

TONAL DEVELOPMENTS AMONG CHINESE DIALECTS

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This paper was revised during the summer of 1974 when I was a visiting professor at National Taiwan University under the sponsorship of the China Foundation for the Promotion of Education and Culture. During the same period I had the privilege of using the Academia Sinica field notes of the Hunan and Kiangsi dialects which I quote in this paper. I wish here to express my gratitude to both National Taiwan University and Academia Sinica.

I. Introduction

Chinese is a tonal language; that is, every stressed syllable has a fixed tone. Chinese syllabic structure can be described in terms of tones, initials, medials, nuclei, and endings. In stressed position, the tone and the nucleus are the essential elements of the syllable; initials, medials, and endings may or may not be present. Vowels (simple and diphthongal) are the most frequent nuclei. The less frequent consonantal nuclei, or syllabic consonants (e.g. *m*, *ŋ*, *v*) cannot be preceded by medials or followed by endings, though they can follow initials (e.g. *hŋ*, *tv*).

The earliest recognition of a four-tone system for Chinese was that of Shen Yüeh (441-513) and his associates. In assigning words to these historical categories, now symbolized A (p'ing), B (shang), C (ch'ü), and D (ju), I follow the classifications given in the extant recensions of Lu Fa-yen's *Ch'ieh-yün* (601 A.D.): *Wang-yün* (706) and *Kwang-yün* (1007-8). (These recensions, while retaining the *Ch'ieh-yün's* system, contain many new items. Some of these may have been assigned to the wrong categories, and some are dialect variants.) Although the compilers of the *Ch'ieh-yün* claimed that their goal was a dictionary which would embrace all dialect variations, they were prejudiced in favor of the dialects of the south, a region which at that time enjoyed the greatest economic prosperity and the highest cultural prestige. The modern dialects

whose tone systems bear the closest resemblance to the system preserved in the *Ch'ieh-yün* are the Wu. It is only in the Wenchow (溫州) dialect, for example, that the distribution of words with A, B, C, D tones coincides with that of the *Ch'ieh-yün*.

Words with the D tone had voiceless-stop endings. The A, B, and C tones may also have had their source in segmental contrasts, but this is not certain; they may once have been differences in stress. However, study of rime patterns has shown that even at the *Shih-ching's* time, the Chinese language had a tonal system similar to that recognized by Shen Yüeh. The contrasts among the A : B : C tones may have been those of level or even (E), rising (R), and falling (F) or mid (M), high (H), and low (L). The phonetic values of these tones cannot be reconstructed with data from modern dialects.

As early as the eighth century, the northern tonal system and the southern tonal system formed a dichotomy. In his work on Sanskrit phonology (Siddham) written in 880 A.D., the Japanese monk Annen (安然) told of two different Chinese tonal systems. The Chinese dialects introduced into Japan by Yüan Chin-ch'ing (袁晉卿) in 735 showed one tonal system, which from Annen's description appears to have been similar to that of modern Mandarin dialects, with Ancient A and B-tone splits, but no C-tone split. Words with the Ancient B tone and Ancient voiced initial stops and affricates or fricatives had merged with the words which had the Ancient C tone. The existence of a tonal system in the north during the T'ang Dynasty similar to that of the present-day Mandarin dialects in which the *Ch'ieh-yün's* B2 category had merged with the C category is also confirmed by the riming practice of some T'ang poetry as well as by Li Fu's (李涪) criticism of the *Ch'ieh-yün*. Annen had learned of the second tonal system from the accounts of two Japanese visitors to China: in 847 Master Issei (惟正) and in 877 Master Chiso (智聰) returned to Japan with reports of a Chinese tonal system in which all four tones had split into two subcategories, presumably on the basis of voiceless and voiced initials. A modern example of such a tonal system is found in the Wenchow dialect of Chekiang.

Tonal systems such as those described by Annen appear to have been the contending forces behind the subsequent tonal developments among Chinese dialects. In the north there are dialects in which the Ancient A and B tones have split but the Ancient C tone remains one entity, and the B2 tone is identical with the C tone. (Words with the D tone have changed in different ways

in different dialects.) Modern Mandarin and Hakka dialects are of this type. In the south there are dialects in which all Ancient tones have split. Thus, some of the modern Wu, Yüeh, and Min dialects have eight tones. It was the influence of the prestigious northern tradition on the southern dialects which produced the literary pronunciations characteristic of some modern dialects in the south.

There is no modern dialect whose vocabulary falls into the same four tonal categories as in the *Ch'ieh-yün*: dialects with four tones have different classifications of vocabulary; Wenchow, which has the *Ch'ieh-yün's* classification, had tonal splits which increased the number of its tonal categories to eight. Chinese tonal systems now have from three to ten tones. Increases in number were effected by splits, conditioned mainly by the contrast of voiceless and voiced initials; reductions were achieved by tonal mergers.

II. Tonal Splits Conditioned by Voiceless : Voiced Initials

II.1. High : Low Contrasts and Voiceless : Voiced Initials

Tonal developments are often related to features of the initial. The distinctions between voiceless and voiced initials has, for example, frequently induced a tonal split. This distinction is still preserved in a number of modern dialects:

浙江：永康，溫州（永嘉），溫嶺，武義，海鹽通圓，金華，紹興，（嘉興，吳興，杭縣，諸暨，嵊縣，餘姚，鄞縣，黃巖，衢縣。）

江蘇：高淳，蘇州（吳縣），無錫，吳江城區，吳江黎里，吳江盛澤，常州（武進），常熟，海門，江陰，嘉定，寶山，松江，上海縣，（宜興，溧陽，金壇，丹陽永豐鄉，靖江，江陰，崑山，寶山，南匯。）

江西：廣豐，都昌，湖口，玉山。

湖南：麻陽，祁陽，東安，新寧，臨湘，城步。

(In the Hunan group, initials of words with B, C, and D tones have been sporadically devoiced.)

In some of these dialects the voiced initials are unaspirated; in others they are aspirated. In the dialects of P'u-ch'i (蒲圻) and T'ung-ch'eng (通城) in Hupeh and in the dialect of Lin-hsiang (臨湘) in Hunan, both Ancient voiced and Ancient voiceless aspirated stop and affricate initials have yielded modern voiced aspirated stops and affricates.

Among the dialects which preserved the contrasts of voicing in initials and in which all four Ancient tones have split into two subcategories, the words with

voiceless initials generally have a higher tone than the words with voiced initials (Chart 1). The height contrasts are less regular among those dialects which have had the tonal splits but which have not preserved the contrasts of initial voicing (Chart 2).

Chart 1

Tonal Systems of Dialects with Four Tonal Splits and Voicing Contrasts

[Initials of words in the "1" subcategories were voiceless in Ancient Chinese; those in the "2" subcategories were voiced.]

Dialect	A1	A2	B1	B2	C1	C2	D1	D2
溫州 (字彙)	44	31	54	24	42	11	23	12
義烏	33	11	42	31	55	35	ʔ323	ʔ212
紹興	51	231	335	113	33	11	45*	<u>12</u>
永康	44	22	35	13	52	241, 24	52**	13***
海鹽通圓	54	31	34	242	25	213	5	2
武義	24	213	44	13	53	31	5	212
海門 (概況 ²)	53	14	23	31	34	213	5	2
常熟	53	33	423	31	324	213	5	2
松江	53	31	44	22	35	13	5	3
宜興	55	13	52	45	424	31	5	2
無錫	55	14	324	33	35	213	ʔ5	ʔ2
廣豐 (金)	55	31	42	24	423	213	ʔ4	ʔ2

* Underlining indicates shortness.

** In sandhi, 33.

*** In sandhi, 22.

Chart 2

Tonal Systems of Dialects with Four Tonal Splits but without Voicing Contrasts

[On the splits in the D1 and D2 categories, see VI.2.]

Dialect	A1	A2	B1	B2	C1	C2	D1	D2
廣州	55	21	35	13	33	22	5 : 33	22
台山 (王力)	33	22	55	21	33	32	55 : 33	32 : 21
香港船戶	53	31	45	11	55	33	55 : 33	32
貴縣	HE	LFR	HR	LR	HF	HFR	HE : MR	LR
蒼梧吉陽鄉	HF	MF	HE	R	HFR	MFR	HE : HF	LF
恩陽	LR	LF	HE, MF	HR	LE	ME : LE	LE	LE
韶州城	LR	HF	HR	FR	HE	LE	MF	LF
潮州 (字匯)	33	55	52	35	12	11	1	5
揭陽	44	55	52	13	313	22	31	44
定安	24	22	21	33	35	24	55	33
晉江	44	35	55	33	31*	31**	53	35
建陽	53	33	21	32	32	43	35	43

* In sandhi, 55.

** In sandhi, 11.

II.2. The Devoicing of Initials

Devoicing is not always, if ever, accomplished at one stroke. Among the dialects of Hunan, for example, the devoicing process has operated independently on Ancient voiced stops, affricates, and fricatives in different tonal categories and different dialects. Among the dialects of Wu-kang (武岡), Shuang-feng (雙峯), and Tung-k'ou Huang-ch'iao (洞口黃橋), the devoicing process was accomplished only among words with the D tone. Among the dialects of Ling-ling (零陵), Hsü-p'u (敘浦), Yung-shun (永順), Pao-ching (保靖), Yung-sui (永綏), Ku-chang (古文), Juan-ling (沅陵), Lu-hsi (瀘溪), Ch'ien-ch'eng (乾城), Ch'en-hsi (辰溪), and Shao-yang (邵陽) only words with B, C, and D tones experienced devoicing. Initials of words with the probably abrupt D tone were, then, most susceptible to the devoicing process, in contrast to those in words with the longer level or mid A tone, which often remain intact.

Ancient voiced initial stops and affricates may have been unaspirated in one

dialect or in words of certain tones but aspirated in another dialect or in words of other tones: the devoiced reflexes of Ancient voiced initial stops and affricates are voiceless unaspirated stops and affricates in some dialects and voiceless aspirated stops and affricates in other dialects; in yet other dialects, the reflexes of the Ancient initials are unaspirated in words of certain tones and aspirated in words of certain other tones.

Ancient voiced initial stops and affricates have been completely devoiced and are unaspirated in some Hunan dialects: Ch'ang-sha (長沙), Hsiang-t'an (湘潭), Ning-hsiang (寧鄉), Yi-yang (益陽), An-hua (安化), Juan-chiang (沅江), Nan-hsien (南縣), Hsiang-yin (湘陰), Yüeh-yang (岳陽), Ch'ien-yang (乾陽), Hui-t'ung (會同), T'ung-tao (通道), Hsiang-hsiang (湘鄉), and Tzu-hsing (資興). Though this has been described as a characteristic of the Hsiang dialects, it is also true of the Yüeh dialects of Shun-te (順德白話?), T'eng-hsien (藤縣), and Ts'ang-wu Chi-yang-hsiang (蒼梧吉陽鄉).

The change of Ancient voiced initial stops and affricates to their aspirated voiceless counterparts is exemplified in many modern dialects. This is a characteristic previously attributed to the Kan-Hakka dialects:

江西：新喻，奉新，玉山，弋陽，臨川，貴溪，南康，虔南，南昌，新建，修水，靖安，銅鼓，都昌，餘干，南城，南豐，興國，大庾，寧都，會昌，龍南，尋鄔，定南，安遠，鄱陽，零都，高安，上猶，宜春，宜豐，萬載，瑞金，崇義，萬安，贛縣，信豐，上饒，峽江，永新，湖口，萍鄉，樂平，廣豐，石城。

湖南：平江，瀏陽，新化，耒陽，酃縣，桂東，攸縣，常寧，醴陵，綏寧，茶陵，華容，江華，永興。

湖北：大冶，嘉魚，咸寧，陽新，崇陽，京山白話。

福建：邵武，光澤，泰寧，建寧，將樂，順昌，三明縣，長汀，寧化，清流，連城，武平，上杭，永定。

廣東：韶州灣頭村，梅縣，大埔，興寧，五華，蕉嶺，豐順，和平，龍川，紫金，河源，連平，始興，英德，翁源，仁化，平遠，赤溪。

廣西：廉州。

四川：華陽涼水井。

臺灣：桃園（四縣，海陸兩種），新竹饒平。

We know now, however, that it is also a common phenomenon among the dialects spoken in southern Anhwei, norther Kiangsu, and Po-pai, Kwangsi:

安徽：績溪，石埭，涇縣，銅陵，繁昌，青陽，宿松，太平，休寧，祁門，歙縣，望江，潛山，岳西。

江蘇：如皋，大豐，興化，東臺，泰州，海安，泰興，如東，南通市，南通縣。

廣西：博白。

In the dialect of Fang-ts'un (方村) in the district of Wu-hu (蕪湖) in Anhwei, these voiced initial stops, affricates, and fricatives have become aspirated fricatives: *b → fh, *d → rh, *dz/z → sh, *d/ḍ → sh, *dž/ž → sh, *gj → šh, *h → sh or h (Fang 1966).

In the Mandarin dialects all Ancient voiced initial stops and affricates have been devoiced. The initials of Ancient A-tone words are aspirated; those of B-tone and C-tone words are not. D-tone words show developments varying in both tone and aspiration. Some Hunan dialects share this Mandarin characteristic: 桃源，慈利，臨澧，安鄉，漢壽，衡山，衡陽，寧遠，嘉禾，藍山，郴縣，常德，龍山，桂陽，新田，臨武，宜章，道縣，永明，石門，桑植，大庸，鳳凰，芷江，靖縣，晃縣。

The devoicing process was also accomplished among the Yüeh dialects. For example: 廣州，順德白話，中山，東莞，三水，梧州，蒼梧城，貴平，貴縣，南寧白話，陽江，四邑。The initials of A2-tone words are aspirated; those of C2 and D2-tone words are unaspirated. One subset of Ancient B-tone words which had Ancient voiced initials has aspirated initials and the B2 tone which contrasts with the A2, C2, and D2 tones; another subset has unaspirated initials and the C2-tone reflex.

Corresponding to the one series of Ancient voiced initial stops and affricates the Min dialects have both voiceless unaspirated and voiceless aspirated stops and affricates:

	Voiceless Unaspirated	Voiceless Aspirated
Labial	肥病飯白	皮被抱鼻曝
Dental	茶重箸大直磔	頭糖蟲田蠶牀柴柱賊
Velar	鹹近厚縣滑	踰白

To account for the two series of Min reflexes, Norman (1973, 1974) reconstructed two series of Proto-Min voiced initial stops and affricates, one unaspirated (*b, *d, *dz, *dž, *g, yielding p, t, ts, tš, k) and one aspirated (*bh, *dh, *dzh, *džh, *gh, yielding ph, th, tsh, tšh, kh). The two series are, however, more likely the result of the conflicting influences of two groups of dialects, represented by the dialect of Ch'ang-sha in Hunan (where, for example, *b yields

p) and the dialect of Nan-ch'ang in Kiangsi (where, for example, *b yields ph).

