A DESCRIPTIVE STUDY OF THE TONES IN THE CHENGTU

DIALECT (SZECHUAN, CHINA) AND THE INTONATION

OF CERTAIN TYPES OF SENTENCES

By

Nien-Chuang T. Chang

At the end of my research I wish to express my deep thanks to my parents, Mr. David
Handsome and Mrs. Elizabeth "Blanche" for the

great interest they took in my work and the

encouragement and invaluable advice they gave me.

It was my Professor Y.R. Chao's suggestion that

I send one of his papers to the Postgraduate School,

for which I am very grateful. I wish to thank Mr. P. Cadeau for

his help over the use of the spectrograph,

Mr. J. Anthony for his help over the use of the

tape-repeater and other instruments, and Mr. A. Kubersky for

making the prints of the spectrograms and the spectro-

graphs.

I also wish to thank the librarian of the University of

Cambridge for allowing me permission to use the library.

In China also I was able to get much reading

material.

Last, but not least, I want to thank my father

for his cooperation in making this study possible.

October, 1944.
At the end of my research I want to express my deep thanks to my supervisors, Mr. David Abercrombie and Mrs. Elizabeth Uldall, for the great interest they took in my work and the encouragement and invaluable advice they gave me throughout these years.

It was at Professor Y.R. Chao's suggestion that I took up the study of intonation from real conversation. I want to thank him for his kindness in advising me on various points through correspondence and private conversations.

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I also want to thank the Librarian of Cambridge University Library for permission to use the Library. In its Chinese Room I was able to get much reading material.

Last, but not least, I want to thank my father for his co-operation in making this study possible.

October, 1954.
LIST OF SYMBOLS

Vowels:

- i: as in 鸡 [dzi] chicken
- e: " 测 [tse] to measure
- a: " 話 [xua] speech
- o: " 樂 [lo] joy
- u: " 苦 [ku] bitter
- ə: " 生 [sən] raw
- y: " 葉 [dzy] to lift

Diphthongs:

- ei: as in 飛 [fei] to fly
- ai: " 愛 [nai] to love
- au: " 高 [gau] tall
- əu: " 溝 [gou] moat
- yi: " 君 [dzyin] monarch
- ye: " 血 [ye] blood
- yo: " 光 [yon] fierce
- ie: " 接 [dzie] to join
- ia: " 家 [dia] home
- ua: " 瓜 [gua] melon
- uə: " 樹 [guən] rod
- ue: " 國 [gue] country

Triphthongs:

- iəu: as in 求 [tʃiau] to beg
- iəu: " 骥 [dʒiau] proud
- uai: " 乖 [gua] cute
- uəi: " 灰 [xuei] dust
Consonants:

<table>
<thead>
<tr>
<th>Letter</th>
<th>Sound</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>as in 'pa'</td>
<td>[p]</td>
<td>to fear</td>
</tr>
<tr>
<td>t</td>
<td>'ta'</td>
<td>[t]</td>
<td>he</td>
</tr>
<tr>
<td>k</td>
<td>'ka:]</td>
<td>[k]</td>
<td>to open</td>
</tr>
<tr>
<td>b</td>
<td>[bu]</td>
<td>[b]</td>
<td>not</td>
</tr>
<tr>
<td>d</td>
<td>[dau]</td>
<td>[d]</td>
<td>to arrive</td>
</tr>
<tr>
<td>g</td>
<td>[\g\a\u]</td>
<td>[g]</td>
<td>dog</td>
</tr>
<tr>
<td>m</td>
<td>[\ma]</td>
<td>[m]</td>
<td>horse</td>
</tr>
<tr>
<td>n</td>
<td>[\ni\en]</td>
<td>[n]</td>
<td>year</td>
</tr>
<tr>
<td>r</td>
<td>[\r]</td>
<td>[r]</td>
<td>to love</td>
</tr>
<tr>
<td>l</td>
<td>[\l\e\u]</td>
<td>[l]</td>
<td>stairs</td>
</tr>
<tr>
<td>f</td>
<td>[\f\o\n]</td>
<td>[f]</td>
<td>wind</td>
</tr>
<tr>
<td>s</td>
<td>[\s\a\n]</td>
<td>[s]</td>
<td>raw</td>
</tr>
<tr>
<td>j</td>
<td>[\j\a\u]</td>
<td>[j]</td>
<td>hand</td>
</tr>
<tr>
<td>z</td>
<td>[\z\a\u]</td>
<td>[z]</td>
<td>meat</td>
</tr>
<tr>
<td>r</td>
<td>[\r]</td>
<td>[r]</td>
<td>child</td>
</tr>
<tr>
<td>x</td>
<td>[\x\e\u]</td>
<td>[x]</td>
<td>thick</td>
</tr>
<tr>
<td>ts</td>
<td>[\t\s\a\i]</td>
<td>[ts]</td>
<td>to guess</td>
</tr>
<tr>
<td>t\j</td>
<td>[\t\j\i\n]</td>
<td>[t\j]</td>
<td>clear</td>
</tr>
<tr>
<td>dz</td>
<td>[\d\z\a\i]</td>
<td>[dz]</td>
<td>at</td>
</tr>
<tr>
<td>d\j</td>
<td>[\d\j\a]</td>
<td>[d\j]</td>
<td>real</td>
</tr>
</tbody>
</table>

The transcription is a phonemic one. The values are as given in the I.P.A. Principles, except for the following:

- \[p\], \[t\], \[k\], \[ts\], \[t\j\] = aspirated
- \[b\], \[d\], \[g\], \[dz\], \[d\j\] = unaspirated \[p\],
- \[\t\j\], \[k\], \[ts\], \[t\j\]
- \[\j\], \[\\j\], \[\t\j\], \[\d\j\] before \[i\] and \[y\] = [\\j\],
\( [n] \) before \([i]\) and \([y]\) = \([\eta]\) .

\( [r] = [\sigma^\prime] \) when syllabic; when it is after \([\{\})\), \([\j]\), \([\partial\j]\) it is a fricative with strong friction.

\( [i] = [\iota] \) in \([\ai]\) and \([\ei]\), otherwise = \([i]\)

\( [\varepsilon] = [\varepsilon\iota] \) in \([\ei]\),

\( = [\varepsilon\iota] \) in \([\ien]\) and \([\yen]\), otherwise = \([\varepsilon]\)

\( [a] = [\ai]\) in \([\au]\), \([\ai]\) and when before \([n]\),

\( = [\alpha]\) when before \([\eta]\) or when final.

\( [o] = [\o\iota]\) when before \([\eta]\)

\( = [\o]\) when final

\( [u] = [\ur]\) in \([\au]\) and \([\au]\), otherwise = \([u]\).

\( [\varepsilon] = [\varepsilon\\ur]\) in \([\au]\),

\( = [\varepsilon\ur]\) when before \([\eta]\), otherwise = \([\varepsilon]\)

The quality of vowels vary to some extent with the tones; in particular, opener varieties are generally used with the second and the fourth tones.

Tonal marks:

\( [\alpha] = \text{high-rising} \)

\( [,\alpha] = \text{low-falling} \)

\( [\backslash\alpha] = \text{high-falling} \)

\( [\nu\alpha] = \text{low-falling-rising} \)
v.

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INTRODUCTION.

No language is spoken on a monotone. When we speak the pitch of our voice is in continuous motion. The rise and fall of the pitch of the voice is always present. This variation of the voice pitch may be considered to be

(1) a feature of the sentence. It belongs to the sentence as a whole. When the variation of the voice pitch is thus applied to the whole sentence, it is called INTONATION. Any language that has this kind of variation of voice pitch is called an Intonation Language. English, for instance, is an intonation language. Suppose we take a simple sentence, "He's out", for an example. This can be said in a rising intonation or a falling intonation (all this I shall discuss later). In the first instance it means a question and in the second, a statement. Intonation, therefore, contributes a shade of meaning to the sentence by expressing the speaker's attitude or emotions while the significant or the fundamental meaning of the sentence remains the same.
(2) a feature of the individual word. It is an integral part of the word and is lexically significant. When the variation of the voice pitch is applied to single syllables or individual words it is called TONE. Any language that has this rise and fall of the voice pitch as the basic part of a word is a Tone Language. In other words, in a tone language minimal distinctions are found in the tones. The same syllable pronounced in two different tones would mean two completely different things. Chinese is a tone language, because every Chinese word has, in addition to its vowels and consonants, a tone of its own. For instance, in the particular dialect I am studying 

\[\text{[t\text{m}]}\]

spoken with a rising tone means "blue" and when spoken with a high-falling tone (these I shall discuss later) means "invite". Thus we see that the change of tone means also the change of the lexical meaning of the word.

In regard to Chinese, the following interesting questions naturally arise for those who are also acquainted with intonation languages:

(1) Does intonation exist in Chinese? Do Chinese speakers use intonation at all?
(2) If intonation does exist in Chinese, then what happens to the individual tone, which is one of the basic elements in the word? In other words, how does the intonation affect the tones? What is the relationship between the intonation and the tones? These lead to the more fundamental questions:

(3) Does the individual tone always remain exactly the same whether it is spoken in isolation or in succession? Does the tone change if it follows or is followed by the same or another tone?

(4) If it does change when spoken in succession, if it no longer retains the value which it has when pronounced by itself, then what is the change like? How does it change?

The above questions are what I have been trying to work out in this thesis. I first dealt with the tones, trying to answer questions (3) and (4). Then I worked on their relationship with intonation, trying to answer questions (1) and (2).

In the Chinese language there are many different dialects. Each dialect has its separate set of tones. In order to make a careful study of tones and intonation I chose to work on the Chengtu dialect of Szechuan, this being the dialect I was brought
brought up with. My parents, my relatives, and most of my friends speak this dialect. My father, of whose speech I made a particular study in connection with intonation, was born and brought up in Chengtu. He speaks no other dialects.

Being a student of Phonetics, I have observed for several years the speech of my relatives and friends with the question of intonation and tones in mind. Two years ago I attempted a preliminary study along this line dealing with certain types of questions spoken in different moods and states of emotion. But as (1) I made up the questions myself and (2) I took down the intonation without the help of any instrument, the result did not appear very convincing, though in its limited scope it was satisfactory to myself. Therefore in my present study I started from actual conversation.

In studying the intonation I first recorded eight hours of conversation with my father. From the recordings I picked out sentences whose intonation can be grouped under various emotional states or attitudes. With the help of a swanee whistle\(^1\)

\(^1\) A tin whistle with a stopper which can be adjusted to give the pitch desired. The sound produced is continuous like that of the human voice.
and the tape-repeater. I noted down the intonation. Finally I checked the results on the spectrograph.

In observing the tones and their changes, I first wrote down words of one syllable, and then phrases containing two or three syllables in all the possible combinations of tones. Both my father and myself read them aloud many times. Then I noted them down with the help of a swanee whistle and then checked the results on the kymograph and the spectrograph. It took much more time to sort out examples for the four-syllable-group than all the rest as the number of combinations amounts to 256. In fact, I had to resort to some Chinese novels in order to get a complete set of phrases containing four syllables.

1. This was invented by our Department. Two tape-recorders are joined in such a way that a particular passage on the tape of one recorder can be recorded on to the other and repeated as many times as required. For details please inquire at the Phonetics Department, Edinburgh University.

2. See appendix.
When a Chinese character is read aloud the sound produced consists of not only the consonants and the vowels but also a tone, because, as stated before, every Chinese word has a tone of its own. This tone, which is used in reading aloud a character in isolation, may be called the NAMING TONE, since it is as if we are giving that character a name. This tone is used when the word is uttered by itself, not in conjunction with other words.

A Chinese without any phonetic training would maintain that a Chinese word is always pronounced with its naming tone whether it is pronounced in isolation or otherwise, (i.e. whether it follows or is followed by another word of the same or another tone). But through careful observation it will be noticed that in a phrase or a sentence the naming tone is often replaced by another tone. The naming tone and those which take its place are ALLOTONES of one TONEME. The toneme can be compared to the phoneme; just as a phoneme consists of a number of allophones, so a toneme consists of a number of allotones. The Chinese who has had no phonetic training is unaware of and therefore unable to isolate the allotone used on a particular word in a phrase or sentence. This replacement of one tone by another, this interchange of allotones, is called TONE SANDHI.*

or PERTURBATION.

Each tone has its own SHAPE or FEATURE; this consists of two elements, PITCH and COURSE. By "pitch" I mean whether the tone is high or low or mid. By "course" I mean whether the tone rises or falls as the word is pronounced. If the voice pitch rises when pronouncing a word, then that word is said to have a RISING TONE. If the pitch falls, then it is a FALLING TONE. If the voice pitch remains unchanged, i.e., if it stays on the same level then it is a LEVEL TONE. If two rising tones exist in a language and one starts at a higher level than the other then one is called HIGH-RISING TONE and the other LOW-RISING. Likewise there are HIGH-FALLING, LOW-FALLING, MID-FALLING, HIGH-LEVEL, LOW-LEVEL, and MID-LEVEL, etc.

It is necessary to bear in mind that the pitch we are discussing here is relative and not absolute. It is not absolute like the pitch of a musical note, which has a definite frequency. A middle C is always a middle C whether it is sung by a man or a woman or a child. But the pitch we are dealing with here is the voice pitch of the individual when used in speech. It is relative in the sense that every individual

* In his Ph.D. thesis, "Phonetics of Pekingese" (1923), D.M. Beach calls them "height" and "direction".
individual has his or her own range of voice pitch. One man may have a high-pitched voice and another a low-pitched voice. The high-rising tone in the second man's speech may in actual frequency be the same as the low-rising tone in the first man's speech; yet we shall still call the first man's a low-rising and the second man's a high-rising tone. What we deal with is the voice pitch of an individual in relation to all the different pitches the same individual uses in his speech. Therefore it is the relative and not the absolute pitch that is of importance.
There are four naming tones in the Chengtu dialect of Szechuan, China. If we divide the pitch of an individual's voice into (1) high, (2) mid-high, (3) mid, (4) mid-low and (5) low, a description of the four naming tones will then be as follows:

1. Tone I, High-rising—it starts between mid-high and mid and rises to high, e.g. [tʃin], (clear).

2. Tone II, Low-falling—it starts somewhere lower than mid and ends between mid-low and low. e.g. [tʃɛn] (fine, when referring to weather).

