11. When adjectives include the particle /te/

t'a si mey te

'She is beautiful'

2.24

Rule 12 $V \longrightarrow CS \ [+Transitive]$

Rule 13 $[+Transitive] \longrightarrow \ [+Action]$

Rule 14 $[-Action] \longrightarrow \ [+Quality]$

Rule 15 $[-Transitive] \longrightarrow \ [+Action]$

2.3

Rule 16 $NP \longrightarrow \ (S' \ (te)) \ (DU) \ N \ (L)$

A Noun Phrase (NP) rewrites as an optional Embedded Sentence (S') with an optional particle /te/, an optional Determiner-Unit Compound (DU), an obligatory Noun (N) and an optional Location (L).

2.31 Focusing on noun

We indicate subcategories of nouns as follows $[S' \ (te) \ DU_L]$, $[S' \ (te) \ DU_]$, $[DU_L]$, $[DU_]$, $[_L]$, $[_]$. The category $[S' \ (te) \ DU_L]$, and $[S' \ (te) \ DU_]$ is the category of nouns which includes an embedded sentence. The category $[DU_]$ is simply the category of common noun. The categories $[_L]$, $[DU_L]$, $[S' \ (te) \ DU_L]$ occur with location following the noun. The category $[_]$ is the category of proper noun, time words, place names, and pronouns. Time words and place names are nouns in that they function as subjects or objects, but like pronouns, they do not occur after DU compounds.

2.32 Examples of time words and place names function as nouns.

- e.g., 12. siançay çen haw
 $\text{NP} \left\{ \begin{array}{l} \text{time word} \end{array} \right\}_{\text{NP}} \text{NP} \left\{ \begin{array}{l} \text{Asp} \end{array} \right\} \text{V} \}_{\text{PAP}}$
 Now just right
 'Now is just right'
13. taypey çay taywan
 $\text{NP} \left\{ \begin{array}{l} \text{place name} \end{array} \right\}_{\text{NP}} \text{PAP} \left\{ \begin{array}{l} \text{V} \end{array} \right\} \text{N} \}_{\text{PDP}}$
 Taipei in Taiwan
 'Taipei is in Taiwan'

2.32 Focusing on unit

Unit, commonly referred to in structural linguistics as "Classifier" is a grammatical category used in Mandarin whenever a noun is quantified. Instead of Unit, Measure is the term used in many Mandarin grammar books, such as Chao's A Grammar of Spoken Chinese. Unit always appears after Determiner and forms a Determiner-Unit Compound (DU).

- e.g., 14. i cia siesiaw
 $\text{NP} \left\{ \begin{array}{l} \text{D} \quad \text{U} \quad \text{N} \end{array} \right\}_{\text{NP}}$
 a family school
 'a school'
15. i t'iauw hao
 $\text{NP} \left\{ \begin{array}{l} \text{D} \quad \text{U} \quad \text{N} \end{array} \right\}_{\text{NP}}$
 a strip river
 'a strip of river'

The unit is omitted when the noun is used generically to refer to something without regard to quantity. Any Mandarin common noun may occur with a DU compound. Unit

and determiners are cooccurrent, but a determiner can be omitted in

$$NP[V_P[V_{NP}[DU]_{DU} N]_{NP}]_{VP}]_{NP}$$

2.33 Focusing on location

Location, a bound form in surface structure, expresses both spatial and temporal location.

- e.g., 16. u li
 N L
 room in
 'in the room'
17. fan c'ian
 N L
 meal before
 'before the meal'

Most of the monomorphemic Location is also Determiner, ⁷ such as /san/ 'up' as a determiner in /san huey/ 'last time (lit) 'up time'', but a location in /san san/ 'on the mountain (lit 'mountain up')'.

2.34 The number of Location morphemes is restricted to about twenty.

2.35

Rule 17

$$D \longrightarrow \left\{ \begin{array}{l} \left(\begin{array}{l} \text{Dem} \\ \text{Spec} \end{array} \right) \\ \text{Quan} \end{array} \right\} \text{Num}$$

A Determiner rewrites as one of two constructions:

- (1) Either an optional Demonstrative Determiner (Dem) or an optional Specifying Determiner (Spec) with an

obligatory Numerical Determiner (Num).

(2) an obligatory Quantitative Determiner (Quan).

2.36 There are no articles in Mandarin. Definite and indefinite reference is often determined by word order. A noun in subject position usually refers to something definite, while a noun in object position usually refers to something indefinite.

2.37¹ Demonstrative Determiner are /çe/ 'this' and /na/ 'that'

2.37² Specifying Determiner are /mey/ 'each', /ke/ 'the various', /pey/ 'other', /lien/ 'other', /pe/ 'this; the present (one)' etc.,

2.37³ Numerical Determiner will include the simple numerals, the compound numerals below 100, the higher compound numerals and the fractions and decimals.⁸

/uw/ 'five' is a simple numeral.

/elʃi/ 'twenty' (lit 'two ten') is a compound numeral below 100.

/sanwan ic'ian sipay isiliow/ '31416' is a higher compound numeral.

/si fen ci san/ ' $\frac{3}{4}$ ' is a fraction.

2.37⁴ Quantitative Determiner does not give exact numbers, but expresses relative quantities, such as /i/ (with full stress and tone sandhi) 'all', /man/ 'full', /c'uan/ 'entire', /çueŋ/ 'whole', /sutuow/ 'many or much' etc.,

2.38

<u>Rule 18</u>	{N} $\longrightarrow$ CS { $\pm$ DU__}
<u>Rule 19</u>	{+DU__} $\longrightarrow$ { $\pm$ Count}
<u>Rule 20</u>	{+Count} $\longrightarrow$ { $\pm$ Animate}
<u>Rule 21</u>	{+Animate} $\longrightarrow$ {+Human}
<u>Rule 22</u>	{+Human} $\longrightarrow$ { $\pm$ Individual, $\pm$ Singular}
<u>Rule 23</u>	{-Animate} $\longrightarrow$ { $\pm$ Individual, $\pm$ Singular}
<u>Rule 24</u>	{-DU__} $\longrightarrow$ { $\pm$ Animate}
<u>Rule 25</u>	{-Animate} $\longrightarrow$ { $\pm$ Place}
<u>Rule 26</u>	{+Animate} $\longrightarrow$ { $\pm$ Pronoun}
<u>Rule 27</u>	{+Pronoun} $\longrightarrow$ { $\pm$ Speaker}
<u>Rule 28</u>	{-Speaker} $\longrightarrow$ { $\pm$ Addressee}

The features of all Mandarin common nouns are described by rules 18 to 23. Rule 24 to 28 give the features of pronouns, place names, time words and proper names.

2.39

<u>Rule 29</u>	{+V} $\longrightarrow$ CS/N, (T) (AdvP) (Aux) __ (DU)N ₂
<u>Rule 30</u>	{+U} $\longrightarrow$ CS/D __ N
<u>Rule 31</u>	{+Adv} $\longrightarrow$ N__ (Aux) V

Rules 29 to 31 are selectional rules.

