The Southern Dialects of Shan-Xi: a 'Qu-centrality' Mode of Ru-sheng Transitions Deduced from Diachronic Information Surfacing in Contemporary Data

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ABSTRACT

The main issue addressed in this paper on the southern sub-group of Shan-Xi Mandarin dialects lies with an identification of a 'Qu-centrality' mode of Ru-sheng transitions. Also put under scrutiny is a high-falling pitch 53, its shifting between the tonal categories of Shang and Qu in the great majority of the 101 dialects of Shan-Xi as well as its prominent presence at the junction of most cases of border disputes between tones. This paper makes use of two studies, Hou *et al.* 1986 (field work started in 1957) and Hou *et al.* 1993 (field work started in 1986) which often contain differently described pitch values and differently classified tonal categories for the same dialects. Such inconsistencies are viewed as reflecting changes in progression, in this way, historical perspectives have been discerned from synchronic data that are separated by a space of 2 to 3 decades. Thus, this study is a methodological attempt to handle differently reported information on the same dialects with a view to exploring historical information from synchronic data.

Key Words: Tone, Phonology, Dialectology

0. Foreword

The tonal distributions of those word families that contained both Ru-sheng and non-Ru-sheng characters in the *Qieyun-Guangyun* system have earlier on been examined (Chen 1992) with a view to finding the routes of Ru-sheng transitions taking place before the time of Middle Chinese. Tonal changes between Middle Chinese and Modern Peking have also been studied (Chen 1988, 1991a,

1991b, 1994a, 1994b, 1995, 1996a, 1996b, 1997a, 1997b). The conclusion was that before the time of Middle Chinese, Ru-sheng generally changed into Qu, regardless of the types of syllable initials, with possible subsequent progressions on to Ping or Shang. Hence, a 'Qu-centrality mode' for the Ru-sheng transitions before the time of Middle Chinese has been postulated. It was toward the end of Middle Chinese, largely through an analogical mechanism, that Ru began to change into Yang-Ping or Shang direct, without passing through Qu.

Under comparison, the two synchronic studies of the southern sub-group of Shan-Xi dialects yield diachronic perspectives that exhibit a similar 'Qu-centrality' mode of Ru-sheng transitions.

The Mandarin dialects in the province of Shan-Xi have been extensively investigated over a long period of time starting from 1957, by professors and college students in Shan-Xi as well as from Peking University and the results have been published in Hou and Wen 1986. In the 1993 report by Hou and Wen (ed., p.7), the 101 dialects investigated have been classified into 6 sub-groups according mainly to their tonal systems. Such a large number of dialects of the same type, Northwestern Mandarin, and spoken in localities within a reasonably contained area constitute a good corpus for historical and comparative studies. The present investigation on the modes of Ru-sheng transitions in the 24 dialects of the southern sub-group has started from a scrutiny of an interesting phenomenon in the tonal systems of a large majority of the 101 dialects.

Among the 101 dialects, 88 (87.1%) have a high-falling pitch with a value of 53 (sometimes, 51, 52, 43, and even 31) appearing either as Shang or Qu. Table 1 presents the statistics on the distributions of this falling pitch between Shang and Qu in these dialects. A total of 29.5 dialects have the 53 pitch appearing in Shang and 58.5 dialects have it appearing in Qu. (5 dialects have this falling pitch for both Shang and Qu, either merging into one or with fuzzy borders; hence the '.5', decimal figures.) Given the geographical proximity of these dialects (Figure 1), such shifting of a pitch between the two tonal categories of Shang and Qu is a strong indication of a close relationship. While studying the modes of the Ru-sheng transitions for these dialects, this paper also attempts to identify a possible direction in the shifting of this high-falling pitch between Shang and Qu. And if identifiable, such a direction may in turn shed lights on a fuller picture of tonal developments in these dialects.

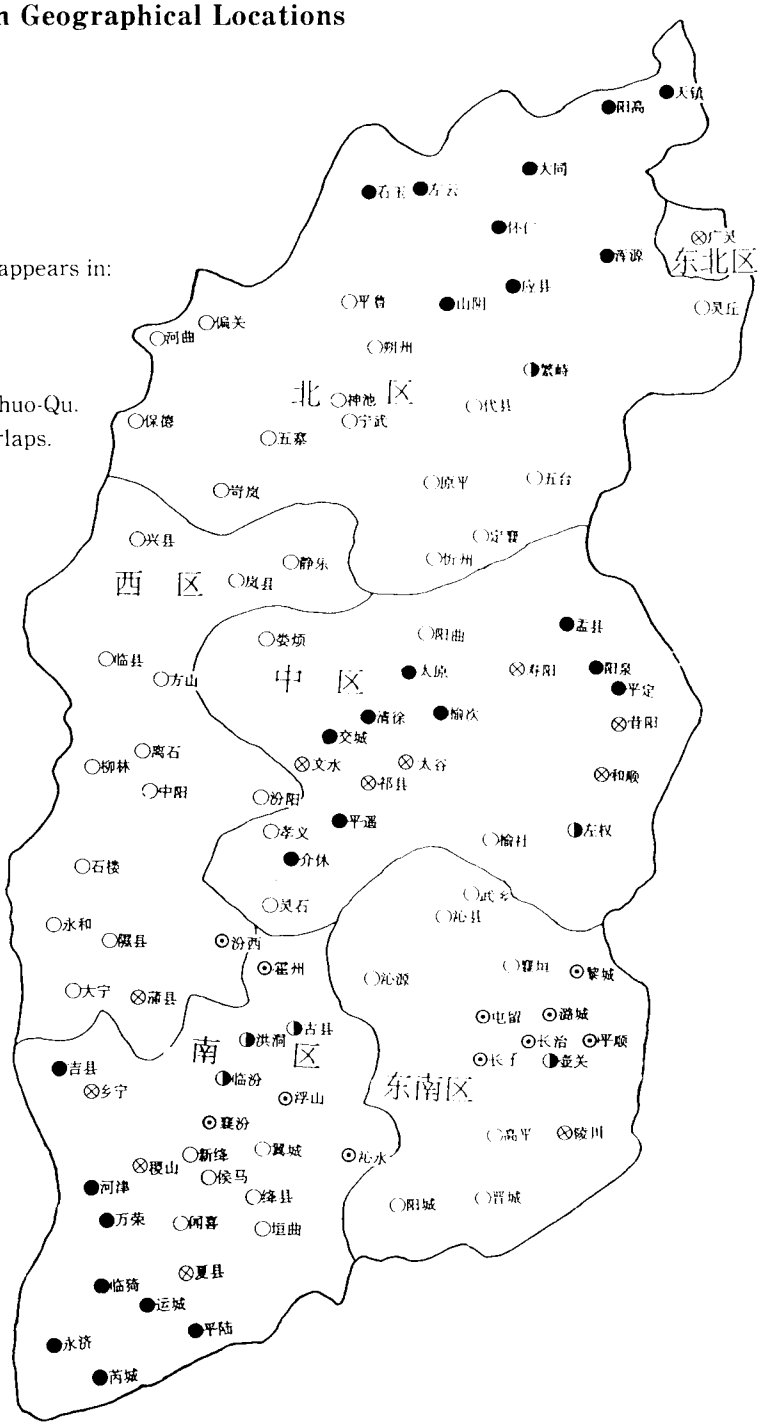
Table 1. Falling Pitch 53 Appearing as Shang or Qu in the Shan-Xi Mandarin Dialects

