The Grey Area Between Mandarin and Wu Dialects: A Report on the Preliminary Mandarin-Wu Classification Survey

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This past summer I initiated a study of dialects on the border between the Jiang-Hwai Mandarin (江 淮 官 話) and Wu groups in southern Jiangsu 江 蘇 and northern Jehjiang 浙 江 .[1] One goal of this summer's work was to locate dialects that challenge a list of criteria I am developing to distinguish these two groups. If such dialects can be identified, they will provide a test for the criteria and thus help determine where and how the criteria should be refined and strengthened. This report reviews a trial survey of several dialects that I conducted using the criteria.[2]

Collectively, the criteria I used are successful in distinguishing the two dialect types. The preliminary conclusion based on the survey results is that several dialects on the true geographical edge of the Mandarin-Wu border--among which Nantong 南 通 and Danyang 丹 陽 are especially notable--strongly challenge the criteria in the way they evidence a mix of Mandarin and Wu traits; while a dialect long considered to show a mix of Mandarin and Wu features--Harngjou 杭 州 , represented in this report by the mountain tea-growing village of Uengjiashan 翁 家 山 where the Harngjou dialect is also

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spoken--adheres completely to the Mandarin type in all the criteria.

The primary criteria usually cited in determining whether or not a dialect belongs to the Wu group in the region I am studying is the presence or absence of a tripartite distinction in obstruent initials. If a dialect shows such a three-way distinction, and its set of voiced initials correspond to the voiced initial categories of Middle Chinese, that dialect is considered to be a Wu dialect. The classificatory criteria I used in the present survey leave this yardstick aside as unworkable because it is not based on clearly demonstrable distinctions.

If we look for how the Middle Chinese three-way contrast in obstruent-initials is reflected in true phonological distinctions, we find it usually most concretely manifested in tonal divisions, where distinctions between tone categories parallel the distinction between voiced and voiceless Middle Chinese initials. Yet this is true in both Mandarin as well as Wu dialects: In Wu dialects, the "voiced" obstruent initials--which are often not truly voiced at all in northern Wu dialects, but rather are articulated with a breathy murmur that is initiated after the onset of the initial--are in syllables with lower register tones and the voiceless initials are in syllables with upper register tones. Hence in the dialects I am surveying, it is impossible to find examples of minimal pairs that differ only in voicing in the initial. There is always a tonal distinction as well.

In Mandarin the distinction is most commonly preserved in the split *pyng* 平 tone, and in the evidence of a separate *yangshanq* (or *yangshaang*) 陽 上 category, now merged with *chiuh* 去 and distinct from the *inshanq* (or *inshaang*) 陰 上 in northern dialects. The distinction is preserved for all tone categories in some Jiang-Hwai Mandarin dialects. Nantong, for instance, has a complete set and lacks only the phonetic quality of low-pitched breathy murmur in its lower register tones to leave it sounding like a Wu dialect in this regard.

Furthermore, this three-way distinction in obstruent initials that has heretofore been considered the hallmark of Wu dialect affiliation--at minimum a necessary feature and generally often even considered a sufficient feature to mark a dialect as Wu--may turn out to be merely an areal phenomenon, a phonetic feature of certain tone categories heard in dialects of the Wu region. The compass points this way when we consider that the three-way distinction does not even exist in at least one dialect that is usually given the Wu label. Leu Shushiang (1993) and Tsay Gwoluh (1994), in two recent studies of the Danyang dialect, both reveal that Danyang has no voiced set of obstruent initials and thus lacks a tripartite division in any initial set. By what criteria, then, can this dialect be labeled Wu? My survey this summer was an initial attempt to find the answer to that question for Danyang as well as other dialects.

Leaving the presence or absence of a set of voiced obstruent initials aside as a means of evaluation, the criteria I used in the preliminary survey were designed to determine whether a dialect contains demonstrable distinctions that are more consistent with Wu patterns and out of sync with Mandarin norms, or vice

versa. They are outlined below.[3] Many of the criteria also distinguish southern dialects in general from Mandarin dialects. But, as the primary goal of the survey was to distinguish between Wu and Mandarin at the boundary of these two dialect groups, and not necessarily to distinguish Wu from other southern dialects, this does not handicap my efforts.

    1) In Wu dialects, a nasal initial /n/ will be found in a set of words (the so-called rih 日 initial words) where Mandarin has non-nasal initials such as /Ø/ (zero initial) or /z/, for example in the words for 'person, meat, hot, soft', and of course generally also where Mandarin has /n/ (or /l/), as in 'ox '. Table 1 illustrates with examples from the Nanjing 南京 and Shanqhae 上海 dialects.[4]

Table 1	Mandarin: Nanjing	Wu: Shanqhae
hot soft meat person	ʐə?7 ʐuᾱ3 ʐəu5 ʐəŋ2	ɳiɪ?8 ɳyø6 ɳio?8 ɳin6
ox	liəɯ2	ɳiɤ6

    As Wu dialects have no contrast comparable to the distinction between /Ø/ or /z/ and /n/ in Mandarin, the value of the initial in words of the set including 'person, meat, hot, soft' is diagnostically sufficient for this criterion.

    2) In Wu dialects, nasal initial /m/ will be found in a set of words (the so-called wei 微 initial words) where Mandarin has non-nasal initials /Ø/ or /v/, for example 'mosquito', and of course generally also where Mandarin has /m/, as

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[3] I originally considered the first two of the criteria at the suggestion of Professor Jerry Norman in early discussions I had with him on questions related to the history of the Harngjou dialect. My thinking with regard to the third criterion was augmented in e-mail discussions with Mr. Keith Dede. Some of criteria are also discussed in Simmons 1995.

