A TRANSFORMATIONAL GENERATIVE APPROACH TO
MANDARIN EMBEDDED SENTENCES AND SUBORDINATED SENTENCES

by

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1.1. Statement of Problem

This paper attempts to analyze Mandarin sentence embedding and sentence subordination by the transformational generative method. Twelve rules are formulated which will transform the deep structure of each embedded sentence or subordinated sentence to the surface structure.

Of the twelve rules, five of them are particularly interesting. They are: sentence attachment, adjectivization transformation, feature transformation, feature movement transformation, and contradictory sentence feature transformation.

Sentence attachment is the most powerful rule for sentence embedding. Simply by attachment, without any conjunction or pause, an independent sentence will be embedded at the subject NP position or object NP position of the matrix sentence.

The adjectivization transformation involves 1) adding an adjectivizer, which is a possessive particle added to the object of the embedded sentence, and 2) moving the subject-noun or the object-noun of the matrix sentence onto the right of the possessive particle [see(25), (27)].
The feature transformation introduces various kinds of features, such as the cause-result feature; the subordination particle feature; the adverb particle feature; and the contradictory sentence feature. These features are necessary to the sentence subordination in order to enable the particle movement transformation to take place.

Of the feature-movement transformations, contradictory sentence adding is one of the variations. Its result is two pairs of sentences, one pair positive and one negative.

The above five points account for every important step during the transformational process from the deep structure to the surface structure. Specifically, the first two points deal with sentence embedding. The last three points deal with sentence subordination.

1.2. Review of Literature

Owing to the fact that no one has published a detailed analysis of Mandarin sentence embedding and sentence subordination using a transformational generative approach, to my knowledge this paper is the first attempt in these two areas. The selected bibliography provides only some basic ideas which are developed into a detailed discussion in this paper. For basic analysis on Mandarin simple sentence types I refer the reader to the work of Ruth Lee (1970); on aspect and coordination to the work of Christine Wu (1971). This paper attempts
to build on the work of these two colleagues.

*Mandarin Primer* (1957) by Yuen-ren Chao provides many sample sentences illustrating sentence embedding and subordination. In his analysis, evidently he recognizes the differences between deep structure and surface structure, but the results of his analysis were presented in a descriptive way mainly on the surface structure base, and in an unformalized manner.

James Tai in his dissertation *Coordination Reduction* (1969) centered his analysis of Mandarin and other languages on conjoined sentences instead of embedded sentences. He did not mention the relative clause formation used by Ross and others, but did not specifically discuss Mandarin sentence embedding which this analysis will account for.

The methodology used in this paper mainly follows Jacobs and Rosenbaum's *English Transformational Grammar* (1968). Besides it, this paper owes a very basic transformational approach to Noam Chomsky's *Syntactic Structures* (1957); *Aspects of the Theory of Syntax* (1965); and *Topics in The Theory of Generative Grammar* (1966). Other references such as *The Structure of Language* (1964) by Fodor/Katz *The Structural Approach to Chinese Grammar and Vocabulary* (1964) by Gustav Herdan; and *Writing Transformational Grammars* (1966) by Andreas Koutsoudas contribute to this paper many techniques of formalizing the transfor-
13. Justification of Study

Although transformational generative grammar has been one of the newest linguistic approaches to language in the past few years, there are still several areas in Mandarin left unanalysed, such as Mandarin Sentence embedding and sentence subordination. This paper is an initial attempt at working out a set of transformational rules. These rules are applied to sample sentences through the demonstration of tree diagrams. The tree diagrams indicate every step of change from deep structure to surface structure. This approach clarifies many complicated problems in Mandarin embedded sentences and subordinated sentences. Hopefully, readers of this paper will be able to see the complete picture of the syntax structure of these two areas.