Sub-group	Total No. of Dialects	Pich 53 in Shang or Qu: Shang or Qu	Pich 53 in Shang or Qu: No. of Dialects	Total No. of Dialects involving Shang or Qu	Pitch 53: Proportions between Shang and Qu	Pitch Shape If Not 53
Northern	25	Shang	10	25	Shang - 10 40.0%	Shang : F-R
		Qu	15		Qu - 15 60.0%	Qu : R
North-eastern	1	None	1	0		Shang : L
						Qu : R
Central	21	Shang	9	14	Shang - 95 67.9%	Shang : F-R
		Qu	4		Qu - 45 32.1%	Qu : R
		Both	1			
		None	7			
Western	15	Qu	14	14	Qu 14 100%	Shang : F-R
		None	1			Qu : L
South-eastern	15	Qu	13	14	Shang 0.5 3.6%	Shang : F-R
		Both	1		Qu - 13.5 96.4%	Qu : L
		None				
Southern	24	Shang	8	21	Shang - 9.5 45.2%	Shang : L
		Qu	10		Qu 11.5 54.8%	Qu : L
		Both	3			
		None	3			
Total				88	Shang 29.5 33.5%	
					Qu - 58.5 66.5%	
	101	Shang :	27	26.7%		
		Qu :	56	55.5%		
		Both :	5	4.9%		
		None :	13	12.9%		

Figure 1. Distributions of the High-Falling Pitch 53 between the Shang and Qu Categories in the Mandarin Dialects of Shan-Xi in Geographical Locations

The falling pitch appears in:

●: Shang tone.
○: Qu tone.
⊙: Quing-Qu or Zhuo-Qu.
◑: Shang-Qu overlaps.
⊗: Neither.



1. Materials, Method and Focus

1.1. Materials

The sources of data for this study are: (1) a book entitled *Shan-Xi Fangyan Diaocha Yanjiu Baogao* edited by Hou and Wen (1993; hereafter, the 1993 report) and (2) an article *Shan-Xi Fangyan de Fenqu* by Hou, Wen and Tian (1986; hereafter, the 1986 report). (While the 1986 report lists 104 dialects classified into 7 groups, the 1993 report lists 101 dialects classified into 6 groups. This paper follows the classification of the 1993 report.) The two sources contain considerable differences in both their descriptions of the pitch values and their categorizations of the tones.

As stated in its preface, the work in the 1993 report is the results of a project carried out between 1986 and 1990. Apparently, either new investigations or extensive revisions had been carried out in that period of time. As mentioned above, the 1986 report was based on investigations that began in 1957. In the three decades between the Fifties and the Eighties, the use of Standard Mandarin, the Putonghua, must have become more and more prevalent in these areas. These dialects most probably have also been moving closer to Standard Mandarin, as many other dialects do. It follows that where these dialects differ from Standard Mandarin, the differences are archaisms rather than innovations. On the other hand, between the 1932 system of Biaozhun Guoyin and the 1963 Revision, a total of 206 characters have moved towards Yin-Ping (AB → B: 107; A → B: 73; A → AB: 26; Chen 1988, statistics revised) in Peking Mandarin. Such are officially recognized changes. Hence, within a period of two to three decades, these dialects too could have undergone extensive tonal changes.

1.2. Method

This study compares the summary charts of the tonal systems of the respective dialects. Often different pitch values are recorded for the same tones. Examples are listed in Table 2; many of them are found to be recurrent in various dialects. These pairs of different pitch values for the same tones were selected only when the two reports show the same tonal classifications for the respective dialects; in other words, when no fuzzy borderlines were involved. An understanding of the possible ranges of difference in the two descriptions is a prerequisite for the utilization and comparison of the two reports.

Some of the disparate pairs listed are particularly common, appearing in

Table 2. Examples of Different Pitch Values Recorded for the Same Tones in the Two Reports in the Cases of Identical and Clear-cut Borderlines

a. both level —	11:22, 11:44, 22:33, 22:55, 33:44, 33:55, 44:55
b. both rising —	12:24, 13:24, 13:34, 13:35, 23:24, 24:35, 35:45, 13:113, 35:335
c. both falling —	21:31, 31:32, 31:41, 31:42, 31:51, 31:53, 42:43, 42:53, 51:52, 51:53, 52:53, 53:54
d. both falling-rising —	212:213, 212:214, 212:313, 212:324, 213:214, 213:325, 213:545, 312:313, 312:412, 312:424, 312:424, 312:535, 313:323, 313:423, 313:424, 323:423, 314:535, 324:325, 423:424, 534:535
e. both rising-falling —	131:343
f. level : rising —	11:23, 33:24, 44:13, 44:24, 44:35, 55:35, 55:45, 44:334
g. level : falling —	11:21, 11:31, 22:21, 33:31, 44:43, 55:31, 55:53, 55:54
h. level : falling-rising —	11:213, 22:213, 33:323, 33:423, 44:535
i. rising : falling —	24:43, 45:53
j. rising : falling-rising —	12:214, 13:212, 13:213, 13:325, 24:213, 24:424, 35:353, 35:424, 113:213
k. falling : falling-rising —	21:213, 24:213, 31:212, 31:213, 31:312, 31:313, 34:212, 41:212, 43:523

large numbers of dialects (e.g., 13:24, 51:53, 52:53, etc.). In such cases, the differences involved are of little theoretical significance, as they may be reflecting merely the different voice qualities of the informants or different judgments of the investigators, etc.

On the other hand, the differences in the categorization of tones in the two reports may well be indications of changes in progress. In other words, the inconsistent tonal borderlines between the two reports are exhibitions of on-going transitions. They may be attributed to the different age groups of informants employed; hence, fuzzy borders owing to the old and the new pronunciations. Or they may be attributed to the investigators' arbitrary categorizations when faced with large amounts of irregularities; hence, fuzzy borders owing to different classifications. Moreover, the 1993 report occasionally gives descriptions of additional tonal systems within the same dialect (e.g., the systems for the outskirts). It is in those cases that the different pitch values may reveal the routings as well as the chronology of the tonal developments in these dialects.