2.4

<u>Rule 32</u>	Neg $\longrightarrow$ $\left\{ \begin{array}{l} /pu/ \text{ 'not'} \\ /mey/ \text{ 'not'} \end{array} \right\}$
<u>Rule 33</u>	Q $\longrightarrow$ $\left\{ \begin{array}{l} /ma/ \text{ '?'} \\ /se/ \text{ 'wh?'} \\ /ʃi pu ʃi/ \text{ 'is'nt it (lit 'yes no yes') } \end{array} \right\}$
<u>Rule 34</u>	Imp $\longrightarrow$ /pa/ '!'

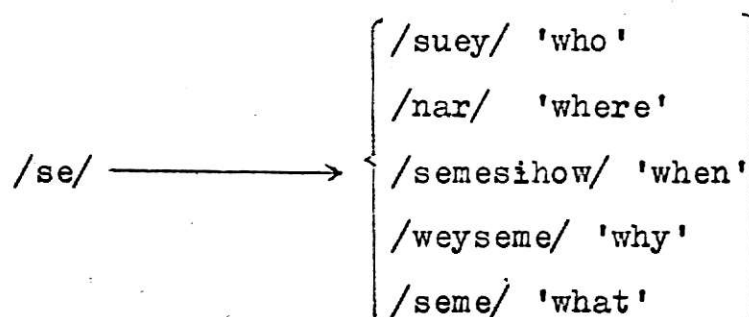
2.41 Of the many types of Mandarin negative sentences, the particle /pu/ 'not' is used frequently in spoken Mandarin. /pu/ is used before /si/ or any kind of verb besides 'have', /mey/ is used before /yow/ 'have'.

2.42 Yes-no questions are formed by use of the particle /ma/. The word order of the question remains the same as the statement. The only difference between them is the particle at the end.

2.43 In Mandarin, tag-questions are in the form of a statement followed by /si pu si/ 'is'nt it? (lit yes no yes)'

2.43

Rule 35



B. LEXICON

- 2.5 L-1 /ren/ 'person' {+N, +DU__, +S'(te)__, +S'(te)__DU,
+Count, +Animate, +Human, +Individual,
±Singular...}
- L-2 /humuw/ 'parent' {+N, +DU__, +S'(te)__, +S'(te)__DU,
+Count, +Animate, +Human, -Individual,
±Singular ...}
- L-3 /su/ 'tree' {+N, +DU__, +S'(te)__, +S'(te) DU__,
+Count, +Animate, -Human, +Individual,
±Singular ...}
- L-4 /hucuan/ 'cloth' {+N, +DU__, +S'(te)__, S'(te) DU__,
+Count, -Animate...}
- L-5 /sisian/ 'thinking' {+N, +DU__, +S' (te)__,
+S'(te) DU__, -Count, +Abstract...}
- L-6 /sit'ow/ 'stone' {+N, +DU__, +S'(te)__,
+S'(te) DU__, +Count, -Animate, +Individual...}

Chapter III

TRANSFORMATIONAL RULES OF MANDARIN

3.0 A transformational rule is a rule which requires us or allows us to perform certain changes in the terminal strings of the Base component and maps the deep structure into the surface structure.⁹

3.1 Transformational rules are stated in two parts: The first part is a structural description (SD), specifying the class of strings to which the rule applies. The second part specifies the structural change (SC) by means of variable signs with subscript numbers or simply numbers referring to the segments specified by the structural description.

3.2

T-rule 1 Aspect permutation rule (obligatory)

SD: X $\left[\begin{array}{l} +\text{Asp} \\ +\text{Com} \\ +\text{Asp} \\ -\text{Repet} \\ -\text{Front} \end{array} \right]$ V Y

SC: 1 2 3 4 $\Longrightarrow$ 1 3 2 4

e.g., 18. we le c'e i ɕi ci

SD: N Asp V (D U N)_{NP}

we c'e le i ɕi ci

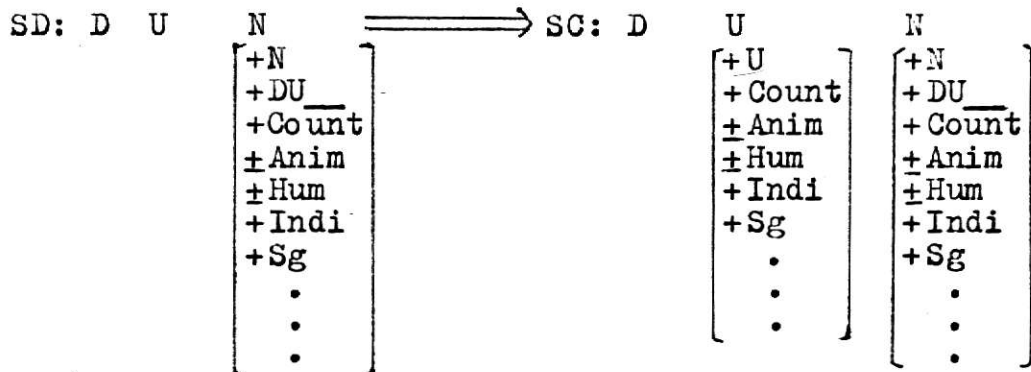
SC: N V Asp (D U N)

I eat a chicken

'I have eaten a chicken'

Mandarin aspect [+Complete, +Resultative,] and [-Complete, -Repetitive, -Front] must occur after verbs.

T-rule 2 Feature copying rule (obligatory)



Individual nouns [+N, +Count, +Animate, +Human, +Individual, +Singular] according to shape, kind or some other property, have a specific unit which is compounded with the determiner and occurs preceding the noun.

e.g., 19. i t'iaw hao
 D U N
 a strip river
 'a strip of river'

Rivers are always very narrow and long, so the unit for river is /t'iaw/ 'strip'. Snakes, fish, tails, ropes or trousers have the same shape as the river, so the unit for those things is /t'iaw/ 'strip' also.

e.g., 20. i ɕi maw
 D U N
 a cat

The unit for four-limbed animals is /ɕi/, such as in the example 20 and such with items as /kuow/ 'dog', /er/ 'goose', /niow/ 'ox'.

