

Appendix

A.1 Brief Introduction to The Phoneme of

Taiwanese

According to (Iunn et al., 2008; Klöter, 2005; Li, 2007; J.-h. Tiunn, 2001, 2003), we decompose the syllable into three parts: consonants, vowels and tones. We use POJ to represent the pronunciation, and the corresponding Han characters are added as examples for comprehensibility.

A.1.1 Initials

Table A - 1 shows the consonants of Taiwanese.

Table A - 1 Consonants

	Bilabial	Dental	Alveolar	Velar	Glottal
Unaspirated Voiceless Plosive	p 寶貝	t 蜘蛛		k 國家	
Aspirated Voiceless Plosive	ph 乒乓	th 討趁		kh 乾坤	
Voiced Plosive	b 目眉			g 語言	
Nasal Voiced Plosive	m 媽咪	n 貓呢		ng 雅	
Unaspirated Voiceless Affricate		ch 周至/ 走			
Aspirated Voiceless Affricate		chh 親切/ 臭臊			
Unaspirated Voiced Affricate		j 認字/裕			
Voiceless Fricative			s 新生/ 世事		h 學校
Lateral/Flap			l 流連		
Note: “ch/chh/j/s” can be divided to yotized (eg. “chi”) and not yotized (eg. “che”)					

A.1.2 Vowels

The following tables show all of the Taiwanese vowels, including single vowels, compound vowels, nasal and glottal, nasal finals and final stop; and syllabic consonants.

Table A - 2 Single Vowels

i 魚翅		u 武士
e 世系		o 寶刀
	a 腳仔	o' 葫蘆

Table A - 3 Compound Vowels

ia 夜車		iu 優秀	io 招標
oa 砂紙	oe 會話	ui 貴妃	
ai 海菜	au 豆包	oai 歪跣	iau 逍遙

Table A - 4 Nasal and Glottal

a ⁿ 餡	ah 鴨	ah ⁿ 熾
ia ⁿ 拚命	iah 壁	iah ⁿ 啥
oa ⁿ 碗盤	oah 活	
e ⁿ 青盲	eh 雪	eh ⁿ 脈
oe ⁿ 妹	oeh 血	oeh ⁿ 挾
i ⁿ 甜	ih 鐵	ih ⁿ 物
ui ⁿ 梅	uih 血	
	uh 吸	
iu ⁿ 樣相	iuh 搯	
	oh 學	oh ⁿ 呼
	ioh 尺	
o ⁿ 惡	o'h 噢	

Table A - 4 Nasal and Glottal

ai ⁿ 歹	aih 唉	aih ⁿ 凹
oai ⁿ 樣		oaih ⁿ (扭)
au ⁿ 腦	auh 貿	auh ⁿ 卯
iau ⁿ (癢)	iauh 寂	iauh ⁿ 蟻

Table A - 5 Nasal Finals and Final Stops

am 掩(蓋)	an 艱難	ang 動工
iam 檢驗		iang 響亮
	oan 完全	oang 汪
	ian 演變	eng 龍眼
im 深沈	in 人民	
	un 溫順	
om 蔘		ong 同窗
		iong 松茸
ap 雜	at 密	ak 握
iap 貼		iak 約
	oat 活潑	oak
	iat 熱烈	ek 綠竹
ip 吸入	it 蝕日	
	ut 鬱卒	
op		ok 惡毒
		iok 六慾

Table A - 6 Syllabic Consonants

m 姆	ng 糖霜
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A.1.3 Tones

Table A - 7 shows the tones of Taiwanese..

Table A - 7 Tones

Name	Symbol in POJ	Description	Han Char. Example
im-piâ ⁿ		High level	東風
im-sióng	ṽ	Falling from high to half-low	滾絞
im-khì	ṽ	Falling from medium to low	計算
im-jip		Falling abruptly from medium to half-low, ending in an unreleased voiceless stop	祝福
iông-piâ ⁿ	ṽ	Falling from half-low to low and rising to half-high, or rising directly from low to half-high	拳頭
iông-khì	ṽ	Medium level	重量
iông-jip	ṽ	Falling abruptly from half-high to medium, ending in an unreleased voiceless stop	學術
Note: “v” represents the main vowel of a syllable. In general, the priority is a, ȯ > o > e, u > i > m, n.			