1.3. Focus the Southern Sub-group

Among the six sub-groups, only the 24 dialects of the Southern group and the sole member of the Northeastern group do not contain Ru-sheng; they are the most advanced in terms of Ru-sheng evolution. In the Southern sub-group, MC Ru-sheng has merged completely into other tones yet differently across the dialects; hence, there are sufficient time depths as well as phonological variations to make comparisons. On the other hand, in that northeastern dialect, the 53 pitch appears in Yin-Ping (together with MC Qing-Ru) rather than in Shang or Qu, hence, it has been excluded from the present study for the time being. This investigation on the distributions of the high-falling pitch between the Shang and Qu categories will thus focus on the data of the Southern sub-group.

It has to be pointed out that while the disparate pairs of pitch values in Table 2 were selected from descriptions of the 101 dialects in the two reports, this paper discusses only the tonal readings of the 24 dialects of the Southern sub-group. Table 3a presents the pitch values and the tonal classifications of these dialects. This table is basically the summary charts of the six sub-groups given in the 1993 report. The pitch values and tonal borders shown in the 1986 report, whenever different, are given in italic forms. When there is no difference between the two reports, only one pitch value is given.

The 24 dialects of the Southern sub-group under study share the following characteristics:

Table 3a. Pitch Values of the Tones in the Southern Dialects of Shan-Xi as Described in the Two Reports

Dialect	Middle Chinese Categories								
	Ping 平		Shang 上		Qu 去		Ru 入		
	Qing 清	Zhuo 濁	Qing & Ci-Zhuo 清、次濁	Quan-Zhuo 全濁	Zhuo 濁	Qing 清	Qing 清	Ci-Zhuo 次濁	Quan-Zhuo 全濁
1. 運城	31	13 *24*	53		33 *44*		31		13 *24*
2. 芮城	31	13	53		44		31		13
3. 永濟	21 *31*	23 *13*	42 *53*		33 *55*		21 *31*		24 *13*
4. 平陸	31 *31*	13	53		33		41 *31*		13
5. 臨猗	31	24 *13*	53		44		31		24 *13*
6. 萬榮	51 *31*	24 *23*	55 *53*		33 *44*		51 *31*		24 *23*
7. 河津	31	213	53		33 *44*		31		213
8. 鄉寧	53 *31*	214 *12*	55		11 *44*		53 *31*		214 *12*
9. 吉縣	423 *313*	13 *24*	53		33 *33*		423 *313*		13 *24*
10. 侯馬	213 *13*		44		51	53	21		213 *13*
11. 沁水	31	13	44 *55*	53		31 *33*	53 *31*		13
12. 夏縣	31 *53*	11 *21*	35 *44*		33		31 *53*	33	11 *21*
13. 聞喜	31	213 *11*	45 *44*	213/51 *11*		53	51 *31*		213 *11*
14. 垣曲	31 *53*	212 *31*	44 *33*			53			212 *31*
15. 稷山	31	24 *12*	55			33 *43*			24 *12*
16. 新絳	53 *52*	325 *13*	44			31 *52*			325 *13*
17. 絳縣	21 *53*	13	44 *535*		53	53	31		13
18. 襄汾	21	213 *24*	33	51 *53*		55	412 *21*		213 *24*
19. 臨汾	21 *22*	13 *24*	51	53	55	55	21/55 *22*		13 *24*
20. 翼城	31	13 *213*	55 *44*	51	53	21	31		13 *213*
21. 浮山	31 *21*	24	33 *22*	51 *53*		34 *44*	31 *21*		24
22. 古縣	21 *11*	13		41 *53*		13	21 *53*		13
23. 洪洞	21	24 *13*	42	53		33	21		24 *13*
24. 霍州	213 *22*	35	33 *31*	51 *53*		55 *44*	213 *22*		35

Given on top are the readings presented in the 1993 report; the readings presented in the 1986 report, whenever different, are given below in italic forms.

1. MC Ru-sheng has merged completely into other tones, final stops have become obsolete.
2. Yang-Ping (together with MC Quan-Zhuo Ru) usually has a rising pitch.
3. Yin-Ping (together with MC Qing-Ru and Ci-Zhuo Ru) usually has a falling pitch. If there is a Qu or Shang that also carries a falling pitch (and if Qu does not overlap with Yin-Ping), Qu or Shang is a high-falling pitch and Yin-Ping, a low-falling pitch.
4. Largely speaking, the high-falling pitch 53 (or 51, 42, 43) appears either as Shang or Qu in these dialects. A level pitch, usually realized as 44 or 33 and sometimes 55, also appears either as Shang or Qu. With a few exceptions, when this high-falling pitch represents Shang, the level pitch represents Qu; and vice versa.

In this study, the terms 'Qing Ru', 'Ci-Zhuo Ru' and 'Quan-Zhuo Ru' refer to MC Ru reflexes carrying modern non-Ru tones; they are different from 'Yin-Ru' and 'Yang-Ru', which refer to MC Ru that remain as separate categories in other modern dialects. Similarly, Qing Qu, Zhuo Qu, etc. refer to classifications in MC; they are generic terms without reference to whether or not such MC categories surface as separate tones in the modern dialects. On other hand, terms like Yin-Qu and Yang-Qu, etc. refer to categories in the modern dialects.

As an overall classification, the Shang-Qu pitch patterns of the 24 dialects can be divided into four types. A summary is given below: (Qu may have one or two pitches depending on the dialect; hence, the difference between F-L and F-FL, etc.)

Type	Shang-Qu	Dialects
A (F-L)	F-L:	1, 2, 3, 4, 5, 6, 7, 9
B (F-F)	F-FL:	23, 19 (similar pitch values for Shang and Zhuo Qu)
	F-FR:	22 (F-F: same pitch for Shang and Zhuo Qu)
C (L-L)	L-L:	8, 12, 15
D (L-F)	L-FL:	21, 24, 18, 11
	L-FF:	20, 13, 10
	L-F:	17, 16, 14

Table 3b presents a rearrangement of the 24 dialects according to the distributions of the high-falling pitch in the Shang and Qu. For easy reference, the

Table 3b. Southern Dialects of Shan-Xi Arranged in Respect to Shang-Qu Pitch Patterns with Fuzzy Borderlines Indicated by Shading