3. Tone III, High-falling—it starts about mid-high and falls to somewhere a little higher than low. Often there is a very slight rise at the start but it is so slight that it can hardly be noticed. Thus we call it high-falling instead of high-rising-falling. e.g. [tʃɛn] (invite).

4. Tone IV, Low-falling-rising—it starts about mid-low and falls to low and then rises ending at about mid or higher. e.g. [tʃɛn] (to celebrate). Often the fall reaches so low
low a point that the voice
is almost creaky.

Using Y.R. Chao's method* of showing Mandarin
tones, we may represent approximately the four
naming tones of the Chengtu dialect as follows.
The lines representing the tones go from left to
right. The vertical line is a reference line and
is divided into high, mid-high, mid, mid-low and
low.

Fig. 1 and Fig. 2 are the spectrograms of the four
naming tones of 清晴晴麗 (清晴晴麗: [ti], [ti], [ti], [ti])
clear, fine, to invite, to celebrate), as spoken by my-
self and by my father. Fig. 3 is the spectrogram
of the four naming tones of 科科可課 (科科可課: [ko], [ko], [ko], [ko])
(item, shell, can, lesson). Fig. 4 is that of
孤昏恢 (孤昏恢: [gu], [gu], [gu], [gu])
(alone, bone, ancient, former).
Figs. $g_1$, $g_2$, $g_3$, are the respective graphs plotted
from them. Fig. $k_1$, is the kymograph tracings
妻歸 (妻歸: [vi], [vi], [vi], [vi])
(wife, to ride, to get up, /vapour).

*Y.R. Chao: "A System of Tone Letters," Le Maître Phonétique
vapour). Fig. 4 is the graph plotted from the kymograms, Fig. 2 is the kymograph tracings of vapour, hair, small, longevity and Fig. 5 is the graph plotted from them.

Another way of showing the approximate relative pitches of the naming tones is as follows. The space between the horizontal lines represents the voice range of the individual, the other lines show the shapes of the tones. The lines showing the pitches go from left to right.

Figs. 5, a and b, and 6 are respectively the spectrograms of the naming tones of vapour, hair, small, longevity (fly, fat, bandits, expense), and low, drop, bottom, and floor.
PART II: TWO-, THREE-, AND FOUR-SYLLABED GROUP.

In representing the tone sandhi in the two-, three-, and four-syllabled groups, I shall use Y.R. Chao's notation with the vertical line. But in the examples themselves I shall omit the vertical line and put the tonal mark in front of the phonetic transcription of each syllable. To avoid confusion, I shall do this only for the first example of each set.

A. Two-syllabled group: In the two-syllabled group the tone sandhi is as follows:

1. Toneme I. Naming tone, high-rising, marked thus: ↑

   a. When T.I. follows

      (1) When T.I. follows another T.I. then it becomes a mid-level tone, marked thus: ↓

         e.g. T.I + T.I

         功夫 [gōng-fu]
         先生 [xiān sēn]
         東西 [dōng-sī]
         聽取 [tīng qǔ]
         飛飛 [fēi-fēi]
         清溪 [qīng qī]

         time
         sir
         thing
         aunt
         flying low
         clear stream

         (Fig.7)
         (Fig.8)
         (Fig.k3a, & Fig. 66)

      (2) When T.I follows T.II, it becomes a level /tone,
tone, somewhere between mid and mid-low,

\textit{e.g.} $\text{T.II + T.I}$

\begin{itemize}
  \item 國家 \textit{[gue-\text{-dia]}} nation
  \item 簡包 \textit{[li \text{-ba]}} fence
  \item 曹操 \textit{[tsau tsau]} (Fig. 9)
  \item 妻子 \textit{[fa ti]} Ts'ao Ts'ao, a famous general in the time of the Three Kingdoms. (Fig. 10).
  \item 師生 \textit{[\text{-yoon]} pupils
  \item 台湾 \textit{[tai uan]} Formosa
\end{itemize}

(3) When T.I. follows T.III, it also becomes a level tone somewhere between mid-low and mid,

\textit{e.g.} $\text{T.III + T.I}$

\begin{itemize}
  \item 始终 \textit{[-\text{-dzon]} beginning and end
  \item 廣東 \textit{[guan don]} Kwangtung
  \item 草菇 \textit{[tsau gu]} mushroom (Fig. 11)
  \item 睡衣 \textit{[\text{-jin i]} pajamas
  \item 耳刊 \textit{[\text{-ko]} ear specialist (Fig. 12)
  \item 小溪 \textit{[\text{-f}iu ts]} small stream
\end{itemize}

(1) When T.I. precedes another

\begin{itemize}
  \item 始终 \textit{[-\text{-dzon]} resurrection. It starts at the same point as the sound but goes up to another point. It is like a wave which rises at the beginning and falls at the end.
  \item 廣東 \textit{[guan don]} (Fig. 11)
  \item 草菇 \textit{[tsau gu]} (Fig. 12)
  \item 睡衣 \textit{[\text{-jin i]} (Fig. 13)
  \item 耳刊 \textit{[\text{-ko]} (Fig. 14)
\end{itemize}

(4) When T.I. follows T.IV, it retains its original /course
course, though it does not rise quite as high as when it is pronounced in isolation,

\[ \text{e.g.} \quad T.IV + T.I \]

- 地瓜 [dì guā] a kind of fruit. (Fig.13)
- 蕃書 [fán shū] secondhand books (Fig.9a & Fig.10)
- 受欺 [shòu qī] being oppressed (Fig.6a & Fig.9)
- 麵包 [miàn bāo] bread
- 印光 [yìn guāng] monk's name (Fig.7b & Fig.10)
- 地方 [dì fāng] place (Fig.7c & Fig.10)

But when Toneme I is specially emphasised, then it retains its rising course no matter which toneme precedes it:

\[ \text{e.g.} \quad \text{抽籤} [chōu xiāng] (T.I + T.I) \text{ to draw lots} \quad \text{(Fig.14)} \]
\[ \text{買書} [mǎi shū] (T.III + T.I) \text{ to buy books} \quad \text{(Fig.14)} \]

b. When T.I. precedes:

(1) When T.I. precedes another T.I. it remains high-rising. It starts at the same point as when it is pronounced in isolation but does not
end as high
e.g. $T.I + T.I$

(2) when $T.I.$ precedes $T.II$ or $T.III$
or $T.IV$ then it starts from a point
slightly lower than when it is
pronounced in isolation and also
does not rise as high.
e.g. $T.I + T.II$

<table>
<thead>
<tr>
<th>Chinese</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>dzone gue</td>
</tr>
<tr>
<td>knowledge</td>
<td>dger jer</td>
</tr>
<tr>
<td>Yangtze gorge</td>
<td>wu jia</td>
</tr>
<tr>
<td>deserted bones</td>
<td>gu gu</td>
</tr>
<tr>
<td>relatives</td>
<td>tsin tsi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chinese</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>poisonous insect</td>
<td>fei gu</td>
</tr>
<tr>
<td>originally</td>
<td>gan ben</td>
</tr>
<tr>
<td>Hongkong</td>
<td>shen gan</td>
</tr>
<tr>
<td>to be opened by</td>
<td>tsin tsi</td>
</tr>
<tr>
<td>the receiver</td>
<td>shen ti</td>
</tr>
<tr>
<td>himself.</td>
<td>do sau</td>
</tr>
</tbody>
</table>

/e.g.
2. Toneme II, naming tone, low-falling, marked thus: ↓

a. When T.II follows:

(1) When T.II follows T.I or T.III

or T.IV it retains its original shape but starts lower than the starting point of its naming tone and also falls lower.

e.g. T.I + T.II

宗教 [dʒʊn - dʒiəu] religion
(Fig.k10a & Fig.g13)

相信 [ʃiən şin] to believe

輕重 [ʃiən dʒiəu] weight
(Fig.k10b & Fig.13)

新舊 [ʃiən dʒiəu] new and old (Fig.18)

氫氣 [ʃiən tʃ] hydrogen
(Fig.k3d & Fig.g6)

猪肺 [dʒu ʃei] pig's lungs (Fig.19)

(2) When T.II follows another T.II, the shape also remains the same. It starts lower than the starting point of the naming tone and also falls lower.

e.g. T.II + T.II

中 j: j cf 中 b

中 j: j = 1

中 j: j cf 中 6

e.g. T.II + T.II

我们 [ŋjəʊ.mən] we

U.S.A.

美國 [mei ɻue] we

savage

野蠻 [ie ɻuən] /a small flag
4711:

Little flag (Fig. k_{5b} & Fig. g_9)

to request (Fig. 20)

good chess-playing (Fig. 21)

17

a small flag

to request

good chess-playing (Fig. 21)

e.g. T.IV + T.II

an unimportant character in a play (Fig. k_8a & Fig. g_{11})

erubber (Fig. k_{8b} & Fig. g_{11})

talking nonsense (Fig. k_{8c} & Fig. g_{11})

the earth

all received (Fig. k_{6b} & Fig. g_{9})

(2) When T.II follows another T.II, the shape also remains the same. It starts at about the same point as the naming tone but does not fall so low.

e.g. T.II + T.II

hair clips (Fig. 22)

eight drops (Fig. 23)

to be fined at chess (Fig. k_{4b} & Fig. g_{7})

/ completely
(3) When a syllable of T.II is reduplicated e.g. as a form of address or in baby talk, then the second syllable is pronounced in a mid-level tone.

**e.g.** T.II + T.II

爸爸 [ba - ba]  father  (Fig. 24)

叔叔 [su ju]  uncle, father's younger brother

牛 [niu niu]  ox

b. When T.II precedes another toneme (including another T.II) it retains its original low-fall. It starts a little higher than the naming tone and does not fall so low.

**e.g.** T.II + T.I

看 [kan]  see  (Fig. 22)

中 [zhong]  see  中 [zhong 2]

cf. 中 [zhong 2a]

**T.II + T.II**

看 [kan]  see  (Fig. 12a)

**T.II + T.III**

糖 [tang]  sweets  (Fig. 25)

八股 [ba gu]  "eight-legged essay", of the old examination time.  (Fig. 26)

發 [fa  tia]  to found  (Fig. k4, Fig. g7)

朋友 [pung iou]  friends

白臉 [be lien]  white face, a term in the Chin. opera
3. Toneme III, naming tone, high falling, marked thus: \_\

a. When T.III follows

(1) When T.III follows another toneme (including another T.III), it loses the very slight rise which sometimes appears in the naming tone. Also it starts at a lower point than the naming tone and does not fall so low. It only reaches mid-low

e.g. T.I + T.III

\text{see 中7}

\text{T.II + T.III}

\text{see 中15}

\text{T.III + T.III}

\text{a clown}

\text{bandits (Fig.27)}
torch (Fig. 28)
a person who can see supernatural things
a small chisel (Fig. k5c & Fig. g8)
whole volume
parents
low class (Fig. 29)
Shanghai (Fig. 30)
to run a risk
proper name (Fig. k6c & Fig. g9)
a sharp axe (Fig. k9 & Fig. g12)

(2) When a syllable of T.III is reduplicated, e.g. as a form of address or in baby talk, the second syllable is then spoken in a low-falling tone.

e.g.
erester sister eld sister
elder sister-in-law
baby
gee-gee

b. When T.III precedes another toneme /

/ (including
(including another T.III), then it becomes a level tone between mid-high and high, marked thus: ʃ

\[ \text{e.g. } T.III + T.I \]

see \( \text{ʃ} \)

\[ T.III + T.II \]

see \( \text{ʃ} \)

\[ T.III + T.III \]

see \( \text{ʃ} \)

\[ T.III + T.IV \]

\[ \text{ʃ} \text{au -ʃu} \]

good points (Fig. 32, Fig. k12, Fig. g15)

\[ \text{ʃ} \text{au tʃi} \]

stingy (Fig. k5d & Fig. g8)

\[ \text{ʃ} \text{au fei} \]

tip (Fig. 33)

\[ \text{køŋ pa} \]

perhaps to write a letter

\[ \text{jìe jìn} \]

morning

4. Toneme IV, naming tone, low-falling-rising, marked thus

a. When T.IV follows

(1) When T.IV follows another toneme

(including another T.IV) it becomes a very low-falling tone arrested by a glottal stop and loses the final rise which exists in its naming tone. The glottal stop makes it quite distinct from Toneme II, which is low-falling
falling but starts at a slightly higher point than the present toneme we are discussing. We shall call it a low-low-falling tone, marked thus:  ।

\[ \text{\textit{e.g. }} T.I + T.IV \]
\[ \text{see } \text{\textit{Fig.}\text{18}} \]

\[ T.II + T.IV \]
\[ \text{see } \text{\textit{Fig.}\text{16}} \]

\[ T.III + T.IV \]
\[ \text{see } \text{\textit{Fig.}\text{24}} \]

\[ T.IV + T.IV \]

究竟 [\text{\textit{y}o\text{z}\text{ja}u - \text{\textit{\text{g}i}n\text{\text{x}}}]} \]
eventually
(Fig.\text{13} & Fig.\text{16})

孝順 [\text{\textit{\text{\text{i}a}u - \text{\text{\text{x}a}n\text{\text{x}}}]}]
filial
(Fig.\text{34}, Fig.\text{15} & Fig.\text{16})

二弟 [\text{\textit{\text{x}i} - \text{\text{i}i\text{\text{x}}}]} \]
second younger brother
(Fig.\text{35})

寿器 [\text{\textit{\text{\text{s}i}u - \text{\text{i}f\text{\text{x}}}]}]
coffin
(Fig.\text{6d} & Fig.\text{9})

運氣 [\text{\textit{\text{y}i\text{\text{n} - \text{\text{i}f\text{\text{x}}}]}]
luck

\[ \text{\textit{t\text{\text{x}i} - \text{\text{\text{y}i\text{\text{n}}}]}]
fortune\]

(2) When T.IV is reduplicated, e.g. as in baby talk or as a form of address or as an adverb of manner, then the second /syllable
23

syllable is spoken with a mid-level

tone

e.g.

大太 [tai - tai] Mrs.

弟 [di - di] younger brother

慢慢 [man man] slowly, slowly

B. When T.IV precedes another toneme it retains
the same shape as the naming tone but its
starting point is lower, the dip is lower,
and the end rising is not as high.

e.g. T.IV + T.I

T.IV + T.II

T.IV + T.III

T.IV + T.IV

see 中 4

see 中 11

see 中 20 a

But when T.IV is specially emphasised
then even when it follows another toneme,
it remains low-falling-rising

e.g.