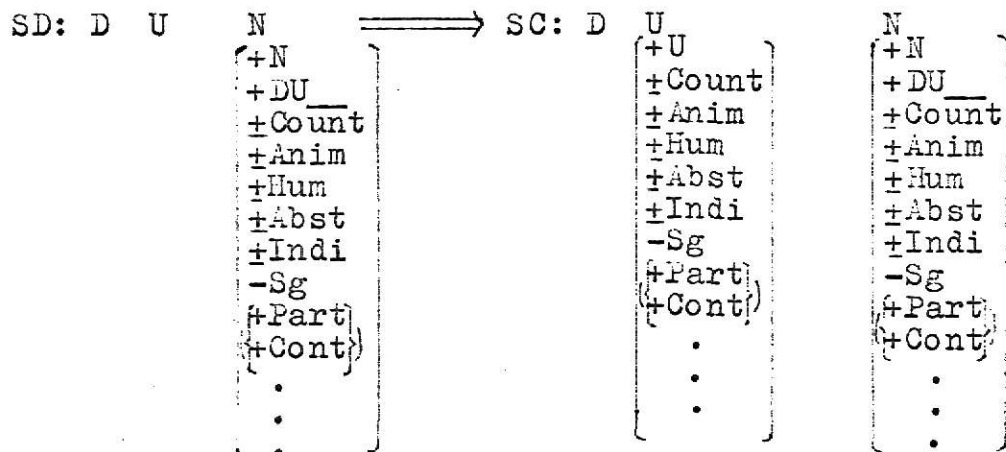
There is a general unit /ke/, which is applicable to all individual nouns.

Besides taking /ke/ as an alternative unit to others, some nouns have two or more specific units according to variation in meaning.

- e.g., 21. i san men
 D U N
 a fan door
 'a door (simple door, hinged on one side only)
22. i t'aw men
 D U N
 a way door
 'a door (double door, hinged on both sides,
 opening in center)
23. i ke men
 D U N
 a door
 'a door (in either sense)'

There are about fifty morphemes in the Individual Unit.¹⁰

T-rule 3 Feature copying rule (obligatory)



Any common noun with [-Singular] may take the group unit [+U, +Count, +Animate, +Human, +Abstract, +Individual, -Singular] . Semantically, a group unit is used for a group or collection of individuals.

e.g., 24. i şuan uaçi
 D U N
 a pair sock
 'a pair of socks'

The group of mass nouns [+N, -Count, -Abstract] or abstract nouns [+N, -Count, -Abstract] may take the group unit also.

e.g., 25. i tan suey
 D U N
 a shallow pool water
 'a puddle'

26. i çueŋ sisian
 D U N
 a kind thought
 'a kind of thought'

There are about forty-five bound morphemes in the Group Unit class.¹¹

Any common noun with [+Partitive] may take the Partitive Unit [+ U, +Count, +Animate, +Human, +Abstract, +Individual, -Singular, +Partitive] . Partitive Unit is the opposite of Group Unit and present portions of items instead of groups.

e.g., 27. i siey şic'ien
 D U N
 a some event
 'some events'

e.g., 28. i siey mahan
 D U N
 a some trouble
 'some troubles'

There are about forty bound morphemes in the partitive unit, such as /pa/ 'handful', /tuey/ 'pile', /c'uen/ 'layer', /cie/ 'section', /ti/ 'drop', /pian/ 'slice', etc., Any common noun with [+Contain] may take the contain unit [+U, +Count, +Animate, +Human, +Abstract, +Individual, -Singular, +Contain] .

e.g., 29. i siançi şu
 D U N
 a box book
 'a box of books'

30. i kue mian
 D U N
 a pot noodles
 'a pot of noodles'

T-rule 4 Feature copying rule (obligatory)

SD: D	U	N	⇒	SC: D	U	N
		[+DU +Count +Animate +Hum +Abst : +Temp]		[+Dem +Spec]	[+U +Count +Anim +Hum +Abst : +Temp]	[+DU +Count +Anim +Hum +Abst : +Temp]

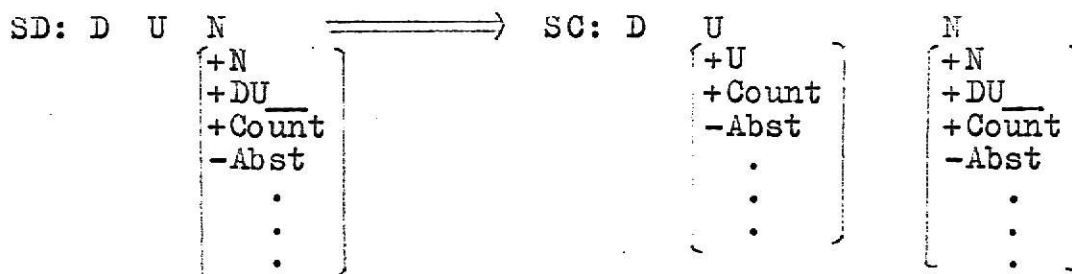
Temporary Unit, like Container Unit is used to account for amounts of things, but differs from them in accounting for

the outside extent and only rarely the inside capacities.
It differs formally from the other types of units in not allowing numerals.

e.g., 31. i sençi süey
D U N
a body snow
'(person) covered with snow'

32. i uançi şuyeçi
D U N
a courtyard leaves
'a courtyard of leaves'

T-rule 5 Feature copying rule (obligatory)



Any common nouns except abstract nouns [+N, -Count, +Abstract] may take the Standard Unit.

e.g., 33. i c'i c'uowçi
D U N
a foot silk
'a foot of silk'

34. i miaw çueç
D U N
a second clock
'a second (of time)'

T-rule 6 Question word /se/ 'wh' replacement rule (obligatory)

SD: NP T AdvP Adv V X

SC: 1 2 3 4 5 6 $\implies$ 723456
 173456
 127456
 123756
 123457
 7123456

7= /se/ 'wh'

Information Questions are formed by using the statement word order, and replacing the subject, the object or the adverbial of time/place with a question word.

e.g., 35. we çay c'efan

SD: $\left[\begin{smallmatrix} N \\ NP \end{smallmatrix} \right]_{NP}$ V N
 I eat rice

SC: suey çay c'efan
 QW V N

who eat rice 'Who is eating rice?'

36. ni çay huançi li

SD: $\left[\begin{smallmatrix} N \\ NP \end{smallmatrix} \right]_{NP}$ V $_{NP}$ $\left[\begin{smallmatrix} N \\ L \end{smallmatrix} \right]_{NP}$

You in room inside 'You are in the room'

SC: ni çay nar
 N V QW

You in where 'Where are you?'

37. ni çaw san c'e fan

SD: N T V N

You morning eat rice

'You are eating rice in the morning'

SC: ni semsihow c'e fan?

$\begin{matrix} (N) \\ NP \end{matrix}$ QW V $\begin{matrix} (N) \\ NP \end{matrix}$

You when eat rice

'When do you eat rice?'

38. ce si i pen su

SD: $\begin{matrix} (N) \\ NP \end{matrix}$ V $\begin{matrix} (D) \\ NP \end{matrix}$ U $\begin{matrix} (N) \\ NP \end{matrix}$

this is a book

'This is a book'

SC: ce si seme?

