

PRONOMINAL TONE SANDHI OF SOUTHERN MIN SPOKEN IN TAIWAN:

A Perspective of the Interface Between Syntax, Semantics and Phonology

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摘 要

本文旨在採用「韻律音韻學」(prosodic phonology) 的理論框架來探討台灣閩南語中人稱代詞的連讀變調 (pronominal tone sandhi) 現象。人稱代詞的變調與一般實詞的變調有所不同，這種差異反映於不同的句型結構；例如，主語位置、賓語位置、雙賓語結構、以及並列結構等等。

此種人代詞的變調比一般變調所涉及的語法訊息更為廣泛；包括句法上的分叉結構、語意上的焦點設定、以及音韻上的音節依附與韻律標界等等，這一連串的互涉關係更進一步揭示了音韻與句法、以及音韻與語意之間的多元介面。

Abstract

This paper investigates pronominal tone sandhi of Southern Min Spoken in Taiwan, from the perspective of prosodic phonology. The tonal processes of personal pronouns are quite different from those of content words, which distinction is reflected in various types of syntactic structures, such as the subject position, the object position, the ditransitive structure and the coordinate structure, etc. Pronominal tone sandhi involves more cross-linguistic information than regular tone sandhi, including syntactic branchingness, semantic focus, phonological cliticization, prosodic boundaries and the like. All of these instantiate a complex case of interface between syntax, semantic and phonology.

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1. Introduction

Tone sandhi in Southern Min has attracted quite a few attention since the last decade, especially along the lines of the direct and indirect reference hypotheses (Cheng 1968,1973; M. Chen 1987,1992; Zhang 1992; Hsiao 1991,1993a,b, c,d). The unique phonological properties of function words are also widely studied in the reseach of tone sandhi (M. Chen 1991; Hsiao 1992; Tung 1993; Cheng 1994). In this paper, we investigate the tonal behavior of the personal pronouns, a subset of function words, in Southern Min spoken in Taiwan, assuming the prosodic hierarchy developed in works by Selkirk (1984,1986), Nespor and Vogel (1986,1990), Hayes (1989), among others. [1] We will pursue this issue from four respects:

- a) prosodic phrasing
- b) syntactic branching
- c) semantic focus
- d) pronominal cliticization

These perspectives address an interface between linguistic components, including syntax, semantics and phonology. Before embarking on the core discussions, we shall introduce some relevant background regarding the tonotactic system of this language.

¹ There are two basic approaches to the prosodic hierarchy. The theory of a single prosodic hierarchy is developed by Nespor & Vogel (1986), which proposes a hierarchy that goes downward from the entire utterance at one end, and upward from the syllable at the other, as given below:

Utterance
Intonational Phrase
Phonological Phrase
Clitic Group
Phonological Word
Foot
Syllable

A constituent at a given level is formed out of constituents immediately lowered than itself, a phenomenon known as the Strict Layer Hypothesis (cf. Selkirk 1984; Nespor & Vogel 1986; Hayes 1989; Ladd 1990; Hsiao 1991). The violation of the Strict Layer Hypothesis then leads to the theory of two independent prosodic hierarchies. The first prosodic hierarchy consists of categories from the utterance down to the phonological word:

Utterance
Intonational Phrase
Phonological Phrase
Clitic Group
Phonological Word

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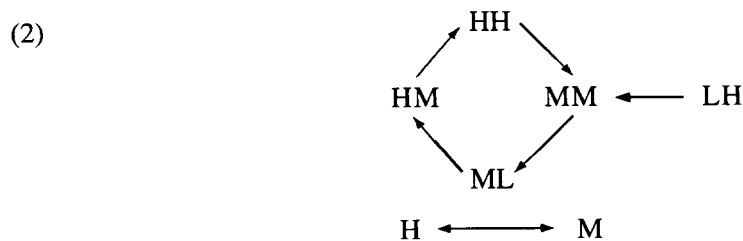
2. Tonotactic System

There are in general seven citation tones in Taiwanese, which are listed in the following diagram:

(1)

Tone Numbers	1	2	3	4	5	7	8
Tone Categories	Yin Ping	Shang Shemg	Yin Qu	Yin RU	Yang Ping	Yang Qu	Yang Ru
Citation Tones	HH	HL	ML	M	LH	MM	H
	↓	↓	↓	↓	↓	↓	↓
Sandhi Tones	MM	HH	HL	H	MM	ML	M

As (1) shows, two of the seven citation tones are the so-called checked tones, which are associated with syllables ending in voiceless stops (p, t, k, or glottal stop). Among the other five are three level tones and two contour tones. Bodman (1955) summarizes the sandhi processes indicated in this diagram with a tone circle, as in (2):



¹ The second prosodic hierarchy includes metrical categories such as the mora, the syllable, and the foot:

Foot
Syllable
Mora

The separate prosodic hierarchies reveal different functions at the syntax-phonology interface. For various elaborations of the separate prosodic hierarchy theory, see also Selkirk (1986), M. Chen (1986), Zec (1988), Inkelas (1989), Kanerva (1989), Hsiao (1990,1991,1992,1993a,b,c,d).

This dialect in fact displays a right-prominent pattern of tone sandhi; namely, given a pair of citation tones in a tonal domain, the right one retains its citation form, while the left one surfaces with its sandhi form. The schema in (3) is a somewhat simplified tone sandhi rule, which serves to generalize this insight: [2]

(3) Tone Sandhi Rule

T ----> T' / ___T (T = citation tone; T' = sandhi tone)

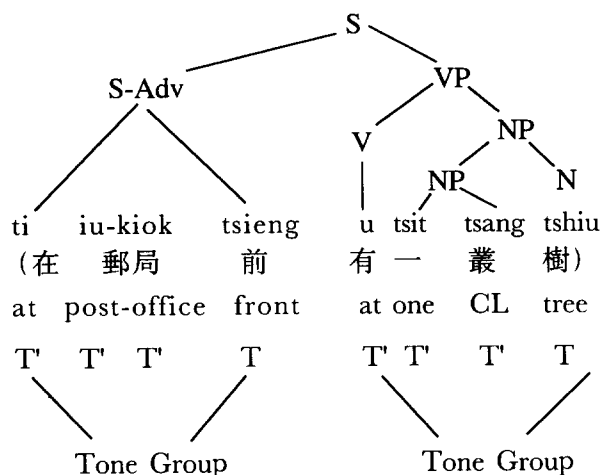
When there are more than two citation tones in the relevant tonal domain, this tone sandhi rule applies simultaneously to those tones. For example, in a sequence of [T T T], both of the first two Ts meet the structural description of (3), i.e., the first T is followed by the second T, which is then followed by the third T. As a result, only the third T remains invariant.