吃飯 [tsai'fan] eating

睡覺 [ziú'jiau] to sleep

5. When a syllable is not stressed (by stress

I mean a reinforced abdominal pulse occurring

/on
on a syllable), as it often happens with the "particles", it loses its tonal behaviour, i.e., it is so short that we cannot distinguish whether it is going up or down. In such cases we shall call it a NEUTRAL TONE, marked thus: .

The pitch level of the neutral tone is decided by the toneme preceding it. It is high when preceded by T.I or T.III but mid when preceded by T.II or T.IV.

* e.g. *

他的 [\textipa{\text~ta\text\textipa{\textdi}}] his \textit{(Fig.37)}

白的 [\textipa{\text\textipa{\textbe\text\textipa{\textdi}}} white \textit{(Fig.38)}

鬼的 [\textipa{\text\textipa{\textquei\text\textipa{\textdi}}} ghost's \textit{(Fig.39)}

怪的 [\textipa{\text\textipa{\textguai\text\textipa{\textdi}}} ugly \textit{(Fig.40)}
From the above we reach the following conclusions for the two-syllabled group:

1. Toneme I is susceptible to change when following another tone; it becomes a mid-level tone. Reduplication makes no difference to the change. But when it follows Toneme IV then it remains high-rising.

2. Toneme II remains more or less the same, i.e., low-falling, except when reduplicated. Then it becomes a mid-level tone...

3. Toneme III is susceptible to change when preceding another toneme. It becomes a high-level tone. When it is reduplicated then it becomes a low-falling tone.

4. Toneme IV is susceptible to change when following another toneme. It becomes a very low fall and ends with a glottal stop. But when it is reduplicated then it becomes a mid-level tone...
B. Three-syllabled group: In the three-syllabled group the tone sandhi is as follows:

**T.I + I + I:** The 1st syllable remains high-rising.

111→111

The 2nd syllable is level, but starts lower, and sometimes has a very slight fall due to the fact that the 3rd syllable is even lower and is level.

e.g.

三鮮湯 [san-ʃen-tɒŋ] a kind of soup (Fig. 41)

新加坡 [ʃiŋ dʒia pɔ] Singapore (Fig. 42)

苏东坡 [su dɒŋ pɔ] a famous poet of the Sung Dynasty

張文幹 [dʒan tʃiɛn sɨ] head of the Taoist sect

**T.I + I + II:** The 1st syllable remains high-rising.

111→111

The second syllable becomes mid-level.

The 3rd syllable remains low-falling

e.g.

東厢房 [dəŋ-ʃiaŋ, foun] room on the east wing (Fig. 43)

梳妆台 [ʃu-ʤuaŋ, tai] dressing table

飛机场 [fei dʒi tʃaŋ] aerodrome (Fig. 44)

香蕉皮 [ʃiaŋ dʒiau pɨ] banana skin.

**T.I + I + III:** The 1st syllable remains high-rising.

111→111

The 2nd syllable becomes mid-level
and sometimes has a very slight fall.
The 3rd syllable remains high-falling.

* e.g. 花生米 ['xua-san\mi] peanuts
蜘蛛網 [djr dzju >_aj] spider's web (Fig. 45)
鸡蛋花 [dzi iau go] cashew nuts (Fig. 46)

**T.I + I + IV:** The 1st syllable remains high-rising.
111 \(\rightarrow\) 111 The 2nd becomes mid-level.
The 3rd becomes a low-low-falling.

* e.g. 穿衣鏡 ['t\uan-i-dzin] dressing mirror
青山道 [tsi fan dau] Green Hill Road (Fig. 47)
山東話 [fan don xua] Shantung dialect
金箍棒 [dzi ku ban] golden-topped rod (Fig. 48)

**T.I + II + I:** The 1st syllable remains high-rising.
111 \(\rightarrow\) 111 The 2nd syllable remains low-falling.
The 3rd becomes mid-level.

* e.g. 科學家 ['ko-y0-dzi] scientist (Fig. 50)
辣椒鴨 [dzi au ma dzi] peppered chicken
靜宮 [tsin ian go] name of a temple in Szechuan (Fig. 49)
音樂家 [in yo dzi] musician

**T.I + II + III:** The 1st syllable remains high-rising.
111: 111 The 2nd and the 3rd remain low-falling,
the 3rd starts a little lower than the 2nd.

e.g. 陰曆年 [jīn lì nián] lunar year  
西洋人 [xiāng yán rén] Westerners  
花蝴蝶 [huā bù dié] spotted butterfly  
三層樓 [sān chéng lóu] three-storeyed

T.I + II + III: The 1st syllable remains high-rising.  
1\N: 1\N  
The 2nd remains low-falling.  
The 3rd remains high-falling.

e.g. 封神榜 [fēng shén bǎng] name of a novel  
參謀長 [cān móu zhǎng] chief of staff  
英國狗 [yīng guó gǒu] English dog

T.I + II + IV: The 1st syllable remains high-rising.  
1\J\J→1\J\J  
The 2nd remains low-falling.  
The 3rd becomes a low-low-falling.

e.g. 青白菜 [qīng bái cài] cabbage  
基督教 [jīn dú zhèng jī] Christianity  
西遊記 [xī yóu jì] "Monkey," a novel  
毽子健 [jiàn zǐ jiàn] shuttlecock

T.I + III + I: The 1st syllable remains high-rising.  
1\Y→1\Y  
The 2nd remains high-falling but does not fall as low as the naming tone; it ends /at
at about mid-high, marked thus: ü

The 3rd becomes mid-level.

e.g. 资本家 [dzaː bən -dʒiaː] capitalist
     香港衫 [ʃiŋ gai san] Hongkong shirt
     新雨衣 [ʃiŋ jii yii] new raincoat
     丁老师 [diŋ lau ʃii] Teacher

T.I + III + II: The 1st syllable remains high-rising.
T.I + III + III: The 1st syllable remains high-rising.
T.I + III + IV: The 1st syllable remains high-rising.

The 2nd falls from high to mid-high.
The 3rd remains low-falling.
The 2nd falls from high to mid-high.
The 3rd starts slightly lower than the 2nd and falls to low.

T.I + IV + III: The 1st syllable remains high-rising.

The 2nd falls from high to mid-high.

e.g. 吹火筒 [tʃuei ʃou ʃu] rod used to blow fire
     吹水壺 [tʃuei jii ʃu] pot for water when ironing
     金耳環 [dujin ʃi ʃuan] gold earring
     公使館 [gong jii guan] embassy
     吹鼓手 [tʃuei gu jau] bandman
     新雨傘 [ʃiŋ jii san] new umbrella

T.I + III + IV: The 1st syllable remains high-rising.
The 2nd falls from high to mid-high. The 3rd becomes low-low-falling.

- e.g. 关圣教 [tien dzu djiu] Catholicism (Fig. 60)
- 岡鏡 [tien li dzin] binoculars (Fig. 61)
- 捞撈 [tsou sau mien] noodles in soup

T.I + IV + I: The 1st syllable remains high-rising.

The 2nd becomes a low level tone, marked thus: ।
The 3rd becomes a mid-level.

- e.g. 清道夫 [tsun dau fu] scavenger
- 炸炸投 [tsun dzau dzj] a bomber (Fig. 62)
- 三增經 [san dzj dzin] "the Trimetical Classic"

T.I + IV + II: The 1st syllable remains high-rising.

The 2nd becomes low-level.
The 3rd remains a low-falling tone.

- e.g. 華茸袍 [dan dzjau pau] a thin dustcoat
- 三男孫 [san dzjau iu] the third grand-uncle
- 市政局 [gau bu dzj] the Municipal Council (Fig. 63)

T.I + IV + III: The 1st syllable remains high-rising.

The 2nd becomes low-level.
The 3rd remains a high-falling tone though it does not fall quite as low as the naming tone.

- e.g. 海水-de-Cologne
The 1st syllable remains high-rising.

The 2nd becomes low-level.

The 3rd becomes low-low-falling.

e.g.

接待会 [de'au dai xuei] reception party (Fig. 64)

新祝福 [jin bei guei] a new cupboard for storing blankets

汪弄正 [wan lon dang] Officer Wang
T.II + I + I: The 1st syllable remains low-falling.
   J1 11 → J1-
   The 2nd remains high-rising.
   The 3rd becomes mid-level.

   e.g., [liəu ˈfɒn ˈdʒi] gramophone
   (Fig. 65)
   黄鹤 [xuan bau tʃe] a ricksha
   半鹂 [ian dian for] fits
   (Fig. 66)

T.II + I + II: The 1st syllable remains low-falling.
   J1 11: J1-
   The 2nd remains high-rising.
   The 3rd, low-falling

   e.g.,
   雷寺塔 [lei ˈʃoŋ ˈta] a pagoda in Hangchow
   (Fig. 67)
   鳥肝曲 [y ɡan ʔau] cod-liver-oil
   菊承墟 [ʃou ˈdʒia po] Grandma Bear, a character in folk tale.
   (Fig. 68)
   荷花池 [xu ˈxua tʃ] a lily pond

T.II + I + III: The 1st syllable remains low-falling.
   J1 11: J1-
   The 2nd remains high-rising.
   The 3rd remains high-falling.

   e.g.,
   足尖舞 [dʒu ˈdʒien ˈu] ballet
   圖書館 [tʃu ˈʃu ˈguan] library
   (Fig. 69)
   長凳 [tʃan ˈson ɡo] peanuts
   (Fig. 70)

T.II + I + IV: The 1st remains low-falling.
   J1 11 → J1-
   The 2nd remains high-rising.
   /The 3rd
The 3rd becomes low-low-falling.

\[ \text{e.g.} \]
- 桃花節 [tou xia - an] name of a play
- 神經病 [san djen binj] mental disease
- 翁喜同 [yon tjen doj] the name of a cave
  (Fig. 71)

\[ \text{T.II + II + I:} \] The 1st syllable remains low-falling.
\[ \text{JJ} \rightarrow \text{JJ} \] The 2nd also remains low-falling.
\[ \text{The 3rd becomes mid-level.} \]

\[ \text{e.g.} \]
- 銀別針 [lu hie - tjen] a green brooch
- 腳踏車 [dyo ta tf] bicycle
  (Fig. 72)
- 离Registered [o mi - an] Mount Omei of Szechwan

\[ \text{T.II + II + II:} \] The 1st syllable, the 2nd syllable and
\[ \text{JJJJ} \] the 3rd syllable all remain low-falling,
\[ \text{but each starts a little lower than the preceding one.} \]

\[ \text{e.g.} \]
- 中陽節 [tsou xian dzie] The Ninth month
  festival
- 鐵室撕 [tie so tf] Iron-chained Bridge
  (Fig. 73)
- 地極調 [be dji go] name of a pavilion

\[ \text{T.II + II + III:} \] The 1st and the 2nd syllables remain
\[ \text{JJN: JNN} \] low-falling. The 2nd starts a little lower.
\[ \text{The 3rd remains high-falling} \]

\[ \text{e.g.} \]
- 牛飲水 [niu jin t jui] cow drinking water

/red ink
**T. II + II + IV:** The 1st and the 2nd syllable remain low-falling.

The 3rd becomes low-low-falling.

**E.g.:**

红楼梦 [xuán lóu mèng] "The Red Chamber Dream" name of a novel

龙门阵 [lóng mén zhèn] dragon gate formation

白蛇传 [bái shé chuán] The Story of the White Snake (Fig. 74)

**T. II + III + I:** The 1st syllable remains low-falling.

The 2nd becomes high-level.

The 3rd becomes mid-level.

**E.g.:**

黄浦滩 [huáng pǔ táan] The Bund (Fig. 75)

玉带 [yù dài] Lady Precious Stream (Fig. 76)

狐狸精 [fú lí jīng] fox spirit

洋水仙 [yáng shuǐ xiān] hyacinth

**T. II + III + II:** The 1st syllable remains low-falling.

The 2nd becomes high-level.

The 3rd remains low-falling

**E.g.:**

黄鼠狼 [huáng shǔ láng] skunk (Fig. 77)

萤火虫 [yín huǒ chóng] firefly (Fig. 78)

六世叔 [liù shì shū] sixth uncle

/T. II + III + III: /
T.II + III + III: The 1st syllable remains low-falling.
\[\text{The 2nd becomes high-level.}\]
\[\text{The 3rd remains high-falling.}\]

\[\text{e.g. Bureau of National History (Fig.79) thermometer (Fig.80) sole of shoe (Fig.81)}\]

T.II + III + IV: The 1st syllable remains low-falling.
\[\text{The 2nd becomes high-level.}\]
\[\text{The 3rd becomes low-low-falling.}\]

\[\text{e.g. jaundice (Fig.81) apple tree (Fig.82) to take films (Fig.83)}\]

T.II + IV + I: The 1st syllable remains low-falling.
\[\text{The 2nd becomes a low-level tone.}\]
\[\text{The 3rd remains high-rising.}\]

\[\text{e.g. knitwear (Fig.83) green pea soup (Fig.84) telephone operator (Fig.85)}\]

T.II + IV + II: The 1st syllable remains low-falling.
\[\text{The 2nd becomes low-level.}\]
\[\text{The 3rd remains low-falling.}\]

\[\text{e.g. walking with heels close together (Fig.85) canvas bed}\]
The 1st syllable remains low-falling.
The 2nd becomes low-level.
The 3rd remains high-falling.

\[ \text{T.II + IV + III: } \]
\[ \text{The 1st syllable remains low-falling.} \]
\[ \text{The 2nd becomes low-level.} \]
\[ \text{The 3rd remains high-falling} \]

\[ \text{e.g.} \]
\[ \text{黄莓精 } [\text{xuan} \text{- bu} \text{ - fan]} \]
\[ \text{yellow bean powder} \]
\[ \text{(Fig. 87)} \]

\[ \text{ Former title of a Governor of a province} \]

\[ \text{ Minister Wang} \]

\[ \text{The 1st syllable remains low-falling.} \]
\[ \text{The 2nd becomes low-level.} \]
\[ \text{The 3rd becomes low-low-falling} \]

\[ \text{e.g.} \]
\[ \text{无线电 } [\text{jien} \text{- dien]} \]
\[ \text{wireless} \]
\[ \text{(Fig. 88)} \]

\[ \text{ Noodles with mince} \]

\[ \text{Stomach trouble} \]
T. III + I + I: The 1st syllable becomes high-level.

\[ 71 \rightarrow 7+1 \]

The 2nd becomes mid-level.
The 3rd also becomes mid-level but slightly lower than the 2nd syllable.