$\begin{matrix} (N) \\ NP \end{matrix}$ V QW

this is what

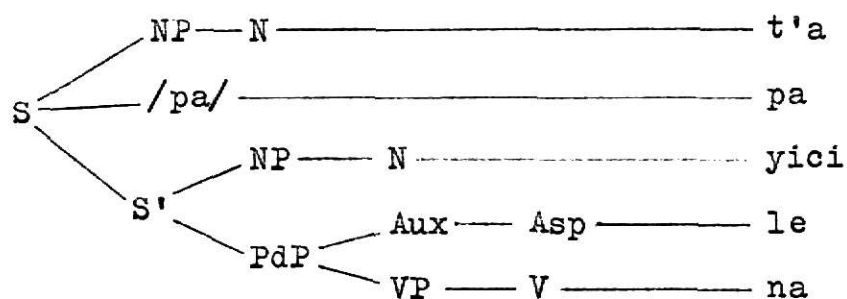
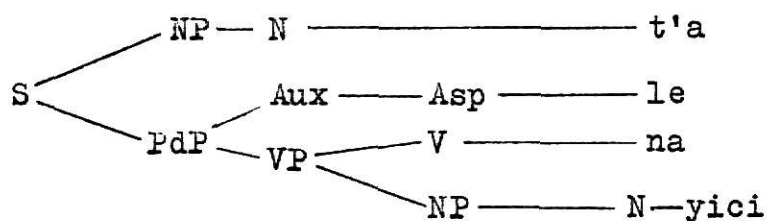
'What is this?'

T-rule 7 /pa/ permutation rule (obligatory)

SD: NP $\begin{pmatrix} +\text{Asp} \\ +\text{Comp} \\ -\text{Resul} \end{pmatrix}$ V NP (X) /pa/definite

SC: 1 2 3 4 5 6 $\implies$ 164325

e.g., 39.



The view that object refers to something definite was first made explicit by J. Mullis ¹² who observed that a subject refers to something definite, and the object, in the object position of the ordinary type, tends to have an indefinite reference. If the object is referring to something definite, the word order of the sentence must change like T-rule 7.

T-rule 8 Passive rule (Obligatory)

SD: NP $\left(\begin{array}{l} -\text{Asp} \\ +\text{Comp} \\ -\text{resul} \end{array} \right)$ V NP /key/ Passive

SC: 1 2 3 4 5 $\Longrightarrow$ 4 5 1 3 2

e.g., 40. we le ma su /ke/ passive

SD: N Asp V N passive

I bought book

su key we ma le

SC: N passive I v Asp

book give me bought

'A book was bought by me'

T-rule 9 Aspect copying rule (optional)

SD: X $\left[\begin{array}{l} +\text{Asp} \\ +\text{Comp} \\ -\text{resul} \end{array} \right]$ V Y

SC: 1 2 3 4 $\Longrightarrow$ 1 3 2 4 2

condition= Y is an unquantified object.

When a simple unquantified object is present, completion of action is indicated not only by the particle /le/ standing

immediately after the verb, but by the presence of a second /le/ at the end of the sentence.¹³

e.g., 41. we le ma su
 SD: N Asp v N
 1 bought book
 '1 bought a book'
 we ma le su le
 SC: N v Asp N Asp
 1 bought book
 '1 bought a book'

T-rule 10 Sentence reducing rule (obligatory)

SD: NP { V₁ }
 { Adj }
 1 2
 NP Neg { V₁ }
 { Adj }
 1 3 2
 SC; 1 2 3 2

Mandarin Disjunctive Sentence is formed by combining the negative sentence and the positive sentence and deleting the subject of the negative sentence.

e. g., 42. ni haw ni pu haw ?
 SD: N Adj N Neg Adj Q
 You good you not good ?
 ni haw pu haw?
 SC: N Adj neg Adj Q
 You good not good ?
 'now are you?'

T-rule 11 Sentence reducing rule (obligatory)

SD: NP VP
1 2

NP VP
1 3

SC: 3 /te/ 1 2

Two Mandarin sentences, if they have the same subject can combine and become one sentence; deleting the subject in the second sentence and imposing the VP of the second sentence with a particle /te/ preceding the first sentence.

e.g., 43. we ma t'a we ta t'a

SD: NP VP NP VP

I beat him I scold him

ta t'a te we ma t'a

SC: VP Prt NP VP

Beat him of I scold him

'I beat him and scold him'

T-rule 12 Sentence reducing rule (obligatory)

SD: NP V NP NP
1 2 3 4

NP V NP
3 5 4

SC: 1 2 3 4 5

Two Mandarin sentences can become one sentence; deleting the subject and the direct object of the second sentence and imposing the main verb of the second sentence following the first sentence, when the subject in the second sentence is the same as the indirect object of the first sentence

and the direct object in the first sentence is the same as the indirect object in the second sentence.

e.g., 44. we key t'a i pen su t'a ma su
 SD: NP V NP NP NP V NP
 I give him a book he sell book
 'I give him a book and he sells a book'
 we key t'a i pen su ma
 SC: NP V NP NP V
 I give him a book sell
 'I give him a book to sell'

T-rule 13 Particle adding rule (optional)

SD: NP PdP

SC: 1 2 $\implies$ 1 3 2

3= a pause or a particle of pause /.a/ etc.,

Usually, the noun phrases and the predicate phrases are separable by a pause or a particle of pause.

e.g., 45. ni si i ke siesen
 SD: NP PdP
 You are a student
 ni .a si i ke siesen
 SC: NP Prt PdP
 You are a student

T-rule 14 Particle adding rule (optional)

SD: NP Adv X

SC: 1 2 3 $\implies$ 1 2 4 3

4= a pause or a particle of pause.

In surface structure, adverbs of two or more syllables are free forms. A pause or a particle of pause may separate a VP and an Adv.

e.g., 46. ta yician çow le
 SD: NP Adv V Asp
 He already go
 'He has already gone'
 SC: ta yician .a çow le
 NP Adv Prt V Asp
 He already go
 'He has already gone'

T-rule 15 Particle adding rule (optional)

SD: D U N

SC: 1 2 3 $\implies$ 1 2 4 3

4= particle /te/ 'of'

Between a unit and a following noun, the particle /te/ 'of' may occur, though as exceptions, the individual unit can not add the particle /te/ 'of'.

e.g., 47. i siey c'ay
 SD: D U N
 a some vegetable 'some vegetables'
 i siey te c'ay
 SC: D U Prt N
 a some vegetable 'some vegetables'

T-rule 16 Time word permutation rule (optional)

SD: NP T X

SC: 1 2 3 $\implies$ 2 1 3

Any time word may occur at the beginning of the sentence.

e.g., 48. we çuet'ian tiaw üy

SD: NP T VP

I yesterday go fishing

'I went fishing yesterday'

çuet'ian we tiaw üy

SC: T NP VP

Yesterday I go fishing

'Yesterday I went fishing'

T-rule 17 AdvP permutation rule (optional)

SD: NP (T) AdvP X

SC: 1 2 3 4 $\implies$ 2 3 1 4

Any Adverb Phrase may occur preceding the NP.

e.g., 49. t'a çay uçi li c'e fan

SD: NP AdvP VP

He in the room eat meal

'He eats a meal in the room'

çay uçi li t'a c'e fan

SC: AdvP NP VP

In the room he eat meal

'In the room, he eats a meal'

T-rule 18 Determiner and noun permutation rule (optional)

SD: D U N

SC: 1 2 3 $\implies$ 3 2 1

Condition=D is a numerical determiner.