3. Regular Tone Sandhi

The tonal domain on which the rule of tone sandhi in (3) operates is termed a tone group (TG), which has earlier been defined on a syntactic basis. Cheng (1968,1973) places the domain boundary (#) at the right edge of a noun phrase (NP), verb phrase (VP), sentential adverb (S-Adv), and embedded sentence (S). (4) is an example: (tsh = aspirated ts)

² The traditional theorem of Southern Min tonology has taken the tonal rule in (1) as a given, namely that citation tones are derived from sandhi tones. Hashimoto (1982), Ting (1982), Ho (1984) and Tsay (1990), conversely, look at the tonal behavior from a different angle, positing sandhi tones as the underlying forms from which citation tones are derived. Against the productivity of the sandhi rules, Hsieh (1970,1975) and Wang (1992) argue that both citation tones and sandhi tones are listed in the lexicon and appropriate forms are chosen in proper environments. Developed in a similar fashion, Hsiao (1993a,b,c,d) proposes a set of precompiled rules to govern the selection of appropriate tonal allomorphs.

(4) 'In front of the office there is a tree.'



The sentence in (4) is syntactically divided into two tone groups (TGs), S-Adv and VP, in which TG-final *tsieng* 'front' and *tsiu* 'tree' retain their citation tones, while all the others are changed to sandhi tones.

M. Chen (1987) posits a cross-categorical description of the tone group, and marks it with the symbol #, based on maximal projections (XPs), as in (5): [3]

(5) Tone Group Formation

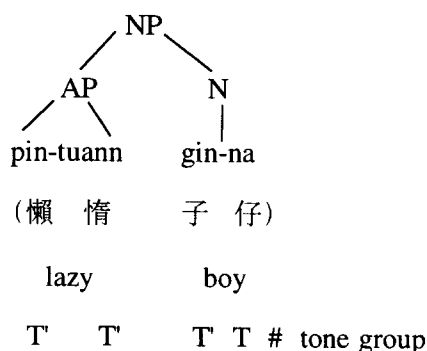
Mark the right edge of every XP with #, except where
XP is an adjunct c-commanding its head.

(M. Chen 1987: 130)

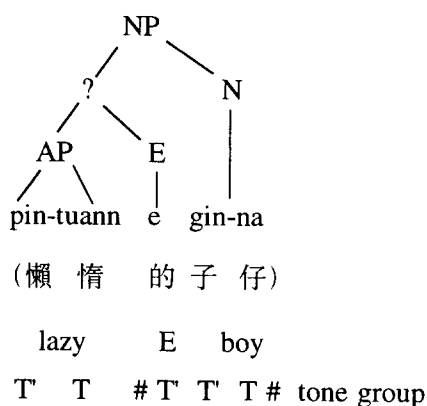
The rule in (5) clearly indicates the irrelevance of categorial distinction; XP may be an S, VP, NP, PP and, sometimes, AP (so long as it is not an adjunct c-commands its head). The notion of c-command is set forth as follows: α c-commands β if the first branching node dominating α also dominates β . This c-command condition serves to account for the difference between (6)(a) and (b): (-nn = nasalization)

³ I will use the conventional symbols XP, YP and the like for the maximal projections throughout this paper.

(6) (a)

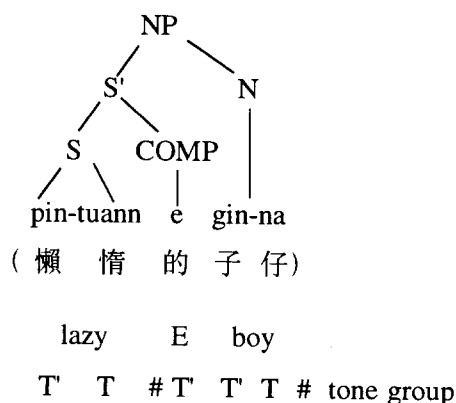


(b)



The AP *pin-tuann* 'lazy' in (6)(a) is a sister node of the head N *ginna* 'boy' under the maximal projection of NP, and thus the former C-commands the latter. In (6)(b), per contra, the ? node, which immediately dominates the AP, does not dominate the head N, i.e., the AP does not C-command the head N. The c-command condition, therefore, ensures that the symbol # occurs after the AP in (6)(b) only, but not in (6)(a). An alternative analysis of (6)(b), however, is also proposed by M. Chen (1987), assuming the syntactic tree in (7):

(7)



The subordinator *e* is treated as a complementizer in (7), a head lying under the maximal projection of S' and takes S as its complement. At this point, the S' in (7) is an argument (of COMP), but not an adjunct. Following Jackendoff (1977) and Dowty (1982), M. Chen distinguishes between two types of constituents, namely functional arguments and modifying adjuncts. It is the argument but not the adjunct that is strictly subcategorized with respect to the relevant head. The category of adjunct phrase thus

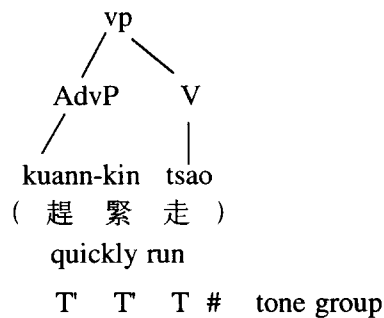
includes time, place, benefactive, instrumental and the like. His definition of adjunct is reproduced in (8):

(8) Definition of Adjuncts

XP is an adjunct of Y, if XP appears in [...XP...]YP and
is not a strictly subcategorized argument of Y.
(Chen, 1987: 123)

The structural description [...XP...]YP simply asserts that XP may not be the head of YP, but rather, it is an adjunct of the head Y. The status of the adjunct may be adjectival, adverbial, or of other oblique relations; whereas, the arguments, according to Tang (1992), fall into two categories, i.e., external arguments (subjects) and internal arguments (objects and complements). This argument-adjunct distinction prevents not only the AP in (6)(a) but also the AdvP in (9) from forming a tone group: (-nn = nasalization)

(9)



The AdvP *kuann-kin* 'quickly' in (9) is an adjunct of the V *tsao* 'run'. Therefore, no # can be marked after the AdvP, with the result that the entire VP forms a single tone group, and only *tsao* keeps its citation tone on the surface.