[4] The dialect data used in these and the following examples is from Sheu, et al. 1988 for Shanqhae, and Jiangsu sheeng her Shanqhae shyh fangyan gaykuanq for Nanjing. In many of the examples, only the relevant comparable morphemes are given. Dialect transcriptions follow the original sources, except that tones are identified by subscript numbers which identify the traditional tonal categories as follows: 1 for in-pyng, 2 for yang-pyng, 3 for in-shanq, 4 for yang-shanq, 5 for in-chiuh, 6 for yang-chiuh, 7 for in-ruh, and 8 for yang-ruh.

in 'gate'. Table 2 illustrates.

Table 2	Mandarin: Nanjing	Wu: Shanqhae
mosquito	uəŋ2	mən6
gate	məŋ2	mən6

Again, as Wu dialects have no contrast comparable to the distinction between /Ø/ or /v/ and /m/ in Mandarin, the initial in words of the set including 'mosquito' is diagnostically sufficient for this criterion also.

3) Wu dialects will show a nasal initial, usually /ng/ or /n/, in *all* of the comparable forms in words from the set 'tooth, eye, five', and 'fish' and this initial will contrast with the, usually, zero initial /Ø/ found in a set including 'vomit'. Mandarin dialects will usually either show a zero initial in all these words, or the set including 'vomit' will have /ng/ initial; but in the latter case the initials /Ø/ and /ng/ are in complementary distribution and are never followed by the same, non-contrasting, medial or main vowel. (The Wu pattern is sometimes described as showing a contrast between initials in the Middle Chinese categories yii 以 and yiing 影 .) This criterion is illustrated in Table 3. Here we see that /Ø/ and /ng/ contrast in Shanqhae but not in the Mandarin dialect of Changli 昌 黎 , where /ng/ does not occur before high vowels.[5]

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[5] Changli data is from Changli fangyan jyh. For an early discussion of the significance of the initials /ng/ and /Ø/ in classifying Mandarin, see Stimpson, 1966.

Table 3	Mandarin:		Wu: Shanqhae
	Nanjing	Changli	
tooth	iɑ2	ia2ᵃ	ŋʌ6
eye	iē3	ian3	ŋɛ6
five	u3	u3	ꬶ6
fish	y2	y2ᵃ	ꬶ6
lotus root	əɯ3	ŋou3	ŋɤ6
river bank	ā5	ŋan5	ŋø6
vomit	əɯ3	ŋou3	ɤ5
dark	ā5	ŋan5	ø5
shadow	iŋ3	iŋ3	in5

While the distribution of initials /ng/ and /∅/ in some Mandarin dialects puts initial /ng/ in sets of words including 'tooth' and 'eye', I have so far found no cases where a Mandarin dialect has /ng/ in 'five' and 'fish'. Hence the latter two words are sufficient for diagnostic purposes.

4) A set of comparable words belonging to the contrasting rhymes /a/ and /æ/ in Wu dialects, will all belong to the rhyme /ai/ in Mandarin. Table 4 illustrates.[6]

Table 4	Mandarin: Nanjing	Wu: Shanqhae
vegetable	tsʻɐe5	tsʻɛ5
cheek	sɐe1	sɛ1
the surname 'Tsay'	tsʻɐe5	tsʻʌ5
to sift	ʂɐe1	sʌ1

5) A set of words in the Mandarin rhyme /an/ are reflected by words with finals having contrasting main vowels in Wu. This situation is illustrated well by

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[6] In terms of so-called Middle Chinese--or Chiehyunn 切 韻 --categories, the rhymes hai/tay 哈 / 泰 [Shieh.kai.I 蟹 開 一], Wu rhyme /æ/, will be distinct from jia/gay 佳 [Shieh.kai.II 蟹 開 二], Wu rhyme /a/. Note the surname 'Tsay' 蔡 *irregularly* belongs to the latter Wu rhyme.

the Yangjou 揚 州 and Shanqhae dialects in Table 5.[7]

Table 5	Mandarin: Yangjou	Wu: Shanqhae
look liver	kʻǣ5 kǣ1	kʻø5 kø1
room barilla	kǣ1/tɕiǣ1 tɕiǣ3	kɛ1 kɛ5

Note that while some Mandarin dialects find these words in the contrasting finals /an/ and /ian/, the distinction is marked by a medial /i/ and both finals still have the same *main vowel*--the contrast is not one of a rounded close (often back) vowel, versus an unrounded open (often fronted) vowel as seen in Wu.[8]

6) A sets of words in the Mandarin rhymes /eng/ (and /en/, which shares the same main vowel and merged with /eng/ in some Southern Mandarin dialects) are also reflected by words with finals having contrasting main vowels in Wu. Tabiɜ 6 illustrates this Wu distinction.

Table 6	Mandarin: Nanjing	Wu: Shanqhae
raw pit	səŋ1 kʻəŋ1	sā1 kʻā1
level willing	tsʻəŋ1 kʻəŋ3	zən6 kʻən5

7) In Wu, the word for 'hit' is in the same rhyme with the word 'cold', and 'cold' does not rhyme with 'wait'; but in Mandarin, 'cold' and 'wait' rhyme, while

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[7] Yangjou data is also from Jiangsu sheeng her Shanqhae shyh fangyan gaykuanq. Professor Jerry Norman (1995) notes the contrast illustrated here is found after all types of initials in Wu and after *all but* velar initials in many Jiang-Hwai Mandarin dialects, while the contrast is not seen in any environment in other Mandarin dialects. For example, to 'dress for a role' contrasts with 'half' in Yangjou /pǣ5/ versus /pɔ5/, and Shanqhae /pɛ5/ versus /pø5/, but not in Nanjing /pā5/ and /pā5/.