Shang-Qu (Zhuo-Qu, Qing-Qu) Pitches		Dialect	Middle Chinese Categories								
			Ping 平		Shang 上	Qu 去		Ru 入		
			Qing 清	Zhuo 濁	Qing & Ci-Zhuo 清、次濁	Quan-Zhuo 全濁	Zhuo 濁	Qing 清	Qing 清	Ci-Zhuo 次濁	Quan-Zhuo 全濁
A	F-L	1. 運城	31	13 *24*	53	33 *44*		31			13 *24*
		2. 芮城	31	13	53	44		31			13
		3. 永濟	21 *31*	24 *13*	42 *53*	33 *55*		21 *31*			24 *13*
		4. 平陸	41 *31*	13	53	33		41 *31*			13
		5. 臨猗	31	24 *13*	53	44		31			24 *13*
		6. 萬榮	51 *31*	24 *23*	55 *53*	33 *44*		51 *31*			24 *23*
		7. 河津	31	213	53	33 *44*		31			213
		9. 吉縣	423 *313*	13 *24*	53	33		423 *313*			13 *24*
B	F-FL	23. 洪洞	21	24 *13*	**42**	**53**	33	21			24 *13*
	F-FL R	19. 臨汾	**21** *22*	13 *24*	**51**	**55** *53/51*	*55/13*	**21/55** *22*			13 *24*
	F-FR	22. 古縣	**21** *11*	13		**41** *53*	13	**21** *53*			13
C	L-L	8. 鄉寧	53 *31*	214 *12*	55	11 *44*		53 *31*			214 *12*
		12. 夏縣	**31** *53*	11 *21*	35 *44*	**33**		**31**	**33**		11 *21*
		15. 稷山	31	24 *12*	55	**33** *43*					24 *12*
D	L-FL	21. 浮山	31 *21*	24	33 *22*	51 *53*	34 *44*	31 *21*			24
		24. 霍州	213 *22*	35	33 *31*	51 *53*	55 *44*	213 *22*			35
		18. 襄汾	**21**	213 *24*	33	51 *53*	**412**				213 *24*
		11. 沁水	**31**	13	44 *55*	**53**	**31** *33*	**53** *31*			13
	L-FF	20. 翼城	**31***	13 *213*	55 *44*	**51** *53*	**21***	**31**			13 *213*
		13. 聞喜	**31**	**213** *11*	45 *44*	**213/51** *11*	**51** *53*	*31*			**213** *11*
		10. 吳焦	213 *13*		44	**51**	**21** *53*				213 *13*
	L-F	17. 絳縣	**31** *53*	13	44 *535*	**53** *53*	**31**				13
		16. 新絳	**53** *52*	325 *13*	44	**31** *52*					325 *13*
		14. 垣曲	**31** *53*	212 *31*	44 *53*	**53**					212 *31*

Given on top are the readings presented in the 1993 report; the readings presented in the 1986 report, whenever different, are given below in italic forms. *See Table 4 for details.

serial numbers of the dialects as given in the 1993 report are retained in Table 3b (and Tables 4 and 5) as well as in the ensuing discussions.

2. Tonal Overlaps in Some Dialects of the Southern Sub-group — the Diffusion of the 53 Pitch from Qu toward Shang and Yin-Ping

Among the four types of Shang-Qu pitch patterns, the 8 dialects of Type A (F-L) exhibit no apparent overlapping between various tonal categories. Dialects of the other three types will be compared with regard to tonal overlaps, either with clear or fuzzy borderlines.

Table 4 presents the tonal overlaps with fuzzy borderlines in dialects of Types B (F-F), C (L-L), and D (L-F), respectively. Discussions on the tonal overlaps within each dialect are given in the individual tables. Dialects that exhibit no fuzzy borderlines between their tones are not included here.

3. A Time Spectrum for the 24 Dialects by the Antiquity Coefficients — Qu Drifting Away from the Falling Pitch

A scrutiny of the tonal distributions in the dialects with fuzzy borders between certain tones, as given in Table 4, reveals a direction for the shift of the high-falling pitch as from Qu to Shang. A probe into the time depths of the dialects of various pitch patterns will help to determine the relative chronology of developments from the Qu tones in these dialects. To define the time depths of these 24 dialects, a feature analysis is presented in Table 5. In this table, features that are considered ancient are to be marked as positive in a binary +/− choice. Eight features have been identified as relevant for comparison:

1) There are overlapping readings between Qu and Shang: 3-6 dialects (nos. 19, 22, 23; 8?, 15? 17?).
2) There are overlapping readings between Qu and Yang-Ping: 3 dialects (no. 13, 19, 22).
3) There are overlapping readings between Qu and MC Qing-Ru, Ci-Zhuo Ru: 12 dialects.
4) There is only one pitch shared by Qu and MC Qing-Ru, Ci-Zhuo Ru: 5 dialects ('+' for three; '±' for two; '±' referring to the different information given in the two reports).

Table 4. Overlapping with Fuzzy Borderines between Tonal Categories in the Southern Dialects of Shan-Xi (P. 1/4)

Shang-Qu (Zhuo-, Qing-) Pitches	Dialect	Middle Chinese Categories								
		Ping 平		Shang 上		Qu 去		Ru 入		
								Ru-1		Ru-2
		Qing 清	Zhuo 濁	Qing & Ci-Zhuo 清、次濁	Quan-Zhuo 全濁	Zhuo 濁	Qing 清	Qing 清	Ci-Zhuo 次濁	Quan-Zhuo 全濁
F-FL	23. 洪洞	21	24 *13*	**42***	**53***		33	21		24 *13*

* The distinction between 42 and 53 could have been existing only in the investigaors' mind: (1) Pitch values are too close to make a phonemic difference; (2) A three-tier falling pitch scheme (21, 42, 53) is typologically unlikely. In reference to 古縣 (No. 22) where Shang and Qu share the same high falling pitch, the 42 value for Shang here appears to be either an over-differentiate or a recent split.

F-FL	19 臨汾	City	**21** ***22***	13 *24*	51	**55** ***53***	**55**	**21 (partially Qu)***		13 *24*
		Country-A				***51***	*55*	(Also partially Qu?)		
		Country-B				*55*	***13***			

* "MC Ru-1 surfaces as Yin-Ping (more) and Qu (less)" (1993, p. 680).
The Qu-tone is migrating out of the falling pitch 53 51; Shang and Qu are at an early stage of split.
Reading in Country-A exhibit the same pitch 51 for Qing-Shang and Zhuo-Qu; readings in Country-B exhibit the same pitch 13 for Qing-Qu, Yang-Ping and Ru-2 (Cf. Dialect 13, 閻良).