E.g.

水仙花 [-fei-ien-xua] narcissus (Fig.90)
小妖精 [fiau iau d3i1] elf
王芳斋 [u fan d2ai] name of a restaurant

T. III + I + II: The 1st syllable becomes high-level.

\[ 71 \rightarrow 7+1 \]

The 2nd becomes mid-level.
The 3rd remains low-falling.

E.g.

手风琴 [-fau-fon tsin] accordion (Fig.91)
語言学 [y i1 yao] Phonetics
小巴黎 [fiau ba li] Little Paris

T. III + I + III: The 1st syllable becomes high-level.

\[ 71 \rightarrow 7+1 \]

The 2nd becomes mid-level.
The 3rd remains high-falling.

E.g.

总经理 [-dzog dzin li] general manager
小花狗 [fiau xua g3au] small spotted dog. (Fig.92)

T. III + I + IV: The 1st syllable becomes high-level.

\[ 71 \rightarrow 7+1 \]

The 2nd becomes mid-level.
The 3rd becomes low-low-falling.

E.g.

洗衣店 [-fei i1 dien] laundry
水烟袋 [fuei ien dai] waterpipe (Fig.93)
/ordinary mail
普通信 [pu-tone \sin] ordinary mail

**T.III + II + I**: The 1st syllable becomes high-level.

The 2nd remains low-falling.

The 3rd becomes mid-level.

* e.g. lipstick [\dzu\san-gou]  
  学生 [\jau \yo \san] school-children  
  打铜街 [da \tor \gai] name of a street in Chengtu, Szechuan. (Fig. 94)

**T.III + II + II**: The 1st syllable becomes high-level.

The 2nd remains low-falling.

The 3rd also remains low-falling.

* e.g.
  水龍頭 [\suei \lon \tauau] tap for water  
  美國人 [\wei \que \jan] Americans

**T.III + II + III**: The 1st syllable becomes high-level.

The 2nd remains low-falling.

The 3rd remains high-falling.

* e.g.
  告白 [\li \be \tien] a legendary character  
  小白狗 [\jau \be \gou] a small white dog (Fig. 96)

**/T.III + II + IV:**
T. III + II + IV: The 1st syllable becomes high-level.

\[ \text{The 2nd remains low-falling.} \]

\[ \text{The 3rd becomes low-low-falling.} \]

\[ \text{e.g.} \]

- 頭微鏡 [tien.wei.dzij] microscope
- 老和尚 [lau xo.saj] old monk
- 拔門店 [ban men.dien] Panmunjon (Fig. 97)
- 老皮匠 [lau pi.dzij] old shoemaker

T. III + III + I: The 1st syllable becomes high-level.

\[ \text{The 2nd falls from high to mid-high.} \]

\[ \text{The 3rd becomes mid-level.} \]

\[ \text{e.g.} \]

- 保険箱 [baun.sien.dzij] safe-box (Fig. 98)
- 跑馬場 [pau ma.ti] race-course
- 老虎精 [lau fu.dzij] tiger spirit
- 老公章 [lau dung.dzij] name of a shop

T. III + III + II: The 1st syllable becomes high-level.

\[ \text{The 2nd falls from high to mid-high.} \]

\[ \text{The 3rd remains a low-falling tone} \]

\[ \text{e.g.} \]

- 跑馬場 [pau ma.ti] race-course (Fig. 100)
- 害席 [i.dju si] Chairman Lee

T. III + III + III: The 1st syllable becomes high-level.

\[ \text{The 2nd falls from high to mid-high.} \]

\[ \text{The 3rd remains high-falling but ends} \]

\[ \text{at a much lower point than the 2nd syllable} \]
syllable.

\[ \text{e.g.} \quad \text{保守堂 [\text{-bau} \text{-sou} \text{-dau]} } \quad \text{the Conservative Party (Fig.101)} \]

\[ \text{小老虎 [\text{-fau} \text{-lau} \text{-fu]} } \quad \text{small tiger} \]

\[ \text{老古板 [\text{-lau} \text{-gu} \text{-ban]} } \quad \text{old-fashioned (Fig.102)} \]

\[ \text{T.III} + \text{III} + \text{IV}. \text{ The 1st syllable becomes a high-level.} \]

\[ \text{\textbackslash\textbackslash\textbackslash \rightarrow \text{\textbackslash\textbackslash\textbackslash} } \quad \text{The 2nd remains high-falling ending somewhere about mid-high.} \]

\[ \text{The 3rd becomes a low-low-falling tone.} \]

\[ \text{\textbackslash\textbackslash\textbackslash \rightarrow \text{\textbackslash\textbackslash\textbackslash} } \quad \text{e.g.} \quad \text{老虎肚 [\text{-fau} \text{-fu} \text{-drau]} } \quad \text{a place where boiling water is sold (Fig.103)} \]

\[ \text{水草店 [\text{-fuei} \text{-go} \text{-dien]} } \quad \text{fruit shop (Fig.104)} \]

\[ \text{着老宴 [\text{-ia} \text{-lau} \text{-yen]} } \quad \text{an asylum for the aged} \]

\[ \text{T.III} + \text{IV} + \text{I}: \text{ The 1st syllable becomes high-level.} \]

\[ \text{\textbackslash\textbackslash\textbackslash \rightarrow \text{\textbackslash\textbackslash\textbackslash} } \quad \text{The 2nd becomes a low-level tone.} \]

\[ \text{The 3rd remains high-rising} \]

\[ \text{\textbackslash\textbackslash\textbackslash \rightarrow \text{\textbackslash\textbackslash\textbackslash} } \quad \text{e.g.} \quad \text{打字機 [\text{-da} \text{-du} \text{-dzi]} } \quad \text{typewriter (Fig.105)} \]

\[ \text{短大衣 [\text{-duan} \text{-da} \text{-i} ] } \quad \text{short jacket} \]

\[ \text{老巴佬 [\text{-lau} \text{-bya} \text{-sin]} ] } \quad \text{name of a restaurant} \]

\[ \text{T.III} + \text{IV} + \text{II}: \text{ The 1st syllable becomes high-level.} \]

\[ \text{\textbackslash\textbackslash\textbackslash \rightarrow \text{\textbackslash\textbackslash\textbackslash} } \quad \text{The 2nd becomes low-level.} \]

\[ \text{The 3rd remains low-falling.} \]

\[ \text{\textbackslash\textbackslash\textbackslash \rightarrow \text{\textbackslash\textbackslash\textbackslash} } \quad \text{e.g.} \quad \text{打箭囊 [\text{-da} \text{-dzien} \text{-lu]} ] } \quad \text{name of a place on the border of Tibet (Fig.106)} \]

\[ /\text{vegetable} \]
小菜場 [fjau-tsai.tar] vegetable market (Fig. 107)
打氣筒 [da ti toj] bicycle pump

T.III + IV + III: The 1st syllable becomes high-level.
                  The 2nd becomes low-level.
                  The 3rd remains high-falling.

   e.g.
   禮拜五 [-li-bai \
v] Friday
   豆腐 [lau dau fu] bean curd (Fig. 108)
   討債鬼 [tau dzai guei] a ghost who asks for debt, a form of abuse (Fig. 109)

T.III + IV + IV: The 1st syllable becomes high-level.
                  The 2nd becomes low-level.
                  The 3rd becomes low-low-falling

   e.g.
   捏麪杖 [gan-mien.djar] rolling pin
   礼拜四 [li bai ss] Thursday
   古電話 [lau djen xua] old phone number (Fig. 110)
T.IV + I + I: The 1st syllable remains low-falling-rising
\( \downarrow \) The 2nd remains high-rising.
\( \downarrow \) The 3rd becomes mid-level.

\[ \text{e.g.} \]

- 荷花 [xuài ˈdəŋ ʃi] a bad thing
- 電燈泡 [dìān dən pàu] bulb (for lamp) (Fig.111)
- 蕃金 [dʒiu dʒiˈm ʃən] San Francisco

T.IV + I + II: The 1st syllable remains low-falling-rising.
\( \downarrow \downarrow \downarrow \downarrow \) The 2nd remains high-rising.
\( \downarrow \downarrow \downarrow \downarrow \) The 3rd remains low-falling

\[ \text{e.g.} \]

- 叫花婆 [dʒiu xuā po] beggar women (Fig.112)
- 放生池 [fān san tʃv] a pond for liberated living fish (Fig.113)
- 鏡花緣 [di m xuā yen] name of a novel

T.IV + I + III: The 1st syllable remains low-falling-rising
\( \downarrow \downarrow \downarrow \downarrow \) The 2nd remains high-rising.
\( \downarrow \downarrow \downarrow \downarrow \) The 3rd remains high-falling

\[ \text{e.g.} \]

- 頭風筒 [tjoʊ ˈfʊn tʃən] an ancient kind of megaphone (Fig.114)
- 賣粉 [maɪ ʃau ʃau] selling noodles
- 到香港 [dau ʃiu ʃau] to go to Hongkong

T.IV + I + IV: The 1st syllable remains low-falling-rising.
\( \downarrow \downarrow \downarrow \downarrow \downarrow \) The 2nd remains high-rising.
\( \downarrow \downarrow \downarrow \downarrow \downarrow \) The 3rd becomes a low-low-falling tone.

\[ \text{e.g.} \]

- 外交部 [wai ˈdzju bu] Foreign Ministry
- /tram stop
The 1st syllable remains low-falling-rising.
The 2nd remains low-falling.
The 3rd becomes mid-level.

T.IV + II + I: The 1st syllable remains low-falling-rising.
J AJ AJ AJ

The 2nd remains low-falling.
The 3rd remains low-falling.

T.IV + II + II: The 1st syllable remains low-falling-rising.
J AJ AJ AJ

The 2nd remains low-falling.
The 3rd remains low-falling.

T.IV + II + III: The 1st syllable remains low-falling-rising.
J AJ AJ AJ

The 2nd remains low-falling.
The 3rd remains high-falling.

T.IV + II + IV: The 1st syllable remains low-falling-rising.
J AJ AJ AJ

The 2nd remains low-falling.
The 3rd becomes high-falling.

T.IV + III + II: The 1st syllable remains low-falling-rising.
J AJ AJ AJ

The 2nd remains low-falling.
The 3rd remains high-falling.
T.IV + II + IV: The 1st syllable remains low-falling-rising.
The 2nd remains low-falling.
The 3rd becomes low-low-falling.

e.g. 

美團 [tiou xan -dan] pickled egg (Fig.120)
剃頭面 [ti tæu dzian] barber (Fig.121)
翻落肉 [dzian bo jæu] meat with gravy

T.IV + III + I: The 1st syllable remains low-falling-rising.
The 2nd becomes high-level.
The 3rd becomes mid-level.

e.g. 

臭水溝 [tiou jue -gæu] gutter (Fig.122)
大喇叭 [da la ba] trumpet
敬祖宗 [dzæn dju dzon] to worship the ancestors

T.IV + III + II: The 1st syllable remains low-falling-rising.
The 2nd becomes high-level.
The 3rd remains low-falling.

e.g. 

大表 [da -biau -lu] eldest uncle (Fig.123)
電火筒 [dien xo -lu] electric fire
愛爾蘭 [ηai r lan] Ireland

T.IV + III + III: The 1st syllable remains low-falling-rising.
The 2nd becomes high-level.

/
The 3rd remains high-falling.

* e.g.
  - 酿酒廠 [tɕəu tɕiau tɔn] brewery (Fig. 124)
  - 洗禮 [ɕei ɕi iŋ] baptism
  - 喜劇 [tɕiau tɕiau tɕiau] to play the clown

T.IV + III + IV: The 1st syllable remains low-falling-rising.

The 2nd becomes high-level.

The 3rd becomes low-low-falling.

* e.g.
  - 道主義 [tɕau tɕu dʒiəu] Bishop Chao (Fig. 125)
  - 看手相 [tɕan tɕau tɕaj] palm-reading
  - 載眼鏡 [dai ien dʒin] to wear spectacles

T.IV + IV + I: The 1st syllable remains low-falling-rising.

The 2nd becomes low-level.

The 3rd becomes mid-level.

* e.g.
  - 富士山 [fui-ʃi-fan] Fujiyama, the mountain (Fig. 126)
  - 會計師 [kweɪ dʒi s], accountant
  - 政務廳 [dʒen u tʃi] administration dept.

T.IV + IV + II: The 1st syllable remains low-falling-rising.

The 2nd becomes low-level.

The 3rd remains low-falling.

* e.g.
  - 聖誕節 [ʃan dan ʃiə] Christmas (Fig. 127)
  - 大笨蛋 [da ben tʃon] great fool

T.IV + IV + III: 
T.IV + IV + III: The 1st syllable remains low-falling-rising. The 2nd becomes low-level. The 3rd remains high-falling.

T.IV + IV + IV: The 1st syllable remains low-falling-rising. The 2nd becomes low-level. The 3rd becomes low-low-falling.

E.g.

破碗 [po-fan \ uan] a broken bowl (Fig. 128)

大上海 [da \ jau \ xai] Greater Shanghai

Christmas tree (Fig. 129)

Professor (Fig. 130)
From the above we draw the following conclusions for the three-syllabled group:

1. Toneme I remains high-rising when it is in the initial position. It becomes mid-level when final except in the combinations, II + IV + I, and III + IV + I, in which cases it remains high-rising. When it is in the middle position, then if the first syllable is T.I or T.III, it becomes a mid-level tone; but if the first syllable is T.II or T.IV, then it remains high-rising.

2. Toneme II has no change whatever; it remains a low-falling tone in whichever position it occurs.

3. Toneme III remains high-falling when final and becomes high-level when initial. When it is in the middle, then if the first syllable is T.I or T.III, it remains high-falling, though ending at about mid-high; but if the first syllable is T.II or T.IV, then it becomes high-level.

4. Toneme IV remains low-falling-rising when initial. It becomes low-low-falling and is checked by a glottal stop when final. When it is in the middle position then it becomes low-level.
5. The following position variants occur:

**Initial:**
- T.I remains high-rising.
- T.II remains low-falling.
- T.III becomes high-level.
- T.IV remains low-falling-rising.