The dialect of Shao-wu (邵武) in Fukien, which Norman considers a Min dialect, does not share this characteristic: all Ancient voiced stop and affricate initials have Shao-wu aspirated reflexes.

II.3. Ancient A-tone Splits

Tonal splits conditioned by voiceless versus voiced initials have failed to affect some tonal categories in some dialects. Obviously, a tonal split need not involve all tones simultaneously; tonal splits may have taken place in succession, and spread from one tone to another. The group of Ancient A-tone words has, however, been almost universally divided by a tonal split: words with Ancient voiceless stops, affricates, and fricatives have one tone (A1 or ying-p'ing); those with Ancient voiced initial stops, affricates, and fricatives have another (A2 or yang-p'ing). For the most part, words with Ancient initial nasals, laterals, and j have the same tonal reflex as words with Ancient voiced initials. On the basis of the few exceptions where words with initial nasals or laterals have A1 tones, some scholars have speculated on the existence at an earlier stage of voiceless or preglottalized nasal and lateral initials.

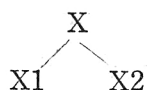
In a number of conservative dialects in the provinces of Hopeh and Shansi there is no A-tone split to testify to the former distinction between voiceless and voiced initials in this group. (All these dialects have also preserved the D-tone words as an entity.) Some of these dialects have an even A-tone reflex: high level (55) in the Huo-lu (獲鹿), Hsing-t'ang (行唐), and Feng-nan (豐南), districts of Hopeh, mid level (33) in the Luan-hsien (灤縣) district of Hopeh and the Wu-t'ai (五臺) district of Shansi, and low level (11) in the T'ai-yüan (太原) and Wen-shui (文水) districts of Shansi. More often the tone is falling: 54 (河北贊皇), 52 (河北龍關), 51 (河北崇禮), 43 (河北康保, 建屏), 42 (河北張家口 [or 31], 張北, 宣化, 沽源, 商都, 陽原, 萬全, 元氏), 41 (河北懷安), 32 (河北井陘), 31 (河北尚義, 磁縣), or 21 (河北平山, 靈壽, 山西榆次). In one district in Shansi (平遙), the tone is falling-rising (324). In the Tan-yang (丹陽) dialect of Kiangsu, all Ancient A-tone words have a low falling tone (21) in the literary style of pronunciation. In one stratum of the Chien-yang (建陽) dialect of Fukien, words which had the Ancient A tone remain one entity, with the same low falling tone (31).

According to the *Fang-yen ho P'u-t'ung-hua Ts'ung-k'an* (1.169), there has

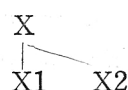
been no Ancient A-tone split in either the dialects of K'ang-lo (康樂), Chuang-lang (莊浪), and Ch'in-an (秦安) in Kansu or the dialects of Feng-jun (豐潤) and Wei-hsien (蔚縣) in Hopeh. *Hopeh Fang-yen Kai-k'uang*, however, contradicts this for Feng-jun, with 55 for A1, 11 for A2, and Wei-hsien, with 54 for A1, 42 for A2.

In dialects with coexistent tonal systems, one with and one without a split, we may identify two types of branching, bilateral and unilateral:

Bilateral Branching

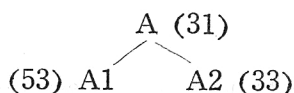


Unilateral Branching

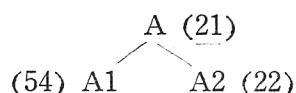


The Hunan dialects provide an example of unilateral branching, in which the C2, but not the C1, category branched off from the C category. In the Min dialects of Chien-yang (Chart 3) and Chien-ou (建甌), on the other hand, both the A1 and the A2 categories branched off from the A category:

Chien-yang:



Chien-ou:



(To be sure, the bilateral nature of the Chien-ou split has been almost obscured: though one-third of the A-tone words with Ancient voiced initials have the 21 tone, just one word with an Ancient voiceless initial, 缸, has this tone.)

(The Tan-yang dialect of Kiangsu provides another example of bilateral branching. Here all Ancient A-tone words have a low-falling tone (21) in the literary style of pronunciation, but the colloquial style shows a split (Lü 1947): words with Ancient voiceless initial stops, affricates, and fricatives and with Ancient initial laterals and nasals have a mid level tone (33); words with Ancient voiced initial stops, affricates, fricatives, and j have a rising tone (35). Words with the Ancient B tone and voiced initials, including laterals and nasals, and with the Ancient C tone and voiceless initials, also have the 35 tone.)

Chart 3

Bilateral Branching in the Chien-yang A-tone Split

[Examples are from Norman 1969]

The Unsplit A Tone 31

巴 va 31	甜 lap 31	巢 theu 31
搬 voip 31	松 lep 31	旗 ki 31
崩 vaip 31	猴 eu 31	鹹 kip 31
斑 vaip 31		球 kiu 31

The Post-split A Tone (53 : 33)

A1

巴 pa 53	冰 paip 53	甜 tiep 33	袍 vau 33
搬 poip 53	丁 taip 53	松 sup 33	肥文 poi 33
崩 paip 53	肩 kaip 53	猴 xeu 33	肥白 py 33
斑 paip 53	中 tep 53		桐 tup 33

臺 lai 33
田 liep 33
葵 y 33

II.4. Ancient B and C-tone Splits

In the Yüeh dialects of Chung-shan Shih-ch'i (中山石岐) and Ho-p'u (合浦) (the latter mentioned briefly in Yüan 1960), the Ancient B and C tones have not split. In the Chung-shan Shih-ch'i dialect, the reflexes of voiced initial stops and affricates in B-tone words are voiceless aspirated; in C-tone words they are voiceless unaspirated. The following examples are from Chao 1948:

B (13)			C (22)		
*voiceless unasp.	*voiceless asp.	*voiced	*voiceless unasp.	*voiceless asp.	*voiced
主 tsy	貯 tshy	柱 tshy	貸 to : i	透 thau	豆 tau
九 kau		舅 khau	蔽 pai	次 tshi	字 tsi
保 pou	跑 pha : u	抱 phou	峻 tsan	盼 pha : n	辦 pa : n

In a few instances, however, Ancient B-tone words with Ancient voiced initials have both the Chung-shan C-tone reflex and voiceless unaspirated initials: 弟 ti 22, 斷 ty(:)n 22, 近 kan 22, and 罪 tsu(:)i 22.

In the literary pronunciation of the Lung-tu (隆都) dialect (Egerod 1956), both the Ancient B tone and the Ancient C tone lack tonal splits, but in the colloquial pronunciation these tones have split into two subcategories each, and

B2 is identical with C2. In the colloquial pronunciation the B tone has been unilaterally split into two subcategories by the branching off of words with voiced initials:

Literary: B (24)

Colloquial: (24) B1 B2 (42) [= C2]

In the literary pronunciation, words with the Ancient C tone all have a mid even tone (33), but in the colloquial pronunciation words with the Ancient C tone are subdivided into two categories: words with original voiceless initials have a low even tone (11); words with original voiced initials, though these are now devoiced, have a high falling tone (42):

C (33)
(11) C1 C2 (42) [= B2]

Two coexistent tonal systems, one with a B-tone split, the other without, are also found in many other dialects: I-hsien (黟縣), Chi-hsi Ling-pei (績溪嶺北), Hsiu-ning (休寧), Ch'i-men (祁門), and She-hsien (歙縣) in Anhwei, Yang-chiang (陽江) in Kwangtung, Shao-wu (邵武) in Fukien, T'ung-k'ou Huang-ch'iao (洞口黃橋) in Hunan, Chin-hua (金華) in Chekiang, Mei-hsien (梅縣) in Kwangtung, T'ao-yüan (桃園) in Taiwan, and Hua-yang Liang-shui-ching (華陽涼水井) in Szechuan.

In the Hui dialect of I-hsien (黟縣) there are pairs of homonymous B-tone words which in Ancient Chinese were distinguished by the presence or absence of voicing. (Conditions for the modern presence or absence of aspiration cannot be ascertained.) Examples from Wei 1935:

*Voiceless:	補 pu	堵 tu	反 fo	草 ^h thə	彼 pheɪ	飽 pou
*voiced:	部 pu	杜 tu	犯 fo	造 ^h thə	被 pheɪ	鮑 pou

These examples represent the stage where the Ancient B tone remained unsplit. In some instances there are, however, reflexes of words with the Ancient B tone and voiced initials which have the same tonal reflex as C2 words, indicating a partial split which preceded the devoicing change: no Ancient B-tone word with an Ancient voiceless initial has this tone. Examples:

Voiceless/Voiced Initials

Voiced Initials

B

B2 = C2

杏 xa

幸倖 xa

父婦負 fu

腐 fu

件 khie

鍵 khie

撰撰 thuə

篆 thuə

近 khiei

覲 khiei

待 thuəw

怠迨殆 thuəw

是氏柿侍 s⊙

士仕 s⊙

Conversely, some words with Ancient voiced initials which are classified in the *Ch'ieh-yün* as members of the C-tone category have the unsplit I-hsien B tone. Examples from Wei 1935: 澹淡 to, 暫賺 tho, 汨 fo, 佩珮暴 phə, 卞汴 pie, 甸佃墊 thie, 膳檀 sie, 倦 khyə, 轎 kiu, 宙胄驟 təw, 授 səw, 脩 təu, 丈杖仗 khip, 仲 thəp, 鳳 fəp, 治嗣飼 ts⊙, 侍視 s⊙.

In the Hui dialect of Chi-ch'i Ling-pei (績溪嶺北), words with the Ancient B tone which had voiced initials have variously the Ling-pei B tone (55), the Ling-pei B2/C2 tone (24), and both of these tones (Chao and Yang 1965), illustrating the two coexistent tonal systems in this dialect:

B (55)

(55) B1 B2 (24) [= C2]

Examples:

B (55)

B (55)/B2 = C2 (24)

B2 = C2 (24)

弟 thi

在 tshə

待 thə

柱 tshy

坐 tsho

被 pi

斷 thə, thuə

肚 thu

造 tshə

近 tshia

道 thə

似士市是 si

重 tshuə

鳳 fə

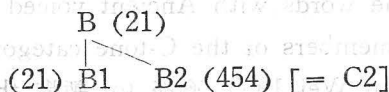
件 tshi

In Hsiu-ning (休寧), Ch'i-men (祁門), and She-hsien (歙縣), also commonly considered Hui dialects, the treatment of words with the Ancient B tone which had voiced initials is analogous to that of Chi-hsi Ling-pei: some words remain in the B-tone category, while others have the same tonal reflex as C2 words (Meng 1961).

In the Yüeh dialect of Yang-chiang (陽江), Ancient B-tone words, for the most part, remain unsplit. Examples from the *Tz'u-hui* (1964):

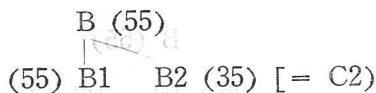
- *Voiceless initials: 紙 tʃi 21 界 pei 21 睬 tʃho 21
 [originally unaspirated] [originally aspirated]
 *Voiced initials: 柱 tʃhi 21 被 pheɪ 21 在 tʃhoi 21

In a few cases, however, words classified in the *Ch'ieh-yün* as having voiced initials and the B tone have the Yang-chiang tone 454, which is the tone for words with the Ancient C tone which had voiced initial stops and affricates. That is:



These B2 words have voiceless unaspirated stop and affricate initials: 件 kin 454, 伴 pun 454, 在 tʃoi 454.

A similar unilateral branching among Ancient B-tone words is found in the Hakka dialect of Shao-wu (邵武). One subset of these words retains the original B tone, but another has branched off and merged with the C2 tone:



Examples from Norman 1969:

Voiceless Initials	Voiced Initials
底 ti 55	弟 thi 55
飽 pau 55	抱 phau 55
短 ton 55	斷 thon 55
補 pu 55	部 phu 35
腿 thei 55	罪 thei 35
早 thau 55	稻 thau 35
卵 son 55	伴 phon 35

In the colloquial pronunciation of the Ch'u dialect of Tung-k'ou Huang-ch'iao (洞口黃橋) in Hunan, the category of Ancient B-tone words remains unsplit; in the literary pronunciation, however, words with Ancient B tone and voiced initials have a low-rising tone (13) identical with that of the C2 words. That is:

Colloquial: B (21)

Literary: (21) B1 B2 (13) [= C2]

B-tone examples from T'ang 1960:

Voiceless Initials

Voiced Initials

主 tɕy 21
補 pu 21
死 sɿ 21
斗 tiəu 21
懂 təŋ 21
腫 tɕəŋ 21

Colloquial Style

Literary Style

柱 dzy 21 dzy 13
部 bu 21 bu 13
是 zɿ 21 zɿ 13
豆 diəu 21 diəu 13
動 dəŋ 21 dəŋ 13
重 dzəŋ 21 dzəŋ 13

(The preservation of Ancient voiced initials is a characteristic shared by the Ch'u and Wu dialects.)

The double pronunciations of the Ancient B2 words in the Wu dialect of Chin-hua (金華) in Chekiang reveal the same story: in the colloquial pronunciation, Ancient B-tone words remain one entity, with no tonal split, but in the literary pronunciation such words have the same tone as words with the C tone and voiced initials. Examples from Yüeh-chai 1958 (where double vowels indicate B tone and vowels followed by h indicate C tone):

Colloquial (B):	bhuee	bhaao	dhaa	dhaao
	伴拌絆	抱	淡	道稻
Literary (C):	bhuahn	bhaoh	dhahn	dhaoh
Colloquial (B):	dhee	dhuung	ghiin	ghiiu
	斷	動	近	白舅
Literary (C):	dhuahn	dhuhng	ghihn	ghiuh
Colloquial (B):	ghyy	hsuee		
	柱	坐		
Literary (C):	ghyh	hzoh		

Among the Hakka dialects of Mei-hsien (梅縣) in Kwangtung (Tzu-hui 1962), T'ao-yüan (桃園) in Taiwan [both Szu-hsien and Hai-lu varieties] (Yang 1957), and Hua-yang Liang-shui-ching (華陽涼水井) in Szechuan (Tung 1948), there are several coexistent tonal systems: in one, Ancient B-tone words remain

an entity; in another, these words are in two categories, and the B2 reflexes are phonetically identical with the A1 reflexes:

Mei-hsien	T'ao-yüan 1 (Szu-hsien)	T'ao-yüan 2 (Hai-lu)	Hua-yang
B (31)	B (31)	B (13)	B (31)
B1 B2 [= A1]	B1 B2 [= A1]	B1 B2 [= A1]	B1 B2 [= A1]
(31) (44)	(31) (24)	(13) (53)	(31) (55)

Some examples are shared by all three dialects:

Pre-split stage:

	*Voiceless Initials	*Voiced Initials	*Voiceless Initials	*Voiced Initials
	鬼	跪	掌	杖
Mei-hsien	kui 31	khui 31	tsop 31	tshop 31
T'ao-yüan 1	kui 31	khui 31	tsop 31	tshop 31
T'ao-yüan 2	kui 13	(khui 22)	tsop 13	tshop 13
Hua-yang	kuei 31	khuei 31	tsop 31	tshop 31

Post-split stage:

	*Voiceless Initials	*Voiced Initials	*Voiceless Initials	*Voiced Initials
	補	簿	短	斷
Mei-hsien	pu 31	phu 44	ton 31	thon 44
T'ao-yüan 1	pu 31	phu 24	ton 31	thon 24
T'ao-yüan 2	pu 13	phu 53	ton 13	thon 53
Hua-yang	pu 31	phu 55	ton 31	thon 55

	*Voiceless Initials	*Voiced Initials	*Voiceless Initials	*Voiced Initials
	主	柱	左	坐
Mei-hsien	tsu 31	tshu 44	tso 31	tsho 44
T'ao-yüan 1	tšu 31	tshu 24	tso 31	tsho 24
T'ao-yüan 2	tšu 13	tshu 53	tso 13	tsho 53
Hua-yang	tsu 31	tshu 55	tso 31	tsho 55

	*Voiceless Initials		*Voiced Initials
	九		舅
Mei-hsien	kiu 31		khiu 44
T'ao-yüan 1	kiu 31		khiu 24
T'ao-yüan 2	kiu 13		khiu 53
Hua-yang	tiäu 31		thiäu 55

In most Hakka dialects, of course, the majority of Ancient B-tone words which had voiced initials have joined the Ancient C-tone words. This tone change is also represented in the Mei-hsien, T'ao-yüan, and Hua-yang dialects in the words 弟 and 像 :

	B2	C
	弟	像
Mei-hsien	thi 42	tshioŋ 42
T'ao-yüan 1	thi 55	tshioŋ 55
Hua-yang	thi 53	ŋhiŋ 53 (似)
		šioŋ 53 (畫)

Here the Hai-lu T'ao-yüan dialect, which has a C1 (31) : C2 (22) distinction, diverges, with 弟 thi 22 and 替 thi 31, 匠 siŋ 22 and 像 siŋ 31.