1.4. Procedure of Study

There are four chapters presented in this paper: 1) Introduction; 2) Embedded Sentences in Mandarin; 3) Subordinated Sentences in Mandarin; and 4) Summary and Conclusion.
II
EMBEDDED SENTENCES IN MANDARIN

2.0. Introduction

In Mandarin, there is no pause or pause particle connecting the embedded sentence to the matrix sentence, nor is there a conjunction included in the surface structure. The sentence embedding is formed by the direct attachment transformation and the equi-NP deletion transformation. The matrix sentence is not complete in meaning until the embedded sentence is included.

This chapter will demonstrate all kinds of sentence embedding with the explanations immediately preceding or following them. The abbreviation MS is used for 'matrix sentence' and ES for 'embedded sentence'.

2.1. Embedded Sentence in an NP Position

There is a group of transitive verbs in Mandarin, such as _FIRST 'think'; ŒyiT 'remember'; wuan'y 'forget'; Œyiwan 'expect'; tìngy 'heard'; ŒyiAt 'suppose'; tay 'promise'; xñaypa 'fear'; and kaw 'tell' which cause sentence embedding through direct attachment of the ES to the MS. These transitive verbs occur infrequently without embedded sentences in the object NP or more frequently with embedded object sentences.

In a similar manner, the copula 'to be' and the verbs 'to have' and 'to do' occur frequently with an embedded sentence as subject.
THIS BOOK CONTAINS NUMEROUS PAGES WITH DIAGRAMS THAT ARE CROOKED COMPARED TO THE REST OF THE INFORMATION ON THE PAGE. THIS IS AS RECEIVED FROM CUSTOMER.
2.1.1. Embedded Sentence in the Object NP Position

The MS verb of the fore-mentioned type is followed by a sentence embedded into the noun phrase position functioning as object constituent of the verb phrase. The embedded sentence keeps the original form of the independent sentence, with no deletions or additions. A labeled bracketing of this type of sentence is as follows:

\[
\begin{align*}
\text{wu} \swarrow & \quad \text{syiwuan} \searrow \\
\text{I} & \quad \text{HOPE} \searrow \\
\text{NP} & \quad \text{lay} \searrow \\
\text{VP} & \quad \text{YOU} \searrow \\
\text{ES} & \quad \text{COME} \searrow \\
\text{VP} & \quad \text{ES} \searrow \\
\text{MS} & \quad \text{MS}
\end{align*}
\]

The ES is embedded simply by direct attachment to the surface structure. The direct attachment will be found very powerful later in this study.

2.1.1.A. For sentence embedding, there are two major transformations which convert the deep structure to the surface structure. The first is the attachment transformation which is obligatory; the second is the equi-NP deletion which is optional and occurs only when the subject NP of the ES refers to the same person of either the subject NP or the indirect object NP of the MS. In the deep structure, its application is triggered by the feature [+sentence embedding]. The attachment transformation will be demonstrated first:
(1) will be converted to (2) by the attachment transformation which transforms the NP pro-form \textit{<something>} to a directly attached sentence in the surface structure.

When there are two object NP's included in the MS, the attachment transformation will enable the attachment of the direct object ES to the right of the indirect object NP which follows the main verb of the MS. The direct object NP is most frequently inanimate, (although it may also be animate with some verbs), whereas the indirect object is always animate:

(3)
(3) can be converted to (4) by the attachment transformation:

\[
\begin{array}{c}
\text{MS} \\
\text{NP} \quad \text{VP} \\
\text{N} \\
\text{wua} \\
I \\
\text{tayin} \\
\text{ta} \\
\text{ES} \\
\text{wua} \text{ Kyu} \\
I \text{ GO}
\end{array}
\]

After the direct attachment transformation, the equi-NP deletion transformation is the second major transformation for sentence embedding.

Three-place verbs (in terms of Lyons 1968) have a subject NP, direct object NP and an obligatory indirect object NP which may be optionally deleted in the surface structure, in relation to sentence embedding in one or both of these predicate NP positions. There are certain constraints on the surface structure occurrences, brought about through application or non-application of the equi-NP deletion transformation. Equi-NP deletion may apply either to indirect object NP of the MS to the subject NP of the ES under particular conditions described as follows.