When a $_{NP}[D \ U \ N]_{NP}$ has a numerical determiner, the N can occur at the beginning of a sentence.

e.g., 50. we iaw i uan mian
 SD: N V D U N
 I want a bowl noodle
 'I want a bowl of noodles'
 we iaw mian i uan
 SC: N V N D U
 I want noodle a bowl
 'I want a bowl of noodles'

T-rule 19 Determiner deletion rule (optional)

SD: X V D U N

SC: 1 2 3 4 5 $\Longrightarrow$ 1 2 4 5

DU is a bound form and cooccurrent, but after V the determiner may be deleted.

e.g., 51. we iaw i uan mian
 SD: N V D U N
 I want a bowl noodle
 'I want a bowl of noodles'
 we iaw uan mian
 SC: N V U N
 I want bowl noodle
 'I want a bowl of noodles'

T-rule 20 Subject deletion rule (optional)

SD: NP PdP

SC: 1 2 $\Longrightarrow$ 2

Some basic sentences of Mandarin have only predicates, omitting noun phrases as the subjects in the surface structure.

e.g., 52. t'ian cia üy

SD: NP PdP

Sky down rain

'It is raining'

cia üy

SC: PdP

down rain

'It is raining'

Chapter IV

CONCLUSION

4.0 In this limited paper, the major grammatical aspects of Mandarin simple sentences have been analyzed. They may be summarized as follows:

4.1 Some Mandarin grammarians treat AdvP as VP. A sentence may have only one main verb, so Prep NP is treated as an -advP in this paper. When an AdvP is emphasized, the AdvP becomes the VP.

4.11 The structure of the Mandarin verb phrase is very much like the English verb phrase. The differences between them are: a) The Mandarin verb 'to be' has only one form /*shì*/ used in special cases preceding an adjective b) Mandarin intransitive verbs may precede DN' compounds.

4.12 William Wang in his 'Some Syntax Rules of Mandarin', (1964) treated different classes of nouns in the subcategory rule, whereas I treat them in nominal feature rules.

4.13 Mandarin has special morphemes of Unit, termed Measure by other grammarians, not found in English grammar. In this treatment, the selection of the Unit is determined by the bundle of features which form the following noun. Rather than set up two different sets of classes in the base rules, the nouns are classified by features in the base rules, then in the Transformational Component, these features are copied on the Units to match with the noun

feature bundles. These are later given their proper form in the lexicon.

4.14 Time words and place names are treated as nouns in this paper, since they have the same grammatical function as nouns.

4.15 For Mandarin verbs, the time is indicated by use of optional time words or adverbial expressions. The aspect plays a more important role. In this paper, I divide Mandarin aspect into five types and treat all different kinds in the aspect feature rules. William Wang, in 'Some Syntax Rules of Mandarin', treated [+Aspect, -Complete, +Repetitive] as the reduplication of verb. Since the reduplication of verb shows the action, or that process will be or had been repeated, I treat it as a kind of aspect. In Chao's 'Mandarin Primer', he treated /le/ in 'V le NP le' as a Present perfect morpheme. Since two /le/'s can go with any time morpheme, I treat /le/ only as an aspect morpheme. Chao also said the first /le/ is a word particle, the second is a phrase particle. I treat the second /le/ as a copying of the first under a particular condition, that the NP is an unquantitative noun.

4.16 From a typological and historical point of view, Mandarin is very different from English, but in this study we find that their underlying structures are very similar.

APPENDIX I

The phonemic symbols used in these examples are as follows, with their phonetic counterparts enclosed in parentheses following those symbols which are not the same as their I P A phonetic counterpart:

/p/ = [p], [b]

/p' /

/t/ = [t], [d]

/t' /

/k/ = [k], [g]

/k' /

/c/

/c' /

/s/

/ç/ = [ç], [ç]

/ç' / = [ç'], [ç']

/ʃ/ = [ʃ], [ʃ]

/f/

/h/

/m/

/n/

/ŋ/

/r/ = [r], [r], [r]

/l/

/i/

/i/

/u/

/ü/

/e/ = [ɐ], [e], [ë]

/o/

/a/

/y/

/w/

APPENDIX II

SUMMARY OF BASE RULES

- B.1 $S \longrightarrow NP (Neg) PdP \left(\begin{Bmatrix} Imp \\ Q \end{Bmatrix} \right)$
- B.2 $PdP \longrightarrow (T) (AdvP) (Aux) VP$
- B.3 $AdvP \longrightarrow \left\{ \begin{array}{l} Adv \\ Prep NP (Prep NP) (Adv) \end{array} \right\}$
- B.4 $Prep \longrightarrow \left\{ \begin{array}{l} Place \\ Mans \\ Manner \end{array} \right\}$
- B.5 $Aux \longrightarrow \left\{ \begin{array}{l} Aspect \\ Modal \end{array} \right\}$
- B.6 $[Aspect] \longrightarrow CS [\pm Complete]$
- B.7 $[+Complete] \longrightarrow [\pm Resultative]$
- B.8 $[-Complete] \longrightarrow [\pm Repetitive]$
- B.9 $[-Repetitive] \longrightarrow [\pm Progressive]$
- B.10 $VP \longrightarrow \left\{ \begin{array}{l} Cop NP \\ (Cop) Pred \\ Vt \left\{ \begin{array}{l} NP \left(\begin{Bmatrix} NP \\ S' \end{Bmatrix} \right) \\ S' \end{array} \right\} \left(\begin{array}{l} /pa/ \text{ definite} \\ /key/ \text{ passive} \end{array} \right) \\ Pred \\ Vi (DN') \end{array} \right\}$
- B.11 $Pred \longrightarrow \left\{ \begin{array}{l} Adj \\ /sian/ \text{ 'like' } Pred-Nom \end{array} \right\}$
- B.12 $V \longrightarrow CS [\pm Transitive]$

B.13 $[\pm\text{Transitive}] \longrightarrow [\pm\text{Action}]$

B.14 $[-\text{Action}] \longrightarrow [\pm\text{Quality}]$

B.15 $[-\text{Transitive}] \longrightarrow [\pm\text{Action}]$

B.16 $\text{NP} \longrightarrow (\text{S}'(\text{te})) (\text{D U}) \text{N} (\text{L})$

B.17
$$\text{D} \longrightarrow \left\{ \begin{array}{c} \left(\begin{array}{c} \text{Dem} \\ \text{Spec} \end{array} \right) \text{Num} \\ \text{Quan} \end{array} \right\}$$