The Shao-wu dialect, considered a Min dialect by Norman but labelled Hakka here and by Pan et al., does not share this Hakka phenomenon.

The degree of variety in the phonetic realizations of the pre-split B tone is striking; even more striking is the not infrequent failure of the post-split B2 tone to correlate with lower pitch (Chart 4). On acoustic grounds we expect voiced initials to have a lowering effect, and in Shao-wu and Chi-hsi Ling-pei this expectation is not disappointed. In Mei-hsien and Hua-yang, on the other hand, the B2 tone is higher in pitch.

Words with the Ancient C tone remain together as one entity in all Mandarin and almost all Hakka dialects; the Hai-lu (海陸) variety of the dialect spoken in the district of T'ao-yüan in Taiwan has, however, undergone a split in the Ancient C tone. In all Wu and almost all Yüeh dialects the Ancient voicing contrast in initials has led to a split in this tone. The Yüeh dialects of Tung-kuan (東莞) (Wang 1949), Hsin-hui Ho-ts'un (新會河村) (Hashimoto 1970), and Ts'ang-wu Chi-yang-hsiang (蒼梧吉陽鄉) (Hashimoto 1972) are exceptions

Chart 4

Dialects with Vestiges of the Pre-split B Tone

	Pre-split	Post-split	
	Voiceless and Voiced	Voiceless	Voiced
	B	B1	B2
1. 隆都	24	24	42 (= C2)
2. 陽江	21	21	454 (= C2)
3. 邵武	55	55	35 (= C2)
4. 洞口黃橋	21	21	13 (= C2)
5. 績溪嶺北	55	55	24 (= C2)
6. 梅縣	31	31	44 (= A1)
			42 (= C)
7. 桃園 (四縣)	31	31	24 (= A1)
			55 (= C)
8. 桃園 (海陸)	13	13	53 (= A1)
9. 華陽涼水井	31	31	55 (= A1)
			53 (= C)

to this rule: in the Yüeh dialect of Tung-kuan, 醉 (*ts-), 對 (*t-), 變 (*p-), 愛 (*ʔ-), and 漢 (*h-), for example, have the same tone as the words 暫 (*dz-), 盜 (*d-), 備 (*b-), 共 (*g-), 樹 (*ʃ-). Min dialects are in this regard similar to the Yüeh and Wu dialects. In the Min dialect of Chin-chiang (晉江) (Tung 1959), for example, both 句 (C1) and 舊 (C2) are in isolation pronounced ku 31; in the sandhi forms of connected speech, however, the former has a low even tone (11), the latter a high even tone (55). A similar phenomenon is reported for the Mandarin dialect of Pao-ting (保定) (Yang 1960, cf. Giet 1946, 1950): Ancient C-tone words all have a high falling tone except in the first position of a disyllabic expression where those with Ancient voiceless initials have a high even tone (55), while those with Ancient voiced initials have a low even tone (11).

Meng (1961) reports that eleven Anhwei dialects exhibit the Ancient C-tone split: 懷寧, 望江, 太湖, 潛山, 岳西, 宿松, 祁門, 歙縣, 績溪, 休寧, and 屯溪.

In the provinces of Hupeh (Chao et al. 1948), Hunan (Yang 1974, Chang 1974a), and Kiangsi (Yang 1971, Chang 1974b), some dialects have the Ancient C-tone split, some do not:

Hupeh. A. Without C-tone split (C = B2):

光化, 竹谿, 鄖西, 鄖縣, 武昌, 恩施, 來鳳, 興山, 宣恩, 利川, 京山, 保康, 襄陽, 南漳, 棗陽, 均縣, 隨縣, 房縣, 鍾祥, 江陵, 巴東, 荊門, 宜都, 枝江, 長陽, 宜昌, 漢口, 漢陽, 秭歸, 當陽, 安陸, 孝感, 應城, 雲夢, 漢川, 黃陂, 大悟 (= 禮山?), 天門, 沔陽, 松滋, 應山.

B. With C-tone split (C2 = B2):

陽新, 蒲圻, 咸寧, 禮山 (= 大悟?) (趙), 黃梅, 竹山, 鶴峯, 公安, 監利, 嘉魚, 應山 (趙), 孝感 (趙), 石首, 安陸 (趙), 應城 (趙), 雲夢 (趙), 鄂城, 崇陽, 黃陂 (趙), 黃安, 黃岡, 通山, 蘄春, 廣濟, 羅田, 英山, 浠水, 通城, 麻城.

(In the Ta-yeh [大冶] dialect C1 is 35, C2 = B2 = A1 are 22.)

The Ancient C-tone split in the Hupeh dialects of 安陸, 雲夢, 應城, 孝感, 應山, 禮山 (= 大悟?), and 黃陂 reported by Chao et al. (1948) is absent from Ch'en Chen-ya's description (1959) (Chart 5). Though this could be due to recent changes in these dialects, it is more likely that Chao and Ch'en described two coexistent tonal systems.

Chart 5

The Ancient C-tone Split in Some Hupeh Dialects

Ch'en Chen-ya (1959)						Chao Yuen-ren (1948)						
	A1	A2	B1	B2/C	D		A1	A2	B1	B2/C2	C1	D
1. 安陸	44	31	53	12	22	安陸	34	21	52	45	25	13
2. 雲夢	44	33	54	55	12	雲夢	34	12	53	44	35	14
3. 應城	44	33	21	54	12	應城	34	12	53	55	45	13
4. 孝感	44	22	53	12	22	孝感	34	21	52	33	25	213
5. 應山	31	54	12	213	53	應山	34	21	53	55	25	13
6. 大悟	44	52	55	13	12	禮山	33	42	53	55	35	313
7. 黃陂	44	31	55	33	12	黃陂	23	212	42	44	35	24

Hunan. A. Without C-tone split (C = B2):

常德, 麻陽, 桑植, 永興, 龍山, 寧遠, 衡陽, 永順, 古丈, 永綏, 鳳凰, 保靖, 乾城, 芷江, 晃縣, 桂陽, 江華, 郴縣, 耒陽, 安仁, 湘潭, 常寧, 大庸, 武岡, 沅陵, 石門, 醴陵, 瀏陽, 攸縣, 祁陽, 永明, 桂東, 零陵, 靖縣, 新化, 酃縣, 邵陽隆回.

B. With C-tone split (C2 = B2):

岳陽, 會同, 洞口, 黃橋, 華容, 平江, 邵陽城區, 新寧, 城步, 雙峯, 湘鄉, 叙浦, 茶陵, 衡山, 黔陽, 沅江, 汝城, 慈利, 臨澧, 桃源, 臨湘, 綏寧, 通道, 安化, 澧縣 (C1 = A2) 瀘溪, (C2 = B1) 辰溪 (C2 = B1?).

C. With two tonal systems, one with the C-tone split ($C2 = B2$), the other without ($C = B2$):

Unilateral splits: 長沙, 安鄉, 南縣, 湘陰, 東安, 資興, 漢壽, 益陽, 沅江, 臨武, 寧鄉.

Bilateral splits: 嘉禾, 道縣, 新田, 宜章.

Kiangsi. A. Without C-tone split ($C = B2$):

萍鄉, 信豐, 萬載, 龍南, 會昌, 貴溪, 瑞金, 崇義, 尋鄔, 萬安, 贛縣, 宜豐, 南康 ($B2$ independent), 定南 ($B2 = A1$), 廣豐 (Chang 1974b: $B2 = A2?$).

B. With C-tone split ($C2 = B2$):

弋陽, 新喻, 餘干, 靖安, 興國, 都陽, 上猶, 玉山, 虔南, 修水, 都昌, 銅鼓, 峽江, 永新, 定遠, 高安, 南昌, 新建, 大庾, 寧都, 奉新, 臨川, 南城, 南豐, 零都, 湖口, 寧岡, 遂川, 安福, 黎川, 樂安, 九江, 廣豐 (Yang 1971: $C1 = A2$), 石城 ($C1 = B1$), 上饒 ($C2 = A2$), 樂平 ($C1 = B1$).

In the Ch'ang-sha (長沙), Ning-hsiang (寧鄉), Juan-chiang (沅江), Yi-yang (益陽), Nan-hsien (南縣), Hsiang-yin (湘陰), Han-shou (漢壽), Tung-an (東安), Tzu-hsing (資興), Lin-wu (臨武), and An-hsiang (安鄉) dialects of Hunan, words with the Ancient B2/C tone, which in literary pronunciation remain an entity, have in colloquial pronunciation unilaterally split into C1 and B2/C2 subcategories (cf. Chart 6 and, for Ch'ang-sha examples, Chart 7).

The Chia-huo (嘉禾), Tao-hsien (道縣), Hsin-t'ien (新田), and Yi-chang (宜章) dialects of Hunan have two tonal systems. In the one, words which had the Ancient C tone remain an entity, and words which had the Ancient B tone and voiced initials joined them. In the other, words which had the Ancient C tone have split into two subcategories, C1 and C2, and words which had the Ancient B tone and voiced initials have gone with the C2 category. A comparison of these two tonal systems shows the relationship of the C1 and B2/C2 categories to the B2/C system to be one of bilateral splitting:

Chia-huo	Tao-hsien	Hsin-t'ien	Yi-chang
B2/C (35)	B2/C (35)	B2/C (35)	B2/C? (35)
C1	C1	C1	C1
B2/C2	B2/C2	B2/C2	B2/C2?
(44)	(11)	(53)	(54)
(53)	(53)	(11)	(33)

Chart 6

The Ancient C-tone Split in Some Hunan Dialects

		Literary		Colloquial
		B2/C		B2/C2
1	長沙 (<i>Tzu-hui</i>)	55		21
	長沙 (<i>Yang</i>)	35		11
2.	寧鄉	55		31
3.	沅江	55		31
4.	益陽	55		11
5.	南縣	35		31
6.	湘陰	35		11
7.	漢壽	35		33
8.	東安	35		33
9.	資興	35		33
10.	臨武	35		53
11.	安鄉	24		33

Chart 7

The Development of Ancient B2/C-category Words in the Ch'ang-sha Dialect (*Tsu-hui*)

*B Tone
With Voiced Initials

*C Tone
With Voiced Initials

*C Tone
With Nasal, Lateral,
and j Initials

55	麗墓與妹謂傲濫戀吝輒	55 or 21	大自步具櫃繪豆授辦蛋暫汗佃現段陣尙鳳縫定洞 賀事樹貨會號壽舊飯彈站殿賤縣賺順狀俸鄧淨共	55	暮誤賣未滂難煉刃賃諒	55 or 21	利藝務耐味淚味冒貌料又幔面驗萬願閨問讓樣望另 痾異霧碍類位胃帽開漏漫岸念雁院認潤孕亮忘孟弄				
55	義慕路喻衛茂柚練悶運旺	55 or 21	治窳附互惠調袖陷倦贈 飼斃埠護匪掉后隄患匠仲 座敞系助穗盜校健宦遁伺 乍視忌住兌導效漸綴恨刺 乍視劑度備暴輻便餡慎鄭	21	厲慮賴廟硯命 例露奈累爛夢 糯易寓內慢論用 磨隸遇外右嫩論用 罵勵濾艾尿亂令	55 or 21	技妓在抱兆犯淡限盡齒杖上頂動 技部被趙拌范辦斷近丈仗像靜重	55	祀肚巨序怠皂早圈盾幸 似父戶聚待稻善猪腎杏 情恃豎距緒道紹篆甚象 罷士柱拒敘鮑造辨忿棒	21	柿倍厚笨 禍杜受件 坐婦滙棧 夏弟罪伴並

Chart 8

A1, A2, B1, B/C2, D1, D2 Tonal Systems:

Hakka, Kan, and Mandarin Dialects

I. Hakka Dialects

Dialect	A1	A2	B1	B2/C	D1	D2
廣東梅縣 (袁)	44	11	31	52	1	5
(何)	44	12	21	42	21	44
(王力)	335	14	22	51	11	44
(李, 語文)	44	34	21	42	21	4
(李, 集刊)	44	34	21	51	32	55
(Vömel)	44	13	21	52	2	5
大埔 (袁)	35	11	31	52	1	5
始興	LR	HF	LF	MF	HE	ME
寶安沙頭角	33	11	32	53	3	5
中山第五區	R	LE	F	HE	LE	HE
香港新界	33	11	42	53	2	4
海陸 (橋本)	ME	LE	MF	HE	MF	HR
四川華陽涼水井	55	13	21	42	?42	?55
臺灣桃園四縣	24	11	31	55	22	55

II. Kan Dialects

Dialect	A1	A2	B1	B2/C	D1	D2
江西會昌	24	53	11	31	32	55
龍南	44	31	53	33	21	23
尋鄔	24	42	31	55	11	34
定南	24	31	42	53	22	55

III. Mandarin Dialects

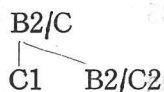
Dialect	A1	A2	B1	B2/C	D1	D2
江蘇大豐	21	35	213	45	4	5
泰興	21	45	213	42	4	5
東台	31	35	212	44	24	25
泰州	21	45	213	33	3	4
海安	31	35	213	33	3	4
如皋	21	35	213	33	3	4
陝西吳堡	213	33	312	52	5	13
河南洛陽	55	21	42	214	44	42