**Medial:**
- T.I, when the first syllable is T.I or T.III, becomes a mid-level tone. Otherwise it remains high-rising.
- T.II remains low-falling.
- T.III, when the first syllable is T.II or T.IV, becomes high-level. Otherwise it becomes half-high-falling.
- T.IV becomes low-level.

**Final:**
- T.I becomes mid-level except in the combinations, II + IV + I and III + IV + I, in which cases it remains high-rising.
- T.II remains low-falling.
- T.III remains high-falling.
- T.IV becomes a low-low-falling and is checked by a glottal stop.

<table>
<thead>
<tr>
<th>Tones</th>
<th>Name + Tone</th>
<th>Initial</th>
<th>Medial</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1</td>
<td>1</td>
<td>( \frac{3}{4} + t + x )</td>
<td>( \frac{3}{4} + t + x )</td>
</tr>
<tr>
<td>IV</td>
<td>1</td>
<td>1</td>
<td>( \frac{3}{4} + t + x )</td>
<td>( \frac{3}{4} + t + x )</td>
</tr>
<tr>
<td>III</td>
<td>1</td>
<td>1</td>
<td>( \frac{3}{4} + t + x )</td>
<td>( \frac{3}{4} + t + x )</td>
</tr>
<tr>
<td>V</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
C. Four-syllabled group.

The tonal behaviour of the four-syllabled group is as follows:

1. Toneme I remains high-rising when it is in the initial position.
   When it is the 2nd or 3rd or 4th syllable then it becomes mid-level.
   
   e.g. 東南西北 [dōn-fē-jīn-běi] east, west, south and north
   文藝復興 [wén-ī-fán-jīn] Renaissance

2. Toneme II remains low-falling in whatever position it occurs.

   e.g. 牛頭馬面 [niú-tóu-mǎ-miàn] ox-headed and horse-faced, characters in the Under World
   燕長城 [yàn-lǐ-sān-fēng] the Great Wall

3. Toneme III remains high-falling when final. It becomes high-level in any other position.

   e.g. 草紙馬 [cǎo-zhǐ-mǎ] straw-men and paper horses
   桂語花香 [guì-yǔ-huā-xiāng] singing birds and fragrant flowers

4. Toneme IV remains low-falling-rising when it is in the initial position, but becomes low-level when it is the 2nd or 3rd syllable, and low-low-falling when it is in the final position.

   e.g. 士農工商 [shì-nóng-zhāng-gōng] scholars, peasants, labourers and merchants
   葉子主義 [yè-zǐ-yì] egoism
5. The following positional variants occur:

**Initial:**
- T.I remains high-rising.
- T.II remains low-falling.
- T.III becomes high-level.
- T.IV remains low-falling-rising.

**Medial:**
- T.I becomes mid-level.
- T.II remains low-falling.
- T.III becomes high-level.
- T.IV becomes low-level.

**Final:**
- T.I becomes mid-level.
- T.II remains low-falling.
- T.III remains high-falling.
- T.IV becomes low-low-falling and is checked by a glottal stop.

<table>
<thead>
<tr>
<th>Tones</th>
<th>Naming Tones</th>
<th>Initial</th>
<th>Medial</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>III</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
A List of Four-Syllabled Phrases

交通组织 [dzhiau-tan-gi-quan] transport organization

春花秋月 [tsuan-xua-tsuan-ye] spring flowers and autumn moon

金黄衣裳 [djin-i d22] golden belt and purple robe

贪官污吏 [tan-quan-u-li] corrupted officials

声东击西 [tan-doj-dzi-fa] unexpected attack

东南西北 [doj-fa-do-dzi-xuei] east, west, south, and north

光多害 [djo-dzo-dzi jou] more evil than blessing

天灾人祸 [tien-dai-son-xo] natural and man-made disasters

东西指挥 [d2oj-fa-dzi-xuei] giving orders east and west

张拉李塞 [dzieu-xau-li-s] inconsistent a irresponsible

提兵贵勇 [dzieu-bin-mai-ma] top horses

高瞻远瞩 [dzieu-dzai-uei] adjectives

公顾大夫 [djen-tan-da-fu] high-ranking officials

天翻地覆 [tien-fan-di-fu] chaos

续家破灭 [tzin-dzia-po-tsun] bankrupt

天道地义 [tien-dzie-dzi-ni] universal principle

奸臣妖孽 [zieu-ten-rau-dzi] wicked men and women of the court

东南西北 [dzieu-fa-dzi-be] east, south, west and north

英皇加冕 [tien-xian-dzia-mien] coronation of the English sovereign

科学研究 [ko-jo-nien-dzia] scientific research

公侯王族 [tien-xau-yan-sen] princes

风平浪静 [dzieu-deu-tsau-nien] calm

轻装驰骋 [taien-fdian-fei-ma] full of horses (sign of wealth)

知识为先 [fau-ten-fa-fa] knowledge precedes practice
1231 北魏末期 [fei - di - dzu - jau] candle and post (transience)
1232 生离死别 [son - i - ss - bie] separations in life and death
1233 花言巧语 [hua - ien - jiau - y] smooth-tongued
1234 山穷水盡 [son - tsyan - jie - dzu] at the end of one's resources
1241 巴威代瑞 [pau - tsan - xo - sin] concealed wealth
1242 極光和 [jin - ping - jie - xo] great-benevolent
1243 思念往事 [sin - ien - i - mai] an unbreached will
1244 落魄世界 [so - po - jie - gau] world of suffering
1311 虚张声势 [deng - je - li - la] irrelevant
1313 修德築基 [jion - li - dzu - biau] clock and watch repairs
1314 秃表兄弟 [gau - biau - jion - dzu] cousins
1315 家庭聚 [i - dzuin - jion - guei] triumphant home-coming
1316 花好月圆 [hua - kau - ye - yen] height of happiness
1317 藝能者如 [gin - dzu - su - dzu] crowd of spectators
1318 豪情壯志 [dion - jiau - jie - dzu] greatly more than rise
1319 飛馬遊龍 [fei - ma - ting - jiong] galloping, lane in hand
1320 飛馬遊龍 [fei - ma - ting - jiong]  "" ""
1321 加冕典禮 [dzu - mien - dzu - jien] coronation ceremony.
1322 生死命 [son - ss - jau - min] " Fate decrees all."
1341 使臣過客 [sien - li - xau - bing] ceremony before fighting
1342 小憩足 [jin - man - i - dzuin] completely satisfied.
1343 生老病死 [son - jau - bing - ss] birth, age, illness and death
1344 原罪根源 [jin - go - bau - min] Karma
1411 香港秋令 [tian - jia - xiao - dzuin] the four seasons
1412 四季轮回 [gi - ss - fan - fan] busily occupied.
1413 宗教宮殿 [dzuin - mien - goy - jo] ancestral temples and palaces
1414 公共建築 [go - goy - dzu - gai] International settlement
1421 燈如夏花 [tien - li - xien - tian] flag and flower
1422 異域人土 [dia - po - jion - kau] a foreigner's home
1423 兄弟朋友 [jo - dy - pin - jau] brothers and friends
1424 忠孝節義 [dzu - jion - dy - mi] loyalty, filial piety, chastity, and righteousness.
1431 皇宮玉珠 [dzu - jion - yu - dzu - jau] treasures
1432 生華年福 [jien - fan - jion - fan] blessed contentment
1433 官員可 [jien - fan - jau - dzu] contentment with one's own lot
1434 重商主義 [son - i - mai - mai] business
1441 雅風戰 [la - pien - dzuin - dzuin] Conquered War
1442 天下太平 [tien - jia - tai - ping] peace under heaven
1444 順時制宜 [fei - dzei - jian - dzu - dzu] feudalism
211 意念收兵 [moy-dżin-sau-bih] sounding the retreat.
212 楚書梵梵 [len-fu-kon-zó] burning of books & burning arch of scholars.
213 審審款仇 [jan-xuin-dien-dau] mixing up night and day.
216 迎春播種 [ling-thón-dzie-fu] Welcome, Spring!
218 流芳百世 [liu-fang-béi-sé] immortal fame.
220 全身鎌甲 [tsyen-fan-kai-dzju] armed from top to toe.
223 无言所肖 [yén-xiao-li-dzju] opening phase of Book of Changes, used
to denote 1, 2, 3, 4.
224 逢其吉 [fón-yó-xua-dzju] evil becomes blessing.
226 丁亲家户 [dòng-dzhe-fu-duì] similar family background.
227 前起先登 [dzju-si-djuen] "The quickest man wins the race."
229 傢思定 [syo-fu-si-fian] thought currents.
231 天合也春 [lu-xo-tou-thuän] Spring in the universe.
233 博聞四益 [niu-yóng-dzjui] two stars along the milky way.
234 服義八道 [fu-yó-ka-dau] TALKING MUSIC.
235 章武丙丁 [dzju-si-bi-dzju] characters denoting 1, 2, 3, 4.
236 挥汗如雨 [tou-xo-lí-aud] peach blossoms and milk.
238 族屬子弟 [niu-tou-ma-mich] Spin of the Underworld.
239 時局無常 [fün-dzju-bien-thien] changes in world situation.
240 評審好法 [mip-tsa-xau-fa] shrewd and judicious.
242 梨借開有任何 [iou-sien-dzju-tsun] oil, salt, sauce, rugs.
244 仁者相逢 [pin-fuei-fian-fon] a random encounter.
245 比肩相應 [jhe-sau-fian-fon] to congratulate one another.
246 趣話八義 [tibo-ba-lá] irrelevant talk.
248 男女平等 [ian-hy-pin-dzju] equality between the sexes.
2331 造壁合令 [bo-fan - gu - dzin] widely learned
2332 逆堂妖臣 [nie - dan - fan - tian] rebels
2333
2334 金榜题名 [tien - ti - fan - duer] unanimous objection
2335 传世遗书 [gong - gu - dzon - dzon] sounding the alarm
2336 传书抚军 [shou - xue - tien] idling
2337 传主改体 [mun - dzon - dzon - ti] demonic constitution
2338 传marca灾 [rui - da - fan - ti] beaten and humiliated
2339 传见加缘 [mun - li - suan - fan] reaping profit and fame
2340 传见加缘 [mun - li - suan - fan] rare animals and birds
2341 传见加缘 [mun - li - suan - fan] watching a fire on the other side of
2342 传见加缘 [mun - li - suan - fan] a river (a cord or button)
2343 传见加缘 [mun - li - suan - fan] deriving one's superiority
2344 传见加缘 [mun - li - suan - fan] and opposing one's in-factors
2345 传见加缘 [mun - li - suan - fan] unexpected delivery from dananz
2346 传见加缘 [mun - li - suan - fan] happy marriage
2347 传见加缘 [mun - li - suan - fan] stern father, kind mother
2348 传见加缘 [mun - li - suan - fan] right and proper
2349 传见加缘 [mun - li - suan - fan] change of heart and appearance
2350 传见加缘 [mun - li - suan - fan] god of matrimony
2351 传见加缘 [mun - li - suan - fan] controller of salt revenue
2352 传见加缘 [mun - li - suan - fan] front, back, left, and right
2353 传见加缘 [mun - li - suan - fan] a voyage
2354 传见加缘 [mun - li - suan - fan] externally infamous
2355 传见加缘 [mun - li - suan - fan] honorary president
2356 传见加缘 [mun - li - suan - fan] longevity and prosperity
3111 外服公司 [tien - yan - fan - rong - ssi] Wang On Company (Shanghai Department Store)
3112 外服公司 [tien - yan - fan - rong - ssi] "Bring into waiting for the morrow"
3113 外服公司 [tien - yan - fan - rong - ssi] number in game of swiss-fingers
3114 无恵慈惠 [bou - dzin - tian - xuan] had one fill of sorrow & distress
3121 无恵慈惠 [bou - dzin - tian - xuan] fire lighting up the stones
3122 无恵慈惠 [bou - dzin - tian - xuan] all shades of colours
3123 无恵慈惠 [bou - dzin - tian - xuan] derogation of one's country
3124 无恵慈惠 [bou - dzin - tian - xuan] lamented by host & present ages
3131 无恵慈惠 [bou - dzin - tian - xuan] fire and floods (disasters)
3132 无恵慈惠 [bou - dzin - tian - xuan] earth, crumbling
3133 无恵慈惠 [bou - dzin - tian - xuan] sacrifice in the cause of righteousness
3134 无恵慈惠 [bou - dzin - tian - xuan] selfish acts in the name of public good
3141 无恵慈惠 [bou - dzin - tian - xuan] a cunning old rascal
3142 无恵慈惠 [bou - dzin - tian - xuan] selfing down the sobole
3143 无恵慈惠 [bou - dzin - tian - xuan] scythe
3211 憎目ispers [ msan \ mu - t\ng - san ] sadness everywhere
3212 資瑕方明 [ t\ng - fa - fan \ min ] just in reward and punishment
3213 脣舌如酸 [ din \ mi - pau \ ien ] swollen eyes and brows
3214 生繍三散 [ d\ng - lau \ ien - san - d\ng ] all classes and society
3221 土囊方綽 [ t\ng \ x\ng - le - fan ] country bombs
3222 土囊雖髒 [ d\ng - lau \ mi - man \ tau ] dumplings stuffed with dates
3223 禪手切舌 [ n\ng - ia \ fsie \ t\ng ] grinding one's teeth
3224 水文嚼舌 [ n\ng \ wan \ d\ng \ - doz ] minutiae
3231 豐一反三 [ d\ng \ - i - fan - san ] deriving particulars from one principle
3232 紙人草鳥 [ d\ng \ - san - t\au \ wa ] paper men and horses
3233 異時手快 [ t\ng \ - min \ jau - kuai ] alert
3234 水月錦花 [ juei \ ye - dzin - x\au ] men in the water, a flower in the mirror (unreality)
3242 今胡乱說 [ da \ ju - juan \ s\ng ] talking nonsense
3243 探人討己 [ san - g\ng \ - li \ d\ng ] profit at the expense of another
3244 小數大做 [ j\ng - ti - da \ - dau ] unnecessary fuss
3311 善語香花 [ n\ng \ y - x\au - baj ] singing birds, fragrant flowers
3312 水木風花 [ -n - juei - ss - yen ] "Think of the source when drinking water."
3313 佳養身勢 [ bau - ian \ - j\ng \ - t\ng ] to look after one's health
3314 小不生意 [ t\ng \ - ban - san \ - li ] small trade
3321 茶草陳根 [ d\ng - tsau \ thi - gen ] complete elimination
3322 織土銅金 [ dyen - tu \ f\ng - r\ng \ tau ] renewed attempt (at conquest)
3332 奇花壯樹 [ -n - t\ng \ - ju - my ] beautiful gifts
3323 奇花壯樹 [ -n - t\ng \ - ju - my ] dancing and gesticulating
3331 管理委員 [ g\ng \ - li - uei \ - yen ] administrator
3332 章有曲理 [ -t\ng - iou - t\ng \ - li ] ridiculous!
3341
3342 古代文言 [ d\ng - lau \ n\ng \ - da \ - myu ] noble speech upon introduction
3343 億億政府 [ kuai - i\ng - d\ng \ - j\ng \ - j\ng ] puppet government
3344 水泥電纜 [ juei - di - dien \ - j\ng ] underwater cable
3411 口是心非 [ k\ng - - fr - fin - fei ] insincere words
3412 資助側近 [ you - d\ng - ss \ - lien ] hugging ties
3413 感動湖人 [ d\ng - d\ng - tsua \ - liu ] rough manners
3414 射上星下 [ t\ng - say - d\ng - ss \ - sia ] favoring upon one's superiors and haughty towards one's inferiors
3421 女扮男装 [-ny - ban \ lan - dzuan] a girl dressed as a man
3422 五世同堂 [-tu - fn \ toy - tan] five generations in the same hall
3423 礼义廉耻 [-li - ni \ lien \ tji] courtesy, righteousness, scrupulous honesty, a sense of shame.
3424 酒肉朋友 [-dzian - gau \ xo - fan] monks who do not observe their vows
3431 神异有功 [-ti - ni - ian - toy] meritorious service
3432 婆顺道友 [-dzian - juan - tau \ nie] rewarding the submissive and crushing the rebellious
3433 酒店老仗 [-dzian - dien \ lau \ ban] mine host
3434 长幼有序 [-dzian - iau - ian - sy] in the right order according to age
3441
3442 胆大志奇 [-dan - da - uan \ uei] daring and wicked
3443 酒醉欲睡 [-dzian - duenei - fan \ bau] filled with food & drink
3444 免费送信 [-mien - fee - son \ sin] free delivery of letters
4111 委宫鬟御 [-vi - guan - quei - fan] resigning from office
4112 地方分权 [-vi - fan - fan \ tyen] decentralization
4113 慎终思远 [-vian - dzon - ss \ yen] far-sighted
4114 胡思乱想 [-vian - dzon - ss \ yen] an out-of-date cake
4121 印光宗师 [-yi - guan - fa - ss] name of a monk
4122 得刀杀人 [-dagie - dian - fa \ yan] murder by proxy
4123 千辛百苦 [-vban - dzin - ba \ lian] alike
4124 退高降重 [-dau - jian - de - dzon] venerable
4131 自度有功 [-dzon - dry - ian - gau] claiming merit for oneself
4132 豪杰烈烈 [-liq - guan - tsai \ lie] high-spirited
4133 露天集演 [-liq - tien - bian \ tien] open-air show
4134 大雪山里 [-da - dzin - sian - guai] "storm in a tea-cup."
4141 覆尊华大 [-mai - fan - dzan - fui] woman submits herself in order to bury her dead husband
4142 直感皇图 [-dzin - dzon - bau - gue] to do one's utmost for one's country
4143 酅镂笼死 [-dzuei - san - mon \ ss] dissipating one's life
4144 勇兵士按 [-bu - bau - fan - dzuan] colonel
4121 士贤工商 [-los - log - gau - fee] scholar, farmer, laborer, a merchant
4122 太平天国 [-tai - fan - tien - guei] the Taiping
4123 重男轻女 [-dzon - lan - tien \ ny] boys before girls
4124 陋巷陋女 [-dzin - ian - tien \ ny] the mean creates the environment
4121 俗人俗病 [-luan - tiai - ba - dzau] toady - leery
4122 大醉酒足 [-da - fa - uen - toy] flying into a temper
4123 包容故痛 [-lau - sian - fan \ tian] caused one's own misery
4124 四时行 [-los - yai - liq] the seasons
4123 尤且可憎 [-luen - mui - ko - dzon] a repulsive face
4122 有所新成 [-lau - mui - lan - fan] maturity in youth
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The results of my investigation in this chapter may now be summarised:

1. There are ten principal allotones for the four tonemes. They are:

   Toneme I  
   (1) high-rising
   (2) mid-level

   Toneme II  
   (3) low-falling

   Toneme III  
   (4) high-falling
   (5) high-level
   (6) half-high falling

   Toneme IV  
   (7) low-falling-rising
   (8) low-low-falling
   (9) low-level
   (10) neutral tone

2. Toneme II always remains low-falling.

3. Toneme I and IV remain unchanged in the initial position.

4. Toneme III remains unchanged when it is in the final position.

5. When Toneme I goes through perturbation the naming tone is always substituted by a mid-level tone or one slightly lower.

6. The naming tone of Toneme III is replaced by a high-level tone when it is initial in a three-syllabled-group or when it is the first three syllables in a four-syllabled group. In some cases it is replaced by a half-high-falling tone when it is the middle syllable in a three-syllabled group.

7. The naming tone of Toneme IV is replaced by a low-level tone when it is in the middle of either a /three-syllabled
three-syllabled or a four-syllabled-group. It is replaced by a low-low-falling tone checked by a glottal stop when it is the final syllable of a group.

Intonation is the fluctuation of the voice pitch as applied to the whole sentence. It is the sentence melody and is superimposed on the sentence as a whole. When compared with tones, intonation may be said to be of a larger unit, because tones apply to individual syllables whereas intonation covers the whole sentence. Unlike tones, furthermore, a change of intonation does not affect the lexical value of words. As stated before, intonation very often changes the shade of meaning to the sentence spoken and can bring out the attitude of the speaker and the emotional state he is in.

Every community has its own intonation pattern, i.e., its own rules of changing the voice pitch when uttering the sentence. The fluctuation of the voice pitch of the individual follows, consciously as well as unconsciously, these patterns. Those whose intonation does not coincide with these patterns are considered foreign speakers. ("Foreign" in the broad sense, meaning 'strange' or 'peculiar' or 'alien'.) Those who are not familiar with these patterns naturally miss the subtle "overtone" of the sentence spoken.
CHAPTER II

INTONATION AND ITS RELATIONSHIP TO TONES.

In the preceding chapter I have presented the changes of the tones. In this chapter I shall deal with intonation.

Intonation is the fluctuation of the voice pitch as applied to the whole sentence. It is the sentence melody and is superimposed on the sentence as a whole. When compared with tones, intonation may be said to be of a larger unit, because tones apply to individual syllables whereas intonation covers the whole sentence. Unlike tones, furthermore, a change of intonation does not affect the lexical value of words. As stated before, intonation only adds shades of meaning to the sentence spoken and brings out the attitude of the speaker and the emotional state he is in.

Every community has its own intonation pattern, i.e., its own rules of changing the voice pitch when uttering the sentence. The fluctuation of the voice pitch of the individual follows, consciously as well as unconsciously, these patterns. Those whose intonation does not coincide with these patterns are considered foreign speakers. ("Foreign" in the broad sense, meaning 'strange' or 'peculiar' or 'alien'.) Those who are not familiar with these patterns naturally miss the subtle "overtones" of the sentence spoken.
In a tonal language one would imagine the pitch of each syllable to be fixed beforehand, and therefore that it would be difficult for a tonal language to have "intonation". But on closer examination we find pitch phenomena which we can only regard as "intonation" superimposed upon the tonal system. It is true that the relative pitches of the individual tones in contrast to one another (in a sentence) remain more or less the same and that one cannot give contours to them as K. L. Pike did to American English. Yet apart from the changes due to tonal environment as shown in the previous chapter, there remain characteristics and modulations of the voice pitch which bring out different shades of meaning. The fact is that the sentence may be spoken in different "keys" when representing different attitudes, and that the syllables, especially the final one, go through perturbation, thus giving the whole sentence a rising or falling tune.* Therefore the tones in a sentence do not determine its intonation but, on the contrary, are affected to some extent by the intonation of the sentence. Before I go further I will give two examples which may help to make this clearer.

If the sentence \[\text{"ta\_dz\_\text{\textasciitilde}uei\_\text{\textasciitilde}\text{\textasciitilde}went\"}\] (Then he went)

*See p. 63 under "perturbation."
went home.) is used as a statement, then it is spoken on the pitch level between mid and low.* If the same sentence is used as a question, then the last three unstressed syllables are pronounced in a higher pitch \(\uparrow\uparrow\). If the sentence is used to express protest, then not only are the last three syllables spoken in a higher pitch than the first two, but the whole sentence is spoken on a higher pitch level. Again if the short sentence \(\text{\text{"It's me.}}\) \(\text{\text{It's me.}}\) is spoken as a statement, it is spoken on the mid level with \(\text{\text{\text{"Me.}}}}\) falling from high to low. Here \(\text{\text{\text{"Me.}}}}\) retains the same tone as its naming tone, which is high-falling. When this sentence is spoken as a question, then the \(\text{\text{\text{"Me.}}}}\) becomes high-level though the pitch level of the whole sentence is the same as that of the statement. But if the sentence is used to represent surprise, then not only is \(\text{\text{\text{"Me.}}}}\) pronounced with a high-level allotone but the pitch of the whole sentence is also pronounced on a high pitch level.

In this chapter I shall try to describe the intonation of some types of sentences in the Chengtu dialect, the circumstances under which they are used and the shades of meaning they convey. According to the data which I have assembled, intonation in the Chengtu dialect is characterized by

* See Part I, p 9; and below, p 63, under "pitch level".
† See Part I, p 21, to become neutral tones. Perturbation of the final syllable and of syllables resolving special stress is discussed in this chapter.
Chengtu dialect may be regarded as consisting of three factors:

(1) The pitch level on which the sentence is spoken —— roughly divided into high, mid-high, mid, mid-low, and low.

(2) The range of pitch the sentence covers —— divided into wide, medium, and narrow.

(3) Perturbation of the final syllable —— As mentioned above, perturbation of the individual syllables occurs as a result of the intonation superimposed upon the sentence.* It is the final syllable alone, however, which gives the clue to the listener whether the sentence is a question or a statement, whether it has a rising or a falling tune. I must here explain that this rising or falling has no reference to the pitch of the preceding syllables, but only to the pitch of the final syllable. Thus whether I call a sentence as having a rising or falling tune depends on whether, after undergoing perturbation, its final syllable is a rising or falling tone. In the case of a rising naming tone of the final syllable being replaced by its level allotone, I classify the sentence as having a "falling" tune; and in the case of a falling naming tone being replaced by a level

* In connected speech the perturbation of tones follows more or less the formulae discussed in the previous chapter except that they are more inclined to become neutral tones. Perturbation of the final syllable and of syllables receiving special stress is discussed in this Chapter.
allotone, I classify the sentence as having a "rising" tune.

The examples given in this chapter are all picked out from the eight hours' conversation I recorded. Unfortunately there is scarcely one single sentence among them that is spoken with two different types of intonation. Also since the sentences have been taken out of their contexts, they may seem rather brief and abrupt. Against these disadvantages may be set the fact that all the examples are from real life situations; none of them have been spoken with "simulated emotions" or read aloud, or made up for the purpose of illustrating intonation.

I have put the examples on the attached music manuscript paper. The four spaces and the blank above the top line of each staff represent the pitch levels high, mid-high, mid, mid-low, and low. The intonation of the sentence is marked above the phonetic transcription. The mark [↑] represents rising, [↓] represents falling and [-] represents level. The difference in length of the marks represents roughly the relative time taken over the syllable uttered. In rapid conversation many words are unstressed and become neutral tones. These are marked with dots. [·] The Arabic numerals under each syllable represent the toneme to which it belongs.

/Besides
Besides intonation I find that rhythm, stress, tempo and voice quality also help to indicate the mood or the emotional state of the speaker. But as these are not the main topic of my study I am unable, in the present dissertation, to go into these elements in detail. I shall touch upon them in a very general way.

4. Strophes

The pitch level of this type of sentence is between mid and low. The range is medium.

If the statement consists of several high tones, i.e., high-rising or high-falling, then each one of these starts on a lower pitch than the preceding one. If there are several breath groups in one sentence then the first breath group is higher in pitch than the following ones.

This type of sentence has a falling tone. If the sentence ends in a high tone while the rest of the sentence are low tones the high tone naturally remains higher than the low ones, but even the high tone has no inclination to fall. The perturbation of the final syllable is as follows:

Tone I (naming tone; high-rising) becomes mid-level.

Tone II (naming tone; low-falling) remains low-falling.

Tone III (naming tone; high-falling) remains high-falling.

Tone IV
I. ORDINARY SENTENCES.

By ordinary sentences I mean statements and questions used in ordinary polite conversation. The speaker is good-humoured and in a conversational mood. He is emotionally placid and calm, and is non-committal in what he says. He is merely stating a fact, not giving it particular emphasis.

A. Statements

The pitch level of this type of sentence is between mid and low. The range is medium.

If the statement consists of several high tones, i.e. high-rising or high-falling, then each one of them starts on a lower pitch than the preceding one. If there are several breath groups in one sentence then the first breath group is higher in pitch than the following ones.

This type of sentence has a falling tune. If the sentence ends in a high tone while the rest of the sentence are low tones the high tone naturally remains higher than the low ones, but even the high tone has an inclination to fall. The perturbation of the final syllable is as follows:

Toneme I (naming tone: high-rising) becomes mid-level.

Toneme II (naming tone: low-falling) remains low-falling.

Toneme III (naming tone: high-falling) remains high-falling.

/Toneme IV
Toneme IV (naming tone: low-falling-rising) becomes low-low-falling checked by a glottal stop.

As will be seen later, this is one pattern for the perturbation of the final syllable, and is shared by all sentences with a falling tune; sentences with a rising tune follow another pattern.
Ordinary (Statements) (after p. 67)

1. He went to bed at 3 o'clock.

2. I have no time.

3. I have not read it yet.

4. It's dull today.
Ordinary Statements

5. \[ \frac{3}{4} \text{ miu lin } \frac{3}{4} = 0 \] (See Fig. 132)

You weren't caught in the rain.

6. No e dien dien dau li

I shall tell you something.