The occurrence of the indirect object NP of the MS as either optional or obligatory in the surface structure depends on the identification of the subject NP's of the ES and
the MS. A) If the subject NP's of the MS and the ES refer to the same person, the indirect object NP of the ES can be deleted, see (5); B) If the subject NP of ES refers to a different person from the subject NP of MS, but is the same person of the indirect object NP of MS, the latter can also be deleted, see (7); C) If the three-place NP's refer to three different persons, none of them can be deleted, see (8). Although the indirect object NP is optional in the surface structure, it is obligatory in the deep structure; and has the feature <+animate>.

In the following examples, (5), (7) and (8) are transformed from (4) by the equi-NP deletion transformation, and (6) is transformed from (5) by the same transformation:

(5)

```
NP
  N
     wu

V
  tayin <+II>

NP
  NP
     wu

NP
  ES
     <+IID>

I PROMISE Ø wu êyü

I GO
```

In Example (5) where the subject NP's of MS and ES refer to the same person, then the subject NP of ES can also be deleted, optionally as in (6):
Even if the subject NP of the ES is the same as the indirect object NP of MS, it cannot be deleted if it is different from the subject NP of MS. Semantically, the surface structure of (6) has two meanings, either 'I promise you I'll go.' or 'I promise that you'll go.' The only way to tell the difference through surface structure is by context, which information would have to be built into the deep structure. If (6) were preceded by a question 'Do you promise that you'll go?' (6)
would mean the former; if it were preceded by 'Do you promise that I'll go?', it would mean the latter.

This difficulty is caused by having no pause nor conjunction in between the MS and the ES, a characteristic mentioned in the opening paragraph of this chapter.

In Example (8) following, none of the three NP's can be deleted:

(8)

\[ \text{MS} \]
\[ \text{NP} \]
\[ N \quad V \quad \text{NP} \quad \text{NP} \]
\[ wu \quad tayin \quad ta \quad nI \quad \text{gyü} \]

I PROMISE HIM YOU GO

2.1.1.B. Negative Accusative Embedding

The negative sentence embedding requires a negative transformation to transfer the negative particle either to the left of the verb of the MS or to the left of the verb of the ES in the surface structure. The second type occurs more frequently.

(9) the deep structure:

\[ \text{MS} \]
\[ \langle +\text{neg} \rangle \]
\[ \text{NP} \]
\[ N \quad V \]
\[ wu \quad \text{gyiwuǎn} \]

I HOPE YOU COME
(9) will be converted to (10) or (11) through the negative transformation.

(10) infrequently used:

(11) more frequently used:

(10) and (11) are different in the surface structure, yet they are the same semantically in the deep structure.

2.1.2. Embedding of the Subject Sentence

In the deep structure there may be a sentence embedded in the subject NP position of the MS which may be shown in a labeled bracketing as follows:

```
[MS
  [NP
    [ES
      [nI
      [tgacwyi]
      [YOU
      [GET UP
      [ES
    ]
    [EARLY
  ]
  [ xaow
    [IS GOOD
  ]
]]
```
If the deep structure of the MS has a VP with a copula followed by an adjective, the copula is always deleted in the surface structure.

2.1.2. A Positive Nominative ES

The ES is attached to the subject NP where previously the pro-form occurred in the deep structure. It is usually transformed to the surface structure by the complimentiser transformation. But in Mandarin, the direct attachment transformation substitutes for the complimentiser transformation, thus enabling the ES to be directly attached to the subject NP of the MS.