Hsiao (1991) suggests that the syntactically defined tone group is in fact a prosodic domain, namely, it is by nature a phonological phrase, as formalized in (10): [4]

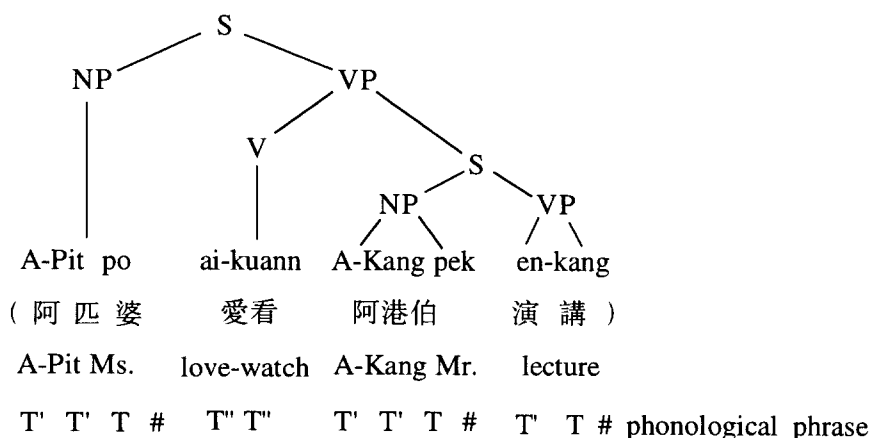
⁴ Phonological phrasing varies typologically in languages. In contrast to Southern min, the Mandarin phonological phrase boundary is marked at the left edge of a morpho-syntactically branching XP (cf. Hsiao 1991: 57).

(10) Phonological Phrasing

PPh = {right, XP_[-a]} where -a = non-adjunct
(Hsiao 1991: 147)

The phonological phrasing is subsumed under the prosodic hierarchy which constitutes an independent level intermediating between syntax and phonology (see also footnote 1). Prosodic phonologists believe that phonological rules must refer to prosodic constituents instead of syntactic structures. A theoretical consequence of phonological phrasing is that the tone group may be a syntactic non-constituent:

(11) 'Madam A-Pit loves watching Uncle A-Kang lecture.'



The phonological phrase boundary # is inserted at the right edge of a non-adjunct XP, as formulated in (10), which parses the sentence (11) into three phonological phrases. Among them is the syllable string *ai-kuann A-Kang pek*, which does not form a syntactic unit on the tree but constitutes a prosodic domain. In the application of tone sandhi, all syllables except the PPh-final *po*, *pek* and *-kang* surface with sandhi tones, regard-less of the tempos of speech. [5] The prosodically conditioned rule of tone sandhi can thus be specified as (12):

⁵ Southern Min tone sandhi is blind to speech tempo, employing a simultaneous application mode, unlike Mandarin tone sandhi, which operates cyclically on the foot and varies in tempo (cf. Shih 1986, M. Chen 1987, etc.).

(12) Prosodic Tone Sandhi (PTS)

] = prosodic boundary

4. Pronominal Tone Sandhi

(13)

	Singular	Plural
First Person	gua	gun, lan
Second Person	li	lin
Third Person	yi	yin

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(14) (a) 'charming you'

be-lang e li

(迷 儂 的 你)

charming you

]NP #	phonological phrase
T	underlying input
T	PTS
T	surface output

(b) 'cool me'

sing-keh e gua

(性 格 的 我)

cool me

]NP #	phonological phrase
T	underlying input
T	PTS
T	surface output

(15) (a) 'your great grandmother'

lin tso-ma

(恁 祖 媽)

your great-grandmother

]NP #	phonological phrase
T	underlying input
T'	PTS
T'	surface output

(b) 'my wife'

gun tsa-bo lang

(阮 查 某 儂)

my female person

]NP #	phonological phrase
T	underlying input
T'	PTS
T'	surface output

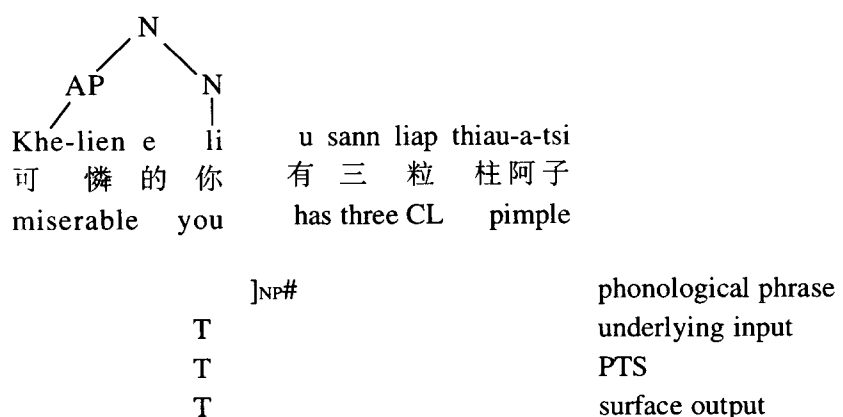
In (14), *li* and *gua* are located before the PPh boundaries and thus display citation tones by PTS. In (15), *lin* and *gun* are adjuncts, which do not qualify to form individual phonological phrases. As a result, the possessive personal pronouns *lin* and *gun* develop

sandhi tones on the surface.