[8] This and the following (#6) are based in part on ideas about vocalization across dialects proposed by Professor Jerry Norman (1995).

'hit' rhymes with neither. See Table 7.

Table 7	Mandarin: Nanjing	Wu: Shanqhae
hit	tɑ3	tā5
cold	ləŋ3	lā6
wait	təŋ3	tən5

The Wu split between 'hit'/'cold' and 'wait' corresponds to criterion #6 above and also reflects the way these words are represented in the Goangyunn 廣 韻 (published in 1008)--the former two are both in the rhyme geeng 梗 the latter in deeng 等 . In Mandarin, 'hit' does not correspond to its Goangyunn counterpart; if it did all three words should rhyme in Mandarin. Thus criterion #7 is both lexically and phonologically based.

8) In Wu, there is a set of words, represented here by 'tea' and 'horse', with a close rounded back vowel /o/ where Mandarin has an open unrounded /a/. The Wu dialects usually also have a low final /a/ (as seen in criterion #4 above) which contrasts with this final /o/ in words where the corresponding Mandarin final /ai/ phonemically has the same, non-contrasting, main vowel (low /a/) as that found in the 'tea/horse' set. Table 8 illustrates.

Table 8	Mandarin: Changli	Wu: Shanqhae
tea horse	ts'ɑ2[a] mɑ3	zo6 mo6
the surname 'Tsay' to sift	ts'ai5 sai1	ts'ʌ5 sʌ1

9) This is an experimental criterion and is in need of refinement. It is sometimes noted that in the typical Wu dialect, the word for 'water' has an apical vowel; yet I found very few examples of that in the Wu dialects that I surveyed this summer. Instead it appears that, while the vowel in this word *is* usually high and often apical, the key pattern is that the Wu colloquial words for 'water', 'to blow', 'pig', and 'rat', will all belong to the same rhyme, while the Mandarin

counterparts belong to different rhymes. Table 9 illustrates.[9]

Table 9	Mandarin:		Wu:	
	Yangjou	Shanqhae	Sujou	Charngjou
water to blow	suəi3 ts'uəil	sɿ5 ts'ɿ1	sʮ3 ts'ʮl	sʮ3 ts'ʮl
pig rat	tsul ts'u3	tsɿl ts'ɿ3	tsʮl ts'ʮ3	tsʮl ts'ʮ3

This appears to be an unstable rhyme in Wu, though the phenomenon is only seen in the Wu dialects of the region. For the present survey, then, a single match in rhyme between one member of the set 'water'/'to blow' and one member of the set 'pig'/'rat' marks a dialect as following the Wu type in this criterion.

10) Finally, there is a set of words for which no truly comparable words (or cognates) are found between Wu and Mandarin dialects. These include the negative, which in Wu dialects is some form of /feq/, with a labiodental initial, and in Mandarin buh or /peq/, with a bilabial initial. Other examples, would include the 3rd person pronoun, which is quite varied in Wu dialects, but usually ta in Mandarin, and the attributive, which generally has a velar initial (as /keq/) in Wu, while the Mandarin is .de or /teq/, with a dental initial.[10]

Table 10	Mandarin:	Wu:	
	Changli	Shanqhae	Sujou
negative attributive 3rd pers. pron.	pu6 ti0 t'al	və?8 gə?8 ɦi6	fə?7 gə?8/kə?7 li1/ŋ6nɛ6

For the purposes of the present survey, I consider a match of two out of three sufficient to mark a dialect as adhering to Wu or Mandarin lexical patterns in this criterion.

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[9] Sujou 蘇州 and Charngjou 常州 data is from Jiangsu sheeng her Shanqhae shyh fangyan gaykuanq.

[10] Sujou data is from Yeh Shyangling 1988.

Table 11

Keys* ⇨	#1 +n -r [i]	#2 +m -v/Ø [i]	#3 +n -Ø [i]	#4 +a +ɛ [f]	#5 +uõ +ɛ [f]	#6 +en +ã [f]	#7 +ã -eŋ [f]	#8 +o -a [f]	#9 +ŋ -ui [f]	#10 +k +f [l]
Dialects** ⇩	person meat hot soft	mosquito	five fish	sift gill	look room	tier raw	hit wait cold	tea pony	aqua =pig	neg 's she
Hae'an	-	-	-	-	+	-	-	-	-?	-
Syhyang	-	-	-	-	-	-	-	-	-?	-
Uengjiashan	-	-	-	-	-	-	-	-	-	-
Jennjiang	-	-	-	-	-	-	-	-	-	-
Nantong	-	-	-	-a!	+	-ã!	-	+	-	-
Dantwu	-/+1	-	+/-	-	+	-	-	+	-?	-
Danyang 1	+	+	+	-	+	-		+	+	+
Danyang 2	+	+	+	+	+	-	-	+	-?	+
Danyang 3	+	+	+	+	+	-	-	+	+	-
Danyang 4	-1/+	+	+	+	+	-	-	+	-	-
Jintarn	+	+	+	+	+	-		+	+	+
Shuangpairsr	+/m1	b	-/+	-	-	+	-	-	-	-
Gaochwen	+/m1	b	-/+	-	-	+	-	-	-?	-
Chiidong	+	+	+	+	+	+	+	+	+?	+
Hwujou	+	+	+	+	-	+	+	+	+	+
Anchi	+	+	+	+	+	+	+	+	-	+
Jiangjiatarŋ	+	+	+	+	+	+	+	+	-	+
Liushiah	+	+	+	+	+	+	+	-ua!	-?	+
Shiaoshan	+	+	+	+ŋ!	+	+	+	+	+	+