(12) the deep structure:

\[
\begin{align*}
\text{MS} & \quad \text{NP} \quad \text{VP} \\
& \quad \langle +\text{something} \rangle \quad \langle +\text{copula} \rangle \\
& \quad \langle +\text{IS} \rangle \quad \langle +\text{xaow} \rangle \\
& \quad \langle -\text{V} \rangle
\end{align*}
\]

(12) can be converted to (13) through the attachment transformation:

\[
\begin{align*}
\text{MS} & \quad \text{NP} \quad \text{ES} \quad \text{Copula} \quad \text{VP} \\
& \quad \langle \text{ni} \rangle \quad \langle \text{tgaoyi} \rangle \quad \langle +\text{IS} \rangle \quad \langle +\text{xaow} \rangle \\
& \quad \langle +\text{xb}, +\text{V} \rangle \\
& \quad \langle -\text{V} \rangle
\end{align*}
\]

YOU GET UP EARLY IS GOOD
(13) will be converted to (14) through the copula deletion transformation:

(14)

```
   MS
  /   \\  
 NP VP
   /   \
 ES ( +VP ), (-V)
```

```
nI  tsaočyi
YOU  GET UP EARLY
```
```
xaow
GOOD
```

Yet, the copula deletion transformation occurs only when the copula of MS is followed by an adjective. If it is followed by a noun phrase, copula deletion does not take place. See (15).

* : not deleted

```
   MS
  /   \\  
 NP VP
   /   \
 ES Copula NP
```

```
nI  lay
YOU  COME
```
```
št
IS *
```
```
wüta kwuanžun
MY HONOR
```

2.1.2.B. Negative Nominative Embedding

This section will continue the 2.1.2. section with the same deep structure pattern; further, it will transform the 2.1.2. section to the area of negation in the surface structure.

Since the negative transformation has been described in section 2.1.1., for this section, only the examples will be demonstrated. See (16), (17); and (18), (19).
Example 1: (16) & (17)

(16)

\[ \text{NEG. NP} \rightarrow \text{ES Copula [\langle+VB\rangle, \langle-V\rangle]} \]

\[ \text{nI tsaočyi} \quad \text{xaow} \]

YOU GET UP EARLY GOOD

(16) will be converted by the negative transformation to

(17)

\[ \text{ES} \rightarrow \text{pu xaow} \]

\[ \text{nI tsaočyi} \]

YOU GET UP EARLY NOT GOOD

Example 2: (18) & (19)

(18)

\[ \text{NEG. NP} \rightarrow \text{ES Copula [\langle+VB\rangle, \langle-V\rangle]} \]

\[ \text{nI lay ŝì wuła kwangzun} \]

YOU COME IS MY HONOR

(18) will be converted to (19) by the negative transformation:
2.2. Embedded Sentence in Adjective Position

2.2.1. Introduction

An adjective sentence is a sentence embedded in an adjective position within a matrix sentence. It modifies either the subject noun or the object noun. This section will present two parts, adjective sentence modifying subject noun; and adjective sentence modifying object noun.

2.2.2. Adjective Sentence Modifying Subject Noun

(20) The deep structure:

```
(19)
NS
  \_____ FS
     \________ pu__ si \_____ wuata kwuan\'\un\n
  \______ nI__ lay
     \_______ YOU COME NOT IS MY HONOR
```

(20) can be converted to (21) through adjective \#S\# attachment transformation:
(21)

\(\text{neyk\(\bar{\text{n}}\) z\(\bar{\text{n}}\) sun syin} \quad \text{\(\ddot{s}\)\(\ddot{i}\)} \quad \text{wua kaka}
\)

THAT PERSON SENDS LETTER IS MY BROTHER

(21) can be converted to (22) through the equi-NP deletion transformation:

(22)

\(\text{neyk\(\bar{\text{n}}\) z\(\bar{\text{n}}\) sun syin} \quad \text{\(\ddot{s}\)\(\ddot{i}\)} \quad \text{wua kaka}
\)

THAT PERSON Ø Ø sun syin IS MY BROTHER SENDS LETTER

(22) can be converted to (23) through adjectivization transformation which involves two stages, a) adjectivizer adding; b) subject-noun movement.