II.5. Splits of B2/C Tones

A tonal system with A1, A2, B1, B2/C2, and C1 categories may have had splits of the A, B, and C categories, followed by the merging of the B2 and C2 categories. Examples of this type of development are the dialects listed in Charts 9 and 10. It may, however, also derive from the predominant tonal system of the north, with its A1, A2, B1, and B2/C categories (cf. Chart 8 for Hakka, Kan, and Mandarin examples), followed by secondary splitting of the B2/C category into C1 and B2/C2 categories along the line between voiceless and voiced initials. Examples of this second type of development are the tone systems of the Hakka dialects of T'ao-yüan (Hai-lu variety) in Taiwan, Shao-wu (邵武) in Fukien, and Lien-chou (廉州) in Kwangsi (Hashimoto 1970):

	A1	A2	B1	B2/C2	C1	D1	D2
桃園	53	55	13	22	31	55	32
邵武	21	22	55	35	13	53	35
						D1a	D1b
廉州	HR	ME	MR	LE	HR	ME	LR LE

The assumption that these systems represent a development of the northern type of system and were achieved through a secondary splitting of the B2/C category is based on the fact that most Hakka dialects have a tonal system with A1, A2, B1, and B2/C categories, that is, one in which there has been no Ancient-C-tone split. The assumption that the Hunan dialects listed above in Chart 6 also had this type of development is supported by the existence and nature of the two tonal systems found in these dialects: one has an unsplit B2/C category; the other had the B2/C category split into C1 and B2/C2 categories, and the post-split C1 tone is phonetically identical with the unsplit B2/C tone. Since there is no evidence for a phonetic change in either the unsplit B2/C category or the post-split C1 category, I interpret the phonetic identity of these two tones, in contrast to the post-split B2/C2 tone, as a reflection of the unilateral branching off of the B2/C2 category from the B2/C category. That is:



II.6. The Merging of B2 and C2 Tones

The majority of the dialects in the south have seven tones: A1, A2, B1, B2/C2, C1, D1, and D2. Among the dialects which preserve the contrast of voiceless and voiced initials, tone A2 is generally lower than A1, B2/C2 is lower than both B1 and C1, and D2 is lower than D1, but among those which lack the voicing contrast the correlation of odd-numbered tones with higher pitch is less constant (Charts 9 and 10).

Chinese dialects often have the same tone for words of both the B2 and the C2 categories, and in most cases the direction of merging cannot be determined. We know, however, that in the Yüeh dialects of Canton (廣州), Tung-kuan, and T'ai-shan (台山) the B2 category has merged in part with the C2 category, while in the Min dialects of Ch'ao-chou (潮州) in Kwangtung and Wan-ning (萬寧) on the Island of Hainan the C2 category has in part merged with the B2 category. In the dialects of Canton and Ch'ao-chou, for example, there are splits among the words with A, B, C, and D tones, but membership in the B2 and C2 categories often fails to correspond to the *Ch'ieh-yün's* classifications. Both dialects show partial merging of the B2 and C2 categories, but in different directions. In the dialect of Canton, many words which had the Ancient B tone and voiced initials have joined the C2 group. Words with the Ancient B tone and voiced initial stops and affricates which have the Canton B2 tone have aspirated initials, while those which joined the C-tone group have the unaspirated initials characteristic of words with the Ancient C tone and voiced initial stops and affricates (Chart 11).

Chart 9

Tonal Systems of Southern Dialects with Seven Tones
and Voicing Contrasts

Dialect	A1	A2	B1	B2/C2	C1	D1	D2
浙江溫嶺	33	31	42	13	55	ʔ55	ʔ11
江蘇常州	55	213	45	24	423	ʔ5	ʔ2
蘇州	55	24	52	31	412	ʔ5	ʔ2
太倉	55	32	52	213	423	5	2
江陰	42	13	35	312	413	5	2
川沙	53	12	44	13	34	5	2
海門(手冊)	53	24	31	213	34	5	2
上海縣	53	21	44	13	24	ʔ5	ʔ2
江西廣豐(楊)	44	33	55	11	33	55	23
玉山	33	535	55	22	51	55	23

Chart 10

Tonal Systems of Southern Dialects with Seven Tones
but without Voicing Contrasts

[L: Literary; C: Colloquial]

Dialect	A1	A2	B1	B2/C2	C1	D1	D2
江西新喻	44	31	13	24	53	55	23
奉新	42	13	35	11	53	55	22
弋陽	33	13	53	31	35	55	23
臨川	42	24	35	11	53	32	55
貴溪	22	24	35	51	53	55	23
南康	35	11	42	24	53	32	55
虔南	33	31	53	22	55	32	55

Tonal Developments among Chinese Dialects

江蘇興化	33	34	213	21	53	4	5
如東	32	35	213	21	33	3	4
南通縣	31	35	24	21	53	ʔ4	ʔ5
南通市	21	35	55	213	42	ʔ4	ʔ5
浙江平陽	44	24	451	31	11	ʔ45	ʔ24
浙南	55	24	453	31	11	54	24
福建漳州 (朱)	55	13	51	33	21	32	121
福鼎	55	21	52	12	24	5	24
仙游	55	24	33	21	53	ʔ32	ʔ54
廈門 (袁)	55	24	51	33	11	32	5
福州 (袁)	44	53	22	232	212	13	4
泉州 (朱)	33	35	53	22*	53*	43	34
寧德	33	11	41	41	35	33	55
建甌(Norman)	54	22	21	43, 44	22	35	43, 44
建甌 (黃)	53	33	11	55	22	13	31
福安, 柘洋	43	11	41	35	13	54	21
龍溪	24	323	53	33	31	32	13
莆田	533	11	453	11	42	21	ʔ4 (L) ʔ35 (C)

* In sandhi forms; in isolation, 41.

Dialect	A1	A2	B1	B2/C2	C1	D1	D2
臺灣臺北 (董)	44	24	53	33	11	[?] 31	[?] 44
臺中	44	13	42	33	21	21*	44*
臺南 (鄭)	HE	R	HF	ME	LF	LF	ME
* In sandhi forms; in isolation, 3.							
廣東隆都	55	33	24	42 (C)	11	5	1
海南島文昌	33	11	[?] 21	53	24	4	<u>21</u>
萬寧	33	11	[?] 21	53	13	44	12
海口	23	22	212	33	24	5	3

Chart 11

Canton Reflexes of Ancient B2 Words

B2 (13) B2 (13)/C2 (22) C2 (22)

抱	phou	伴	phu : n/pu : n	部	pou
婦	phou, fu	淡	tha : m/ta : m	父	fu
倍	phu : i	斷	thy : n/ty : n	范	fa : n
肚	thou	坐	tsho/tso	杜	tou
似柿	tshi	造	tshou/tsou	待	toi
柱	tshy	重	tshup/tsup	稻	tou
舅	khru	近	khɛn/kɛn	動	tup
拒	khɛy	腎	sɛn	在	tso : i
厚	hru			罪	tsøy
旱	ho : n			近	ki : n

Similar phenomena are reported for the Yüeh dialects of Tung-kuan and T'ai-shan. In the Tung-kuan dialect some words with the Ancient B tone and Ancient voiced initials have voiceless aspirated initials and the B2 (23) tone; many others have voiceless unaspirated initials and the C (332) tone, which has not split in the Tung-kuan dialect. (Wang 1949 provides only examples of the former sort, e.g. 道, 淡, 斷, 柱, 坐, 倍, 舅, 抱, 近, and 亘.) In the T'ai-shan dialect, some words (e.g. 倍 and 舅) have the B2 (21) tone and voiceless aspirated initials, while others (e.g. 待, 在, 罪, and 近) have the C2 (32) tone and voiceless unaspirated initials (Wang 1950).

In the dialect of Ch'ao-chou, the four Ancient tones have split into two sub-categories each, resulting in an eight-tone system, but some words with the Ancient C tone and Ancient voiced initials (including Ancient nasals, laterals, and j) have joined the B2 group. Among these words are doublets, one with the Ch'ao-chou C2 tone, the other with the Ch'ao-chou B2 tone (Charts 12 and 13).

Chart 12

Ch'ao-chou Reflexes of Ancient C2 Words

with Ancient Stop, Affricate, and Fricative Initials

[Examples are mainly from Li Yung-ming 1959, supplemented by Chan 1959 and Tzu-hui 1962.]

C2 (11)		C2 (11)/B2 (35)		B2 (35)	
鼻	phĩ	大	tua/tai	備敝	pi
地	ti	樹	tshiu/su	第	tōĩ
豆	tau	匠	tshĩẽ/tsiap	盜導	tau
殿	tōĩ	飯	pup/huep	電	tiẽp
贈	tsap			藏藏	tsap
舊	ku			具	ku
校	hau			效	hau
壽	siu			授	siu

Chart 13

Ch'ao-chou Reflexes of Ancient C2 Words
with Ancient Nasal, Lateral, and j Initials

C2 (11)		C2 (11)/B2 (35)		B2 (35)	
怒	no	生命	mia/meŋ	命令	二 no
路	lou	希望	mo/buaŋ	朔望	陋 lou
吏例	li	利息	lai/li	利	麗厲 li
煉練	lieŋ	破爛	nua/laŋ	燦爛	吝 lieŋ
霧	bu	上任	zim/zim	信任姓	務 bu
類	lui				淚 lui
妹	mue				昧寐 mue
閏	zuŋ				潤 zuŋ
萬	bueŋ				慢慢 bueŋ
用	eŋ				孕 eŋ

With unfortunately very few examples, Chan (1958) presents a tone system for the Min dialect of Wan-ning on the Island of Hainan in which, as in Ch'ao-chou, many words with Ancient voiced initials and the C tone have the same reflex as words with Ancient voiced initials and the B tone:

Ancient B Tone		Ancient C Tone	
Voiceless Initials	Voiced Initials	Voiced Initials	Voiceless Initials
221	53	13	13

Clearly, in its B2 and C2 classifications the *Ch'ieh-yün* was based on a precursor of the Wenchow dialect or a dialect not yet recorded. In Canton and Ch'ao-chou there appear to have been either tone changes preceding the major tonal splits or seven-tone subsystems, one (Canton) in which B2 had changed to C2, the other (Ch'ao-chou) in which C2 had changed to B2:

<i>Ch'ieh-yün</i>	Wenchow	Canton	Ch'ao-chou
B2	24 (B2)	13 (B2)	35 (B2)
B2	24 (B2)	22 (C2)	35 (B2)
C2	11 (C2)	22 (C2)	35 (B2)
C2	11 (C2)	22 (C2)	11 (C2)

Examples:

(1) *Ch'ieh-yün* B2

Wenchow B2 : Canton B2 : Ch'ao-chou B2

婦倍被¹抱棒弟肚怠¹殆¹淡¹道¹斷¹坐¹造似柱¹重¹社柿市恃善¹腎上拒距舅近¹下¹夏¹
蟹厚後¹早

(2) *Ch'ieh-yün* B2

Wenchow B2 : Canton C2 : Ch'ao-chou B2

罷部簿父負被²伴范犯辯辨奉並杜待怠²殆²道²稻淡²動坐²聚在罪皂造²盡靜祀序叙緒
象像橡柱²趙兆篆丈杖仗重²是士豎紹受善²甚枝妓巨跪儉件圈近²禍戶后限項杏幸

(3) *Ch'ieh-yün* C2

Wenchow C2 : Canton C2 : Ch'ao-chou B2

敝幣幣捕備暴飯¹便鳳大¹惰第兌導盜但斷²電佃遁鈍鄧自就漸藏臟匠¹袖頌訟住助
驟狀撞仲視睡授順尙盛忌具健¹腱倦競下²系互護壞滙會惠慧校後²患宦混

(4) *Ch'ieh-yün* C2

Wenchow C2 : Canton C2 : Ch'ao-chou C2

弊鼻避步腐辦飯²份縫病敗稗大²地度渡代袋隊棹調豆痘殿段緞定洞座字賤淨謝
寺匠²治傳記陣鄭示射樹壽事剩上櫃轎舊健²共夏²晝話賀害號效候汗陷現縣換巷

II.7. The Merging of B2, C2, and D2 Tones

In the Min dialect of Chien-ou (建甌), for which Huang 1957 and Norman 1969 offer limited data, the B2, C2, and D2 categories each have the same two reflexes: 31 and 55 in Huang's recording, 42 and 44 in Norman's (Chart 14). Most words with the Ancient B tone, and all with the D tone, which have Ancient nasal, lateral, and j initials have the 31/42 reflex. All words with the Ancient C tone and Ancient nasal, lateral, and j initials have the 55/44 reflex. Some words with Ancient voiced stop, affricate, and fricative initials and Ancient B and D tones have the 31/42 reflex; others have the 55/44 reflex. (There are discrepancies in Huang's and Norman's data for the B category: 部 [B2], Huang pu 55, Norman pu 42; 被 [B2], Huang phyε 55, Norman phyε 42; 姪 [B2], Huang keɿ 55, Norman keɿ 42.) Words of the C2 category with stop, affricate, and africative initials more often have the 55/44 reflex. The most likely inference to be drawn from all this is that the B2, C2, and D2 tones merged and the one resulting tone then split, though the conditions for such a split are not

Chart 14

B2, C2, and D2 Reflexes in the Min Dialect of Chien-ou

Examples are from Norman 1969. I: Ancient nasal, lateral, and j initials;

II: Ancient stop, affricate, and fricative initials.

	*B2		*C2		*D2	
	I	II	I	II	I ·	II
42	米瓦我五 蟻咬耳領 澆癢	部被動 趙重罪 坐跬(踎) 近跪始 厚下上		第地晝	目麥玉 額月日 肉入箸 辣六綠 蠟落藥	薄讀碟 學滑劃 食舌
44	老李卯雨	抱伴弟 稻斷丈 柱臼是 市柿象 像	磨罵賣妹 帽慢面問 命夢艾外 硯二認閨 露路利位 胃院樣用	病稗鼻步 縫吠飯定 豆大袋箸 住鄭字坐 舊汗縣尙 上事樹下 謝夏話 後		白雹曝 直賊席 石稭核 合盒翼

apparent. In the Min dialect of Yung-an, B2/C2/D2 words all have the ʔ43 reflex.

In the Hakka dialect spoken in the district of Shao-wu in Fukien, we see a clear-cut case of the merging of the B2, C2, and D2 categories, here in a 35 tone (Chart 15). Other instances of such merging are found among Kiangsi,

Chart 15

B2, C2 and D2 Reflexes in the Min Dialect of Chien-ou: Tone 35

Examples are from Norman 1969. I: Ancient nasal, lateral, and j initials;

II: Ancient stop, affricate and fricative initials.