Table 11 summarizes the results of a short questionnaire designed around the above criteria and used to characterize close to twenty dialects of the Wu-Mandarin border region. Of the dialects listed on Table 11, Hae'an 海安, Syhyang 泗陽, Jennjiang 鎮江, Nantong 南通, Dantwu 丹徒, the Danyang 丹陽 dialects, Jintarn 金壇, Shuangpairshyr 雙牌石 (listed as "Shuangpairsr"), Gaochwen 高淳, and Chiidong 啓東 are in Jiangsu, while Uengjiashan 翁家山, Hwujou 湖州, Anchi 安溪, Jiangjiatarng 姜家壇, Liushiah 留下, and Shiaoshan 蕭山, are in Jehjiang. Danyang 1 is the city proper; Danyang 2, 3, & 4 are the nearby villages of Mayshi 麥溪, Heryang 河陽, & Pyicharng 埤

城 , respectively.[11]

On Table 11, key forms representative of the criteria which belong to the Wu type are indicated by a plus, which also identifies correspondence to the Wu norm in the dialect rows; in the same way a minus indicates correspondence with the Mandarin type. Where a key has two Wu forms listed, that indicates a rhyme division not found in Mandarin. Keys based on initials are indicated by [i]; those based on finals are denoted by [f]; and [l] indicates a lexical criteria. A "1" (one) means there is only one example of this type. Unusual forms are noted with an exclamation point [!]. Correspondence to the key forms in dialect equivalents for the English words given in the key row were the basis--the only basis--for the assignment of plus or minus in each dialect row. Supporting data is listed in Appendix 1. All data is based on my own field notes, taken in Summer 1995.

On the basis of the words listed under "Keys" in Table 11 as well a number of others representative of the same criteria, the Table 11 list of dialects falls into three distinct groups: Those that adhere wholly to the Mandarin norms, those that adhere wholly to the Wu norms, and those that show a mix of Mandarin and Wu features. Surprisingly, Harngjou (represented here by Uengjiashan, as noted earlier), a dialect that has long been considered to show a mix of Mandarin and Wu features, did not fall into the latter group, though a number of other dialects did.

Those dialects that do show a mix of features, fall on the true geographic boundary between Wu and Mandarin. Two lean toward Mandarin in their mix of features: Nantong and Dantwu; five lean toward Wu in their mix: the Danyang and Jintarn dialects; and two, Shuangpairshyr and Gaochwen, reveal features that are neither Wu nor Mandarin and form a subgroup which has a mix of characteristics that differs from that in the other dialects. These eight dialects represent a grey area between Mandarin and Wu types, while at the same time sitting geographically between the Mandarin and Wu regions.

Note that our Harngjou representative, Uengjiashan, is clearly Mandarin by these criteria. This reveals that the single feature by which this dialect is classified as Wu--its own murmured set of initials--is simply a phonetic coloring that has developed in the dialect, or been retained in the dialect, as a result of its isolation deep in Wu territory. It is a Mandarin dialect located far away from the true Mandarin-Wu border and does not show the kind of typological blending found in the real borderline dialects. At the same time, the Wu dialects near Harngjou covered in this survey also do not show borderline tendencies. They are all clearly and strongly Wu dialects: Anchi, Jiangjiatarng, and Liushiah.

The special historical position that Harngjou held as the capital of the southern Sonq 宋 (1127-1279) is responsible for creating this Mandarin island way

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[11] Further identification of the sites and their representative informants is provided in Appendix 2.

down in the Wu region, an island which is sharply differentiated from even closely surrounding dialects. The fact that its roots are in the historical Kaifeng 開封 area well north of the Wu-Mandarin boundary explains why it does not show same kind of borderline mix of features seen in dialects that evolved--were born and raised, so to speak--at the crossroads of two dialect groups. As such, what appears similar to Wu in Harngjou is actually the fossilized categories of an earlier form of Mandarin.

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Appendix 1: The Data

This Appendix list the data underlying the forms represented in Table 11. The data is transcribed in phonetic symbols. In the transcriptions for all the dialects, tone is indicated by category, numbered according to correspondence with traditional Chinese tone categories as follows: 1 in-pyng, 2 yang-pyng, 3 in-shanq (or alternatively 'in-shaang'), 4 yang-shanq (or alternatively 'yang-shaang'), 5 in-chiuh, 6 yang-chiuh, 7 in-ruh, and 8 yang-ruh.; 0 (zero) indicates unstressed syllables that have no identifiable tone contour.

(#1)

'person'

Hae'an:	../rən2/
Syhyang:	../ren2/
Uengjiashan:	../zən2/
Jennjiang:	../lən2/
Nantong:	../iɛ̃2/
Dantwu:	../rən2/
Danyang1:	../niŋ1/
Danyang2:	../n̥iŋ2/
Danyang3:	../nin1/
Danyang4:	../iɛŋ1/
Jintarn:	../n̥iŋ6/
Shuangpairshyr:	../n̥ĩ2/
Gaochwen:	../n̥iŋ2/
Chiidong:	../n̥in2/
Hwujou:	../n̥in2/
Anchi:	../n̥ĩ2/
Jiangjiatarng:	../n̥ɦiŋ2/
Liushiah:	../nɦiŋ2/
Shiaushan:	../n̥in2/

'meat'

Hae'an:../rɔʔ7/
Syhyang:../rou5/
Uengjiashan:../zoʔ8/
Jennjiang:../lɔʔ7/ or /ləɯ5/
Nantong:../yoʔ8/
Dantwu:../ioʔ8/
Danyang1:../ɳioʔ8/
Danyang2:../ɳioʔ8/
Danyang3:../niɔʔ8/
Danyang4:../ɳioʔ7/
Jintarn:../ɳioʔ8/
Shuangpairshyr:../miəʔ8/
Gaochwen:../miəʔ8/
Chiidong:../ɳioʔ8/
Hwujou:../ɳioʔ8/
Anchi:../ɳioʔ8/
Jiangjiatarng:../ɳioʔ8/
Liushiah:../ɳioʔ8/
Shiaushan:../ɳioʔ8/