A.1.4 Compared with Mandarin

First, there are no voiced plosives (b/g), velar nasal voiced plosives (ng), and dental unaspirated voiced affricates (j) in Mandarin existing in the initial position. In brief, there are no voiced initials in Mandarin. It is somewhat difficult for someone to pronounce “b/g/j” correctly. In fact, the Mandarin movement deeply influenced English learning in Taiwan, with many people often regarding the “b” of “boy” as a bilabial unaspirated voiceless plosive. For Bali Island in Indonesia, the Han residents created a Han character “峇” /ba/ to differentiate between /ba/ and /pa/, but the Han character is treated as “巴” for

simplification in Taiwan, because the Mandarin speakers cannot distinguish between /ba/ and /pa/.¹ Another example, /gín-á/ ‘child 囡仔’ may be pronounced /in-á/ ‘signet 印仔’.

Second, as far as the vowels, there are no checked syllables (-p/-t/-k/-h), the nasal final “m” the nasal “n” in Mandarin. Besides, there are zero vowel syllables in Mandarin, but every Taiwanese syllable includes vowel(s).

Third, as far as the tones, the Taiwanese has 7 tones whereas Mandarin has only 4 tones. Two checked syllable (im-jip and iông-jip) and the iông-khì (medium level) tones are not included in Mandarin. The im-piâⁿ (high level) tone is the same as Mandarin tone 1, im-sióng (falling from high to half-low) tone is the same as Mandarin tone 4, im-khì (falling from medium to low) tone is similar to Mandarin tone 3, and iông-piâⁿ (falling from half-low to low and rising to half-high) tone is the same as Mandarin tone 2.

If we neglect the tones, there are about 400 syllables in Mandarin and 885 syllables in Taiwanese. If we take tones into consideration, there are about 1,200 syllables in Mandarin and 2,726 syllables in Taiwanese (K.-i. Chan, 2008).

Generally speaking, it is easier for a Taiwanese native speaker to learn Mandarin than Mandarin native speaker to learn Taiwanese. However, it is difficult for a Taiwanese speaker to master the retroflexion ‘捲舌’ (zh/ch/sh/r) of Mandarin.

¹ Personal communication with Tiuⁿ, Jū-hông.

A.2 Examples of Written Taiwanese

Fig A - 1 and Fig A - 2 show the examples of Han script.

卜甲世間來離開 双人甘愿縛相隨 看破世情卜跳水 永遠兮得通做堆
二人相向面對面 卜跳運河事是真 二个永遠通做陣 不甘放汝我愛人
無論省欸手牽手 想着人生不自由 別人希望愛長壽 甘愿投海水漂流
運河兮水起波浪 一旦無常萬事空 前生咱都無冤枉 爲情來死嗎無焯
看着海水如葱々 更深夜靜朗無人 世間一切甘愿放 汝我心肝生相同
世間一切卜看破 勸汝不通想虛花 手提褲帶縛瓦々 死了不即下相拖
褲帶提來縛大腿 死了即兮做一堆 即袂一流一位 二个永遠通相隨
汝我真情的戀愛 暗恨月老錯摧排 甲君來死同所在 不免每日塊悲哀
今日咱兮即上好 金快塊叫答心哥 共我抱瓦放乎倒 水響一聲落運河
因厝公婆無靈聖 双人恁到枉死城 運河奇案是有影 萬古流傳有名聲
二个跳落運河內 等到天光人即知 有人去報官廳界 法醫檢好準因抬

Fig A - 1 Han script (Taiwanese Folk Song)

Source from (Iunn et al., 2008) p507.