*B2	*C2		*D2	
II	I	II	I	II
舵部罪是 柿市稻趙 厚後伴象	罵露路賣妹 外離利二櫃 位未冒帽漏 慢面硯院認 閨問樣命夢 用	大夏謝步箸 樹袋弟晝話 吠鼻地字事 豆舊餡汗換 飯縣尙上病 鄭定	蠟入辣 月密日落 藥麥脈 綠玉	合盒十拔 舌活滑 薄鑿學直 食白尺石 讀菊

Hunan, and Hupeh dialects (cf below, section VI.6: The Merging of Split D-tone Categories with Other Tonal Categories).

II.8. The Merging of B2, C2, and C1 Tones

In the Min dialect of Chien-yang (Norman 1969) the borders between the B2, C1, and C2 categories appear blurred. All members of the C1 category, most members of the B2 category, and some members of the C2 category have tone 32; most members of the C2 category and some members of the B2 category have the slightly higher falling tone, 43 (cf. Chart 16 for examples):

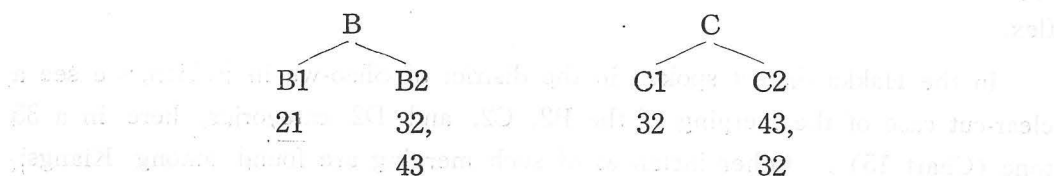


Chart 16

Ancient B2 and C2 Words with the Chien-yang 32 and 43 Tones

*B2	*C2
32 蟹瓣在待淡杏抱造 道皂近厚是弟社並辦 善鱸件儉競趙兆上 癢象像丈仗杖受舅 白柱坐婢伴盡靜棒 項簿部祀已似肚戶 父婦範犯亥旱誕斷 撰禍動重奉具聚序 叙巨拒篆	32 會暫后後侍示視地 佃膳宙第治宕妒泛 梵但繪倖鳳羨級 43 夏敗代寨辦殿鄧贈 行恨覓病棧憾陷導 盜効校號皓窳共訟 頌順仲郡豆逗候忌飼 鼓妓技系係繫謝籍 射定鄭避地便奠電 賤塾現覓盛剩掉 調轎匠尙上樞就壽 授住舊座惰舵賀備 鼻地字寺痔自定袖淨 陣藏狀步助自事度 渡互護話畫大壤害 彈段汗喚幻患飯緩 焙袋兌隊匯會洞巷 吠樹遂瑞箸櫃蕙卉 惠諱縣傳健倦范遁份
43 幸限稻寶市漸甚腎士 負罪跪笨盾憤忿	

II.9. The Voiceless/Voiced Status of Ancient Lateral, Nasal, and j Initials.

In the Yüeh dialects, where the four Ancient tones have split into two sub-categories each according to the voiceless or voiced nature of the word initials,

words with Ancient lateral, nasal, and j initials have generally gone along with those with voiced initials. The Mandarin and Hakka dialects are among those in which the Ancient C-tone words remain an entity. These dialects have, however, had A and B-tone splits, and it is a characteristic of the Mandarin dialects that words with Ancient lateral, nasal, and j initials and the Ancient A tone behave tonally like words with voiced initials, while words with the same initials but the Ancient B tone behave like words with voiceless initials. (This fact was reported by Annen in 880; it is also implicit in the arrangements of the phonological charts designed by Shao Yung for his *Huang-chi Ching-shih Shu*, which was based on the Mandarin dialects spoken in K'ai-feng during the eleventh century.) Dialects spoken in the provinces of Kiang-si, Hupeh, and Hunan, and in northern Kiangsu and southern Anhwei, are in this respect generally like the Mandarin dialects. This dichotomous correlation of the tonal features of voiced and voiceless initials with words which had Ancient lateral, nasal, and j initials, depending on whether they had the Ancient A or Ancient B tone, is even found in the Wu dialects of Ch'ang-chou (常州), Wenling (溫嶺), and except for words with Ancient j initials and the B tone, which have joined the voiced group, Chin-hua (金華). For the most part, however, the Wu dialects are like the Yüeh dialects in that the words with Ancient lateral, nasal, and j initials and the Ancient B tone behave tonally like words with voiced initials.

There have been double, and even triple, developments of words with Ancient lateral, nasal, and j initials and the Ancient B tone in the Hakka dialects, the Yüeh dialect of T'ai-shan, and many Min dialects. In the Hakka dialect of Mei-hsien, for example, some of these words, reflecting the northern origin of the Hakka speakers, have a low falling tone, 31, the tone customarily found among Ancient B-tone words with Ancient voiceless initials; others, showing the effects of the Hakka move to the south, have a high level tone, 44, the tone of Ancient B-tone words with Ancient voiced initials (Chart 17). (This high level tone is also the tonal reflex for the Ancient A tone among words with Ancient voiceless initials.)

The Yüeh dialect of T'ai-shan (Wang Li 1950) shows a triple development of words with Ancient lateral, nasal, and j initials and the Ancient B tone: some have the T'ai-shan B1 tone, 55; others have the B2 tone, 21; still others have the C1 tone, 33:

Ancient B-tone words with lateral, nasal, and j initials		Ancient B and C-tone words with stop, affricate, and fricative initials	
55	五女老眼努滿米	(B1)	古紙好楚
21	武暖某柳雨	(B2)	柱倍似舅憤
33	買軟卵有	(C1)	試蓋醉漢唱怨祀

Chart 17

Ancient B-tone Reflexes in the Hakka Dialects

(Mei-hsien data are from *Tzu-hui*, Hai-lu and Szu-hsien in T'ao-yüan from Yang 1957, and Hua-yang Liang-shui-ching from Tung 1948.)

Mei-hsien 31	Mei-hsien 44 (= A1)
Hai-lu 13	Hai-lu 53 (= A1)
Szu-hsien 31	Szu-hsien 24 (= A1)
Hua-yang 31	Hua-yang 55 (= A1)
Words with Ancient voiceless stop, affricate, and fricative initials 鬼榜短董左主九己幾稭	Words with Ancient voiced stop, affricate, and fricative initials 被*蚌*斷動坐柱舅妓*技*旱* * Not recorded for Hua-yang
Words with Ancient lateral, nasal, and j initials 李裏了柳兩櫛米畝武舞網猛女腦惱眼 擾野偉畚引	Words with Ancient lateral, nasal, and j initials 禮里理鯉魯櫓滷旅懶臉領買尾卯某免 勉暖語惹軟忍養癢

In the Min dialect of P'u-ch'eng (浦城), words with Ancient lateral, nasal, and j initials and the Ancient B tone have joined the group of words with Ancient voiced stop, affricate, and fricative initials and the Ancient B tone and have the B2 tone, 54. In other Min dialects, most words with Ancient lateral, nasal, and j initials and the Ancient B tone have the B1 reflex (Chart 18), but there

Chart 18

Min B1 Reflexes for Words with the Ancient B Tone and
Ancient Lateral, Nasal, and j Initials
(Exceptions are indicated in parentheses.)

Dialect	李	領	米	馬	尾	野
潮州	li	nia	bi	be	bue	ia
揭陽	li	nia	bi	be	bue	
晉江		nia	bi	be	bə	
廈門	li	niã	bi	be	be	ia
龍溪	li	nia	bi	be	bue	
臺北	li	nia	bi	be	be, bue	
定安	li	lia	vi	ve	vue	ze
隆都	li	liap	mĩ	mãa	mũaj	iãa
福鼎			mi	ma	moi	
柘陽			mi	ma	mue	
福安			mi	ma	mui	
寧德			mi	ma	mɿy	
福州	li		mi	ma	mui	ia
建陽	loi	liap (B2)	moi (B2)	ma	mui	ia
建甌	li	liap (B2)	mi (B2)	ma	mye	ia

are some words which have either the B2 reflex, in those dialects where B2 and C2 differ, or, in dialects where B2 and C2 are the same, the B2/C2 reflex (Chart 19). (For the Ning-te [寧德] dialects, finals must be used to determine whether words belong to the B1 category or the B2/C2 category, since the tonal categories B1, B2, C2 are a phonetically identical 41, [Norman 1973].) On the basis of the tonal reflexes in the Min dialects, Norman (1973) has suggested contrasts of *l : *lh, *m : *mh, *n : *nh, *ñ : *ñh, and *ɣ : *ɣh for Proto-Min.

Chart 19

Min B2 or B2/C2 Reflexes for Words with the Ancient B Tone
and Ancient Lateral, Nasal, and j Initials
(Exceptions are indicated in parentheses.)

Dialect	老	卵	兩	耳
潮州	lau B2	nɿŋ B2	no B2	hĩ B2
揭陽		ŋɿ B2	no B2	hi B2
晉江	lau B2	ŋɿ B2		hi B2
廈門	lau B2/C2	ŋɿ B2/C2	ŋɿ B2/C2	hi B2/C2
龍溪	lau B2/C2	nui B2/C2	no B2/C2	hi B2/C2
臺北	lau B2/C2	ŋɿ B2/C2	ŋɿ B2/C2	hi B2/C2
定安	lau B2/C2	nui B2/C2	no B2/C2	hi B2/C2
隆都	laau B2/C2		laaŋ B2/C2	ɣi B2/C2
福鼎		loŋ B2/C2		
柘洋		lon B2/C2		
福安		lɔn B2/C2		
寧德		lɔ : n B2/C2		
福州	lau B2/C2	laup B2/C2		
建陽	seu B2	syn B2		noip B2
建甌	sei (C2)	soŋ (C2)		neŋ B2
Dialect	蟻	五	瓦	網
潮州	hia B2	ɣou B2	hia B2	maŋ B2
揭陽	hia B2	gou (C2)	hia B2	
晉江		ɣo B2	hia B2	baŋ B2

Tonal Developments among Chinese Dialects

廈門	hia B2/C2	gō B2/C2, ḡō B2/C2	ua (B1)	baŋ B2/C2
龍溪		gō B2/C2	hia B2/C2	baŋ B2/C2
臺北	hia B2/C2	gō B2/C2		
定安	hia B2/C2	ḡou B2/C2	hia B2/C2	
隆都	ḡia B2/C2	ḡu B2/C2	ḡua B2/C2	
福鼎		ḡu B2/C2	ua B2/C2	meŋ B2/C2
柘洋		ḡu B2/C2	ua B2/C2	moeŋ B2/C2
福安		ḡou B2/C2	wo B2/C2	moeŋ B2/C2
寧德		ḡo:u B2/C2	uō B2/C2	moe:ŋ B2/C2
福州		ḡou B2/C2	ḡua B2/C2	moig B2/C2
建陽	ḡye B2	ḡu B2	ua B2	
建甌	ḡye B2	ḡu B2	ua B2	
Dialect	雨	遠	有	也
潮州	hou B2	hḡ B2	u B2	ia (C2)
揭陽	hou B2	hḡ B2		ia B2
晉江	hō B2		u B2	ia B2
廈門	hō B2/C2	hḡ B2/C2	u B2/C2	a B2/C2
龍溪	hō B2/C2		u B2/C2	ia B2/C2
臺北	hō B2/C2	hḡ B2/C2	u B2/C2	ia B2/C2
定安	hou B2/C2	hui B2/C2	u B2/C2	
隆都	fua B2/C2	fuan B2/C2	u B2/C2	
福鼎	huo B2/C2		u B2/C2	
柘洋			u B2/C2	
福安	hu B2/C2		ou B2/C2	
寧德	hu B2/C2		o:u B2/C2	
福州	huo B2/C2		ou B2/C2	
建陽	xy B2		iu (B1)	ia (B1)
建甌	xy (C2)		iu (B1)	

As in the case of the Min reflexes for Ancient voiced initial stops and affricates I would interpret the differences in Min reflexes as due rather to the influences of the northern and southern traditions.

III. Aspiration and Tonal Diversification

In the dialect of Nan-ch'ang (南昌) in Kiangsi (Yang 1969, *Tzu-hui*), the Ancient, and modern, aspiration contrast among Ancient C-tone words with voiceless initials correlates with a modern tonal contrast: words with aspirated initials have a falling-rising tone, e.g. 佩 phi 313 (Yang) or 213 (*Tzu-hui*); those with unaspirated initials have a high-rising or high-even tone, e.g. 閉 pi 35 (Yang) or 55 (*Tzu-hui*). In the Ancient A and B-tone categories, however, the contrast of aspirated voiceless with unaspirated voiceless has had no effect on tone: cf. 悲 pi 31 (Yang) or 42 (*Tzu-hui*), (A1, *unasp.), 披 phi 31 (Yang) or 42 (*Tzu-hui*) (A1, *asp.); 比 pi 313 (Yang) or 213 (*Tzu-hui*) (B1, *unasp.), 鄙 phi 313 (Yang) or 213 (*Tzu-hui*) (B1, *asp.). Ancient voiced initial stops and affricates have voiceless aspirated reflexes in this dialect, and in the Ancient A and B (but not C or D) tone categories, words with these initials have a different, and generally lower, tone than do the other words with Ancient voiced initials (fricatives, laterals, nasals, and j), initials which are not aspirated. For example:

A2:	迷	mi 35 (Yang), 55 (<i>Tzu-hui</i>)	皮	phi (24)
B2:	米	mi 313 (Yang), 213 (<i>Tzu-hui</i>)	倍	phi 11 (Yang), 31 (<i>Tzu-hui</i>)
C2:	妹	mi 11 (Yang), 31 (<i>Tzu-hui</i>)	備	phi 11 (Yang), 31 (<i>Tzu-hui</i>)
D2:	密	mit 5	鼻	phit 5

In the Wu dialect of Wu-chiang (吳江), aspiration is responsible for the tonal diversification of words with Ancient voiceless initials and B, C, and D tones (Chart 20). At least the tonal onset, then, and sometimes the entire tone,

Chart 20

Aspiration and Tone in the Wu-chiang Dialect

(a) Words with Unaspirated Initials; (b) Words with Aspirated Initials

(Examples are from Yeh 1958)

	黎里	盛澤	城內	
B1 (a)	41	51	51	古展紙剪短比襖好手死粉
(b)	41	12	323	口丑楚淺體普
C1 (a)	513	412	423	蓋帳正醉對變受漢世送放
(b)	213	213	323	杭唱榮怕
D1 (a)	5	4	4	急桌職接得百一里說惜福
(b)	45	4	34	曲尺七鐵匹

has been lowered by aspiration in the Nan-ch'ang and Wu-chiang dialects (Chart 21). Aspirated initials appear to have had the same effect in the Hsiang-hsiang (湘鄉) dialect of Hunan (Chang 1974a), where in the following pairs the word with the aspirated initial has a lower tone than the word with the unaspirated one: 格 (*k-, D1), 客 (*kh-, D1); 績 (*ts-, D1), 戚 (*tsh-, D1); 的 (*t-, D2), 笛 (*d- → th-, D2); 蓋 (*k-, C1), 快 (*kh-, C1).