'hot'

Hae'an:../riɿʔ7/
Syhyang:../ieʔ7/
Uengjiashan:../zɥəʔ8/
Jennjiang:../iɿʔ7/
Nantong:../iʔ8/
Dantwu:../iuʔ8/
Danyang1:../nɿʔ8/
Danyang2:../ɳiɿʔ8/
Danyang3:../niʔ8/
Danyang4:../nɿʔ7/
Jintarn:../ɳiəʔ8/
Shuangpairshyr:../ɳiəʔ8/
Gaochwen:../ɳiəʔ8/ᷰ
Chiidong:../nieʔ8/
Hwujou:../ɳieʔ8/
Anchi:../nieʔ8/
Jiangjiatarng:../ɳɲieʔ8/
Liushiah:../ɳieʔ8/
Shiaushan:../ɳieʔ8/

'soft'

Hae'an:. /rɔ̄3/
Syhyang:. /ruē3/
Uengjiashan:. /zɥɔ̄3/
Jennjiang:. /lɔ̄3/
Nantong:. /ȳ3/
Dantwu:. /nuan3/
Danyang1:. /nɤ2/
Danyang2:. /ȵio2/
Danyang3:. /ȵiɔ̄2/
Danyang4:. /niu2/
Jintarn:. /ȵy4/
Shuangpairshyr:. /ȵy1/
Gaochwen:. /ȵɤ1/
Chiidong:. /ȵɛ4/
Hwujou:. /ȵiē3/   {tone 4?}
Anchi:. /ȵiē3/
Jiangjiatarng:. /ȵie3/
Liushiah:. /ȵyɔ̄3/
Shiaushan:. /nəŋ6/

(#2)

'mosquito'

Hae'an:. /vən2tsɿ0/
Syhyang:. /oŋ2tsəʔ7/
Uengjiashan:. /vən2tsɿ3/
Jennjiang:. /uən2tsɿ0/
Nantong:. /vɛ̃2tsɿ0/
Dantwu:. /vən2tsɿ0/
Danyang1:. /mɛŋ2təʔ0/
Danyang2:. /mən2tsɿ0/
Danyang3:. /mɛn2tsəʔ0/
Danyang4:. /mən2tseʔ0/
Jintarn:. /mən6tsɿ0/
Shuangpairshyr:. /bɛ̃2tsəʔ/
Gaochwen:. /bəŋ2tsəʔ/
Chiidong:. /mən2tsɿ0/
Hwujou:. /mən2tsɿ3/
Anchi:. /men2tsɿ0/
Jiangjiatarng:. /mɦən2tsɿ0/
Liushiah:. /mɦən2tsɿ0/
Shiaushan:. /miŋ2tsɦoŋ0/

(#3)

'five'

Hae'an:. /vu2/ {tone 2 shape}
Syhyang:. /ou3/
Uengjiashan:. /ɷ3/
Jennjiang:. /o5/
Nantong:. /ʊu3/
Dantwu:. /ŋ̩3/
Danyang1:. /ŋ̩3/
Danyang2:. /ŋ̩3/
Danyang3:. /ɧ̩2/
Danyang4:. /ŋ̩2/
Jintarn:. /ŋ̩3/
Shuangpairshyr:. /vu1/
Gaochwen:. /vu1/
Chiidong:. /ŋ̩4/
Hwujou:. /ɧ̩4/ {tone 3?}
Anchi:. /ɧ̩3/
Jiangjiatarng:. /ŋ̩3/
Liushiah:. /ŋ̩3/
Shiaushan:. /ŋ̩6/

'fish'

Hae'an:. /rɿ2/ {tone 2 shape}
Syhyang:. /iɤ2/
Uengjiashan:. /y2/
Jennjiang:. /y2/
Nantong:. /tʃ‍ʮ2/
Dantwu:. /y1/
Danyang1:. /n̠ʮ1/
Danyang2:. /n̠ʮ1/
Danyang3:. /n̠ʮ1/
Danyang4:. /ny1/
Jintarn:. /ʐʮ6/
Shuangpairshyr:. /nu2/
Gaochwen:. /ŋ̩2/
Chiidong:. /ŋei2/
Hwujou:. /ŋ2/
Anchi:. /ɧ̩2/
Jiangjiatarng:. /ŋ̩2/
Liushiah:. /ŋ̩2/
Shiaushan:. /ŋ̩2/

'to sift'

$$Hae'an: ./s\varepsilon lts_1 0/ \quad \{noun\}$$
Syhyang:./ʂεe1/
Uengjiashan:./sεlɚ2/
Jennjiang:./sε1/
Nantong:./sa1/
Dantwu:./sε1/
Danyang1:./sɑ1/
Danyang2:./sa1/
Danyang3:./sɑ1/
Danyang4:./saltse?0/ {noun}
Jintarn:./sa1/
Shuangpairshyr:./sε1/
Gaochwen:./sε1/
Chiidong:./salts₁0/ {noun}
Hwujou:./sa1/
Anchi:./sa1/
Jiangjiatarng:./sa1/
Liushiah:./salts₁0/ {noun}
Shiaushan:./s₁1/

'gills'