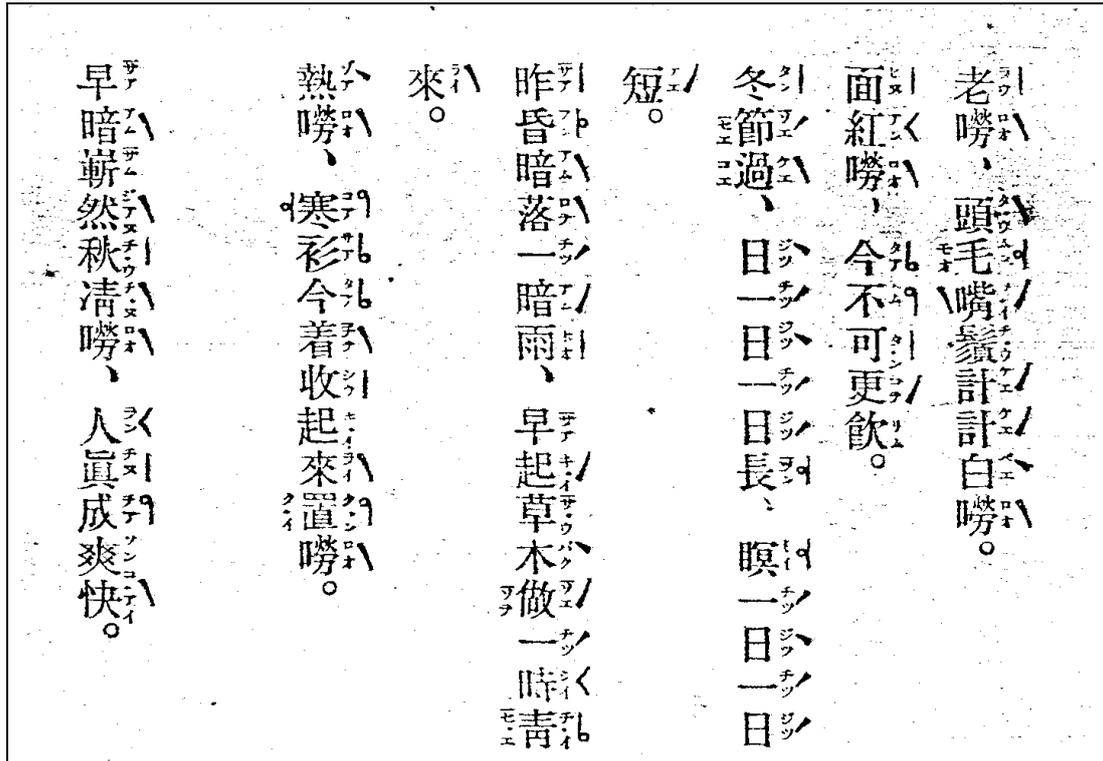


Fig A - 2 Han script (Taiwanese Textbook in Japanese-Ruled Period)

Source from (Iunn et al., 2008) p499, Kana is used to record the pronunciation.

Fig A - 3 shows the example of POJ script.

TĀI-OÂN-HŪ-SIĀⁿ KÀU-HŌE-PÒ.

TE IT TIUⁿ

KONG-SŪ XI nĭⁿ, 6 goéh.

TĀi-oân-hŭ-siĀⁿ ê Kàu-su mng̃ Kàu-hōe-lāi ê hiaⁿ-tĭ chí-moāiⁿ pêng-an :
Goán Siōng-tè siúⁿ-sù lín tĭi-ke tōa in-tián.