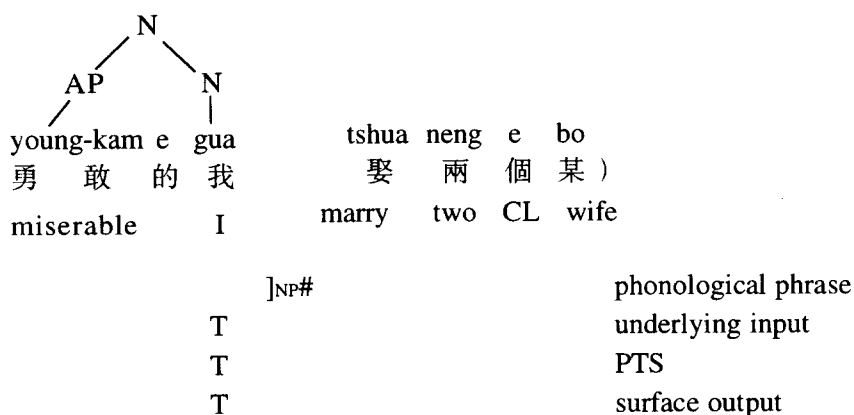
4.1. Subject Personal Pronouns

Pronominal tone sandhi in (14) and (15) appear to comply with the PTS in (12) quite well; however, the tonal behavior of personal pronouns is not always as stable as it looks. Compare (16) and (17), for example, where the personal pronouns occur as subjects:

(16) (a) 'The miserable you have three pimples.'



(b) 'The courageous I married two wives.'



(17)(a) 'You have three pimples.'

NP					
|	li	u	sann	liap	thiau-a-tsi
(	你	有	三	粒	柱阿子
	you	has	three	CL	pimple
	]NP#				
T	phonological phrase				
T'	underlying input				
T'	PTS				
T'	surface output				

(b) 'I married two wives.'

NP					
|	gua	tshua	neng	e	bo
(	我	娶	兩	個	某)
	I	marry	two	CL	wife
	]NP#				
T	phonological phrase				
T	underlying input				
T	PTS				
T	surface output				

In (16), the citation tones of *li* and *gua* remain unchanged, while the same subject pronouns in (17) undergo tone sandhi, in violation of the prosodic tone sandhi rule in (12). Observing the syntactic structures more closely, we can find that the subjects in (16) are constructed with *synthetically* branching NPs, while those in (17) with nonbranching ones. We therefore would like to propose the principle of (18) as our first working hypothesis:

(18) P-Branching Principle:

A pronoun α is subject to regular tone sandhi iff the relevant tonal domain of α is a branching NP, where α is the head N.

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What this principle suggests is that syntactic branchingness is the key to pronominal tone sandhi. In other words, a pronoun heading a branching NP reveals a regular tone sandhi pattern, while it shows more irregular tonal behavior under a nonbranching NP

In fact, the pronouns in (16) undergo a process of cliticization, as formalized in (19):

(19) P-Cliticization:

A personal pronoun α cliticizes rightward and adjoins to the following phonological phrase, if both (a) and (b) are true:

- (a) α constitutes a nonbranching NP.
- (b) α is not a semantic focus.

The prosodic adjunction of function words should not at all be surprising; pan-dialectal evidence can in fact be found, for example, the classifier in Mandarin is adjoined to the left-adjacent foot, etc. (Poteet 1985, Shih 1986 and Hsiao 1991). In Southern Min, the personal pronoun cliticizes rightward:

(20)(a) 'You have three pimples.'

NP	
li	u sann liap thiau-a-tsi
(你	有 三 粒 柱阿子
you	has three CL pimple

[ ] # [	]# phonological phrase
[] # [li	]# p-cliticization
T	underlying input
T'	PTS
T'	surface output

(b) 'I married two wives.'

NP					
gua	tshua	neng	e	bo	
(我	娶	兩	個	某)	
I	marry	two	CL	wife	
[ ] # [					]# phonological phrase
[ ] # [	gua				]# p-cliticization
	T				underlying input
	T'				PTS
	T				surface output

In either case of (20), the pronoun cliticizes to the following phonological phrase and undergoes the PTS, since it is no longer before #. (We will return to the discussion of cliticization later.) Compare now (20) with (21):

(21)(a) 'You (but not anyone else) have three pimples.'

NP					
li	u	sann	liap	thiau-a-tsi	
(你	有	三	粒	柱阿子	
you	has	three	CL	pimple	
	#				phonological phrase
	\$				focal phrase
T					underlying input
T					PTS
T					surface output

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(b) 'I (but not anyone else) married two wives.'

NP					
gua		tshua	neng	e	bo
(我		娶	兩	個	某)
I		marry	two	CL	wife
	#				phonological phrase
	\$				focal phrase
T					underlying input
T					PTS
T					surface output

In (21), the semantic focus falls on the subject pronoun, forming a special type of tonal domain, in which the focal boundary marker \$ is placed on the right such that the relevant citation tone can surface, by the rule of (12). That is to say, (20)(a-b) are regular readings, while (21)(a-b) are focal readings. It should be mentioned that in either (17)(a) or (17)(b), the subject pronoun under the branching NP retains its citation tone in both regular and focal readings. The principle of focal phrasing can be stated as follows:

(22) focal Phrasing

When a syllable is focussed, the focal phrase boundary
\$ is marked at its right edge.

The focal phrase is by nature a prosodic domain, and its boundary \$, like the phonological phrase boundary #, may serve to condition the application of tone sandhi.

4.2. Object Personal Pronouns

The operation of focal tone sandhi is especially vivid in a verb-object (VO) structure, in which the personal pronoun is subcategorized by its head verb as the object. Consider the contrast between (23) and (24): (N = neutral tone)

(23) (a) 'The lady does not like you (but not anyone else).'

NP
 ko-niu bo ka-yi li
 (姑娘 無 恰意 你)
 lady not like you
 \$ focal phrase
 T underlying input
 T PTS
 T surface output

(b) 'Dear brother really sympathizes me (but not anyone else).'

NP
 hiann-ko tsin tong-tsing gua
 (兄 哥 真 同 情 我)
 brother real sympathize me
 \$ focal phrase
 T underlying input
 T PTS
 T surface output

(24)(a) 'The lady does not like you.'