Hae'an:./sε1/
Syhyang:./sεe1/
Uengjiashan:./y2sε1ɚr2/
Jennjiang:./sε1/
Nantong:./sa1/
Dantwu:./y1sε1/
Danyang1:./sa1/ or /sɑ1/
Danyang2:./sε1/
Danyang3:./nɥ2sæ0/
Danyang4:./ny2sæl1/
Jintarn:./y6sε0/
Shuangpairshyr:./sε1/
Gaochwen:./sε1/
Chiidong:./sε1/
Hwujou:./sei1pε0/
Anchi:./ŋ2kə?7sε1/
Jiangjiatarng:./ŋ2kə?7sε1/
Liushiah:./ŋ2kə?7sε1/
Shiaushan:./tɕie?7se1/

(#5)

'to look at'

Hae'an:../k'ū5/
Syhyang:../k'an5/
Uengjiashan:../k'ǣ5/
Jennjiang:../k'ɛ̃5/
Nantong:../k'ō5/
Dantwu:../k'õ5/
Danyang1:../k'ɤn2/
Danyang2:../k'un5/
Danyang3:../k'ɤŋ5/
Danyang4:../k'u1/
Jintarn:../k'ɤ1/
Shuangpairshyr:../k'ɯi5/
Gaochwen:../k'ɤi5/
Chiidong:../k'ø1/ {tone 1 shape}
Hwujou:../k'ɛ5/
Anchi:../k'ɤ5/
Jiangjiatarng:../k'uo5/
Liushiah:../k'uo5/
Shiaushan:../k'iɛ5/

measure for 'room'

Hae'an:../kɛ1/
Syhyang:../tɕiɛ̃1/
Uengjiashan:../fā2kǣ1/ ('room')
Jennjiang:../kɛ̃1/ or /tɕiɛ̃1/
Nantong:../kā1/
Dantwu:../kɛ̃1/
Danyang1:../ka1/
Danyang2:../kɛ1/
Danyang3:../kæ1/
Danyang4:../kæ1/
Jintarn:../kæ1/
Shuangpairshyr:../kiɛ̃1/
Gaochwen:../tɕie1/
Chiidong:../kɛ1/
Hwujou:../kɛ1/
Anchi:../kɛ1/
Jiangjiatarng:../kɛ1/
Liushiah:../kɛ1/
Shiaushan:../ke1/

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'level, layer' ('tier')
<div style="text-align:right">

Hae'an:../ts'ən2/

Syhyang:../ts'en2/

Uengjiashan:../tsɦən2/

Jennjiang:../ts'ən2/

Nantong:../ts'ɛ2/

Dantwu:../ts'ən1/

Danyang1:../tsɛŋ2/

Danyang2:../ts'eɪŋ2/

Danyang3:../sɛŋ2/

Danyang4:../ts'ən2/

Jintarn:../tsən4/ {tone 4 shape}

Shuangpairshyr:../sɛn2/

Gaochwen:../zeŋ2/

Chiidong:../tsɦən2/

Hwujou:../tsɦəŋ2/

Anchi:../tsɦẽ2/

Jiangjiatarng:../tsɦoŋ2/

Liushiah:../tsɦən2/

Shiaushan:../zɦən2/

</div>

'raw'
<div style="text-align:right">

Hae'an:../sən1/

Syhyang:../ʂen1/

Uengjiashan:../sən1/

Jennjiang:../sən1/

Nantong:../sɛ1/

Dantwu:../sən1/

Danyang1:../ɕie1/

Danyang2:../seɪŋ1/

Danyang3:../sɛŋ2/

Danyang4:../sən1/

Jintarn:../sən1/

Shuangpairshyr:../svi1/

Gaochwen:../ɕy1/

Chiidong:../sɑ1/

Hwujou:../sã1/

Anchi:../sã1/

Jiangjiatarng:../sãŋ1/

Liushiah:../sã1/

Shiaushan:../sã1/

</div>

(#7)

<u>'to hit'</u>

$$
\begin{aligned}
&\text{Hae'an:../ta3/}\\
&\text{Syhyang:../ta3/}\\
&\text{Uengjiashan:../ta3/}\\
&\text{Jennjiang:../ta3/}\\
&\text{Nantong:../tɑ3/}\\
&\text{Dantwu:../ta3/}\\
&\text{Danyang1:../tɑ3/}\\
&\text{Danyang2:../ta2/}\\
&\text{Danyang3:../tɑ3/}\\
&\text{Danyang4:../ta2/}\\
&\text{Jintarn:../ta3/}\\
&\text{Shuangpairshyr:../ta3/}\\
&\text{Gaochwen:../ta3/}\\
&\text{Chiidong:../tan3/}\\
&\text{Hwujou:../tā3/}\\
&\text{Anchi:../tā3/}\\
&\text{Jiangjiatarng:../tā3/}\\
&\text{Liushiah:../tā3/}\\
&\text{Shiaushan:../tā3/}
\end{aligned}
$$

<u>'to wait'</u>

$$
\begin{aligned}
&\text{Hae'an:../təŋ2/ \{tone 2 shape\}}\\
&\text{Syhyang:../tən3/}\\
&\text{Uengjiashan:../tən3/}\\
&\text{Jennjiang:../tən3/}\\
&\text{Nantong:../tɛ3/}\\
&\text{Dantwu:../tən3/}\\
&\text{Danyang1:../tɛŋ3/}\\
&\text{Danyang2:../teɪŋ2/}\\
&\text{Danyang3:../tɛŋ3/}\\
&\text{Danyang4:../tən3/}\\
&\text{Jintarn:../təŋ3/}\\
&\text{Shuangpairshyr:../tā3/}\\
&\text{Gaochwen:../təŋ3/}\\
&\text{Chiidong:../tən3/}\\
&\text{Hwujou:../tən3/}\\
&\text{Anchi:../ten3/}\\
&\text{Jiangjiatarng:../tən3/}\\
&\textit{Liushiah:../tən3/}\\
&\textit{Shiaushan:../tən3/}
\end{aligned}
$$

'cold'