F-FL	22. 古縣	**21** ***11***	13	**41** ***53***	13	**21** ***53***	13

Possible routing:

Ru-1 → Yang-Qu (41)
Ru-1 → Yang-Qu (53)
Ru-1 → Yin-Ping (21)

Table 4. Overlapping with Fuzzy Borderines between Tonal Categories in the Southern Dialects of Shan-Xi (P. 2/4)

Shang-Qu (Zhuo-, Qing-) Pitches	Dialect	Middle Chinese Categories: Ping 平 Qing 清	Ping 平 Zhuo 濁	Shang 上 Qing & Ci-Zhuo 清、次濁	Shang 上 Quan-Zhuo 全濁	Qu 去 Zhuo 濁	Qu 去 Qing 清	Ru 入 Ru-1 Qing 清	Ru 入 Ru-1 Ci-Zhuo 次濁	Ru 入 Ru-2 Quan-Zhuo 全濁
L-L	12. 安縣	**31** ***53***	11 *21*	35 *44*	**33**			**31** ***53***	**33** *	11 *21*

* The pitch values of Shang and Qu in the 1986 reports, 44 and 33, may be indications of a recent split. (This also applies to Dialect 8 in Table 3b.)

Possible routing:

Ru-1 → Qu (33)
Ru-1 → Qu (53)
Ru-1 → Yin-Ping (31)

Justification, Cf. Dialect 15 慢縣：

	15. 慢縣	31	24 *12*	55	**33** *43*					24 *12*

L-FL	18. 襄汾	**21**	213 *24*	33	53	**412**				213 *24*
						55	***21***			

Possible routing:

Ru-1 → Yin-Qu (412)
Ru-1 → Yin-Qu (55)
Ru-1 → Yin-Ping (21)

Some of the Yin-Qu forms are merging into Yin-Ping.

L-FF	11. 沁水	**31**	13	44 *55*	**53**	**31**	**31, 53***	**53**		13
						33	**31**			

"MC Qing-Ru may chang into either Yin-Ping (31) or Qu (53)" (1993, p. 662).

Possible routing:

Ru-1 → Yin-Qu, Yin-Ping (31)
Ru-1 → Qu (53)
Ru-1 → Yang-Qu (53)

Table 4. Overlapping with Fuzzy Borderines between Tonal Categories in the Southern Dialects of Shan-Xi (P. 3/4)

Shang-Qu (Zhuo-, Qing-) Pitches	Dialect	Middle Chinese Categories: Ping 平 Qing 清	Ping 平 Zhuo 濁	Shang 上 Qing & Ci-Zhuo 清、次濁	Shang 上 Quan-Zhuo 全濁	Qu 去 Zhuo 濁	Qu 去 Qing 清	Ru 入 Qing 清	Ru 入 Ru-1 Ci-Zhuo 次濁	Ru 入 Ru-2 Quan-Zhuo 全濁
L-FF	20. 虞城	31	13 *213*	55 *44*	51 *53*	21*		31		13 *213*

* "Yin-Qu and Yin-Ping are very similar; indistinguishable." (1993, p. 682)

* In the 1993 data, Yin-Qu was given as '33' in the summary chart (p. 692) and '21' in the inventory of tones as well as the text (p.682).

possible routing:

Ru-1 → Qu (53) → Yang-Qu (51)

→ Yin-Qu, Yin-Ping (21 ~ 31)

L-LF	13. 開喜	31	213 *11*	45 ~ 55* *44*	213/51** *11*	51* *53*	51* *31*	213 *11*

* 45 ~ 55, free variation. (1993, p. 668)

* * "Reflexes of MC Qu and Zhuo-Shang are very complicated; the same characters may surface either as Qu (51) or Yang-Ping (213)." (1993, p. 668).

Cf. Dialect 19. 臨汾, for the complicated relationships between Qu, Shang, yang-Ping and Ru-2.

Possible routing:

Ru-1 → Qu (53) → Qu (53)

→ Yin-Ping (31)

L-FF	10. 侯馬	213 *13*	44	51 53	21	213 *13*

Possible routing:

Qu (53) → Yin-Qu (21)

→ Yang-Qu (51)

The language is transforming from a 3-tone (13, 44, 53) system to a 4-tone system (213, 44, 51, 21)?

Table 4. Overlapping with Fuzzy Borderines between Tonal Categories in the Southern Dialects of Shan-Xi (P. 4/4)

Shang-Qu (Zhuo-, Qing-) Pitches	Dialect	Middle Chinese Categories								
		Ping 平		Shang 上		Qu 去		Ru 入		
								Ru-1		Ru-2
		Qing 清	Zhuo 濁	Qing & Ci-Zhuo 清、次濁	Quan-Zhuo 全濁	Zhuo 濁	Qing 清	Qing 清	Ci-Zhuo 次濁	Quan-Zhuo 全濁
L-FF	11. 綏縣	**31** **53**	13	44 *535*	**53** *53*			**31**		13

Possible routing:

, Qu (53)

Ru-1 · Qu (53)

' Yin Ping (31)

The language is transforming from a 3-tone (53, 13, 535) system to a 4-tone system (31, 13, 44, 53)?

The 535 value for Shang in the earlier (1986) report may have been related to the 53 value of Qu.

L-F	16. 鞏縣	**53** *52*	325 *13*	44	**31** *52*		325 *13*

Possible routing:

, Qu (31)

Qu (52)

' Yin-Ping (53)

The language is transforming from a 3-tone (52, 13, 44) system to a 4-tone system (53, 325, 44, 31)?

L-F	14. 垣曲	**31*** *53*	212 *31*	44 *33*	**53***		212 *31*

*"The tonal readings here are taken from a village Tan-jia-xing, which is in the outskirts of the Gu-cheng town. Within the town of Gu-cheng, however, Yin-Ping and Qu are indistinguishable." (1993, p. 669.)

Possible routing:

, Qu (53)

Qu (53)

' Yin-Ping (31)

The language is transforming from a 3 tone (53, 31, 33) system to a 4-tone system (31, 212, 44, 53)?

Table 5. Cases of Tonal Overlaps with Fuzzy Borderlines in the Southern Dialects of Shan-Xi

Yin-Ping 陰平		×	×	×					×
Yang-Ping 陽平							×	×	×
(Qing) Shang (清)上				×		×			
Yin- 陰	Qu		×		×		×		
Yang- 陽	去	×		×	✓	×		×	
MC Qing Ru & Ci-Zhuo Ru 古清/次濁入	Ru-1	✓	×	×	×				
MC Quan-Zhuo Ru 古全濁入	Ru-2						×	×	×
Dialect (Serial number)		11.12.14. 16.17.20. 19 (city)	13. 18	22	10. 15	19 (Country A). 23; 8? 15? 17?	19 (Country B). 22	13	10
No. of Dialects		7	2	1	2	2-5	2	1	1
		10					3		
Categories Involved in the Overlap		Qu Yin-Ping Ru-1		Qu Shang Yin-Ping Ru-1	Qu Ru-1	Qu Shang	Qu Yang-Ping Ru-2		Yin-Ping Yang-Ping Ru-2
Involving Falling Pitches		–					–		–
Involving a Qu Tone		–							–

* Dialects with underlining contain more than one type of tonal overlaps presetned in this chart.