NP
 ko-niu bo ka-yi li
 (姑娘 無 恰意 你)
 lady not like you
 \$ focal phrase
 T underlying input
 N neutral tone sandhi
 N surface output

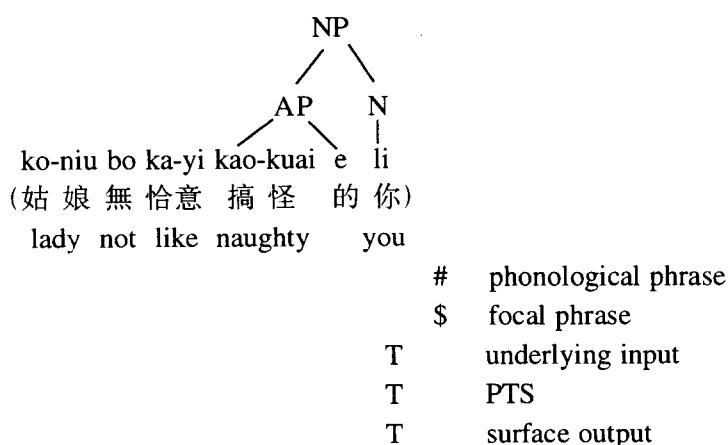
(b) 'Dear brother really sympathizes me (but not anyone else).'

NP
 hiann-ko tsin tong-tsing gua
 (兄 哥 真 同 情 我)
 brother real sympathize me
 \$ focal phrase
 T underlying input
 N neutral tone sandhi
 N surface output

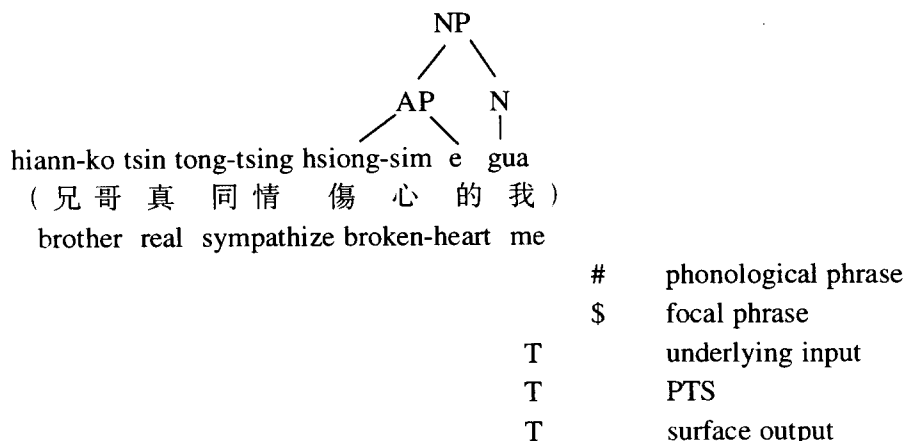
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The readings in (23-24) are all with focal effects. In (23) the the object pronouns are the focal elements, and therefore *li* and *gua* keep their citation tones before \$. In (24) the foci fall on the verbs *ka-yi* 'like' and *tong-tsing* 'sympathize', which are marked with \$ at the right edges. Consequently, the object pronouns *-li* and *-gua* occur after, but not before the focal phrase boundary, and undergo neutral tone sandhi. [6] The effects of focus on tone sandhi, however, is not obvious when the relevant object is a branching NP:

(25) (a) 'The lady does not like the naughty you (but not anyone else).'

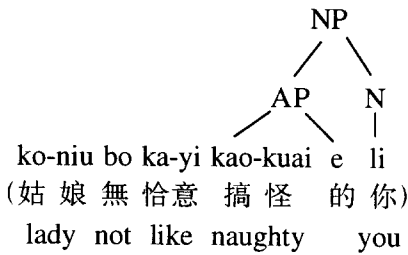


(b) 'Dear brother really sympathizes the heart-broken me (but not anyone else).'



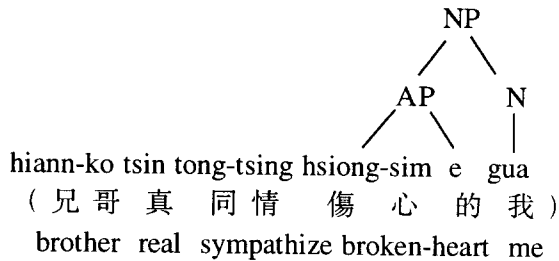
⁶ The neutral tone usually occurs in post-stress position or semantically less prominent position, cf. C. Chen (1984), Chan (1985), Tso (1990), Hsiao and Wu (1994), etc. For various discussions on neutral tone sandhi in Southern Min, cf. Hsiao (1993c), Tung (1993), Cheng (1994), among others.

(26) (a) 'The lady does not like the naughty you.'



	#	phonological phrase
\$		focal phrase
	T	underlying input
	T	PTS
	T	surface output

(b) 'Dear brother really sympathizes me.'



	#	phonological phrase
\$		focal phrase
	T	underlying input
	T	PTS
	T	surface output

The object pronouns in both (25) and (26) carry citation tones. It should be noted that in the case of (25), even if the focus falls on the verb, the relevant personal pronoun (*li* or *gua*), still occurs before the phonological phrase boundary # and thus keeps its tone unchanged.