Hae'an:.	/ləŋ2/	{tone 2 shape}
Syhyang:.	/lən3/	
Uengjiashan:.	/lən3/	
Jennjiang:.	/lən3/	
Nantong:.	/lɛ̃3/	
Dantwu:.	/lən3/	
Danyang1:.	/lɛŋ2/	
Danyang2:.	/leɪŋ2/	
Danyang3:.	/lɛŋ2/	
Danyang4:.	/lən2/	
Jintarn:.	/ləŋ4/	
Shuangpairshyr:.	/nə̃1/	
Gaochwen:.	/nəŋ1/	
Chiidong:.	/lan3/	
Hwujou:.	/lã3/	
Anchi:.	/lã3/	
Jiangjiatarng:.	/lã3/	
Liushiah:.	/lã3/	
Shiaushan:.	/lã3/	

(#8)

'tea'

Hae'an:.	/tsʻa2i0/	('tea leaves')
Syhyang:.	/tʂʻa2/	
Uengjiashan:.	/zɦa2/	
Jennjiang:.	/tsʻa2/	{& 'hot water'}
Nantong:.	/tsʻo2/	
Dantwu:.	/tsuo2/	
Danyang1:.	/tsɷ2/	
Danyang2:.	/tsu2/	
Danyang3:.	/tsu2/	
Danyang4:.	/tsu2/	
Jintarn:.	/tsɦuo4/	{tone 4 shape}
Shuangpairshyr:.	/za2/	
Gaochwen:.	/za2/	
Chiidong:.	/tsuo2/	
Hwujou:.	/tsɦo2/	
Anchi:.	/zɦuo2/	
Jiangjiatarng:.	/zɦuo2/	
Liushiah:.	/tsɦua2/	
Shiaushan:.	/tsɦo2/	

'horse' ('pony')

$$
\begin{aligned}
&\text{Hae'an:./ma2/} \quad \{\text{tone 2 shape}\}\\
&\text{Syhyang:./ma3/}\\
&\text{Uengjiashan:./ma3/}\\
&\text{Jennjiang:./ma3/}\\
&\text{Nantong:./mo3/}\\
&\text{Dantwu:./muo3/}\\
&\text{Danyang1:./mɷ2/}\\
&\text{Danyang2:./mu2/}\\
&\text{Danyang3:./mu2/}\\
&\text{Danyang4:./mu2/}\\
&\text{Jintarn:./muo3/} \quad \{\text{tone 3 shape}\}\\
&\text{Shuangpairshyr:./ma1/}\\
&\text{Gaochwen:./ma1/}\\
&\text{Chiidong:./muo2/} \quad \{\text{tone 2 shape}\}\\
&\text{Hwujou:./mu3/}\\
&\text{Anchi:./muo3/}\\
&\text{Jiangjiatarng:./muo3/}\\
&\text{Liushiah:./mua3/}\\
&\text{Shiaushan:./mo3/} \quad \{\text{tone uncertain}\}
\end{aligned}
$$

(#9)

'water' ('aqua') [final] = [final in] 'pig' (or other as indicated)

[Note: Data for this criterion was collected incorrectly and is incomplete for some dialects.]

Hae'an:./ʂ ɥ i3/ ≠ ?
Syhyang:./ʂuei3/ ≠ ?
Uengjiashan:./sɥei3/ ≠ /tsɥ1/
Jennjiang:./suɹ3/≠ /tsu1/
Nantong:./ɕye3/ ≠ /tsu1/
Dantwu:./suei3/ ≠ ?
Danyang1:./suɯ3/ = /tsɯ1/
Danyang2:./sɥei3/ ≠ ?
Danyang3:./ʃɤ3/ = /tʃɤ1/
Danyang4:./ʃui3/ ≠ /tɕy1/
Jintarn:./sɥ3/ = /tsɥ1/
Shuangpairshyr:./sui3/ ≠ /tsɥ1/
Gaochwen:./sui3/ ≠ ?
Chiidong:./se3/ ≠ ?
Hwujou:./ts'ŋ1/ 'to blow' = /tsŋ1/
Anchi:./sɛ3/ ≠ /tsŋ1/
Jiangjiatarng:./sɛ3/ ≠ /tsŋ1/

Liushiah:./sɛ3/ ≠ ?
Shiaushan:./s̩3/ = /ts̩1/

(#10)

the negative, attributive ('s), and 3rd person pronoun ('her')
Hae'an:./pə?7/, /tie?7/, /t'al/
Syhyang:./pə?7/, /tie?7/, /t'al/
Uengjiashan:./pə?7/, /tiɪ?7/, /t'al/
Jennjiang:./pə?7/, /tiɪ?7/, /t'al/
Nantong:./pə?7/, /ti?7/ or /kə?0/, /t'ol/
Dantwu:./pə?7/, /tɪ?7/, /t'al/
Danyang1:./fə?7/, /kɛ?0/, /t'ɑl/
Danyang2:./fə?7/, /tiI?7/ or /kɪ?7/, /t'al/
Danyang3:./pə?7/, /kɛ?7/, /t'ɑl/
Danyang4:./pə?7/, /tiɪ?7/ or /tsə?7/, /t'al/
Jintarn:./və?8/, /ka?0/, /t'a3/ {tone 3 shape}
Shuangpairshyr:./pə?7/, /tsə?7/, /t'al/ or /tal/
Gaochwen:./pə?7/, /tsə?7/, /t'al/
Chiidong:./fə?/, /kə?7/, ?
Hwujou:./fə?7/, /kɲə?8/, /tʐɲɪ2/
Anchi:./fə?7/, /ko?7/, /i2/
Jiangjiatarng:./fə?7/, /ko?7/, /ilnɔl/
Liushiah:./fə?7/, /kə?7/, /il/
Shiaushan:./fə?7/, /ko?7/, /i2/

Appendix 2: The Informants and Sites

The informants and a brief identification of the sites covered in the survey are listed below in alphabetical order by site name.