B.18 $\text{N} \longrightarrow \text{CS } [\pm\text{DU} __]$

B.19 $[\pm\text{DU} __] \longrightarrow [\pm\text{Count}]$

B.20 $[\pm\text{Count}] \longrightarrow [\pm\text{Animate}]$

B.21 $[\pm\text{Animate}] \longrightarrow [\pm\text{Human}]$

B.22 $[\pm\text{Human}] \longrightarrow [\pm\text{Individual}, \pm\text{Singular}]$

B.23 $[-\text{Animate}] \longrightarrow [\pm\text{Individual}, \pm\text{Singular}]$

B.24 $[-\text{Count}] \longrightarrow [\pm\text{Abstract}]$

B.25 $[-\text{DU} __] \longrightarrow [\pm\text{Animate}]$

B.26 $[-\text{Animate}] \longrightarrow [\pm\text{Place}]$

B.27 $[\pm\text{Animate}] \longrightarrow [\pm\text{Pronoun}]$

B.28 $[\pm\text{Pronoun}] \longrightarrow [\pm\text{Speaker}]$

B.29 $[-\text{Speaker}] \longrightarrow [\pm\text{Addressee}]$

B.30 $[\pm\text{V}] \longrightarrow \text{CS}/\text{N}_1 (\text{T}) (\text{AdvP}) (\text{Aux}) __ (\text{DU}) \text{N}_2$

B.31 $[\pm\text{U}] \longrightarrow \text{CS}/\text{D} __ \text{N}$

B.32 $[\pm\text{Adv}] \longrightarrow \text{N} __ (\text{Aux}) \text{V}$

B.33
$$\text{Neg} \rightarrow \left\{ \begin{array}{c} /pu/ \\ /mey/ \end{array} \right\}$$

B.34
$$\text{Q} \longrightarrow \left\{ \begin{array}{c} /ma/ \\ /se/ \\ /si \text{ pu } si/ \end{array} \right\}$$

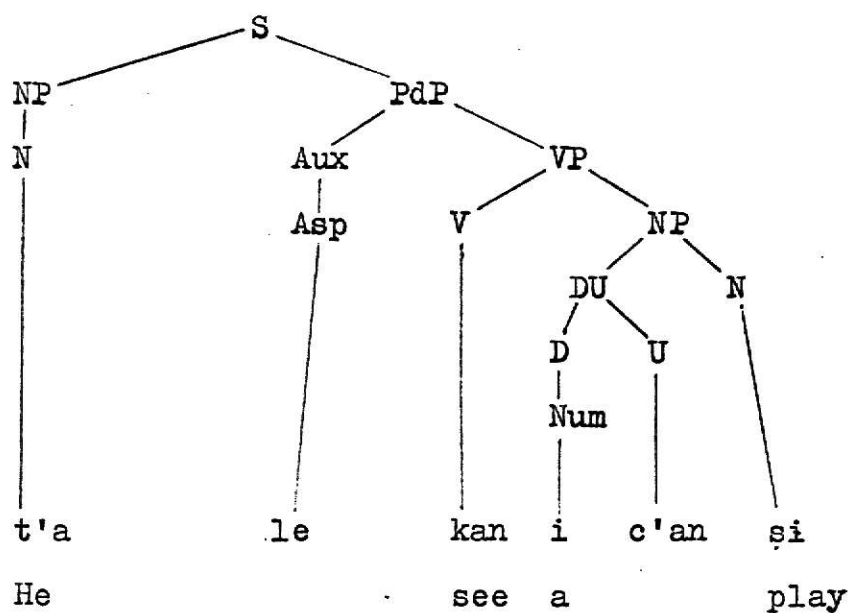
B.35

/se/ 'wh' → { /suey/ 'who'
/nar/ 'where'
/semesihow/ 'when'
/weyseme/ 'why'
/seme/ 'what' }

APPENDIX III

SAMPLE OUTPUT AND THEIR PHRASE MARKERS

1)



SD: $\begin{bmatrix} +N \\ -DU_ \\ +Anim \\ +Pron \\ -Speak \\ -Address \\ . \\ . \\ . \end{bmatrix}$ $\begin{bmatrix} +Asp \\ +Comp \\ -Resul \\ . \\ . \\ . \end{bmatrix}$ $\begin{bmatrix} +V \\ +_NP \\ +_DN' \\ +Act \\ . \\ . \\ . \end{bmatrix}$ $\begin{bmatrix} +D \\ . \\ . \\ . \end{bmatrix}$ $\begin{bmatrix} +U \\ . \\ . \\ . \end{bmatrix}$ $\begin{bmatrix} +N \\ +DU_ \\ +Count \\ -Anim \\ . \\ . \\ . \end{bmatrix}$

T-rule 1

SC: 1 2 3 4 5 6

$$\Rightarrow 1 \ 3 \ 2 \ 4 \ 5 \ 6$$

/t'a kan le i c'an si/

'He saw a play'

2)

```
graph TD; S --> NP1[NP]; S --> PdP[PdP]; NP1 --> N1[N]; N1 --> we[we]; we --> I[I]; PdP --> AdvP[AdvP]; PdP --> V[V]; V --> sie[sie]; sie --> write[write]; PdP --> VP[VP]; AdvP --> Prep[Prep]; Prep --> cay[cay]; cay --> at[at]; AdvP --> NP2[NP]; NP2 --> N2[N]; N2 --> heypan[heypan]; heypan --> blackboard[blackboard]; VP --> NP3[NP]; NP3 --> N3[N]; N3 --> ci[ci]; ci --> word[word]
```

I at blackboard write word

$\begin{bmatrix} +N \\ -DU_ \\ +Anim \\ +Pron \\ +Speak \\ : \\ : \end{bmatrix}$	$\begin{bmatrix} +Prep \\ . \\ . \\ . \end{bmatrix}$	$\begin{bmatrix} +N \\ +DU_ \\ +Count \\ -Anim \\ +Indi \\ +Sg \\ : \\ : \end{bmatrix}$	$\begin{bmatrix} +V \\ +_NP \\ +_DN' \\ +Act \\ . \\ . \end{bmatrix}$	$\begin{bmatrix} +N \\ +DU_ \\ +Count \\ -Anim \\ +Indi \\ +Sg \\ . \\ : \\ . \end{bmatrix}$
---	--	--	---	---

3)