4.3. Personal Pronouns in the Ditransitive Structure

It becomes clear that a personal pronoun forming a nonbranching NP may surface with different tone values depending on the placement of the focal phrase boundary \$. As mentioned earlier, a personal pronoun heading a nonbranching NP may be subject to rightward cliticization, and we proposed a principle in (19), which is reproduced in (27):

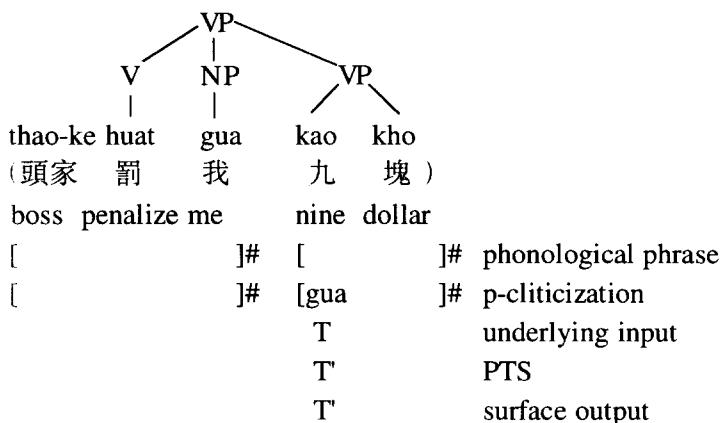
(27) P-Cliticization:

A personal pronoun α cliticizes rightward and adjoins to the following phonological phrase, if both (a) and (b) are true:

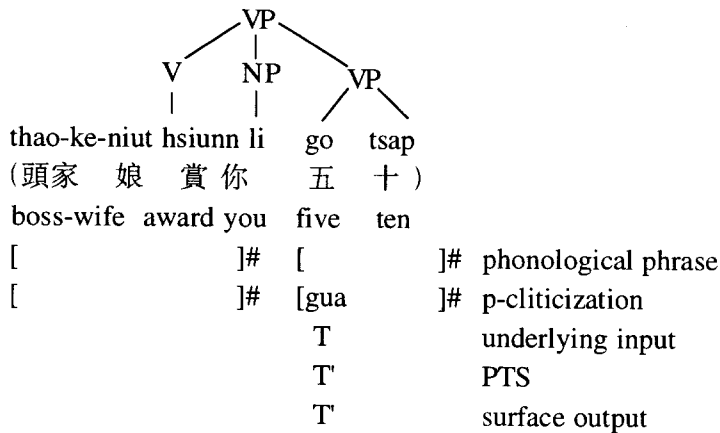
- (a) α constitutes a nonbranching NP.
- (b) α is not a semantic focus.

As dictated by this principle, we can also expect that the personal pronouns in the following ditransitive structures will cliticize from the first phonological phrase to the second in the absence of focus:

(28) (a) 'The boss penalized me for nine dollars.'

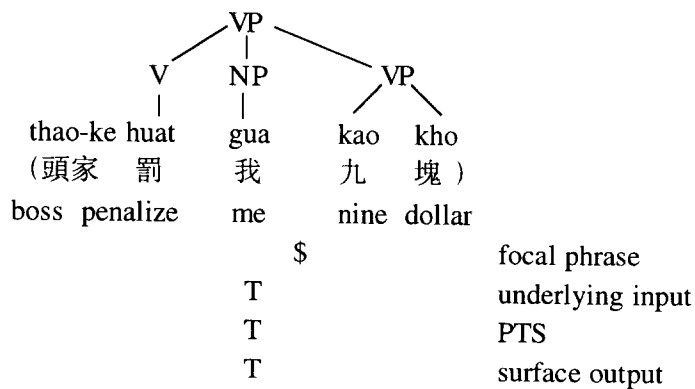


(b) 'The boss' wife awarded you fifty dollars.'



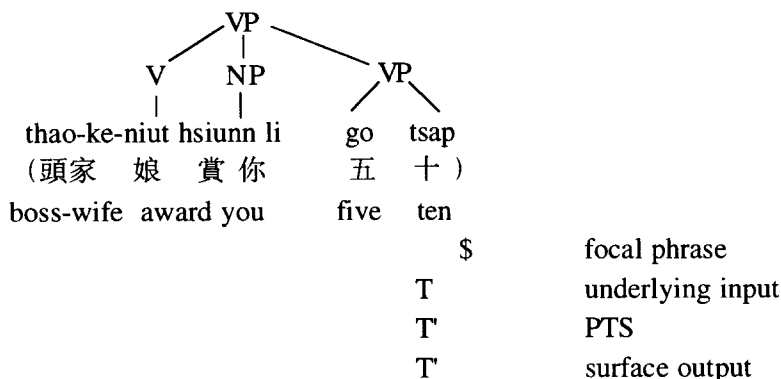
In either (28)(a) or (b), the personal pronoun is an indirect object. The absence of the pronominal focus triggers the p-cliticization, which adjoins *gua* or *li* rightward and derives a sandhi tone in the output. Consider now (29):

(29)(a) 'The boss penalized me (but not anyone else) for nine dollars.'



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(b) 'The boss wife awarded you (but not anyone else) fifty dollars..'

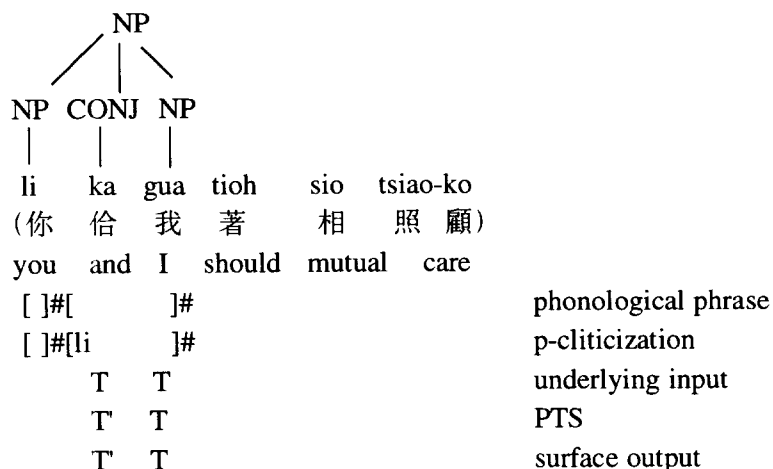


In contrast to (28), the personal pronouns in (29) are the designated focal elements, and the focal markers are inserted at their right edges, preventing *gua* and *li* from undergoing tone sandhi.