Anchi: Fang Jyhhwa 方 志 華 , age 55 (Chinese) in 8/95, grew up and lived in Anchi all his life; he was interviewed in Anchi 8/95. Anchi is near the archeological site of Liangjuu 良 渚 about 30 kilometers northwest of Harngjou.

Chiidong (Hueypyng 惠 萍): Sha Jiinshian 沙 錦 先 , age about 60 in 7/95, grew up in Chiidong, and often returns to visit; he was interviewed in Nanjing 7/95. Hueypyng is north of the Yangtze across from Chorngming island about 80 kilometers southeast of Nantong.

Dantwu (Jiannbih 諫 壁): Jang Jinfa 張 金 發 , age 46 in 7/95, grew up in the village of Jiannbih; he was interviewed in Nanjing 7/95. Jiannbih is about 15 kilometers east of Jennjiang on the southern banks of the Yangtze.

Danyang 1 (the city proper): Yang Mawlin 楊 茂 林 , age 63 in 7/95 grew up and lived in Danyang all his life; he was interviewed in Danyang 7/95. Danyang is about 80 kilometers west of Nanjing and 30 kilometers south of Jennjiang.

Danyang 2 (Mayshi): Jaw Shin 趙 新 , age around 55 in 7/95, grew up and lived in Mayshi until age 20-30 in a farming peasant family; he was interviewed in Nanjing 7/95. Mayshi is approximately 10 kilometers south of Danyang.

Danyang 3 (Heryang): Wu Donggoou 吳 冬 者 , age 55 in 7/95, grew up and lived in Heryang all his life: he was interviewed in Danyang 7/95. Heryang is approximately 10 kilometers north of Danyang.

Danyang 4 (Pyicherng): Wang Songlin 王 松 林 , age 62 in 7/95, grew up in Pyicherng and spent his professional years outside the village but has returned to the village in retirement; he was interviewed in Danyang 7/95. Pyicherng approximately 20 kilometers northwest of Danyang.

Gaochwen: Shyy Shuangyuan 史 雙 元 , age 41 in 7/95, grew up and lived in Gaochwen until age 25; he was interviewed in Nanjing 7/95. Gaochwen is approximately 110 kilometers due south of Nanjing.

Hae'an (Chiutarng 曲 塘): Guo Wenlai 郭 文 來 , age 46 in 7/95, grew up in Chiutarng, and lived there until age 35; he was interviewed in Nanjing 7/95. Chiutarng is about 80 kilometers northwest of Nantong.

Hwujou: Taor Tzuuder 陶 祖 德 , age 80 in 8/95, grew up and lived in Hwujou all her life, only moving to Harngjou to live with her daughter in 1995; she was interviewed in Harngjou 8/95. Hwujou is 80 kilometers due north of Harngjou on the southern shore of Lake Tay 太 湖 .

Jennjiang: Dar Yeuanyih 笪 遠 毅 , age 50 in 7/95, grew up and lives in Jennjiang; he was interviewed in Jennjiang in 7/95. Jennjiang is about 75 kilometers east of Nanjing on the southern bank of the Yangtze.

Jiangjiatarng: Goan Ayju 管 愛 珠 and her granddaughter Jenq Chyun-ing 鄭 群 英 , ages 82 and 26 (Chinese) in 8/95, both grew up and lived in Jiangjiatarng all their lives; they were interviewed at their home in Jiangjiatarng 8/95. Jiangjiatarng is a small community on the northern industrial outskirts of Harngjou.

Jintarn: Tsaur Jennpyng 曹 震 平 , age 60 in 7/95, grew up in Jintarn and often returns to visit her family (which has lived in Jintarn for generations); she was interviewed in Nanjing 7/95. Jintarn is about 85 kilometers southwest of Nanjing and 55 kilometers south of Jennjiang.

Liushaih: Juang Cheauling 庄 巧 玲 , age 73 in 8/95, grew up in and lived in Liushiah all her life; she was interviewed at her home in Liushiah 8/95. Liushaih is 8 kilometers west of Harngjou.

Nantong: Ding Shuhlin 丁 樹 林 , age 60 in 7/95, grew up in Nantong and continues to speak Nantong dialect at every opportunity; he was interviewed in Nanjing 7/95. Nantong is on the north bank of the Yangtze approximately 80 kilometers northwest of Shanqhae.

Shiaushan: Jou Meeijen 周 美 貞 and her daughter Lin Yannlai 林 雁 來 , age 79 (Chinese) and 47 (actual) in 8/95, both grew up in and lived in Shiaushan all their lives; they were interviewed in Shiaushan 8/95. Shiaushan is about 20 kilometers south of Harngjou across the Chyantarng River.

Shuangpairshyr: Yu Xiangshunn 俞 香 順 , age 24 in 7/95, was born and raised in Shuangpairshyr; he was interviewed in Nanjing 7/95. Shuangpairshyr is approximately 100 kilometers due south of Nanjing.

Syhyang: Liang Shuhkuan 梁 恕 寬 , age 22 in 8/95, grew up in and lived in Syhyang until early 1995; he was interviewed at his danwey in Harngjou 8/95. Syhyang is about 40 kilometers northwest of Hwai-in 淮 陰 in north-central Jiangsu.

Uengjiashan: Jang Her'ing 張 荷 英 , age 74 in 8/95, grew up in and lived in Uengjiashan all her life; she was interviewed at her teashop in Uengjiashan 8/95. Uengjiashan is in the hills across West Lake 西 湖 a few kilometers west of Harngjou city proper .