5) There is only one pitch shared by Yin-Ping and Qing Qu: 6 dialects show such an overlap in one report but not in the other, which should be an indication of a change in progress, i.e., a very recent split.
6) Yin-Ping and MC Qing-Ru have different pitches: totally different in 2 dialects; partially different (in the same report or between two reports) in 8 dialects.
7) There are two pitches for Zhuo-Qu and Qing-Qu (or Zhuo-Qu overlaps with MC Qing-Ru): 11 dialects ('+' for 8 dialects and '±' for 3; '±' referring to the different information given in the two reports).
8) Containing less than four tones: 5 dialects. (Dialect no.22 has only three tones in both reports, even though the categories are differently defined. Dialects nos. 10, 14, 16, 17 have only three tones in the 1986 report but four tones in the 1993 report. Apparently these dialects are undergoing reshuffling and splitting after the initial transition from Ru to non-Ru, which was a change from four tones to three. All the splitting in these five dialects have Qu drifting away from the 53 pitch; hence, it is a change from three tones to four. Hence the three-tone stage and the 3 → 4-tone stage are older than the 4-tone stage (not counting Ru-sheng) within the time depth of this corpus.)

Table 6 outlines the time depths of the various Shang-Qu pitch types, based on their antiquity coefficients (measured in Table 5) and arranged to reveal the possible linkage between dialects of Types A and B as well as between those of Types C and D.

The pitch patterns in Table 3b and the antiquity coefficients in Table 6 together reveal a clear linkage between dialects of Types A and B on the one hand, and C and D on the other hand: Type A, F-L, is a more advanced stage of Type B; F-L · F-FL. (As indicated in Table 1, F-FR and F-FL can be viewed as in the same stage of development; as in the 101 dialects reported, Qu appears either as a level pitch or a rising pitch, if it is not a falling pitch.) Similarly, Type C, L-L, is a more advanced stage of Type D; that is, L-L ← L-FL/F.

Moreover, as stated earlier, it has been found that the high-falling pitch 53 has been diffusing from Qu to Shang and Yin-Ping. Now, the measured time-depths of the dialects will delineate the developments of Qu within each of the Shang-Qu pitch type. The measured time-depths of these dialects turn out to be in almost perfect parallel to the scaled developments of Qu, moving from a falling pitch toward a level pitch.

Table 6. Feature Analyses of the Southren Sub-group of Shan-Xi Dialects

Pitch Shapes of Shang-Qu (Zhuo-Qu, Qing-Qu)		Dialects with Serial Numbers Given in the 1993 Report	No. of Tones in the Two Reports	Overlapping Readings between			Only One Pitch Shared by		6. Yin-Ping Differing from Qing-Ru	7. Zhuo Qu ≠ Qing Qu (or** Zhuo Qu = Qing Ru)	8. Containing Less than Four Tones	Antiquity Coefficient: Number of '+' Marks
Type	Pattern			1. Qu & Shang	2. Qu & Yang-Ping	3. Qu & Qing Ru, Ci-Zhuo Ru	4.	5. Yin-Ping & Qing Qu				
A	F-L	1.2.3.4.5.6.7.9*	4	−	−	−	−	−	−	−	−	0
B	F-FL	23. 洪洞	5	−	−	−	−	−	−	+	−	1
	F-FL/R	19. 臨汾	4≠4	+	+	+	−	−	±	±	−	4
	F-FR	22. 古縣	3≠3	+	+	+	−	−	±	+	+	5.5
C	L-L	8. 鄉寧	4	−	−	−	−	−	−	−	−	0
		12. 夏縣	4≠4	−	−	+	−	−	±	−	−	1.5
		15. 稷山	4	−	−	+	+	−	+	−	−	3
D	L-FL	21. 浮山	5	−	−	−	−	−	−	+	−	1
		24. 霍州	5	−	−	−	−	−	−	+	−	1
		18. 襄汾	5≠5	−	−	+	−	±	±	+	−	3
		11. 沁水	4≠4	−	−	+	−	±	−	±	−	3
	L-FF	20. 翼城	4→5	−	−	+	−	±	±	+	−	2
		13. 聞喜	4≠4	−	+	+	−	−	±	+	−	3.5
		10. 侯馬	3→4	−	−	+	±	−	+	±	+	4
	L-F	17. 絳縣	3→4	−	−	+	±	±	−	−	+	3
		16. 新縣	3→4	−	−	+	+	±	±	−	+	4
		14. 垣曲	3→4	−	−	+	+	±	±	−	+	4

* 1. 遷城, 2. 芮城, 3. 永濟, 4. 平陸, 5. 臨猗, 6. 萬榮, 7. 河津, 9. 吉縣

** The feature 'Zhuo Qu=Qing Ru' has been dealt with under item 4. However it has to be included here to avoid distortion in the antiquity coefficients because 'Zhuo-Qu≠Qing-Qu' should be a later feature.

A-B		C-D	
F-L	(0)	L-L	(0 - 3)
F-FL	(1)	L-FL	(1 - 3)
F-FL/R*	(4)	L-FF	(2 - 4)
F-FR*	(5.5)	L-F	(3 4)

In each type of the pitch patterns in Table 3b, gradual drifting of Qu-sheng from F (falling pitch) towards L (level pitch) is visibly in progress. In the 24 dialects a positive correlation visibly exists between the values of antiquity coefficients and the presence of the high-falling pitch in the Qu category. In other words, the more ancient features there are, the more prominent the presence of the high-falling pitch in the Qu category.

It is evident that when Qu abandons the 53 pitch, it is the Yin-Qu that takes off first. In the 10 dialects that have two pitches for the Qu category, 9 of them (those in Types B and D) have Yin-Qu changing into other pitches and Yang-Qu retaining the falling pitch. Only one dialect (no.13 of Type D) shows signs of behaving in a slightly different way, with Yin-Qu appearing in 55/51 and Yang-Qu in 11-51/213 in the earlier/later report.