(23)

\(\text{neyk\(\bar{\text{n}}\) sun syin to z\(\bar{\text{n}}\) \(\ddot{s}\)\(\ddot{i}\)} \quad \text{wua kaka}
\)

THAT SEND LETTER's person is MY BROTHER

The surface structure is transformed from the deep structure through three transformations, 1) adjective sentence attach-
ment transformation; 2) equi-NP deletion transformation; 3) adjectivization transformation which includes two stages, a) adjectivizer adding; and b) subject-noun movement. a) and b) occur simultaneously.

2.2.3. Adjective Sentence Modifying Object Noun

(24) the deep structure:

```
    MS
   /  \  
 NP   VP
  /   /  
 N   V   NP
 /\  /\  /\  
 wuw ayi Neyc kow
                  
    I            LOVE THAT DOG #S#
```

(24) can be converted to (25) through adjective #S# attachment transformation:

(25)

```
    MS
   /  \  
 NP   VP
  /   /  
 N   V   NP
 /\  /\  /\  /\  
 wuw ayi Neyc kow Neyc kow kow aviso
                  
    I            LOVE THAT DOG THAT DOG PARKS
```

(25) can be transformed to (26) through the equi-NP deletion transformation:
(26) can be transformed to (27) through the adjectivization transformation which involves two stages, a) adjectivizer adding; and b) object-noun movement.

(27)
III
SUBORDINATED SENTENCES IN MANDARIN

In Mandarin, sentence subordination is of one main type cause-result, with two sub-types; namely, a) 'therefore-sentence' and b) 'if-sentence'. There is one optional variation, a positive-negative contrastive statement sentence.

General cause-result subordination involves two simple sentences in the deep structure with this type of meaning relationship and an added feature(sentence subordination). When sentence subordination occurs, the cause-sentence is subordinated to the result-sentence through 1) obligatory cause-result feature transformation; 2) obligatory subordination particle feature transformation and its movement transformation; 3) optional adverb particle feature transformation and its movement transformation; 4) optional contradictory sentence feature and adding transformation which involves the negative transformation described in the preceding chapter.

The first obligatory transformation applies to all types of subordinated sentences. It will convert the two sentences in the deep structure into one cause-sentence and one result-sentence. The second obligatory transformation will introduce the subordination particle to its proper position in the surface structure, thus subordinating the cause sentence to
the result sentence. The result of this transformation is sub-type 1, a "therefore-sentence", such as ta ŝinpin suayi ta pu lay 'She is sick, therefore she is not coming.' For sub-type 2, although transformations 3) and 4) are listed as optional, either one or the other must take place following the first and the second. If 3) takes place, there is only one condition and one result, such as ŝuku ta lay wu ġyiow tan ta. 'If she comes, I'll then wait.' If 4) occurs, there are two pairs of cause-result sentences, one pair of positives and one pair of negatives, such as ŝuku ta lay wu tan ta, zuku ta pu lay wu pu t n ta 'If she is coming, I will wait; if she is not coming, I will not wait.'

In both the surface structure and the deep structure, the cause-sentence always precedes the result-sentence. The cause-sentence is always a statement; and the result-sentence may be either a statement or a question, which has gone through the question transformations discussed in a previous paper (see Chen, 1971). This chapter includes a general survey of the therefore-sentence and the if-sentence.

3.1. Therefore-sentence

The therefore-sentence is of sub-type 1, involving transformations 1) and 2). There are two simple sentences in the deep structure. When sentence subordination occurs, two sen-
tences will become related in meaning. Examples are as follows:

(28) the deep structure:

(28) will be converted to (29) through cause-result feature transformation:

In the above situation, the cause-result feature transformation converted $S_1$ to $S +cause$; $S_2$ to $S +result$. In the following, (29) will be converted to (30) through the subordination-particle feature transformation:

(30)
guāyi 'therefore', the subordination particle, is introduced at (30). Then (30) will be converted to (31) through the subordination-particle movement transformation which will move the particle guāyi to the initial position of the result-sentence, and will subordinate the cause-sentence to the result-sentence as shown in the following:

(31)

Further, (31) may be optionally converted to (32) through equi-NP deletion transformation:

(32)