7. Dau \frac{3}{4} \text{ de ian}

The tune is like this.

8. Ban no ian \frac{3}{4} \text{ kon pa i bu yuei de}

I don't think Japan will fight just yet.

日本我想一时恐怕也不会打
9. We respect our teachers very highly.

10. It was formerly the railway of Szechuan.

11. Hubei is the earliest.

13. miu in fæi 3 3 kan gæn di mæ
没有味 看 乾的味. You didn't cook it, you see, it's dry.

14. toj toj fæn dien guan mæ 3 bel ri mæ
统统高层内阁 闭 高内阁. All shops are closed.

15. su gæi gæ iæ mæ
没有意思 It's nationalized.
B. Questions

The general pitch level of the questions is the same as that of the statements, namely, between mid and low. The range is medium.

This type of sentence has a rising tune. The perturbation of the final syllable is as follows:

Toneme I (naming tone -- high-rising) remains high-rising and often ends higher than usual.

Toneme II (naming tone -- low-falling) becomes low-level.

Toneme III (naming tone -- high-falling) becomes high-level.

Toneme IV (naming tone -- low-falling-rising) becomes low-rising.

This is the pattern for the perturbation of the final syllable in sentences with a rising rune.

In spoken Chinese, sentences often end with particles like [ə], [sən], [wə], [lə], [tə], [æ], [ei], [ai], [ei], [ei] etc. These particles are meaningless by themselves but they play an important part in bringing out the intonation of the sentence and thus denote whether the sentence is a question or a statement. If the particle is pronounced on a high pitch level or with a rising tone, then the sentence is a question. If on the other hand the particle is pronounced with a falling tone, then the sentence is a statement. It may be asked whether it is these /particles
particles that fix the intonation of the sentence or whether they merely bring out the intonation more clearly to the listener by indicating whether the sentence has a rising or a falling tune. The latter explanation seems a more plausible one since the same particle can be used in different types of sentences and it is then pronounced with different tones.

These particles are often also used with unfini shed sentences, in which case they are pronounced with a rising tone and give a sense of suspense to the listener. They seem to leave the sentence dangling in mid air, and the utterance is not finished.
1. ni de bar 你还记得不？
Do you still remember it？

2. dji saun i 講什麼道理？
What shall I say？

3. dzhin tien sou daug 今天收到那个的信？
Whose letter did you receive to-day？

4. xwei lai ta iau t/l 回来他又吃饭？
Did she take it up against when she came back？

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Ordinary Sentences (Questions)

5/ lag ge da diau 那个给打掉 (see Fig 133)
Who broke it?

6/ la b/r xin yen 不是很远
Isn't it rather far?

7/ din: tien t/i jia y 今天天气下雨 (see Fig 134)
Is it raining today?

8/ ni yei sab t/yen taj 你为啥不是?
Why don't you iron the whole thing?
Ordinary Sentences (questions)

9. dza ngei suo ran rui gai (Fig. 135)
   How can it get loose?

10. dzial in we dza z z
    Do you know why?

11. ian ko i yen nim tsy go mim
    Have you been to the Yang Ho Hospital?

12. lagn 50 li
    Who said so?
Ordinary Sentences (Questions)

13. dze on dzeu dzei jfr xai jfr wen min le xai jfr ie man le.
   这种究竟是, 还是文明呢, 还是野蛮呢? Is this, after all, civilization or barbarity?

14. jo keu ne zhe de iai dou jfr dze eu kou so xua.
   我口里吃的东西怎么说呢? How can I speak with my mouth full?

15. ko jo dze i sa dze yoy yan a
   科学这些椅子用吗啊? What's the use of science?
Unfinished Sentences

1. ni 3 / sou in / a 他收音吗……
   When you record……

2. / sou bu dzieud 3 随后不久又……
   (See Fig. 136)
   Not long after……

3. so i ta dzæ žæn i šien ne 吧“他逗人的脸哟……
   So, peoples faces……

4. / dzæ i ju 4 / i eu dzæ ge 4 / žæn 2 / ian
   只要有这人的哟……
   So long as there is the man……

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II. EMPHATIC SENTENCES

By emphatic sentences I mean statements in which the speaker gives emphasis or prominence to some specific point. He is concerned to bring it into contrast with other points or to intensify its significance. But emotionally he is not agitated. In ordinary speech Chinese syllables are more or less evenly stressed. But in this type of sentence there is often one particular word or syllable which receives an extra stress, the word being the point emphasised. This stress on the part of the speaker seems to imply "This is what I mean."

The pitch level is between mid-high and low. The range is wide. The perturbation of the syllable receiving extra stress is as follows:

T.I. (n.t. high-rising) remains high-rising and ends yet higher than its normal pitch in an ordinary statement.

T.II (n.t. low-falling) falls yet lower.

T.III (n.t. high-falling) becomes high-level.

T.IV (n.t. low-falling-rising) remains low-falling-rising but ends in a higher pitch than usual.

Emphatic sentences have a falling tune. The perturbation of the final syllable is as follows:

T.I (n.t. high-rising) becomes mid-level.

/T.II
T.II (n.t. low-falling) remains low-falling.
T.III (n.t. high-falling) remains high-falling.
T.IV (n.t. low-falling-rising) becomes low-low-falling.
Emphatic Sentences

1. He left the room.

2. I am very sorry.

3. I saw it with my own eyes.

4. Third grand uncle gave him a scolding at once.

5. That's really frightening.
Emphatic Sentences

1. mill 2. dien 3. tso 4.
no mistake  
Not a bit wrong

5. ta ton 6. bu 7. i 8. that, night isn’t
They don’t close through the whole night.

9. san day 1. hua 2. de2 3. de2
Mountain dialect

Of course it’s just any dialect.

10. yao 1. i 2. dien 3. bu 4. tso
It’s one mistake Really there’s not a bit wrong.
Emphatic Sentences

1. ni miu  ni miu  den xan  san (See Fig. 138)
   3 23   3 23   3 3
   You haven't folded it properly.

2. da  da  da  da  da  (See Fig. 138)
   4 3   4 4   4
   Even beating is quite in order.

3. ni  ni  ni  ni  ni  (See Fig. 140)
   1 4 2 2 2 2 4
   It's all due to too much European influence.

4. Szechuan started much earlier.
Emphatic Sentences

13/ no fang \\ di ji wu hua t'ou \i
我想一定有问题出来．I think there must be something wrong.

14/ \y ma \a xan gue \e
一直写了很久啊．He scolded for a very long period of time．

15/ so\i j\a mei \f ge \a so li \o \a \a \a \a \a \a
所以我每造给他他说的话说的没有错．So every time what I told him was never wrong．
When we speak, we may merely be stating a fact or giving special emphasis to certain points. But sometimes we may want to do more; we want also to convey our personal reactions or attitudes to our listener or to express our feelings as well. Under these circumstances our emotion is a predominant element; therefore the intonation we use is different from that we use when speaking under unemotional circumstances.

In this section I shall describe the intonation of several types of sentences which express different attitudes or emotions. The seven types of sentences that I chose are:

1. sentences expressing emphatic approval,
2. sentences expressing vexation,
3. sentences expressing awe,
4. sentences expressing contempt,
5. sentences containing a protest,
6. sentences expressing surprise,
7. sentences implying dismissal of the topic.
(1) **Sentences expressing emphatic approval:**

By these I mean statements in which the speaker is very sure of himself and at the same time is in perfect accord with what the last speaker has just uttered. There is a sort of finality in his sentence. It implies "that's that," or "I know it is so". In showing approval the sense involved is "Quite right!" or "That's just it!"

The pitch level of this type of sentence is between mid-high and low. The range is wide.

This type of sentence has a falling tune. The perturbation of the final syllable is as follows:

- T.I (n.t. high-rising) becomes mid-level.
- T.II (n.t. low-falling) remains low-falling.
- T.III (n.t. high-falling) remains high-falling.
- T.IV (n.t. low-falling-rising) becomes low-low-falling.

Sometimes it even has a very slight rise.
Sentences expressing emphatic approval (after p. 73)

1. &
2. duei duei nei (see Fig. 137)
   爱! 對，對，對. Yes, right, quite right!

3. jī
4. mēn
   十幾年 Ten years or more.

5. la
day
jan
mai
de
day
jan
mai
de
Of course they are selling well.

6. bù
   通夜不息. They don't close in the night.
Sentences expressing emphatic approval

5. la bien dzau Jr dzien 10J san
那边就是九龙线. Kowloon is on the other side.

6. Mi Jr tsan 3an
你是残忍. You are cruel.

7. Ta tsai iau tSYen gai san
他有权改之. Only he has the authority to change.

8. Suei en ss tSYen dzin lau me da me
随后四川就闹味, 打仗. Then Szechuen started demonstration and fighting.
(2) Sentences expressing vexation or annoyance:

This type of sentence is used when the speaker is in a bad mood. He is trying to start an argument. What is implied seems to be "Now I ask you ...." or "It's all your own fault, so ...." or "How can you ask such a stupid question?"

The pitch level of this type of sentence is between high and mid. The range is medium. It has a rising tune. The perturbation of the final syllable is as follows:

T.I (n.t. high-rising) remains high-rising.

T.II (n.t. low-falling) becomes low-level. There is a tendency for the speaker to add a particle after the final syllable if it should happen to be Toneme II; the particle is invariably pronounced on a higher level than the end point of Toneme II.)

T.III (n.t. high-falling) becomes high-level. Sometimes it even has a very slight rise.

T.IV (n.t. low-falling-rising) becomes low-rising.
Sentences expressing vexation or annoyance (after p. 74)

1. I a daag th' fan san. How can you eat this?

2. ku th' /a da 90 ci. I didn't bolt it, how did I manage then?

3. ni mi da je en a. You didn't find it well, didn't you well?

4. da sa doz. What civilization is this?!
Sentences expressing vexation or annoyance

5. Tiouen dang ju ni du go san

You have certainly studied this before.

6. Chien \( \frac{z}{2} \) lan jai lan

How can they change it?

7. Ta e ni dza tag li

He didn't know how to do it.

8. Ni min chyen xae

You did it improperly.
Sentences expressing vexation or annoyance

9. ni si de dze dzu li 你想想這道理
   Just you think of this reason.

10. dzu ou jia tje 他做不到
    He couldn't go on.

11. mao jiu jia tsai jiu jia tsai (eup. 14.)
    没有啥菜有啥菜，There aren't any vegetables.

12. nu xun no go go dze go san
    你说找一个字读三
    You told me to read word by word.
Sentences expressing vexation or annoyance

13. 乱七八糟，没道理，不知道怎么办，That doesn’t count; I was never glutinous.

14. 我在写信，我什么时候写的？How can I talk when I’m writing a letter?

15. 乱七八糟，松不开，If can’t get loose if you have tightened it.
(3) Sentences expressing awe

This kind of sentence is used when the speaker wants to show that what he is talking about is something of great importance. He wants to impress his listener and at the same time to convey the idea that he himself is impressed by what he is trying to tell. In other words, he wants to create awe among his listeners. What is implied is "This is something wonderful!" or "That's terrific!"

This type of sentence is spoken on a low pitch, varying between mid-low and low. The range is narrow and all the tones seem to be compressed together; therefore there is a tendency for all the tones to become level. Both the rising and the falling of tones are very slight. The sentence has a falling tune. The perturbation of the final syllable is as follows:

Toneme I (n.t. high-rising) becomes mid-level.
Toneme II (n.t. low-falling) remains low-falling.
Toneme III (n.t. high-falling) remains high-falling.
Toneme IV (n.t. low-falling-rising) becomes low-low-falling.

The voice quality in this type of sentence is often "breathy" or "husky".
Sentences expressing ame (last p. 73)

1. la fien 3 4 fan fu tsi fan 那简直就是个奇迹

2. la 2 ta 真糟糕

2. Very dirty indeed!

3. la xau de xei 那好得很

3. It's really good.

4. la czen yu xaud xei 那真是太好得不得了

4. It's really very good.

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Sentence expressing anNC

5. la nei jian de xun 耍危险得多
   4 2 1 3 2 3 very dangerous.

6. djau i djr die jia le 就一直跌下去
   4 2 2 2 4 4 if kept on dropping

7. deu jf xun da xun da 很是很大很大
   1 4 3 4 3 4 it's all very big

8. la jsae iz gai ga a 那时候应该跟他学
   4 2 4 1 1 1 ought to have learned from

Ought to have learned from

Printed in England by Augener Ltd., Acton Lane, London
Sentences expressly rule.

9. da li xian li bao xian de jian
dai zui de bo xian de de, I don't know how many
there were.

10. guan si tai da 公公大大
too many things are involved.

11. tian jai tian jia di bei tian
tians up and down like that.

12. zhe ye da li tso wu
this is a very big mistake.
Sentences expressing awe

13. How could he know him! (How wonderful!)
(4) **Sentences expressing contempt:**

This type of sentence is used when the speaker is in a contemptuous frame of mind. He is ready to snap at the person spoken to and to close the conversation as soon as possible. The sentence implies "This is impossible", or "What nonsense you are talking about" or "Let's proceed no more".

The pitch level is between mid-high and low. The range is wide. The characteristic feature of this type of sentence is that one syllable in it is always lengthened. The syllables which come before or after the lengthened one are usually huddled together and spoken quickly; thus they often become neutral tones. The perturbation of the lengthened syllable is as follows:

- **T.I.** (n.t. high-rising) remains high-rising and rises higher than usual.
- **T.II** (n.t. low-falling) falls lower than usual.
- **T.III** (n.t. high-falling) starts higher than usual and also falls lower.
- **T.IV** (n.t. low-falling-rising) becomes low-rising and ends at a point higher than ordinary.

This type of sentence has a falling tune. The perturbation of the final syllable is as follows:

- **T.I** (n.t. high-rising) becomes mid-level.

/ T.II
T.II (n.t. low-falling) remains low-falling.
T.III (n.t. high-falling) remains high-falling.
T.IV (n.t. low-falling-rising) becomes low-low-falling.

But, as stated above, the lengthening of a particular syllable affects the lengths of the other syllables in the sentence. Therefore, it is not infrequent that the final syllables become neutral tones.
Sentences expressing contempt

要你說得準哇. You have to predict correctly.

二千幾天就到哪? How can it arrive in about 20 days?