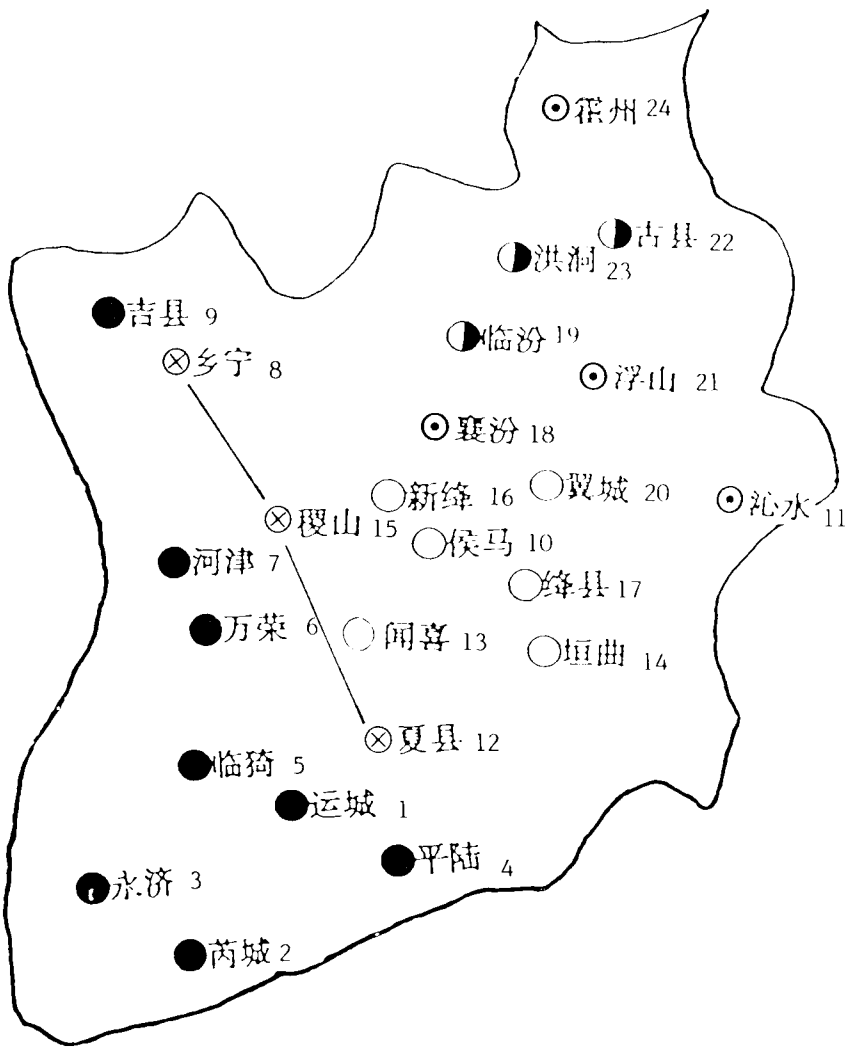
A cross-dialect comparison reveals that the falling pitch 53 has been diffusing from Qu to other tones. Clearly resulted from an overlap with Qu are: (1) the Falling pitch of Shang in the three dialects of Type B, (2) the Falling pitch 53 or 31 of Yin-Ping (together with MC Qing-Ru, Ci-Zhuo Ru) in some dialects of the pitch types C and D (dialects 12, 18, 11, 20, 13, 17, 16 and 14). In other words, in an overlap situation, Qu will eventually abandon the original 53 pitch and adopt a new identity to get out of the deadlock, so to speak.

4. Verification of the Present Grouping through External Evidence: In-between Pitch Patterns and In-between Geographical Locations of the Type-D Dialects

Table 3b classifies the dialects on the basis of the pitch shapes of their Shang and Qu tones. Thus grouped, the antiquity coefficients in Table 6 turn out to be neatly in ascending order within each of the subgroups. For further verification, the validity of such grouping can be counter-checked against the geographical proximity of the their members.

Figure 2 below presents a map of these dialects, marked with the present groupings.

Figure 2. Geographical Proximitieis of the 24 Dialects of the Southern Sub-Group in Four Pitch Types



1) Type A: The eight dialects (nos. 1-7, 9) of an F-L pitch type and with a '0' value of antiquity coefficients are located in the southwestern part of this Southern area.
2) Type B: The three dialects (nos. 23, 19, 22) with the highest antiquity coefficients and with pitch shapes of F-FL and F-FR are closely nestled in the northern portion of the area. Even though separated by a vast area that accommodate many dialects of other types, Type B and Type A actu-

ally exhibit different stages of the same trend of development.

3) Type C: The three dialects (nos. 8, 12, 15) of this type are located between dialects of Types A and D; if a line is drawn to link up the three dialects, a neat demarcation line will appear between the dialects of Type A and Type D.
4) Type D: Dialects of this type are located in the central area in the region of the Southern sub-group. Within this central area, the four dialects (nos. 21, 24, 18, 11) of the L-FL type are in the north, scattering around the three dialects of Type B, the remaining six dialects of the L-FF and L-F Types (nos. 20, 13, 10; and 17, 16, 14) are at the south.

Thus, a classification of the dialects based on tonal categories and pitch shapes turns out to be well-defined with geographical boundaries. Such is an external proof for an internal (i.e., structural) analysis. Moreover, the L-L pitch pattern in the Type-C dialects can also be accounted for by their strategic locations, they have the Level (or Rising) pitch for Shang like the Type-D dialects to their north and the Level pitch for Qu like the Type-A dialects to their south.

Here, an interesting point to note is dialect 13, now classified as Type D. Its Shang-Qu pitch pattern actually appears to be indecisive, or changing, in the two reports, between L-FF and L-LF. Since there are no other dialects having an L-LF pattern and that its location falls neatly on the invisible line separating dialects of Types A (F-L) and D, this is clearly a case of a Type-D dialect tinted with influence from its Type-A neighbors.

Another dialect worthy of special attention is dialect 15. Classified as a dialect of Type C (that is, with a Shang-Qu pitch pattern of L-L), it actually has a pitch value for the combined category of MC Qu and Ru-1 (Qing and Ci-Zhuo Ru) in 33 and 43 according to the 1993 and 1986 reports, respectively. This shows a shift of the pitch value from the earlier Falling to the present Level. This dialect indeed resembles the three dialects of the L-F pitch type in the complete overlap between Qu and Ru-1 categories. This dialect actually manifests a transition from an L-F to an L-L pitch pattern.

To sum up, the in-between pitch pattern of dialect 8, 12, 15 (L-L, as between F-L and L-F) is well matched with their in-between geographical locations. Dialect 13, which also rides on the borderline between the areas of Types A and D, shows decided influence of the Type-A dialects. Dialect 15 on the other hand exhibits the transition between an L-F to an L-L pitch pattern.

5. The Implications — an Ultimate 'Qu-centrality' Routing for Ru-sheng Transitions in the Southern Sub-group of Shan-Xi Mandarin Dialects

The present analysis of the 24 dialects reveals the following tendencies:

1. Qu is a focal node in tonal overlaps; it overlaps with Shang, Yin-Ping (together with MC Qing-Ru and Ci-Zhuo Ru) and Yang-Ping (together with MC Quan-Zhuo Ru).
2. The falling pitch 53 is found in most junctions of tonal overlaps.
3. The Qu tones in these dialects are gradually drifting away from a falling pitch toward a level pitch; there are also indications that the falling pitch reading in Shang has resulted from their earlier overlap with Qu.