4.4. Personal Pronouns in the Coordinate Structure

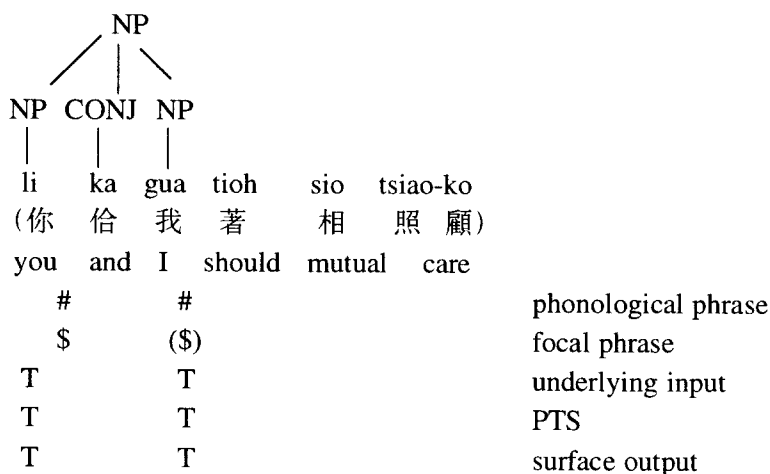
The focal effects upon pronominal tone sandhi, however, do not always work consistently in coordinate structures. Two conjoined personal pronouns, respectively heading a nonbranching NP, may in fact behave differently in terms of tone sandhi. (30) illustrates a classic case:

(30) 'You and I should take care of each other.'



The second person pronoun *li* in (30), under the first embedded nonbranching NP, derives a sandhi tone in the output, as dictated by the p-branching principle and the p-cliticization. On the other hand, the first person pronoun *gua* is also linked to an embedded nonbranching NP, but it surfaces with a citation tone. Is there a violation of either the p-branching or the p-cliticization? What happens here exactly is that *gua* is the rightmost syllable within the entire coordinate structure, i.e., the highest branching NP, and thus bears a citation tone, in accordance with the p-branching principle of (18) and the prosodic tone sandhi rule in (12). The placement of \$ in (31) then shows that p-cliticization is blocked in the presence of focus:

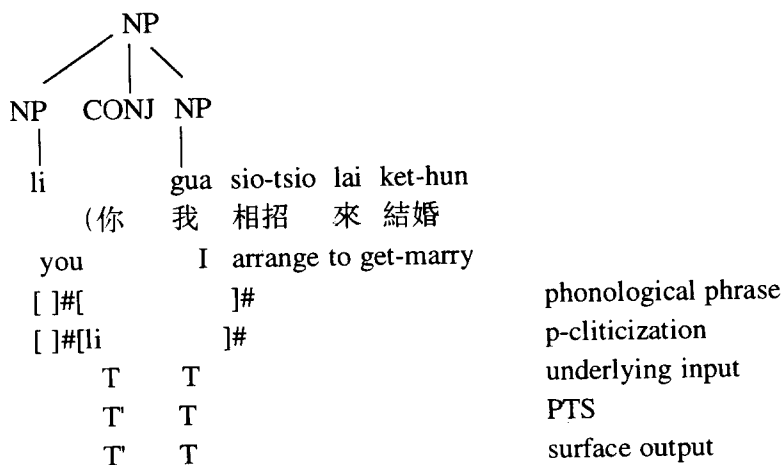
(31) 'You (but not others) and I should take care of each other.'



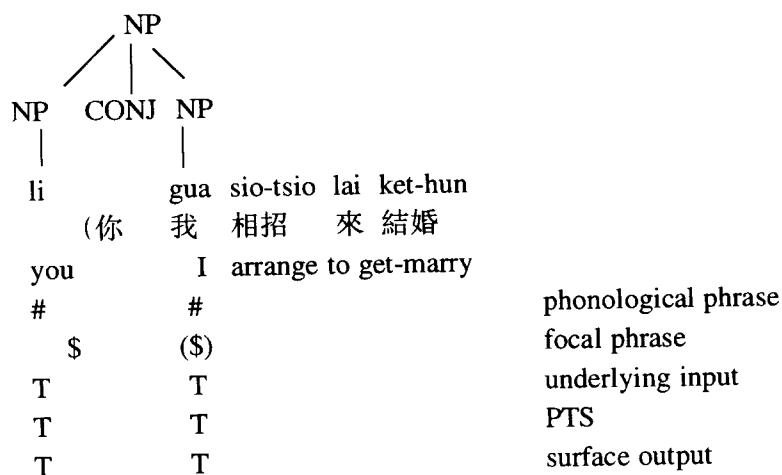
In (31), *li* does not cliticize since it is a focal element; its citation tone is hence unaltered. Notice that tone sandhi does not operate on *gua* either, being focussed or not, since it is situated before #, which is marked at the right edge of the higher branching NP. (30) further depicts the structural impacts on the tonal behavior of the personal pronouns in the coordinate structure:

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(32)(a) 'You (and) I arrange to get married.'



(b) 'You (but not others, and) I arrange to get married.'



The subject personal pronouns of (32), *li* and *gua*, form an "asyndatic" coordinate NP, in which the conjunction is absent, hence revealing tonal processes identical with (30-31). Compare now (32) with (33):

(33) 'We are good friends.'

li	lan	si	ho	ping-iu	
(你)	咱	是	好	朋友)	
you	we	are	good	friend	
T'	T				reading 1
T					reading 2*

A problem may arise from (33) as to the reason why the second person pronoun *li* has only one reading, i.e., why its tone must surface in a sandhi form. The critical distinction between (32) and (33) is that the latter possesses a different syntactic tree, as structurally described below:

(34) 'We are good friends.'

NP					
/			\		
A			N		
li	lan	si	ho	ping-iu	
(你)	咱	是	好	朋友)	
you	we	are	good	friend	
		#			phonological phrase
T	T				underlying input
T'	T				PTS
T'	T				surface output

(34) shows that *li* and *lan* do not make up a coordinate NP, but *li* is an adjunct modifying *lan*, which is unable to build an individual phonological phrase, as the principle in (10) dictates, and thus tone sandhi applies between these two pronouns. The meaning of *li lan* can be interpreted as 'the we that includes you'. Consider the ill-formedness of (35):

(35)* 'You (and) we are good friends.'