哪裡會查得完? (Fig. 142)

何時會 cutting? Me, time? Me!?
Sentences expressing contempt

5. la dag ia: dzi tian zan lai tia
那鍘再幾千人來查，You'll need several thousand people to censor (the letters).

6. la xue ma iau doz fr
那會沒有智識！How can they be ignorant!

7. ta dag zan dox ba xue bu
他當然懂，誰會不？Of course he understands, how can it be otherwise?

8. ni fang fr ai jay iau dze dag ss tin
你想想世界上有這種事情。Just you think, are you sure such things
in the world?
Sentences expressing contempt

9. ³lai djem bien dan

That's so easy.

10. ta lien u sia ta ieb siau de ta

He didn't even know the Yangtze Gorges.

11. la dou fr sia fu luan so

That's all nonsense.

12. ni jeu ja yu yang

What's the use?
13. day 3an
當然, of course (it is so).

14. dia gu xie de
何以會得 How can it be indeed!

15. hai li kien dia xue, lai te
依曆史會來的, How can it arrive within the lunar year?
(5) **Sentences containing a protest:**

This type of sentence is used when the speaker is greatly agitated or excited. It is often used in an argument when the speaker hopes to shout his opponent down. Unlike sentences expressing vexation, the speaker is not deliberately starting an argument. On the contrary, he is the victim; he is being provoked. He is anxious to make himself understood. Under these circumstances, the listener is often also trying to talk at the same time; the result therefore is that this type of sentence is usually spoken throughout on a high pitch level, between high and mid-high. Sometimes the sentence may start on a high pitch level and then fall to low, but one feels it is the high-pitched part of the sentence that contains the protest, because by the time the voice pitch falls to low, the speaker's emotional state has returned to normal. Also it is not infrequent that the sentence is left unfinished.

The range of this type of sentence is narrow. It has a rising tune. The perturbation of the final syllable is as follows:

- T.I (n.t. high-rising) remains high-rising.
- T.II (n.t. low-falling) becomes low-level.
- T.III (n.t. high-falling) becomes high-level.
- T.IV (n.t. low-falling-rising) becomes low-rising.

The tempo in which this type of sentence is spoken is very fast.
Sentences containing a protest (after p.78)

1. ta ab/ ri jay ta 他還不是他, it's also supporting him!

3. he lang xa ta in we che (Fig. 143)
   星, 星, 喔！, 聲音... yes, ah, who's afraid? it's because……

4. chang quo ta bao ta in me ta ge i
   中國, 前, 他這個, 他因為, 他這些…… china formerly, it is, it's because……

4. fan je dia yu dia yu dia yu
   可以講, 讲, 讲, 讲 you may translate that, yes, yes, yes.
Sentences containing a protest

If you don't even worship your ancestors, then how can you...?

This is absolutely true.

You can only persuade gently.
Sentences containing a protest

if these li dien bo fiau gi tien xaid mai 這裡店不曉幾天還在賣
The shops here are always selling them no matter how many days they've had them.

why not? of course we love our parents. i say. you have grown up with me so many years

看來我們始終我說你長這麼大你應該自己

Yes, you can hear me say anything against your grand parents?

lai la bu dou li xiba nia

納話沒有,
Sentences containing a pronoun

11. I drank some black tea before dinner and then turned on the same day.

12. The meal was late, so there was sun for mu.

13. The tea for four per person and one glass of tea (Fig. 144).

14. I am Thai; I often go out a lot late (Fig. 145).
(6) Sentences expressing surprise:

This type of sentence is used when the speaker is taken by surprise or is puzzled. It implies incredulity as well. It means "Really?!" or "Can this be true?"

The pitch level is between high and mid-low. It starts at about mid-high or high and usually ends at mid. It never ends below mid-low.

The range is wide.

This type of sentence has a falling tune. The perturbation of the final syllable is as follows:

T.I (n.t. high-rising) becomes mid-level, sometimes with even a very slight fall.

T.II (n.t. low-falling) remains low-falling.

T.III (n.t. high-falling) remains high-falling.

T.IV (n.t. low-falling-rising) becomes low-low-falling.

If the Ordinary Sentences of p. above are taken as the norm, the tempo of this type of sentence is fast, though it is not so fast as that of sentences containing a protest (p. above).

* Often a single interjection is used to express the surprise instead of a sentence then it invariably has a rising tone starting from mid-high.
Sentences expressing surprise (after p. 79)

1. I can memorize it all. (I am surprised that you don’t know this.)

2. He hasn’t received it?!

3. You haven’t been on it either?

4. It’s in the classes. (Don’t you remember?)
Sentences expressing surprise

5. No no do bu jien true
我.我鸣不稀释. Why wasn't mine pure?

6. Job do i dze gie (See Fig. 147)
我不懂这个... I don't understand......

7. Ta zu xo xuei kai dze gaj gan
他如何会看得这木条神. How can he see all this!

8. Ta bai dau la di jaf
他摆到啥地方. Where can he put it?
sentences expressing surprise

9. 你到什么地方? Where else?
   3 4 4

10. 没有去过山顶, You haven't been to the hill top?
    3 3 4

14. 中国茶馆没有去, Have you been to the Chinese tea room in Hong Kong?
    3 3 4 2 2

哦! 呀! 唉! ie
(7) \textbf{Sentences implying a dismissal of the topic:}

This type of sentence is used when the speaker is preoccupied with something else. This does not mean that the speaker wants to put a stop to the conversation, nor is this type of sentence as forbidding as those expressing contempt and vexation. In this case, the speaker merely wants to pass on to another topic. It is used to dismiss the subject matter but not the person spoken to. It implies "Never mind this; it's not important."

The pitch level is between mid-low and low. The range is narrow; therefore the rising and falling of the tones are very slight.

This type of sentence has a falling tune. The perturbation of the final syllable is as follows:

- T.I (n.t. high-rising) becomes mid-level.
- T.II (n.t. low-falling) remains low-falling.
- T.III (n.t. high-falling) remains high-falling.
- T.IV (n.t. low-falling-rising) becomes low-low-falling.
Sentences implying a dismissal of the topic (after p.80)

1. lag ge ta di 那个给他的人 gave it to him?

2. man xai 我 想好味 Pretty good.

3. ni shi go 你 吃过吗 what did you have?

4. la deng jin tian jean si si dien shi yir dien chong 那往往是十一点十分钟 He's always about eleven or twelve o'clock.
Sentences implying a dismissal of the topic

5/ the win ½ is (I went) to entertain myself.

6/ gin pau dau 10 already escaped

7/ sán jún ½ 4 4 1 1 (He's) of course it's true.

8/ tʃi ½ 3 3 4 4 4 (He's) about 70.
Sentences implying a dismissal of the topic

9. I can't remember.

10. Straight on?

11. I don't know.

12. That's very rare.
Sentences implying a dismissal of the topic

13. xai dzei 没有还
No, (he's) still living.

14. kan jin 视署着的
He looks after the classroom.

15. jian kan ma kan 他们不敏去看
I don't know whether they have been or not.

16. 没有, 都没有的.
No, none has item.
From the results given above, we may draw the following conclusions:

1. There is a definite relationship between pitch level and the type of sentence. For instance, sentences containing a protest are spoken on a high pitch level whereas sentences implying dismissal of the topic are spoken on a low pitch level. But it is difficult to make any general statements on this relationship.

2. (a) The range of the pitch varies with the type of sentence. Sentences containing a protest and sentences implying dismissal of the topic have completely different pitch levels, yet both have a narrow range. On the other hand, emphatic sentences and sentences expressing contempt, for example, both have a narrow range. Ordinary statements and questions have a medium range. Thus, the range is at least a clue to the emotional state of the speaker.

(b) When the range of a sentence is narrow, there is a tendency for all the tones to
become level, i.e., the rise and fall of the tones are very slight.

3. (a) The perturbation of tones of the final syllable in the sentence follow two distinct patterns. In sentences with a rising tune, i.e., in which the final syllable is a "rising" tone, the perturbation is as follows:

T.I (n.t. high-rising) remains high-rising.
T.II (n.t. low-falling) becomes low-level.
T.III (n.t. high-falling) becomes high-level.
T.IV (n.t. low-falling-rising) becomes low-rising.

In sentences with a falling tune, i.e., in which the final syllable is a "falling" tone, it is as follows:

T.I (n.t. high-rising) becomes mid-level.
T.II (n.t. low-falling) remains low-falling.
T.III (n.t. high-falling) remains high-falling.
T.IV (n.t. low-falling-rising) becomes low-low-falling.
(b) The two tunes are used for different types of sentences. The rising tune is used for
(1) questions requiring an answer other than yes or no,
(2) sentences expressing vexation,
(3) sentences containing a protest,
(4) unfinished sentences.
The falling tune is used for
(1) ordinary and emphatic statements,
(2) sentences expressing emphatic approval,
(3) sentences expressing awe,
(4) sentences expressing contempt,
(5) sentences expressing surprise,
(6) sentences implying dismissal.
CONCLUSIONS.

Having described in Chapter I the tones and their behaviour in the Chengtu dialect and analysed in Chapter II the intonation of some types of sentences, I am now able to present the following general conclusions:

First, tones pronounced in isolation behave differently from those pronounced in connected speech. In connected speech they go through perturbation. This is usually governed by the position they occupy in the phrase or by the tonal environment. It may also be governed by grammatical structure, though this does not form part of my present inquiry.

Second, besides the four naming tones in the Chengtu dialect, I found six other tones which, together with those naming tones, could be grouped into four tonemes. It is the interchange of these tones which formed the study of the tonal behaviour in the first part of this thesis.

Third, intonation does exist in the Chengtu dialect. It is superimposed on the whole sentence. And it is this superimposed intonation that modifies the individual tones and not the individual tones that decide the intonation of the sentence.

My purpose in undertaking this study has been twofold. On one hand, it is my hope that the work
may serve as a teaching manual for intonation in the Chengtu dialect. In the process of acquiring the right intonation, the advanced student may find the numerous examples useful. Though they are taken only from the speech of two people (the informant and myself), they more or less represent the main speech characteristics of the Chengtu dialect.

On the other hand, the material I assembled and particularly the conclusions I reached may be of some value to students of other dialects. Tone sandhi has already been studied in many Chinese dialects*, though without the help of the more modern instruments. It would be desirable for similar work to be done on intonation† A very interesting question is whether in other dialects intonation is also indicated by the perturbation of one particular syllable, which in the case of the Chengtu dialect is the final syllable. It would also be interesting to know if the resulting tunes could be divided neatly into two or more patterns. If a number of other dialects could be studied along lines similar to the present inquiry, we could then perhaps come to a more general explanation of tonal behaviour and intonation in the Chinese dialects.

† Y.R. Chao has written on intonation in Mandarin in "Tone and Intonation in Chinese".
APPENDIX The Method of Obtaining Intonation Curves from the Spectrograms.

Though the sound spectrograph is not made mainly for detecting the pitch of sounds yet the spectrograms show unmistakably the inflection of the voice. By using the narrow band * the individual harmonics of the vocal cord tone are visible. These tracings show clearly the inflections (or modulations) of syllables (i.e. whether they are rising or falling or level etc). At the same time we can also note the differences of pitch between syllables by observing the spaces between the horizontal lines. The reason for this is: the wider the space (i.e. the wider apart the lines), the higher the frequency, therefore, the higher the pitch.

In order to show their relative difference in pitch I have plotted some tracings on graph paper. The vertical scale represents frequency and the horizontal, time. The calibration unit is set at 500 c/sec; the space between one calibration line and the next is approximately equal to ¼" (degree of error = ± 5%) (¼" in 2" out; 200 out in 4000 . . . 5 out in 100; . . . 5%)

I first measure the distance from the baseline to the highest harmonic below which all the harmonics are clearly shown, then having calculated the frequency this represents, I divide this frequency by the number of

* The filter has a pass band width of 45 c.p.s.
of harmonics counted. The result obtained is the fundamental of that particular syllable I am measuring. For example, if the distance between the fifth harmonic and the baseline is \( \frac{4}{10} \); 4 then is multiplied by 200 and the result is divided by 5. The final result, 160, would be the fundamental.

We should, of course, measure every turning point of the harmonics (i.e. the maxima and minima of the curves). Then by joining the dots (i.e. the fundamental) which we put on the graph paper we get the graph we need. This graph, in fact, coincides in shape with the curve of the actual tracings of the corresponding sonogram, only the plotted graph gives a definite frequency. However, we have to bear in mind that not every sonogram can be thus plotted, e.g. syllables spoken in other than normal voice quality, or spoken while laughing etc. Then a large amount of noise would accompany the vibration of the vocal cords and the tracings of the harmonics are thus smudged by the interference. I should also point out that sometimes the tracings are rather thick and it is hard to decide which part of the thick lines should be taken as the calculating point (i.e. taken into measure). In such a case I usually take the middle of the line.

For my present purpose, which is to find out /approximately
approximately the inflections of the voice by finding out the fundamentals of the syllables and to check the tracings with the notations I took down by ear, this process proves very helpful and mainly satisfactory.

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Fig.1. [tʃin] [tʃin] [tʃin] [tʃin] spoken by myself
Fig. 2 [tʃin] [tʃin] [tʃin] [tʃin] spoken by the informant
Fig. 5a (spoken by myself)
Fig. 56 (spoken by the informant)
Fig. 6
[ba] spoken in isolation & in the phrase [li - ba]
Fig. 10

[tsau] spoken in isolation & in the phrase [tsau-tsau]
Fig. 13
Fig. 14

Fig. 15
Fig. 24
Fig. 25
stay

Fig. 26
ba

Fig. 26

"go"
Fig. 27

Fig. 28
Fig. 31
Fig. 41

Fig. 42
Fig. 45

Fig. 46
Fig. 51

122

花

su

die

(44) 蝴蝶

蝶
Fig. 56

Fig. 57
Fig. 60

Fig. 61
(54) 投待会

"dzaun v dai v xuei"

Fig. 64
tu  fu  guan

fig. 69

长 生 果

tsan  seen  go

fig. 70
Fig. 71

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Fig. 74
fig. 87
Fig. 94

Fig. 95
Fig 100

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Fig. 101

Fig. 102
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fig. 105

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fig. 106
Fig. 114

Fig. 115
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Fig. 130
Fig. 9.4
Fig. 95
Fig. K. 10a

Fig. K. 10b

Fig. K. 11a

Fig. K. 11b

Fig. K. 12
Fig. 134

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Fig. 144

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