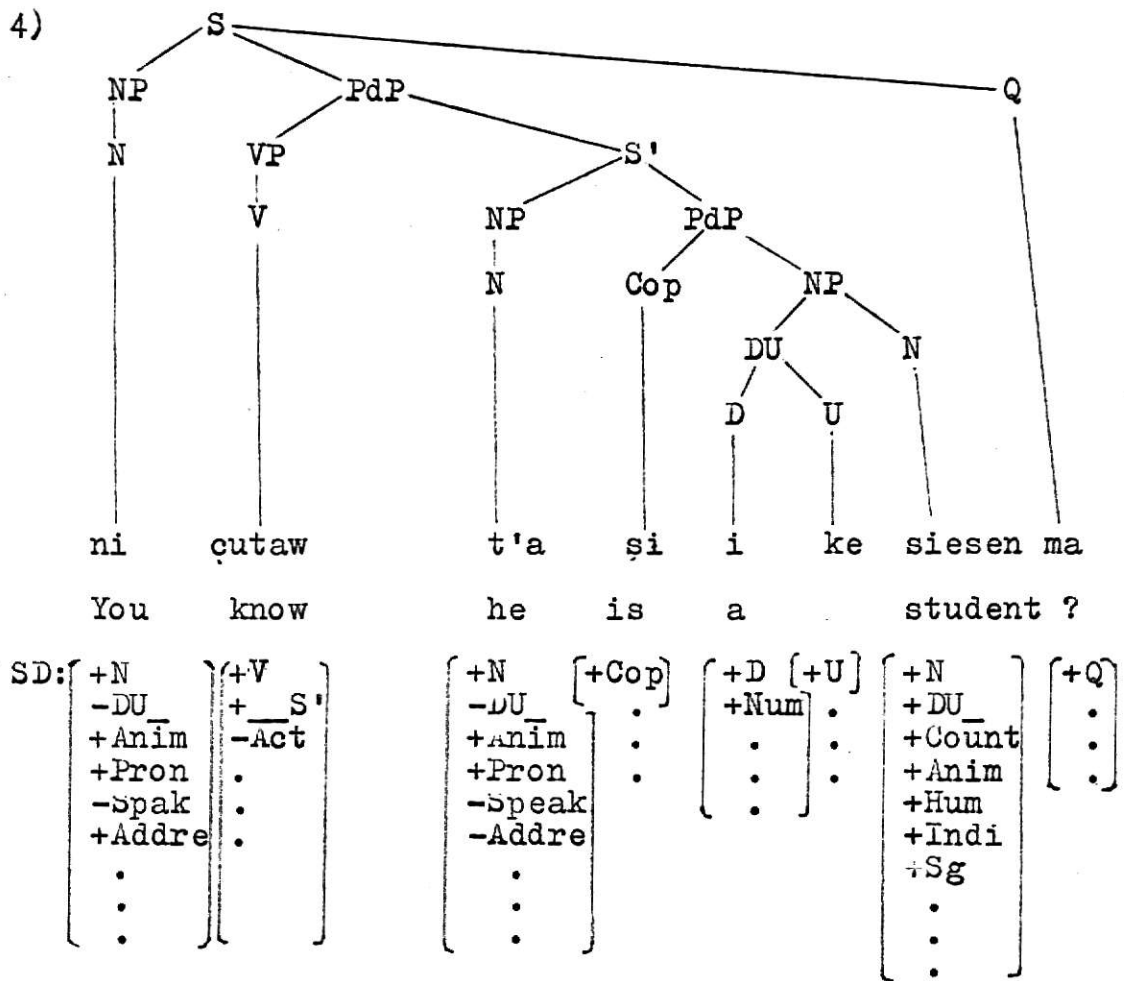
```

      S
     / \
    NP  PdP
   /  \  \
  DU   N   L
 /  \   |   |
D    U   |   |
 / \   |   |
Spec Num |   |
 |      |   |
mey   i   cian huan li
Every a      room in

      AdvP      VP
      |         / \
      Adv      V   NP
              |   |
              |   N
              |   |
              |   ruanc'i
              |   heater

      [+Spec] [+Num] [+U] [+N] [+L] [+Adv] [+V] [+N]
      :       :       :   +DU_ +__V  +__NP -DU_
      :       :       :   +Count -Act :   +Count
      :       :       :   -Anim  :   -Anim
      :       :       :   :       :   :
      :       :       :   :       :   :