NP					
/			\		
NP	CONJ	NP			
li	ka	lan	si	ho	ping-iu
(你)	恰	咱	是	好	朋友)
you	and	we	are	good	friend

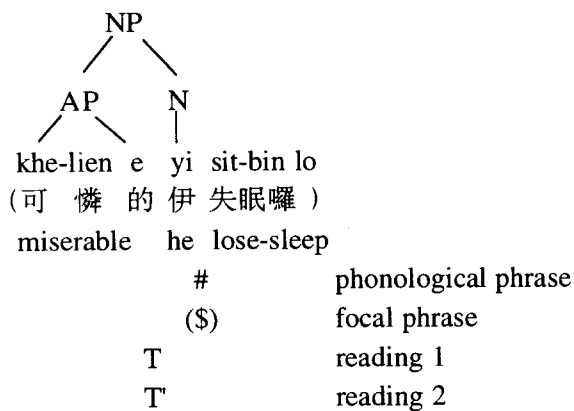
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The ineligible tree in (35) indicates again that *li lan* is by nature not a coordinate structure, since *li ka lan* is not an acceptable sequence in this language.

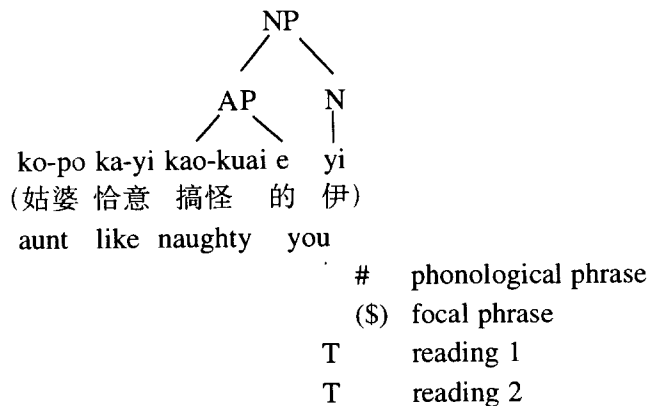
5. Third Person Pronouns

We have explored structurally the tonal behavior of the first and second person pronouns through a variety of syntactic constructions. The third person pronoun has not yet been included due to the fact that it is the least stable in terms of tone sandhi. Consider (36) through (38):

(36) 'The miserable he had a sleepless night.'



(37) 'The old lady likes the naughty him.'



(38) 'You and she should take care of each other.

li	ka	yi	tioh	sio tsiao-ko	
(	你	佢	伊	著	相 照 顧)
you and	she	should	mutual	care	
		#			phonological phrase
		(\$)			focal phrase
		T			reading 1
		T'			reading 2

These examples indicate that *yi* can alternatively carry a citation tone or a sandhi tone, irrespective of its syntactic or semantic status. Note that in form of the citation tone, *yi* not only produces a focal reading but also contributes to a poetic rendering. The sandhi tone of *yi*, per contra, creates more colloquial effects. [7]

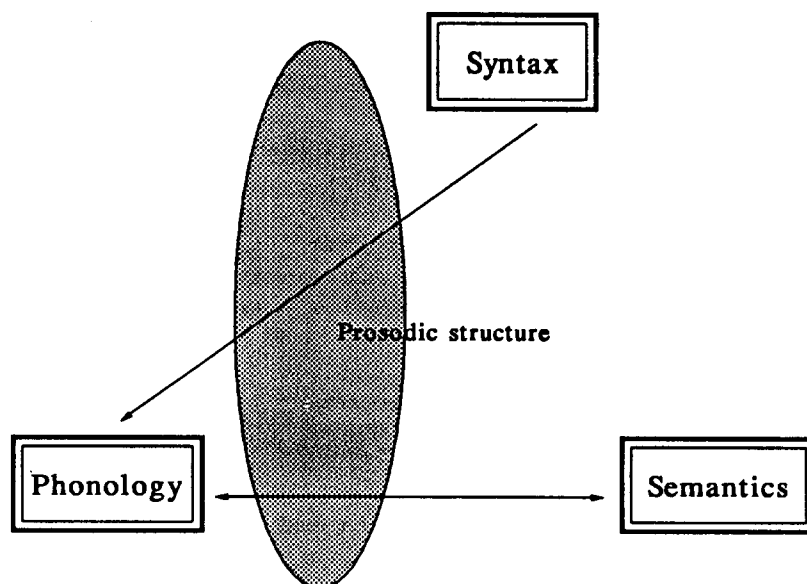
6. Conclusion

To sum up, pronominal tone sandhi in Southern Min is neither accounted for by the syntactic conditions proposed in Cheng (1968) and M. Chen (1987), nor accounted for by the prosodic phrasing proposed in Hsiao (1991). In this paper, we have shown that the tonal behavior of first and second person pronouns is sensitive to the branchingness of syntactic tree. However, our analysis is not motivated for a direct-syntax approach, but rather, the principles of p-branching and p-cliticization are added to supplement the prosodic treatments. Under a nonbranching NP, the facility of semantic focus is the key to the application of pronominal tone sandhi. It has been observed in Hsiao (1991, 1992) that a Mandarin function word which constitutes the head of a XP can be optionally cliticized to a neighboring prosodic domain. In the case of Southern Min personal pronouns, this optionality is determined by the placement of focus, as have been demonstrated by (21), (23-26) and (29). As to third person pronouns, they are the least stable in terms of tone sandhi, regardless of a syntactic diversity. At any rate, the peculiar tonal properties of the personal pronouns buttress up the arguments for the connection between semantics and phonology, and enriches the quest for the syntax-phonology interface, as generalized in the following chart:

⁷ In this paper, we have used the singular pronouns *gua*, *li* and *yi* to illustrate our arguments for the sake of convenience, though the findings would constantly hold for the plural pronouns *gun*, *lan*, *lin* and *yin*.

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(39)



Symbols

-nn	vowel nasalization
-ng	velar nasal
-h	glottal stop
-h-	consonant aspiration
N	neutral tone
S-adv	sentential adverb
T	citation tone
T'	sandhi tone
TG	tone group
PPh	phonological phrase
PTS	prosodic tone sandhi rule
#	phonological phrase boundary
\$	focal phrase boundary
]	prosodic juncture

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