3.2. If-sentence

The if-sentence is of sub-type 2, involving transformations 1), 2) and 3) or 1), 2) and 4). In deep structure, there are two simple sentences. When sentence subordination occurs, two sentences become related to each other as a cause-sentence and as a result-sentence. See the examples following:
(33) the deep structure:

```
S
  \_ S1
    \_ S2
       \_ nI
          lay
             YOU
       wu< tan nI
             COME
             I WAIT YOU
FOR
```

(33) will be converted to (34) by cause-result feature transformation:

(34)

```
S  \_ S<cause>
    \_ S<result>
       \_ nI
          lay
             YOU
       wu< tan nI
             COME
             I WAIT YOU
```

(34) will be converted to (35) through either of the two types of transformations, namely: A) subordination-particle feature transformation to the cause-sentence and an adverb-particle feature transformation to the result-sentence; B) subordination-particle feature transformation to the cause-sentence and contradictory sentence adding transformation which involves the negative transformation. Each type will be followed by the particle-movement transformation. Semantically, these two types have the same meaning although they will generate two different surface structures. Types (A) and Type (B) will be demonstrated respectively from (34) in the following:

Type (A): by subordination-particle-feature transformation;
adverb-particle-feature transformation:

(35A)

\[
\begin{array}{c}
S \langle +\text{cause} \rangle \\
\text{if} \\
\text{nI lay}
\end{array}
\quad
\begin{array}{c}
S \langle +\text{result} \rangle \\
\text{then} \\
\text{wu\^\tan nI}
\end{array}
\]

YOU COME

I WAIT YOU FOR

(35A) will be converted to (36A) by the particle-movement transformation which will subordinate the cause-sentence to the result-sentence as well as effecting the movement.

(36)

\[
\begin{array}{c}
S \langle +\text{result} \rangle \\
\text{wu\^\cyiow t\tan nI}
\end{array}
\]

I THEN WAIT FOR YOU

\[
\begin{array}{c}
\text{\zykuw nI lay}
\end{array}
\]

IF YOU COME

Type (B): by subordination-particle-feature transformation; contradictory-sentence-feature transformation.

(35B)

\[
\begin{array}{c}
\quad \quad S \ldots \ldots \ldots .+\ldots \ldots .S \langle +\text{contradictory} \rangle
\end{array}
\]

\[
\begin{array}{c}
\quad \quad S \langle +\text{cause} \rangle \\
\quad \quad \langle +\text{if} \rangle
\end{array}
\quad
\begin{array}{c}
\quad \quad S \langle +\text{result} \rangle
\end{array}
\]

\[
\begin{array}{c}
\text{nI lay}
\end{array}
\quad
\begin{array}{c}
\text{wu\^\tan nI}
\end{array}
\]

YOU COME

I WAIT FOR YOU

(35B) will first be converted to (36B) by particle-movement transformation:
Then will be converted to (37B) by the contradictory-sentence adding transformation:

(37B) $S\{\text{+result}\} + S\{\text{+contradictory}\}$

I WAIT FOR YOU

I NOT WAIT YOU

IF YOU COME

IF YOU NOT COME
4.1. Summary of the Previous Discussions

There are two themes in the previous discussions, 1) the formation of Mandarin embedded sentences; 2) the formation of Mandarin subordinated sentences. For Section 1) sentence embedding, there are two main types, a) embedded sentences in NP's functioning as subject or object. b) embedded sentences in adjective position functioning as modifiers of subject or object. For Section 2) sentence subordination, there is one main type, cause-result, with two sub-types a) therefore-sentence; and b) if-sentence.

There are twelve transformational rules for Mandarin sentence embedding and sentence subordination, as follows:

4.2. Transformational Rules

1) **T-1**  
   **Negative Transformation** (optional)

   A. SD: NEG. NP V NP  
   SC: 1 2 3 4  \[\rightarrow\] \[\emptyset 2 1 3 4\]  

   B. SD: NEG. NP V NP  
   SC: 1 2 3 4 \[\rightarrow\] \[\emptyset 2 3 1\]

2) **T-2**  
   **Sentence Attachment** (optional)

   Accusative Case:
SD: NP V NP

SC: 1 2 3 \rightarrow 1 2 \#S#

Nominative Case:

SD: NP V (NP)

(trans. or intran.)