Goán kòe-lāi chit-pêng sĭ in-ūi ài thōan Thian-kok ê tō-lí, hō lāng
bat Siōng-tè lāi tit-tiōh kiu. Só thōan ê tō-lí lóng sĭ Sèng-chheh só
kà-sĭ-ê; nāⁿ m̄-sĭ Sèng-chheh ê tō-lí, goán m̄-káⁿ kóng. Só-í goán taúh-
taúh khó-khng̃ lín tiōh thák-chheh lāi khòaⁿ Sèng-keng, ng-bāng lín
náⁿ-kú náⁿ-bat Siōng-tè ê tō-lí; iā m̄-bián tek-khak oá-khò Bók-su á-sĭ
Thōan-tō-lí ê lāng lāi kóng tō-lí hō lín thiaⁿ; in-ūi lín pún-sin khòaⁿ
Sèng-chheh, sĭu Sèng-sin ê kám-hòa, sui-jián bô lāng lāi kà-sĭ, lín iáu
kú ē chai Siōng-tè ê chí-l. Khó-sioh lín pún-kok ê jĭ chin oh, chíó
chíó lāng khòaⁿ ē hiáu--tit. Só-í goán ū siat pát-mĭh ê hoat-tō, ēng
péh-oē-jĭ lāi in-chheh, hō lín cheng-lāng khòaⁿ khah khoài bat. Iā kin-
lāi tĭi chí-ê Hŭ-siĀⁿ goán ū siat chí-ê in-chheh ê khi-khū, thang in-jĭ
chhin-chhiūⁿ chí-ē hō ê khoán-sit. "Ta" goán ng-bāng lín cheng-lāng beh
chhut-lát òh chia-ê péh-oē-jĭ; aū-lāi goán nāⁿ in sĭm-mĭh chheh lín lóng
ê hiáu--tit khòaⁿ. Lāng m̄-thang phah-sng̃ in-ūi i bat Khóng-chú-jĭ só-
i m̄-bián òh chí-hō ê jĭ; iā m̄-thang khòaⁿ-khin i, kóng sĭ gín-á só
thák--ê. Nng-iūⁿ ê jĭ lóng ū lō-ēng; put-kò in-ūi chí-hō khah-khoài
iā khah-bēng, só-í lāng tiōh tĭi-seng thák-i. Aū-lāi nāⁿ beh sòa thák
Khóng-chú-jĭ sĭ chin hó; chóng-sĭ péh-oē-jĭ tiōh khah tĭi-seng, kiaⁿ-liáu
nāⁿ m̄-thák, lín bē hiáu--tit khòaⁿ goán pát-jĭt só in--ê. Só-í goán khó-
khng̃ lín cheng-lāng, jĭp-kàu í-kip thiaⁿ tō-lí ê lāng, lám-hū ló-iù, bat-
jĭ, m̄-bat-jĭ ê lāng lóng-chóng tiōh kín-kín lāi òh. Chhin-chhiūⁿ án-nĭⁿ
lín chiū ē hiáu--tit thák chí-hō ê Kàu-hōe-pò kap gōa-chheh kap Sèng-
chheh; ng-bāng lín-ê tō-lí náⁿ-chhim, lín-ê tek-hēng náⁿ-chiū-pĭ.

Fig A - 3 POJ script (Taiwan Prefectural City Church News)

Source from (Iunn, 2006a).

Fig A - 4 shows an example of HR mixed script.



台文通訊
Tâi - Bún Thong - Sîn

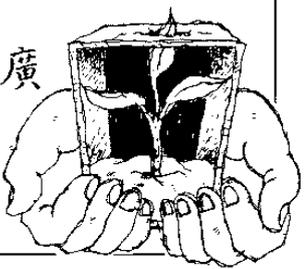
Taiwanese Writing Forum
November 1, 1993
No. 25

本期發行量：台灣18,000份 北美2,000份

Editor: Te^o Liang - Kong Publisher: USA / Chhong - Bi Memorial Fund; TAIWAN / Taigi, Thoan - Po, Kong - Si

發行人ê話一
**鬥陣來推廣
台文通訊**

● 聰美紀念基金會



聰美是一位醫生，伊也是一位平凡ê台灣婦女，但是伊過了偉大ê一生。伊kap伊ê夫君伊藤邦幸醫生結婚了後，相牽去偏僻ê NEPAL 做醫療服務七冬，轉去日本後，伊用井上魯頓ê名，每個月奉獻日票五萬kho' hō「台灣青年」雜誌做台灣獨立運動ê路用，按呢繼續20冬無停，一直到伊過身六冬後，伊ê故事 chiah tūi日文翻譯過來 hō 大家知影。這個故事已經tī台灣教會公報、台灣公論報，以及美國台灣同鄉聯合鄉訊等報導，引起海內外台灣人真大ê共鳴，大家踴躍獻金，所獻ê金額也攏有經過台灣教會公報社、衛鄉台灣教會、波士頓台灣教會等，直接寄去hō tī哈佛大學進修中得中風ê夫君伊藤先生。不幸伊藤先生已經tī今年(1993)八月初八腦充血別世。

1993年一月初三聰美姊ê家屬提議今後所有ê獻款，最好來設立「聰美姊紀念基金」(CHHONG-BI MEMORIAL FUND)，主要ê理由是 beh繼承聰美姊ê心願 kap精神。聰美姊ê精神就是一世人無愛出名，一世人tī人生(生六子女)ê重擔下，無 kap人計較，靜靜 teh獻心祈禱，並實踐奉獻ê精神，所以這個基金會ê宗旨，就是beh喚起台灣人奉獻犧牲ê精神，將捐獻ê資金來支援 hiah ê tī台灣做草根運動者，無beh出名，無人知，但是熱愛台灣，為台灣前途獻身ê文化教育、地方ê工作者；chiaê人ê精神就是kap聰美姊ê精神全款。