Chart 21

The Lowering of Tone by Aspiration:

The Nan-ch'ang and Wu-chiang Dialects

Dialect		Tones of Words with Aspirated Initials	Tones of Words with Unaspirated Initials
南昌	A2	24	35 or 55
南昌	C1	313 or 213	35 or 55
吳江盛澤	B1	12	51
吳江城內	B1	323	51
吳江黎里	C1	213	513
吳江盛澤	C1	213	412
吳江城內	C1	323	423
吳江黎里	D1	45	5
吳江城內	D1	34	5

IV. Vowels and Tones

Tone features may bring about phonetic changes in vowels. Vowels may, however, also have an effect on tone, and the two kinds of change may be found side by side in the same dialect.

IV.1. The Influence of Tones on Vowels

Among the finals of the Foochow (福州) dialect, there are two sets whose alternation depends on tone contrasts: e, i(-), u(-), y(-) occur in words with high or nonrising tones, but are lowered to a, ei(-), ou(-), øy(-) in words with low or rising tones (Chart 22). The same tone contrasts, however, have no effect

on the finals ie, iep, iek, ue, eu, ieu, ai, uai, au, iau, ap, ak, ua, uap, uak, ia, iap, iak, o, uo, uog, uok, yo, yog, yok, ø.

In the Min dialect of Ning-te, the tonal distinctions of the B1 : B2/C2 categories have been lost, but not the correlated distinctions of vowel height and length which they had brought about (Chart 23).

Chart 22

The Influence of Tones on Vowels in the Foochow Dialect

High or Nonrising Tones:

44 (A1), 42 (A2), 31 (B1), 4 (D2)

Low or Rising Tones

213 (C1), 242 (B2/C2), 23 (D1)

e			a		
i	ip	ik	ei	eip	eik
	iep	eik		aip	aik
u	up	uk	ou	oup	ouk
	oup	ouk		aup	auk
y	yp	yk	ey	eyp	eyk
	øyp	øyk		ayp	ayk

Chart 23

The Influence of Tones on Vowels in the Ning-te Dialect

(Examples are from Norman 1972)

B1		B2/C2	
虎	hu 41	戶	(B2) ho(:)u 41
語	ɣy 41	御	(C2) ɣɣy 41
海	hâi 41	害	(C2) ha(:)i 41
斗	tâu 41	豆	(C2) ta(:)u 41
膽	tâm 41	淡	(C2) ta(:)m 41
擀	kân 41	汗	(C2) ha(:)n 41

In the Omei (峨嵋) dialect of Szechuan, the development of the vowels of Ancient *ia, *iap, and *iat after Ancient palatal initials depends on tone: -e is

Tonal Developments among Chinese Dialects

found with tones 44 (A1), 21 (A2), 42 (B1), 13 (B2, C), -æ with tone 55 (B2, C, D) (Chart 24). The Omei final -æ, like -ye and -yo, is limited to the high level tone, 55. Doublets with another tone in alternation with this tone also have an accompanying vowel alternation. For example: 舌 (D), sæ 55, se 13; 社 (B2), se 13, sæ 55.

Chart 24

The Influence of Tones on Vowels in the Omei Dialect

(Examples are from Ch'en and Hao 1959)

	*ia			*iap	*iat
	*A	*B	*C	*D	*D
*tš-	遮 tse 44	者 tse 42	蔗 tsæ 55	摺 tsæ 55	浙 tsæ 55
*tʰh-	車 tshe 44	扯 tshe 42			
*dž-	蛇 se 21		射 se 13, sæ 55		舌 se 13, sæ 55
*š-	賒 se 44	捨 se 42	赦 sæ 55	攝 sæ 55	設 sæ 55
*ž-		社 se 13, sæ 55		涉 sæ 55	析本 sæ 55
*ñ-		惹 ze 42			熱 zæ 55

IV.2. The Influence of Vowels on Tones

In the dialects of Canton, Yang-chiang, and Tung-kuan, there are two tonal reflexes for the Ancient D1 category, a higher tone in the words with short or tense vowels, a lower tone in words with long or lax vowels (Chart 25). In

Chart 25

The Influence of Vowels on Tones in Yüeh Dialects:

The D1 Category

	High or Short Vowels				Low or Long Vowels		
	Tone				Tone		
Canton (<i>Tzu-hui</i>)	5	-ɾp	-ɾt	-ɾk -ɪk -ɣt -ɸk	33	-a(:)p -i(:)p -ɔ(:)t -u(:)t -y(:)t	-a(:)t -i(:)t -ɔ(:)k -œ(:)k
Yang-chiang (<i>Tzu-hui</i>)	24*	-ap	-at	-ak -ɪk -ɸk	21**	-aap -ip -iep	-aat -it -iet -ɔk -iek
Tung-kuan (Wang 1949)	44	-ɾp	-ɾt	-ɾk -wɾt -ok -ut -œt -it	224	-a -ɔ -ε	-wɔ -wε

* Yüan 45.

**Yüan 11.

the Tung-kuan dialect, a further condition applies: the low vowel ɔ has the higher tone when the stop ending -k is retained; the appearance of the lower tone correlates with the loss of this ending.

In the Omei dialect of Szechuan (Ch'en and Hao 1959), B2/C-tone words with one group of finals (-a, -e, -æ, -i, -u, -n, -ŋ) have a low rising tone (13); others, with an only partly overlapping group of finals (-ɔ, -o, -ie, -ɿ ~ -ʒ, -i, -u, -y), have the same high even tone, 55, as words of the D category, though among this latter group are occasional doublets, one member with the unraised tone (e.g. 播 po 55, 13; 四 sɿ 55, 13).

V. Irregular Tonal Developments

V.1. The A2 Tone in the Min Dialect of Chien-ou

In the Min dialect of Chien-ou, words with the Ancient A tone and Ancient voiced initials (including laterals, nasals, and j) have double developments. The conditions for the split are not apparent, nor are the details of its realization unambiguous. Both Huang (1957) and Norman (1969) acknowledge that in one development the A2 and B1 tones have the same reflex. Norman, however, shows the reflex of A2 in a second development to be the same as that of C1; according to Huang, the two reflexes are distinct:

	A2a	B1	A2b	C1
Huang	11	11	33	22
Norman	21	21	22	22

Examples from Norman:

	A2a	B1		A2b	C1
kiu 21	球	久九	pou 22	賠	背
paig 21	瓶	板	ieŋ 22	鹽	燕
top 21	同銅	長	pueŋ 22	盤	半
ai 21	鞋	矮			
pai 21	牌		pai 22	排	
ty 21	除		ty 22	厨	
thai 21	抬		thai 22	苔	
mi 21	彌		mi 22	迷	
li 21	離		li 22	梨	

V.2. Miscellaneous Mergings

In many dialects the number of tones has been reduced by the merging of Ancient tonal categories, in various ways and under conditions yet to be identified:

(1) A1 and B1 merge:

Dialects	A1	A2	B1	B2/C	D
1. 雲南麗江	42	31	42	55	24
2. 河北臨漳	33	51	33	212	4

(2) A2 and B1 merge:

Dialects	A1	A2	B1	B2/C	D
1. 河北青縣	13	44	44	31	
2. 河北滄縣	34	55	55	31	
3. 河北慶雲, 黃驊, 鹽山	324	55	55	31	
4. 河北孟村	45	55	55	31	
5. 山東膠縣	level	rising	rising	fallig	
6. 雲南鎮康	44	41	41	35	313
7. 安徽蕪湖方村	21	24	24	53	5

(3) A2 and C merge:

Dialects	A1	A2	B1	B2/C
1. 遼寧長海	312	52	213	52
2. 遼寧新金, 莊河, 安東縣	312	53	213	53

(4) B1 and C1 merge:

Dialects	A1	A2	B1	B2/C2	C1	D1	D2
1. 上海市	53	14	34	14	34	5	2
2. 江蘇嘉定	53	31	34	13	34	5	3
3. 江西石城	53	13	42	22	42	32	44
4. 江西樂平	42	55	24	13	24	55	24

The major differences between the Wu dialects of Shanghai (4.1) and Chia-ting (4.2) and the Kan dialects of Shih-ch'eng (4.3) and Lo-p'ing (4.4) is that while in the Wu dialects words with Ancient lateral, nasal, and j initials generally have the same tonal reflexes as other words with voiced initials, in the Kan dialects words with these initials and the Ancient rising (B) tone behave like words with voiceless initials. In the City of Shanghai dialect (4.1 and 5.1), which has in common with the Wu dialect of Chia-ting the B1/C1 merging, the A2 and B2/C2 categories have also merged, thus further reducing the number of tones in this dialect. For example:

A1		B1	C1		A2	B2	C2	
東	top 53	懂	凍	top 34	同	洞	動	dop 14
刀	to 53	討	套	tho 34	桃	盜	稻	do 14
糾	tšir 53	久	救	tšir 34	求	舅	舊	džir 14

(5) A2 and B2/C2 merge:

Dialects	A1	A2	B1	B2/C2	C1	D1	D2
1. 上海市	53	14	34	14	34	5	2
2. 江西上饒	42	22	53	22	35		55*

* D (unsplit)

(6) A1 and B2/C2 merge:

Dialects	A1	A2	B1	B2/C2	C1	D1	D2
1. 江蘇大豐	21	35	213	21	45	4	5
2. 江蘇東臺	31	35	212	31	44	4	5
3. 江蘇泰州 (白話)	21	45	213	21	33	3	4
4. 江蘇海安	31	35	213	31	33	3	4
5. 江蘇泰興	21	45	213	21	42	4	5
6. 江蘇如皋	21	35	213	21	33	3	4
7. 湖北大冶	22	212	43	22	45	13	13, 22

The dialects spoken in the districts of Ta-feng (6.1), Tung-t'ai (6.2), T'ai-chou (6.3), Hai-an (6.4), T'ai-hsing (6.5), and Ju-kao (6.6) in northern Kiangsu share another characteristic, in addition to the merging of the A1 and B2/C2 categories: in all of these dialects, words with Ancient voiced stop and affricate initials have voiceless aspirated initials.

In the dialect of Ta-yeh in Hupeh (6.7), there is an added ramification to the merging of the A1 and B2/C2 categories seen in the dialects of northern Kiangsu; that is, a subset of the D-category words with voiced stop, affricate, and fricative initials has merged with the A1 and B2/C2 categories.

(7) A2 and C1 merge:

Dialects	A1	A2	B1	B2/C2	C1	D1	D2
1. 江西廣豐 (楊)	44	33	55	11	33	55	23
2. 湖南澧縣	55	13	31	33	13	35	33

(For two Anhwei dialects, 屯溪 and 休寧, Meng 1961 reports A2/C1 merging, but gives no phonetic details.)

(8) B1 and B2/C2 merge:

Dialects	A1	A2	B1	B2/C2	C1	D
1. 湖南瀘溪	44	13	42	42	35	13
1. 湖南辰溪	44	13	53	53	24	13 (?)
						D1 D2
3. 福建寧德	33	11	41	41	35	33 55

(9) In the Hakka dialect of Lien-chou (廉州) in Kwangsi, A1 and C1 categories are phonetically identical (Hashimoto 1970).

(10) In the Yüeh dialect of T'ai-shan (Wong 1970), all words in the A1 and C1 categories with lateral, nasal, and j initials, and some in the B1 category, have the same tone:

A1			C1			B1		
憂	yi	33	幼	yi	33	有	yi	33
酸	lhon	33	算	lhon	33	暖	non	33
相	lhiaɲ	33	相	lhiaɲ	33	領	liap	33
鬆	lhup	33	送	lhup	33	攏	luɲ	33
昆	khun	33	困	khun	33	軟	ɣun	33
貪	ham	33	探	ham	33	喊	ham	33 [sic!]

(11) In the Hakka dialect of Jao-p'ing in the district of Hsin-chu in Taiwan there are, according to Yang's brief reports (1961, 1967), several types of merging, and a given tonal category may be involved in more than one type. So, A1, B, and C may merge (e.g. 都 [A1, 21], 左 [B1, 21], 在 [B2, 21], 做 [C1, 21], 大 [C2, 21]); A2, B2, and C2 may merge (e.g. 提 [A2, 33], 跪 [B2, 33], 大 [C2, 33]); and B1 and C1 may merge (e.g. 走 [B1, 51], 做 [C1, 51]). Only the D-tone categories stand apart (e.g. 級 [D1, 31] and 十 [D2, 45]). (The pitch values given above are those of Yang 1961. The corresponding values in Yang 1967 are: 11 for 21, 44 legato for 33, 41 for 51, and 44 staccato for 45; 31 remains 31.)

(12) The Wu dialect of Tan-yang is spoken in an area bordering on Mandarin territory and in general shows heavy Mandarin influence; its colloquial style of pronunciation indicates a Mandarin merging of the B2 and C tonal categories, coupled with the Wu C-tone split (Lü 1947):

Tonal Developments among Chinese Dialects

Ancient Tones	Ancient Initials	Tan-yang Tones	Examples
A1	voiceless*	33	江天東西
	laterals and nasals	33	如來門年魚
A2	j-, jw-	35	鹽油王雲
	voiced*	35	橋同袍蠶
B1	voiceless*	55	懂好土草
	j-, jw-	55	有養遠雨
B2	laterals and nasals	35	老馬瓦暖
	voiced* (1)	35	近厚稻抱
	voiced* (2)	21	件亥杜棒
C1	voiceless*	35	對叫去炭
C2	voiced (including laterals, nasals, and j-)	21	事大夢外換樣

* Stop, affricate, and fricative initials.

(13) In the Lu-shan (蘆山), Lu-ting (瀘定), Pao-hsing (寶興), Ming-shan (名山), Han-yüan, (漢源), and Shih-mien (石棉) dialects of Szechuan (Szechuan University 1960), some words of the B2/C category have the same reflexes as words of the A2 category; in a number of instances these reflexes are in free variation with the characteristic B2/C reflex.

VI. The Ancient D Tone

VI.1. The D-tone Split

The Ancient abrupt (D) tone accompanied words with the final stop endings -p, -t, -k. Depending on the presence or absence of voicing in the initial, the D category has split into two subcategories in the Yüeh, Min (exception: P'u-ch'eng 浦城), Hakka, and Wu dialects, some dialects spoken in Kiangsi and northern Kiangsu, and a few dialects spoken in Anhwei (Hsiu-ning 休寧), Shansi (T'ai-yüan 太原, Yü-tz'u 榆次, P'ing-yao 平遙), Shensi (Wu-pao 吳堡), Honan (Lo-yang 洛陽), and Hopeh (Wan-ch'üan 萬全). Dialects in which words with An-

cient lateral, nasal, and j initials have the tonal reflexes of words with voiceless initials are generally found in the north, e.g. T'ai-chou (泰州) in Kiangsu, T'ai-yüan in Shansi, Lo-yang in Honan, and Wan-ch'üan in Hopeh. Dialects in which they have the reflexes characteristic of words with voiced initials are more often found in the south, e.g. the Yüeh, Min, Hakka, and Wu dialects, and some Kiangsi and northern Kiangsu dialects. (The Wu dialects of Chia-hsing 嘉興 and Wu-hsing 吳興, however, do not follow this pattern.)