SC: 1 2 (3) \rightarrow \#S# 2 (3)

Accusative Case with two objects:

SD: NP V NP NP

SC: 1 2 3 4 \rightarrow 1 2 3 \#S#

Condition: This rule only applies to the direct object NP, which is always preceded by an indirect object NP.

3) T-3 Egui-NP Deletion (optional)

SD: NP V NP NP

1 2 3 4 \rightarrow 

SC: 1 2 \emptyset 4

Condition: When 1 and 3 or 2 and 4 refer to the same person.

4) T-4 Copula Deletion Transformation (optional)

SD: NP Copula [ +VB , -V ]

SC: 1 2 3 \rightarrow 1 \emptyset 3

Condition: When copula is followed by an adjective, the copula is deleted.

5) T-5 Adjectivization Transformation (obligatory)

SD: [ NP ES--(NP V NP)--ES V INTR. (NP) ]

1 2 3 4 \rightarrow 1 \emptyset 3 4's 1

SC: \emptyset \emptyset 3 4's 1 5

28
6) **T-6**  Cause-result Feature Transformation (obligatory)
   SD: 〈+ sentence subordination〉 S₁ S₂
   1   2   3
   SC: 〈+cause〉 S 〈+result〉

7) **T-7**  Subordination Particle Feature Transformation
   (obligatory)
   SD: S 〈cause〉 S 〈+result〉 S 〈+result〉
   1   2   3
   SC: 〈+ゆくわ〉 1 2 3

8) **T-8**  Subordination Particle Attachment Transformation
   (obligatorily following T-7)
   SD: 〈+ゆくわ〉 1 2 3
   SC: ゆくわ + 1 2 3

Transformations 9-10 result in the if-sentence sub-type Λ:

9) **T-9**  Adverb Particle Feature Transformation
   (obligatorily following T-9)
   SD: ゆくわ + 1 2 3
   SC: にくわ + 1 〈+ゆい〉 2 3

10) **T-10**  Adverb Particle Movement Transformation
    (obligatorily following T-9)
    SD: にくわ +1 〈+ゆい〉 2 3
    1   2   3   4
    SC: 1 〈+ゆい〉 3 2 4
Transformations 11-12 result in if-sentence sub-type B:

11) T-11 Contradictory Sentence Feature Transformation
    (optionally following T-8)
    SD:  źukua +1 2 3
    SC:  +contradictory sentence 1

12) T-12 Contradictory Sentence Adding Transformation
    (obligatorily following T-11)
    SD:  <+contradictory sentence> 1
    SC:  Ø 1 ; NEG. +1
A SELECTED BIBLIOGRAPHY


A TRANSFORMATIONAL GENERATIVE APPROACH TO
MANDARIN EMBEDDED SENTENCES AND SUBORDINATED SENTENCES

by

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AN ABSTRACT OF A MASTER'S THESIS

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ABSTRACT

This paper deals with two topics: 1) the formation of Mandarin embedded sentences; and 2) the formation of Mandarin subordinated sentences. For Section 1) on sentence embedding, there are two main types, a) embedded sentences in NP's functioning as subject or object, and b) embedded sentences in adjective position functioning as modifiers of subject or object. For Section 2) on sentence subordination, there is one main type, cause-result, with two sub-types, a) therefore-sentence; and b) if-sentence.

There are twelve transformational rules involved in the abovedescribed two types of sentences. Of the twelve rules, five of them are particularly important. There are: sentence attachment; adjectifization transformation; feature transformation; subordination particle or adverb particle movement transformation; and contradictory sentence feature transformation.

The rules are demonstrated through tree diagrams. The transformation from deep structure to surface structure is therefore exemplified through the tree diagrams.