Ta^o tūi 這期開始，聰美基金會beh開始承擔北美「台文通訊」發行ê責任，阮大家一方面謹慎，一方面感謝。謹慎因為阮知影che是一個拓荒ê工作，「通訊」今後會繼續成長抑是退步，阮攏負一部分ê責任；感謝，因為阮是teh收成一個田園，幾年來「通訊」經過國內外chē-chē有志有心ê兄弟ê開墾灌溉，雖然是一份小型ê雜誌，但已經看出是一片真súí ê 田園，阮無流汗[koā^o]，kan-na 收成，實在不配。

總講一句：阮一定beh繼續拍拚盡力，用祈禱來iā種、來經營，用一個傳道人ê心，只有認真工作，收成ê代誌交 hō 上帝去做。相信有一日咱ê後代會因為咱這代ê犧牲 kap努力，會tàng大聲歡呼感謝去收成。

讀者兄弟今後請繼續支持這份雜誌。有關稿件、編輯、印刷ê工作請繼續 kap洛杉磯ê台文通訊社聯絡。但是有關「通訊」ê訂費、獻款以及其他財務方面ê事務，請攏kap阮聯絡；捐款可以抵稅(No. 12485 535)支票請寫hō：

CHHONG-BI MEMORIAL FUND
C/O WESTCHESTER TAIWANESE CHURCH,
1, THE HIGH ROAD, BRONXVILLE, N.Y. 10708

編註：台文通訊ê財務北美kap台灣分開，北美負責編輯、製版kap北美發行ê費用。台灣負擔tī台灣印刷、郵寄、辦公等費用，今年台灣ê財務由「台語傳播公司」負責，頂年台灣版ê台文通訊因為免費寄送ê份數真 chē，財務有嚴重ê赤字，請台灣讀者特別來關心，hō 台文通訊會tàng維持目前ê發行量。捐款繼續郵撥到16530211陳豐惠。投稿抑是針對編輯內容ê意見請直接聯絡編輯部：Taiwanese Writing Forum, 22115 So. Vermont Ave. Torrance, CA 90502 FAX:0021-310-618-1580

Fig A - 4 HR Mixed Script (Taiwanese Writing Forum)

Source from (Chhong-bi Memorial Foundation).

A.3 Terminologies

Table A - 8 lists the terms used in this dissertation with the Taiwanese, Mandarin and English in ascending order of POJ.

Table A - 8 Terminologies

Taiwanese (POJ)	Taiwanese (Han script)	English	Mandarin	Remark
bô sàng-khùi	無送氣	unaspirated	不送氣	
chhat-im	擦音	fricative	摩擦音	
chheng-im	清音	voiceless	清音	
choan-iú bêng-sû	專有名詞	proper noun	專有名詞	
gôan-im	元音	vowel	元音	
gók-hòa	顎化	yotized/palatalized	顎化	
hong-giân-chha	方言差	different accent	方言差	
hú-im ūn-bú	輔音韻母	syllabic consonants	輔音韻母	
hui jip-sia ⁿ	非入聲	smooth syllables	非入聲	
im-chiat	音節	syllable	音節	
im-sò	音素	phoneme	音素	
jip-sia ⁿ	入聲	checked syllable	入聲	include -p-t-k-h
khí-hōa ⁿ -im	齒岸音	alveolar	齒槽音	
khí-im	齒音	dental	齒音	
khin-sia ⁿ piàn-tiâu	輕聲變調	neutral sandhi	輕聲變調	
Koa-á-chheh	歌仔冊	Folk Songs	歌仔冊	
liân-jī-hû	連字符	hyphen	連字符	
lô-im	濁音	voiced	濁音	
lōan-bé	亂碼	unreadable characters(mojibake)	亂碼	
nng-chhùi-kò-a-im	軟嘴蓋音	velar	軟顎音	
péh-ōe-jī	白話字	Romanized Taiwanese	白話字	
pheng-jī hoat	拼字法	orthography	拼字法	
phī ⁿ -im	鼻音	nasal	鼻音	