Among the 24 dialects in this study, 12 of them have an antiquity coefficient that is 1.5 or higher (dialects 12, 15, 13, 18, 20, 11, 17, 10, 16, 14, 19, 22); the other 12 have lower coefficients. In all these 12 dialects with higher antiquity coefficients, overlapping between Qu and MC Qing-Ru, Ci-Zhuo Ru is either existent or clearly traceable. Such phenomena bear unmistakable evidences that when MC Ru first transformed into a non-Ru tone, Qu was its first destination.

In these dialects, Qu overlaps extensively with various tones. And it is through overlapping between Qu and other tones that MC Ru eventually merges with other non-Ru tones. In this corpus, this is evident at least as far as the Qing-Ru and Ci-Zhuo Ru is concerned. As a matter of fact, the tonal overlaps in dialects 13, 19, 22 testify to the routing of Quan-Zhuo Ru → Qu → Yang-Ping. The tonal overlaps in dialects 19, 22, 20, 11, 17, 16, 14, 12, on the other hand, testify to the routing of MC Qing-Ru/Ci-Zhuo Ru → Qu → Yin-Ping. In other dialects with lower antiquity coefficients (that is, those at advanced stages of development), such a routing, nevertheless, may not be readily recoverable.

This pattern of Ru-sheng transitions in the Southern group of Shan-Xi dialects is in consonance with the 'Qu-centrality' routing for Ru-sheng transitions which the present author has postulated for Peking Mandarin. The present author has earlier on investigated into the patterns of Ru-sheng transitions by the time of Middle Chinese as well as down to Modern Peking. With solid statistics, it has been proven that up to the time of Middle Chinese, by and large, Ru changed into Qu irrespective of the syllable initials (Chen 1996). It seems parallel developments have taken place in these dialects of the Southern sub-

group in Shan-Xi, granted at a much later time.

The time spectrum of Ru-sheng transitions and the subsequent developments exhibited in the synchronic data of the Southern dialects in Shan-Xi is found to be in consonance with the conclusions the present author has drawn from chronological data of various stages between Middle Chinese to Modern Peking.

6. Conclusions

As stated earlier, in Table 3b the dialects are rearranged according to the pitch patterns of the Shang and Qu categories in each of the dialects; the more F's (falling pitches), the lower position the dialect is placed in a category. It turns out that the lower the dialect is placed, the greater extent of tonal overlapping it contains. Ultimately, the greater extent of tonal overlap there is, the more prominent the presence of the high falling pitch turns out to be. In other words, a positive correlation between the high falling pitch and tonal overlap is clearly visible. More specifically, there are two things that appear rather spectacular:

First, the Qu tone overlaps with various tones in various dialects, and is thus a focal node for tonal overlaps. Table 5 presents a summary of the overlaps between the modern day non-Ru categories (i.e., the categories of Ping, Shang and Qu).

Second, the high-falling pitch 53 is a high-mobility pitch and appears in most junctions of tonal overlaps. It is the pitch in which Qu overlaps with Yin-Ping (together with MC Qing-Ru, Ci-Zhuo Ru) and with Shang. Moreover, between the two reports, twelve dialects show differently defined tonal borderlines; eleven of them have the 53 pitch emerge in such border disputes.

However, when Qu overlaps with Yang-Ping (together with MC Quan-Zhuo Ru) it appears in other pitches. This shows that overlaps between Qu and Yang-Ping began in a different time dimension. To be precise, changes or transitions involving MC Quan-Zhuo Ru, Qu and Yang-Ping took place in a different time dimension.

When this high-falling pitch appears in the Shang category, there are no tonal overlaps other than that with Qu. This shows that within the time frame of the present corpus, Shang-sheng in pitch 53 is an end product. In other words, the 53 pitch has been diffusing from Qu to Shang and Yin-Ping. Thus, a direction of the shifting of the 53 pitch between Shang and Qu is identified.

Moreover, these phenomena also afford indications of a very close interrelationship between the pitch 53 and the categories of Qu and MC Qing-Ru,

Ci-Zhuo Ru. They carry the theoretical implications that (a) Qu stands in a pivotal position between MC Ru-sheng and the other non-Ru tones involved in the overlaps and (b) the 53 pitch is the vehicle for the transitions[1] (meaning, through a process of overlapping, Ru-sheng migrated in the shape of a 53 falling pitch to Qu, with possible progression on to other tones.)

To sum up, a direction in the shifting of the high-falling pitch between Shang and Qu has been identified: The high-falling pitch has been diffusing from Qu to Shang or Yin-Ping in different dialects; in most cases, evidence of Ru-sheng transitions is still visible. It is interesting to note that, like the case of pre-Middle Chinese, these Southern dialects of Shan-Xi also exhibit a Qu-centrality mode of Ru-sheng transitions.

1. When Ru-sheng syllables transform to a non-Ru-sheng (that is, begin to drop their final stops), a falling pitch uttered with fortis vowels may be physiologically the most natural development. The fortis vowels are to compensate the loss or weakening of the final stops and a high-falling pitch provides the necessary length for the vowels to become fortis. In the case of Singapore Mandarin, the speakers' Southern Chinese dialect backgrounds make them distinguish MC Ru-sheng syllables. They often pronounce such syllables with a forceful falling pitch that may or may not end with a glottal stop. (See Chen 1983.)

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山西南區方言去聲中心式的入聲舒化走向

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摘　要

本文有兩個主旨，一個在於試用一個新的研究方法，一個在於研究入聲舒化的路線。在中國大陸有兩個大工程的山西方言的研究報告。兩份報告在聲調的類別與音值兩方面往往都有不小的出入，而調查進行的時間相距約有二三十年之差。作者認爲期間的差別可能反映了不同年齡層之間的差異或是正在進行中的變化。這是利用現時的、當代的資料透視歷史發展痕跡的嘗試。

在 101 個方言點裏，有 88 個方言都有一個近似 53 值的降調；其間又有 87%是出現於去聲或上聲。本文討論的是南區 24 個方言，在這些方言裏，去聲與上聲常有此一降調，而去聲又常出現在調類界限模糊或有所重疊之處。上述的情況顯示去聲處於一個樞紐性的地位。作者比較兩份資料裏的差異推測聲調演變的路線。所得的結論是在這些方言裏，入聲最初舒化時先變爲去聲，然後才併入其他聲調，而變化的進行往往發生在一個高降調上。此處入聲先變爲去聲的舒化路線與中古音之前入聲舒化的路線相似。

關鍵詞：聲調，聲韻學，方言