VI.2. Further Splits of the D1 and D2 Tones in the Yüeh Dialects

Except for the dialects of Chung-shan (中山), with a 55 reflex for the D1 category and 22 for D2, and Nang-ning P'ing-hua (南寧平話), with high-level D1 and low-level D2 reflexes, the Yüeh dialects so far recorded show a split in the D1 category which correlates with vowel features (Chart 26). In the dialect of

Chart 26

Yüeh Splits in the D1 and D2 Tones

Dialect	D1a	D1b	D2	
廣州, 三水, 南寧白話	55	33	22	
合浦	33	13	11	
東莞	44	224	22	
香港船戶	53	33	32	
蒼梧吉陽鄉	HE	HF	LF	
貴縣	HE	MR	LR	
恩陽	ME	LE	LE	
新會河村	LR (= B1)	LE	LF = C, HF = B2	
	D1a	D1b	D2a	D2b
陽江 (Tʂ'u-kui)	24	21	454	443
陽江 (Yüan 1960)	45	11	55	42
台山 (Wang 1950)	55	33	32	21*
博白	cb**	cl**	ob**	ol**

* Only a few words have this tone.

** c 'clair', o 'obscur', b 'brusque', l 'lent' (Wang 1932).

Canton, for example, the D1a tone appears in words with short-vowel finals, while words with long-vowel finals have the D1b tone (cf. Chart 25 for details); the relatively few exceptions are chiefly onomatopoetic words (Hashimoto 1972: 205-397).

The source of the D2-tone split, which is also found in some Yüeh dialects (Chart 26), is unclear; it does not, for example, correlate with vowel features, and the D2a and D2b categories of the T'ai-shan dialect do not coincide with, that is, do not include the same lexical items as, the D2a and D2b categories of the Po-pai dialect (Wang 1932).

In the Wu dialects, which preserve the contrast of voiceless and voiced initials, the D1 tones are higher in pitch than the D2 tones. The Chia-ting (嘉定) dialect, for example, has 5 for D1 and 23 for D2; the Wu-chiang (吳江) dialect has 5 ~ 45 for D1 and 23 for D2. (See Charts 1 and 9 for other examples.)

In the northern Kiangsu dialects, where voiced initials have been devoiced, D1 tones are consistently lower than D2 tones (cf. Charts 8 and 10). Other dialects which have devoiced voiced initials show no consistent correlation of tonal height with the D1 : D2 contrast. In some Min dialects, for instance, D1 tones are higher than D2 tones; in others, the reverse obtains (cf. Charts 2 and 9):

D1 is higher than D2

定安, 建陽, 海口, 福鼎, 隆都,
文昌, 萬寧, 浙南, 平陽, 福安,
建甌(Norman), 龍溪, 漳州(朱)

D1 is lower than D2

潮州, 揭陽, 寧德, 廈門, 仙游,
臺北, 臺中上楓, 莆田, 福州

In three Min dialects, the D1 : D2 contrast is one of pure contour (falling versus rising), not height:

Dialect	D1	D2
晉江	53	35
泉州(朱)	43	34
建甌(黃)	13	31

The Hakka dialect of Shao-wu also has a pure contour contrast (53 : 35) for the D1 and D2 tones, and Hakka dialects often distinguish D1 : D2 pairs by contour as well as height. The D1 tone is, however, generally lower than the D2 tone (cf. Chart 8 for additional details):

D1, low : D2, high

華陽涼水井, 寶安, 桃園四縣, 梅縣,
大埔, 中山, 海陸 (橋本), 香港新界,
新竹饒平 (31 : 45)

D1, high : D2, low

桃園海陸 (55 : 32) 始興

Kiangsi dialects in which D1 is lower than D2 are almost evenly matched by other Kiangsi dialects in which D1 is higher than D2:

D1, low : D2, high

44 : 55 上猶 (D1 = A1)

32 : 55 臨川, 南康, 虔南, 會昌

32 : 44 石城

23 : 55 安遠 (D2 = C2 = B2)

22 : 55 定南

21 : 23 龍南

11 : 34 尋鄔

D1, high : D2, low

55 : 22 高安 (D2 = C2 = B2)

55 : 22 奉新

55 : 23 玉山, 弋陽, 貴溪, 廣豐

(楊), 新喻

55 : 24 樂平 (D1 = A2,

D2 = B1/C1)

55 : 42 零都 (D2 = C2 = B2)

55 : 11 鄱陽 (D2 = C2 = B2)

55 : 535 大庾 (D2 = C1)

24 : 2 廣豐 (金)

3 : 2 南豐

A few dialects spoken in the north have also undergone the D-tone split:

D1, high : D2, low

3 : 32 平遙

5 : 13 吳堡

44 : 42 洛陽

D1, low : D2, high

2 : 54 太原

32 : 54 榆次

21 : 43 萬全

VI.3. The Reduction of Stop Endings

Dialects with three reflexes for Ancient *-p, *-t, *-k are found, to varying degrees, in the Yüeh, Min, Kan, and Hakka groups.

Most Yüeh dialects preserve the *-p, *-t, *-k endings intact. All stop endings have been lost, however, in the dialect of Tung-kuan after the low vowels a and ɛ, and except for some instances of -k, after ɔ. (Wang 1949 cites as examples 革百發各策託殺刮宅霍.) These words have a low level rising tone, 224; where stop endings are preserved, Tung-kuan has 44 for D1, 22 for D2.)

In one word, 法, the Yüeh dialects show a *-p to -t change (*fap → fat);

this may, however, be merely an isolated example of labial dissimilation.

The Min dialects of Amoy (廈門), Chin-chiang (晉江), Lung-hsi (龍溪), Lung-tu (隆都), T'ai-pei (臺北), T'ai-chung (臺中), and, indications are, Ning-te (寧德) and Fu-an (福安) (Norman 1972), retain the three stop endings in the literary style but have a glottal stop in their place in the colloquial style. In the Min dialect of Ting-an (定安) (Norman 1969), the loss of stop endings appears restricted to words with voiced initials, which have merged with words of the B2/C2 category.

The Kan dialect of Kao-an (高安) (Yang 1971) in Kiangsi has independently undergone the same change as the Min dialect of Ting-an (定安): words with Ancient voiced initials and stop endings have lost their endings and have merged with words of the B2/C2 category (tone 22); words with Ancient voiceless initials and stop endings have retained these endings.

The Kan dialect of Lin-ch'uan (臨川) in Kiangsi has -p for *-p, -t for *-t, but a glottal stop for *-k. Other Kan dialects in Kiangsi (Yang 1971) have -l for *-t (either primary *-t or secondary *-t derived from *-k or *-p):

Dialect	Examples							
寧都	骨	kuol	月	nal	穴	fiel		
南豐	骨	kul	突	hul	忽	hul		
銅鼓	骨	kuəl	直	tshəl	日	ləl	物	vəl
	必	pil	髮	fal				
都昌	熱	ləl	栗	dil	笛	dil	七	dzil
	集	dzil	筆	pil	臘	lal	甲	kal

The Hakka dialect of Mei-hsien has three stop endings, -p, -t, and -k, but there has been a change of velar stop endings to dental after the front vowels e and i ~ ə. The inventory of Mei-hsien finals with velar and dental stop endings is, then, uk, ok, ak, et (from *ek and *et), it (from *ik, *iuk, [via *ik], and *it), ət (from *ək and *ət [ultimately from *ik and *it after retroflex initials]), ut, and at.

Dialects with just two reflexes for Ancient *-p, *-t, and *-k have either -t : -k or -p : -k contrasts:

- (1) -t : -k

Like the Hakka dialect of Mei-hsien, the Kan dialect of Nan-ch'ang has had a *-k to -t change after the front vowels e and i ~ ə. In addition, however, Nan-ch'ang has had an unconditioned change of *-p to -t. The Min dialect of Che-yang (柘洋) (Norman 1972) has also had a *-p to -t change; the Min dialect of Wan-ning (萬寧) (Chan 1958) has only -t and -k endings in free variation.

(2) -p : -k

Ancient *-t has changed to -k in the Min dialects of Ch'ao-chou (Li 1959), Chieh-yang (揭陽) (Tung 1959), and Lung-hsi (龍溪) (Tung 1959), except for -ut in Lung-hsi. Like the southern Min dialects, in which the three stop endings characterize the literary style while the colloquial style has only a glottal stop, the -p : -k contrast in these dialects is literary, and corresponds to a colloquial glottal stop.

Some northern Min dialects have -k or -ʔ as their sole reflex for Ancient *-p, *-t, *-k: Foochow (福州; Lan 1953), P'u-t'ien (莆田; Huang 1962), Hsien-yiu (仙游; Tai 1958), P'u-ch'eng (浦城; Norman 1969), Fu-ting (福鼎; Norman 1972), and P'ing-yang (平陽; Yüan 1960). Dialects with the glottal-stop reflex include most Wu dialects, some southern Min dialects (colloquial style), and some Mandarin dialects.

The majority of the Mandarin dialects, some Wu dialects, and the Min dialects of Chien-yang (建陽; Norman 1969) and Chien-ou (建甌; Huang 1957 and Norman 1969) show no trace of the Ancient stop endings.

In modern Chinese dialects we see, then, reflex systems for Ancient Chinese *-p, *-t, *-k ranging from retention of all three stop endings to their complete loss. Dialects with one or two reflexes appear to have in common a history of changes characterized by backing: from labial or dental to velar, and from velar to glottal. Northern Min dialects are in a transitional stage from a velar to a glottal stop. We may assume that those southern Min dialects with a -p : -k literary contrast but a colloquial glottal stop went through an intermediate stage of *-k, which derived in part from *-p. A conditioned change may front a back ending after front vowels, as in the Hakka dialect of Mei-hsien or the Kan dialect of Nan-ch'ang, but in no dialect yet recorded has a front ending prevailed at the expense of a back ending. It would be fairly safe to predict that if non-contrastive endings in these dialects are simplified it will be in favor of -k.

VI.4. Preservation of D-tone Categories with Loss of Stop Endings:
Mandarin Dialects.

In some Mandarin dialects, Ancient D-tone words remain an entity: there have been no tonal splits and no merging with other tone categories. The three Ancient stop endings, however, either have been replaced by a glottal stop or, and more commonly, have been lost. I list below the districts where this type of dialect is spoken and, where these have been reported, the D-category reflexes.

- Level: 55 (四川) 峨嵋, 夾江, 洪雅, (湖北) 陽新, 崇陽, (湖南) 岳陽, 臨湘.
 55 (河北) 曲周, (湖北) 蒲圻, 通城, (江西) 南昌, 都昌, 餘干, 南城, 南豐, 萬載, 瑞金, 崇義, 萬安, 贛縣, 信豐, 上饒, (江蘇) 鹽城, 儀徵, 江浦, 南京, 句容.
 44 (四川) 樂山.
 44 (河北) 磁縣, 邯鄲市, 沙河, 成安, 臨漳, 魏縣, 肥鄉, (江西) 新建, 宜豐, (江蘇) 灌雲, 淮陰, 漣水, 射陽, 泗洪, 高郵, 揚州.
 44² (河北) 尚義.
 33 (四川) 溫江, 華陽, 崇慶, 什邡, 大邑, 灌縣, 彭縣, 邛崃, 郫縣, 新都, 雙流, 新津, 崇寧, 新繁, 蒲江, 五通橋, 犍爲, 沐川, 丹稜, 瀘州, 合江, 叙永, 古宋, 納溪, 綦江, 西充, 射洪, 榮經, 宜賓, 慶符, 興文, (雲南) 綏江, (湖南) 邵陽城區, 茶陵, 耒陽.
 33 (河北) 鷄澤, 廣平, (河南) 獲嘉, (江西) 修水.
 33² (河北) 商都, (河南) 安陽, (山西) 五臺.
 22 (四川) 江津, (湖北) 安陸 (陳), 孝感 (陳), (湖南) 黔陽, 永明, 新田白話.
 11 (雲南) 鄧川, 景谷, (湖南) 大庸, 沅陵, 零陵.
 11 (河南) 溫縣, (江西) 興國.
 Rising: 45 (四川) 南溪, (湖北) 松滋.
 35 (湖南) 華容, 石門, 藍山白話.
 35² (湖南) 桂東.
 34 (河北) 平山, 建屏, 贊皇, 元氏, (四川) 古藺, 江安, 長寧, 珙縣, 高縣.
 25 (湖北) 監利.
 24 (四川) 眉山, 屏山, 彭山, (雲南) 鳳儀, 麗江, (湖南) 長沙, 湘潭, 寧鄉, 南縣, 新寧, 新化, 安仁.

- 23 (河北) 靈壽, (四川) 青神, (江西) 靖安 (?).
 13 (河北) 獲鹿, (河南) 汲縣, 沁陽, (四川) 鹽亭, (雲南) 劍川, 雲龍,
 (湖北) 鄂城, 漢川 (陳), (湖南) 城步, 衡山, 資興, 靖縣, (江蘇) 新
 海連.
 12 (湖北) 雲夢 (陳), 應城 (陳), 大悟 (陳), 黃陂 (陳).

Falling: 54 (河北) 邯鄲縣.

53 (湖北) 應山 (陳), 漢陽 (陳), (湖南) 東安白話.

43 (內蒙古) 包頭.

43 (河北) 涉縣, 武安.

43² (河北) 崇禮, 涿鹿, 赤城, (內蒙古) 呼和浩特 (歸綏).

42 (雲南) 尋甸, (湖南) 平江, 瀏陽.

32 (河北) 永年, (江西) 銅鼓, 宜春.

32² (河北) 張家口市, 張北, 宣化, 沽源, 龍關, 懷來.

31 (四川) 西昌, (雲南) 洱源, 賓川, 鹽興, 霑益, 曲靖.

31² (河北) 懷安.

21² (河北) 陽原, 康保.

Falling-Rising: 313 (雲南) 鎮康, 陸良.

For the following dialects no phonetic details have been given to corroborate the reported preservation of the D-tone category:

陝西: 延川, 清澗, 靖邊.

安徽: 安慶市, 淮南市, 懷遠, 樅陽, 貴池, 東流, 至德, 蕪湖方村, 銅陵市, 太平, 祁門, 歙縣, 績溪, 宿松, 黟縣.

(短調) 合肥市, 肥東, 肥西, 舒城, 巢縣, 和縣, 含山, 無爲, 廬江, 六安, 霍山, 安遠, 嘉山, 滁縣, 全椒, 來安, 炳輝, 桐城, 蕪湖市, 蕪湖縣, 南陵, 宣城, 馬鞍山, 廣德, 郎溪, 青陽, 繁昌, 當塗, 黟縣, 屯溪.

海南島: 崖縣軍話.

福建: 南平市區, 長樂洋嶼.