Table A - 8 Terminologies

Taiwanese (POJ)	Taiwanese (Han script)	English	Mandarin	Remark
piàn-tiāu	變調	tone sandhi	變調	
pi ⁿ -im	邊音	lateral	側音	
pòk-liāt-im	爆裂音	plosive	破裂音	
sàng-khùi	送氣	aspirated	送氣	
seh-chhat-im	塞擦音	affricate	塞擦音	
siang-tûn-im	雙唇音	bilabial	雙唇音	
sia ⁿ -bú	聲母	consonant; initial	聲母	
sia ⁿ -tiāu	聲調	tone	聲調	
sia ⁿ -tiāu hû-hō	聲調符號	diacritic	聲調符號	
sok-âu-im	束喉音	glottal stop	喉塞音	full-fledged stop (-p-t-k)
ūn-bú	韻母	final	韻母	

A.4 Webpages Made by Author

- 台語華語線上辭典 <http://iug.csie.dahan.edu.tw/q/q.asp>
- 台語文語詞檢索系統 <http://iug.csie.dahan.edu.tw/TG/concordance/form.asp>
- 台語線上字典 <http://iug.csie.dahan.edu.tw/TG/jitian/tgjt.asp>
- 台語文斷詞系統 http://poj.likulaw.info/hanlo_hunsu.php
- 白話字 Word count 工具 <http://iug.csie.dahan.edu.tw/nmtl/dadwt/count.htm>
- 台語詞性標記 <http://iug.csie.dahan.edu.tw/TGB/tagging/tagging.asp>
- 台語羅馬字教學進修網站 <http://iug.csie.dahan.edu.tw/TG/TGLMJ/index.htm>
- 台語笑諷代 <http://iug.csie.dahan.edu.tw/TG/chhiokhe/chhiokhe.asp>
- 台語歌謠網 <http://iug.csie.dahan.edu.tw/TG/imgak/imgak.asp>
- 台語文相關學位論文 <http://iug.csie.dahan.edu.tw/giankiu/lunbun/lunbun.asp>
- 台語文記憶 <http://iug.csie.dahan.edu.tw/memory/TGB/mowt.asp>
- 台語文數位典藏資料庫 <http://iug.csie.dahan.edu.tw/nmtl/dadwt/pbk.asp>
- 台灣俗語鹹酸甜 <http://iug.csie.dahan.edu.tw/TG/chu/kiamsngtiN/kiamsngtiN.asp>
- 白話字字母圖 <http://iug.csie.dahan.edu.tw/TG/POJJB/POJjb.asp>
- 詞頻報告
<http://iug.csie.dahan.edu.tw/giankiu/keoe/KKH/guliau-supin/guliau-supin.asp>
- 台語文全羅漢羅文本互轉 <http://iug.csie.dahan.edu.tw/TGB/CLHLMI/clhlmi.asp>

In order to popularize written Taiwanese, we also develop Taiwanese Google Gadgets. Fig A - 5 shows the appearance of the Taiwanese Google Gadgets.



Fig A - 5 Taiwanese Google Gadgets Made by Author

A.5 Differences between POJ and TL

The “Taiwan Southern Min Lō-má-jī phonetic scheme ‘台灣閩南語羅馬字拼音方案, *abbrev.* as TL 台羅,’ ” which is essentially a mixture of POJ and TLPA, was announced by the Ministry of Education on October 26, 2006 (MOE, 2006).

There are basically no conflicts between POJ and TL. Table A - 9 lists the differences between POJ and TL (MOE, 2006, 2007c). Note that the positions of the diacritics are different for some vowels. For example, “úi” in POJ and “uí” in TL, “óe/óa” in POJ (in most cases) and “ué/uá” in TL.

Table A - 9 Differences between POJ and TL

	POJ	TL	Remark
Consonants	ch/chh	ts/tsh	
Vowels	o [˙]	oo(o)	In TL, “oo/nn” is official version, “o [˙] /n ⁿ ” is traditional version.
	n ⁿ	nn(n)	
	eng/ek	ing/ik	
	oa/oe	ua/ue	
Tones	˙v	˙v(v2)	In TL, using number represent tones is convenient version, the official version is the same as POJ.
	˘v	˘v(v3)	
	ˆv	ˆv(v5)	
	ˉv	ˉv(v7)	
	˘˘v	˘˘v(v8)	