```



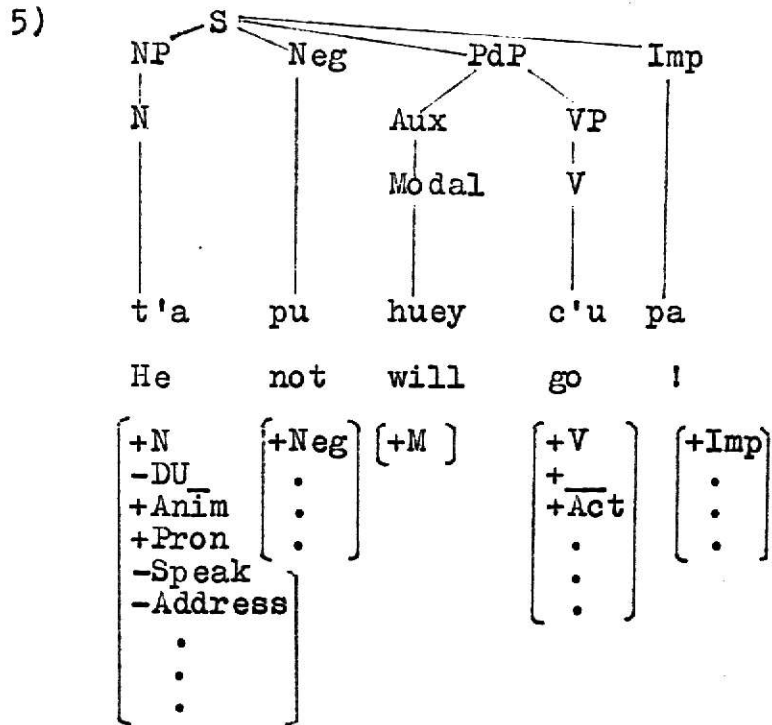
T-rule 19

SC: 1 2 3 4 5 6 7 8

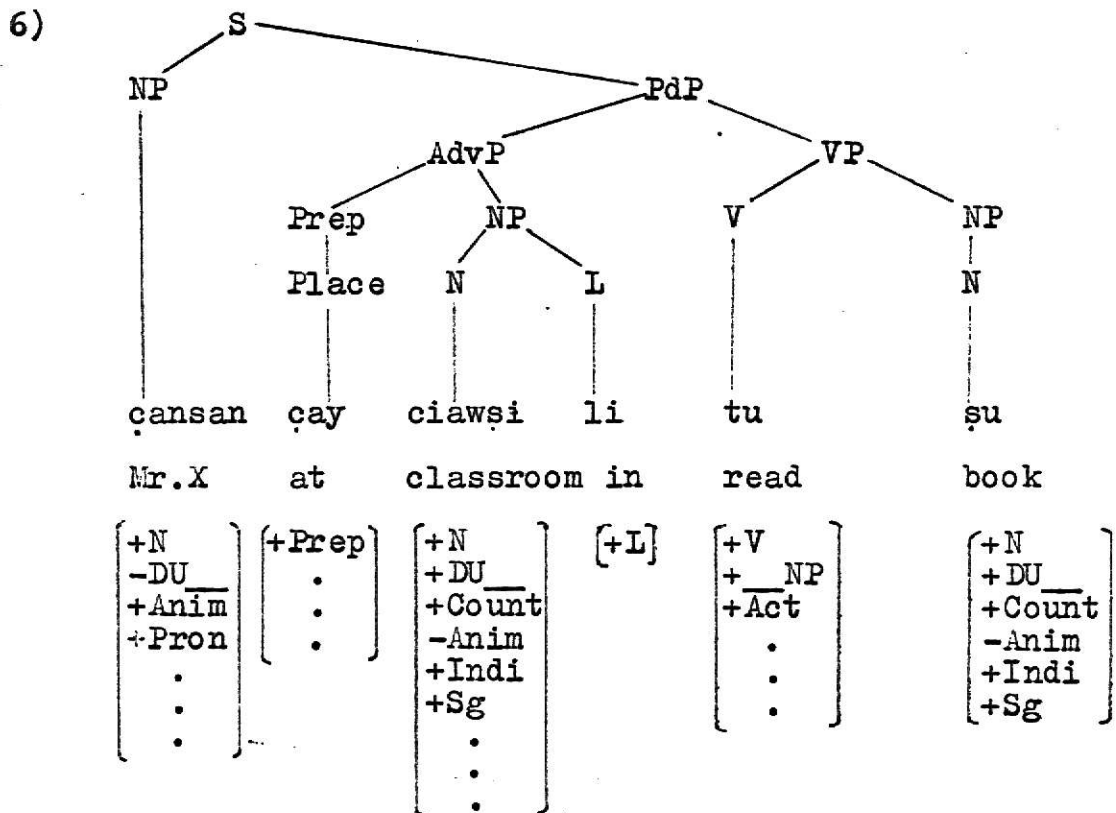
$\Rightarrow$ 1 2 3 4 6 7 8

/ni cutaw t'a si i ke siesen ma ?/

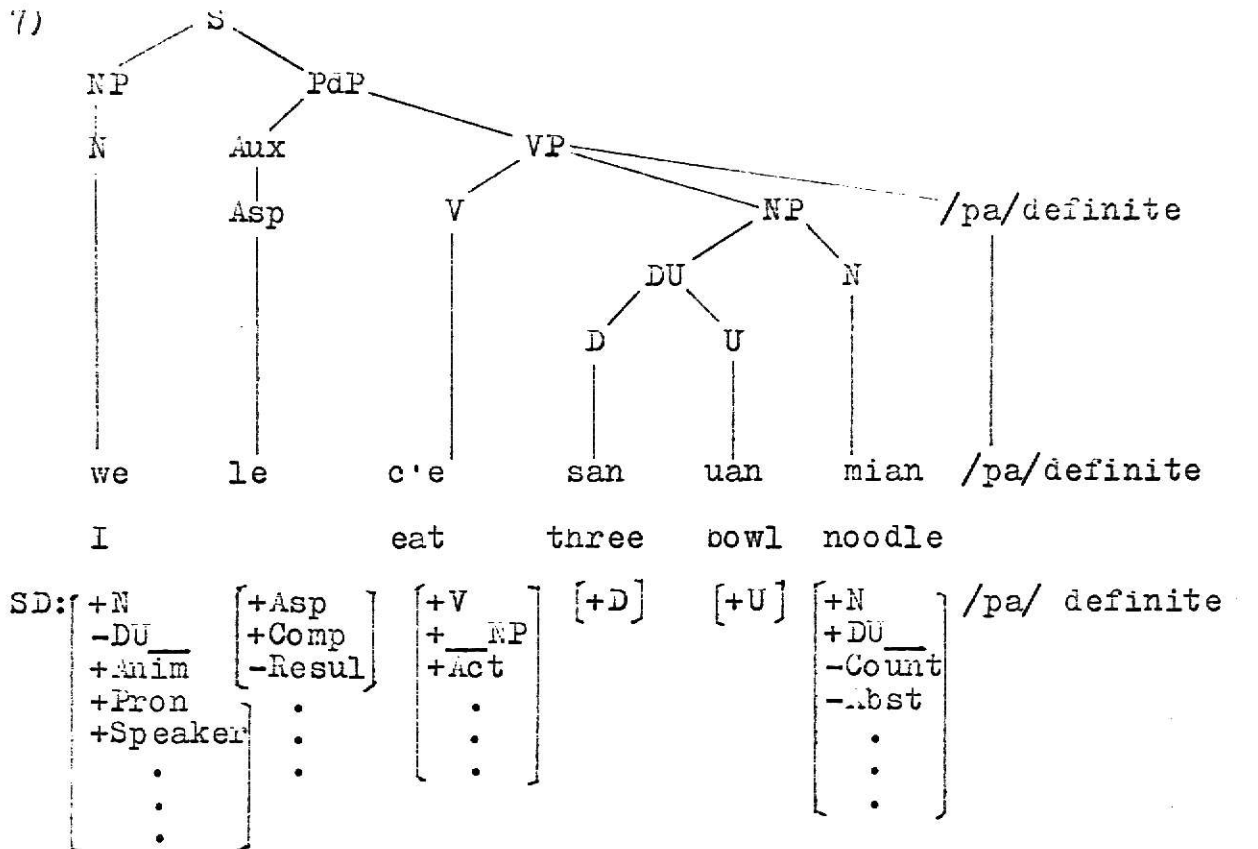
' Do you know he is a student? '



'He will not go'.



'Mr.X reads a book in the classroom'



T-rule 1

SC: 1 2 3 4 5 6 7

$\Longrightarrow 1 \ 3 \ 2 \ 4 \ 5 \ 6 \ 7$

T-rule 7

SC: 1 3 2 4 5 6 7 $\Longrightarrow$ 1 7 4 5 6 3 2

/we c'e le san uan mian/

'I have eaten three bowls of noodles'

/we pa san uan mian c'e le/

'Three bowls of noodles have been eaten by me'

FOOTNOTES

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A TENTATIVE TRANSFORMATIONAL GENERATIVE
ANALYSIS OF MANDARIN SIMPLE SENTENCE TYPES
WITH PARTICULAR REFERENCE TO NOUN PHRASES

by

Ling-Mei Ruth Lee

B. A., Fu-Jen Catholic University, 1967

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the
requirements for the degree

MASTER OF ARTS

Department of Speech

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1970

ABSTRACT

This is a basic transformational generative study of the noun phrases of Mandarin with other base rules added as background and matrix for the noun rules. This is only the first step, laying the groundwork for future studies in the preparation of lessons for teaching the Mandarin language.

The method of this report is based on Chomsky's transformational generative model. The first part is the base rules and lexicon. The rules aside from the branching rules are of two types: the selectional and the strict subcategorization. These rules generate pre-sentences and explain their deep structure by means of phrase-markers. The lexicon is marked positively or negatively with the categorizational and selectional symbols provided for by these two types of base rule. Second, the transformational rules consist of rules which convert strings produced by the base rules into derivations through the devices of deletion, permutation, and addition. Finally there is a conclusion summarizing the major differences between other treatments and this one.