VI.5. The Merging of Unsplit D-tone Categories with Other Tone Categories.

In many dialects (some of them Mandarin) spoken in the provinces of Hupeh, Hunan, Szechuan, Yunnan, Kwangsi, and Anhwei, the D-tone category, though unsplit, has merged with another tone category, so that $D = A1$, $D = A2$, $D = B$, $D = C$, or $D = C1$:

(1) D = A1

Level: 55 (四川) 鹽亭, 雅安, 天全, 漢源, 蘆山, 石棉, 名山, 瀘定.

(1) D = A1 (cont.)

Level: 44 (四川) 寶興.

33 (江西) 萍鄉, 峽江.

Rising: 24 (江西) 永新.

(2) D = A2

Level: 22 (湖南) 衡陽, 永順, 永綏, 古丈.

11 (湖南) 保靖, 鳳凰, 乾城, (湖北) 興山, 巴東, 恩施, 宣恩, 來鳳, 利川.

Rising: 35 (湖南) 道縣白話.

14 (湖北) 荊門.

13 (湖北) 京山, 枝山, 宜都, 宜昌, 長陽, (湖南) 宜章文, 桂陽文, 永興, 麻陽, 芷江, 瀘溪, 辰溪 (?).

12 (四川) 酆都.

Falling: 53 (雲南) 箇舊.

52 (湖北) 襄陽.

51 (雲南) 富寧.

42 (雲南) 雙柏, 石屏, 開遠, 蒙自, 文山, 馬關, 西畴, 大理, 華坪, 鎮南, 玉溪, 昆陽, 羅次, 富民, 嵩明, 宜良, 晉寧, 馬龍, 建水, 昭通, 易門, (湖北) 鄖縣, 均縣, 房縣, 南漳, 鍾祥, 棗陽, 隨縣.

(2) D = A2 (cont.)

Falling: 32 (四川) 北川.

31 (雲南) 維西, 永勝, 漾濞, 蒙化, 永善, 大關, 鎮雄, 巧家, 會澤, 武定, 廣通, 瀾滄, 思茅, 寧洱, 墨江, 元江, 河西, 江川, 通海, 彌勒, 屏邊, 蘭坪, 騰衝, 路西, 龍陵, 雙江, 鶴慶, 永平, 昌寧, 順寧, 雲縣, 緬寧, 景谷, 永仁, 鹽豐, 大姚, 元謀, 姚安, 祥雲, 彌渡, 牟定, 楚雄, 景東, 鎮沅, 新平, 峨山, 安寧, 祿豐, 祿勸, 昆明, 呈貢, 澂江, 華寧, 路南, 宣威, 瀘西, 羅平, 師宗, 邱北, 廣南, 隴川, 平彝, (四川) 綿陽, 劍閣, 德陽, 安縣, 旺蒼, 昭化, 青川, 合川, 銅梁, 永川, 酉陽, 彭水, 秀山, 長壽, 墊江, 武隆, 黔江, 開江, 南江, 資中, 南部, 岳池, 營山, 廣安, 蓬安, 武勝, 蒼溪, 申江, 安岳, 蓬

溪, 樂至, 德昌, 會理, 米易, (湖南) 江華文, 藍山文, 臨武文, 嘉禾文, 道縣文, 寧遠, 新田文, 郴縣, 龍山.

- 21 (廣西) 桂林, (四川) 重慶市, 成都市, 廣漢, 金堂, 綿竹, 江油, 梓潼, 羅江, 廣元, 彰明, 平武, 巴縣, 大足, 江北, 璧山, 榮昌, 開縣, 雲陽, 梁平, 巫山, 巫溪, 城口, 奉節, 涪陵, 南川, 渠縣, 宣漢, 巴中, 大竹, 平昌, 通江, 鄰水, 萬源, 資陽, 簡陽, 南充, 儀隴, 遂寧, 三臺, 潼南, 鹽源, 鹽邊, 寧南, 忠縣 (?), 達縣 (?).

(2) D = A2 (cont.)

Falling-

Rising: 313 (湖南) 晃縣.

213 (四川) 萬縣, (湖北) 武昌, 漢口, 漢陽, 江陵.

212 (湖北) 當陽, 秭歸.

(3) D = B2/C

Level: 22 (四川) 冕寧.

Rising: 24 (四川) 自貢市, (雲南) 鹽津, (湖南) 桑植.

14 (四川) 筠縣.

13 (四川) 富順, 隆昌.

Falling-

Rising: 315 (四川) 仁壽.

214 (四川) 榮縣, 威遠.

213 (四川) 井研, 內江.

(4) D = C1

Level: 55 (湖南) 沅江, 益陽, 安化, (江西) 湖口.

22 (湖南) 茶陵 (?).

Rising: 35 (湖南) 湘陰.

VI.6. The Merging of Split D-tone Categories with Other Tone Categories.

In some dialects in the provinces of Hupeh, Hunan, and Kiangsi, there are exceptions to the preservation of the D-tone category as an entity, where D-tone words with Ancient voiced-stop, voiced-affricate, and voiced-fricative initials have the tones of A2, C2, C1, or unsplit C categories:

1. Some D2 = A2:

(湖南) 常寧, 祁陽, 東安文, (湖北) 嘉魚, 漢川, 沔陽, 黃陂, 雲夢, 應城, 應山, 安陸, 天門, 禮山, 孝感.

2. Some D2 = B2/C:

(湖南) 醴陵, 武岡, 酃縣.

3. Some D2 = B2/C2:

(湖南) 安鄉, 桃源, 澧縣, (通北) 通山 (次濁或讀陽上/陽去), 咸寧, 公安, 鶴峯, 石首, 麻城, 黃岡, 廣濟, 黃梅, 蘄春, 黃安, 英山, 羅山, 浠水, (江西) 靖安(?).

4. Some D2 = C1:

(湖南) 攸縣(?), (江西) 大庾.

In the dialect of Ning-tu (寧都) in Kiangsi, some D1 words have the B2/C2 tone.

In the dialect of Ta-yeh (大冶) in Hupeh, some words with Ancient voiced initials and the D tone have the same reflex as words with Ancient voiceless initials and the A tone; B-tone words with Ancient voiced stop, affricate, or fricative initials and C-tone words with voiced initials also have this reflex.

Some words with the Ancient D tone have joined the A2 category tonally in the dialect of Hsiang-hsiang (湘鄉) in Hunan, but, unlike the A2 words, have aspirated initials.

In the dialect of Ju-ch'eng (汝城) in Hunan, some words with Ancient voiceless initials and the D tone have merged with the B1 category (11); others have merged with the C1 category (35). Words with Ancient voiced initials (including laterals, nasals, and j) and the D tone have merged with the C2 category (44), the C1 category (35), and, in rare instances, the B1 category (11).

In some Hunan and Hupeh dialects, there are double developments in the D-tone category (Chart 27). Frequently, there is in one stratum no D-tone split, and the D category has merged with the voiceless-initial subcategory of another tone (A1, B1, or C1); in another stratum there has been a D-tone split, and words with voiced initials have merged with the voiced-initial subcategory of either the A tone or the B/C tone. In four dialects (鄖西, 光化, 竹谿, and 雙峯), however, the unsplit D category appears to have merged with the voiced-initial subcategory of the A tone, a common phenomenon among the dialects of Hupeh, Szech'uan, and Yünnan. In the Hupeh dialects of Yün-hsi (鄖西), Kuang-hua (光化), and Chu-hsi (竹谿), it is the words with voiceless initials which, in another stratum, appear to have branched off, merging with the voiceless-initial subcategory of the A tone:

The Chu-hsi Dialect The Yün-hsi and Kuang-hua Dialects

D (42) [= A2] D (53) [= A2]

(24) [= A1] D1 D2 (42) [= A2] (24) [= A1] D1 D2 (53) [= A2]

Chart 27

Double D-tone Developments in Hunan and Hupeh

- I: Words with Ancient voiceless initials
- II: Words with Ancient lateral, nasal, and j initials
- III: Words with Ancient voiced initials

Province	District	I	II	III
湖南	洞口黃橋	44 (= A1)	44 (= A1) 24 (= C1)	24 (= C1)
湖南	慈利	35 (= A1)	35 (= A1)	35 (= A1) 33 (= B2/C2)
湖南	漢壽	35 (= B2/C)	35 (= B2/C)	35 (= B2/C1) 33 (= A2)
湖南	常德	35 (= B2/C)	35 (= B2/C)	35 (= B2/C) 13 (= A2)
湖南	敘浦 (?)	35 (= C1)	35 (= C1)	35 (= C1) 13 (= A2)
湖南	綏寧	24 (= A1)	24 (= A1) 35 (= A2)	24 (= A1) 35 (= A2)
湖南	會同	24 (= B1)	24 (= B1)	24 (= B1) 35 (= C1)

Chart 27 (cont.)

Province	District	I	II	III
湖北	竹山	34 (= A1)	34 (= A1)	34 (= A1) 323 (= C2)
湖南	臨澧	24 (= C1)	24 (= C1)	24 (= C1) 33 (= B2/C2)
湖北	鄖西, 光化	24 (= A1) 53 (= A2)	24 (= A1) 53 (= A2)	53 (= A2)
湖北	竹谿	24 (= A1) 42 (= A2)	24 (= A1) 42 (= A2)	42 (= A2)
湖南	雙峯	23 (= A2)	23 (= A2) 35 (= C1)	23 (= A2) 35 (= C1)
湖南	通道	13 (= A1)	13 (= A1)	13 (= A1) 35 (= C1)

In some Kiangsi dialects, the subcategory of D-tone words with Ancient voiced initials (including laterals, nasals, and j) has merged with the B2/C2 subcategory; in one dialect, the subcategory of D-tone words with voiceless initials has merged with the corresponding subcategory of A-tone words (Chart 28 [based on Yang 1971, which, however, gives insufficient supporting examples]). In the Yung-ming dialect of Hunan (colloquial pronunciation), where the C2 and B2 reflexes contrast (33 : 24), the D2 subcategory has merged with the C2 subcategory.

From Meng's sketchy and sometimes inconsistent phonological descriptions (1961), the mergings, either complete or partial, of Ancient D-tone words with other tonal categories in the dialects of Anhwei appear to be the following:

- D = A1: 屯溪 (部分字)
- D = A2: 石埭, 寧國
- D = B1: 涇縣, 太平 (部分字)
- D = C: 旌德
- D = C1: 懷寧
- Some D = C1; some D C2: 望江, 太湖, 潛山
- D = C2: 岳西 (部分字), 宿松 (部分字)

Ancient D-tone words are dispersed among other tonal categories in the dialects of 阜陽, 阜南, 潁上, 鳳台, 壽縣, 蒙城, 渦縣, 臨泉, 界首, 太和, 亳縣, 碭山, 宿縣, 靈璧, 濉溪, 泗縣, 蕭縣, 鳳陽, 五河, 蚌埠市, 金寨, 霍邱.

Chart 28

D-tone Developments in Some Dialects of Kiangsi and Hunan

- I: Words with Ancient voiceless initials
 II: Words with Ancient lateral, nasal, and j initials
 III: Words with Ancient voiced initials

District		I	II/III
江西	上猶	44 (D1 = A1)	55 (D2)
	高安	55 (D1)	22 (D2 = B2/C2)
	零都	55 (D1)	42 (D2 = B2/C2)
	鄱陽	55 (D1)	11 (D2 = B2/C2)
	安遠	23 (D1)	55 (D2 = B2/C2)
湖南	永明	55 (D1)	33 (D2 = C2)

VI.7. The Dispersion of the D-tone Category in Some Northern Mandarin Dialects.

In some northern Mandarin dialects, the Ancient stop endings have been lost, there has been a D-tone split, and the D-tone subcategories have merged with subcategories of other tones. Words with Ancient lateral, nasal, and j initials may conform to words with voiceless or voiced initials (Chart 29, A and B). In two instances, words with these initials merge independently (Chart 29, C). The Peking dialect is representative of a group of dialects with a fourway D-tone split: in addition to the separate developments of words with Ancient voiceless, voiced, and lateral/nasal/j initials, there is a further split in the subcategory of words with voiceless initials. This phenomenon appears limited to Shantung, Anhwei, Honan, Hopeh, and Liaoning. (The complicated developments of the Peking dialect have been discussed by various scholars. See, in particular, R.A.D. Forrest, The ju-sheng tone in Pekinese, *Bulletin of the School of Oriental and*

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Chart 29

The Dispersion of the D-tone Category in Some Northern Mandarin Dialects

I: Words with Ancient voiceless initials

II: Words with Ancient lateral, nasal, and j initials

III: Words with Ancient voiced initials

Province	District	I	II	III
A.				
陝西	西安	21 (= A1)	21 (= A1)	24 (= A2)
河南	靈寶	31 (= A1)	31 (= A1)	35 (= A2)
江蘇	徐州, 邳縣	313 (= A1)	313 (= A1)	55 (= A2)
江蘇	阜陽	212 (= A1)	212 (= A1)	35 (= A2)
B.				
江西	樂平	55 (= A2)	24 (= B1)	24 (= B1)
C.				
山東	濟南	213 (= A1)	31 (= B2/C)	42 (= A2)
山東	安丘	24 (= A1)	31 (= B2/C)	53 (= A2)

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趙元任等, 湖北方言調查報告, 1948

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1. 孝感，安陸，雲夢，應山，大悟，應城，黃陂，漢陽，漢川

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長沙，湘潭，寧鄉，益陽，安化，桃源，慈利，臨澧，澧縣，安鄉，漢壽，沅江，南縣，華容，湘陰，岳陽，臨湘，平江，瀏陽，醴陵，黔陽，會同，綏寧，城步，通道，新寧，武岡，敘浦，新化，邵陽，祁陽，湘鄉，衡山，攸縣，茶陵，汝城，衡陽，常寧，寧遠，嘉禾，藍山，耒陽，安仁，永興，郴縣，常德，龍山，酃縣，桂東，資興，桂陽，新田，臨武，宜章，東安，零陵，道縣，永明，江華，石門，桑植，大庸，永順，保靖，永綏，古文，沅陵，鳳凰，瀘溪，芷江，靖縣，晃縣，麻陽，乾城，辰溪。

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唐作藩，湖南洞口縣黃橋鎮方言，語言學論叢 4.83-133, 1960 (T'ang, 1960).

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14. 浙江 (Chekiang)

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20. 嘉興, 21. 吳興雙林, 22. 杭州, 23. 紹興, 24. 諸暨王家井, 25. 嵊縣崇仁鎮, 26. 嵊縣太平市, 27. 餘姚, 28. 甯波, 29. 黃巖, 30. 溫州, 31. 衢州, 32. 金華, 33. 永康.

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6. 海鹽通圓 (Hai-yen T'ung-yüan)

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8. 義烏 (Yi-wu)

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將樂, 順昌, 三明縣; 3. 長汀, 寧化, 清流, 連城, 武平, 上杭, 永定 (官話) 南平市區, 長樂洋嶼.

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4. 仙游 (Hsien-yeu)
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