

workshop

Chinese Accents and Accented Chinese

**Nordic Centre
Fudan University
Shanghai**

Oct. 26-27, 2015

Phonological Analysis on the Transfer Effect of Nasal-Lateral Confusion on Sichuanese Speaker's Language Learning

Chaoju Tang

**School of Linguistics and Literature,
University of Electronic Science and Technology of China**

Agenda

- **The Transfer Effect of Language Learner**
- **The Phonetic Transfer Effect of language learner's Nasal-Lateral Confusion of Sichuanese Speakers**
- **Phonological Analysis on the Confusion**

Literature Review

- Fries, C. 1945
- The instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language. (Weinreich U., 1953)
- (Haugen 1953.)
- L_n transfer to L_f , linguistically and culturally, productively and receptively (Lado, 1957)
- The Mother Tongue Influence (Corder, 1983)
- The influence resulting from the similarities and differences between L_t and L_s. (Odlin, 1989:6, 2001)
- “all new learning involves transfer based on previous learning.”. (Bransford, Brown & Cocking, 2000)
- The simple L₁ replacement of L₂ (Ellis, 2000,2008)
- The cross-linguistic Influence of learner's knowledge in one L on that of another L, at 10 dimensions. (Jarvis & Pavlenko, 2008)
- **Interlanguage? (Selinker 1957?)**

other literature about transfer

- Vildomec 1963
- Gass and Selinker 1983
- Kellerman and Sharwood Smith 1986
- Ringbom 1987
- Dechert and Raupach 1989
- Odlin 1989.
- Gass and Selinker 1992
- Sjöholm 1995
- Jarvis 2002
- Cenoz, Hufeisen, and Jessner 2003
- Cook 2003
- Arabski 2006
- Ringbom 2007

The Transfer Effect of Language Learner

summary

- **Language transfer/ L1 interference/linguistic interference/cross-linguistic influence**
 - refers to learner's applying knowledge from one language to another language.
 - The effect is often observed as the transfer of linguistic features between languages in the speech repertoire of a bilingual or multilingual individual, whether from **L1 to L2**, L2 to L1 or L_x to L_y.
- The Positive transfer
- **The Negative transfer: Learner's L1 impedes L2 learning**

Transfer happens at all linguistic levels

- **Phonology** (“foreign accent”)
- **Syntax** (word-for-word translation, “I like very much Shanghai.”)
- **Lexis** (e.g. “false cognates”, embarrassed-embarazada “pregnant”)
- **Pragmatics** (i.e. Inappropriate over-formality or under-formality)
- **Morphology** (in some dialects, shu-zi, fang-zi, or some other diminutives)

The Transfer effect on phonology case study

- is attested by Sichuanese learners in their language learning
- Both in Putonghua learning and
- in English learning
- Esp. resulting the nasal-lateral confusion

the confusion in Putonghua learning

- The nasal-lateral confusion of Sichuanese speaker is observed in Standard Chinese learning

the initial production of Sichuanese speaker for Putonghua learning

- 1. no contrast of alveolar-fricative vs retroflex fricative, [ts], [tsh], [s]-[tʂ], [tʂh], [ʂ]
- **2. the confusion of alveolar nasal[n]-alveolar lateral[l]**
- 3. the confusion of [x]-[ç]
- 4. the partially confusion of [p]--[pʰ]
- 5. the confusion of [w]-[v] in some lexical environment

examples

■ Sichuanese	Standard Chinese	Glossory
■ liu lai	niu nai	"milk"
■ ke leng	ke neng/nen	"possible"
■ lan fang	nan fang	"south"
■ kun lan "difficult"	kun nan	
■		
■		

<M+, S->, (M-, S+)

p	p'					m	
				f			
		ts	ts'	s	(z)		
t	t'					n	(l)
		<ts>	<ts'>	<s>	<z>		
		tc	tc'	c		(n)	
k	k'			x		(ŋ)	

?

1. Sichuan [n] _[n] = nasaled [l]?
_[l]

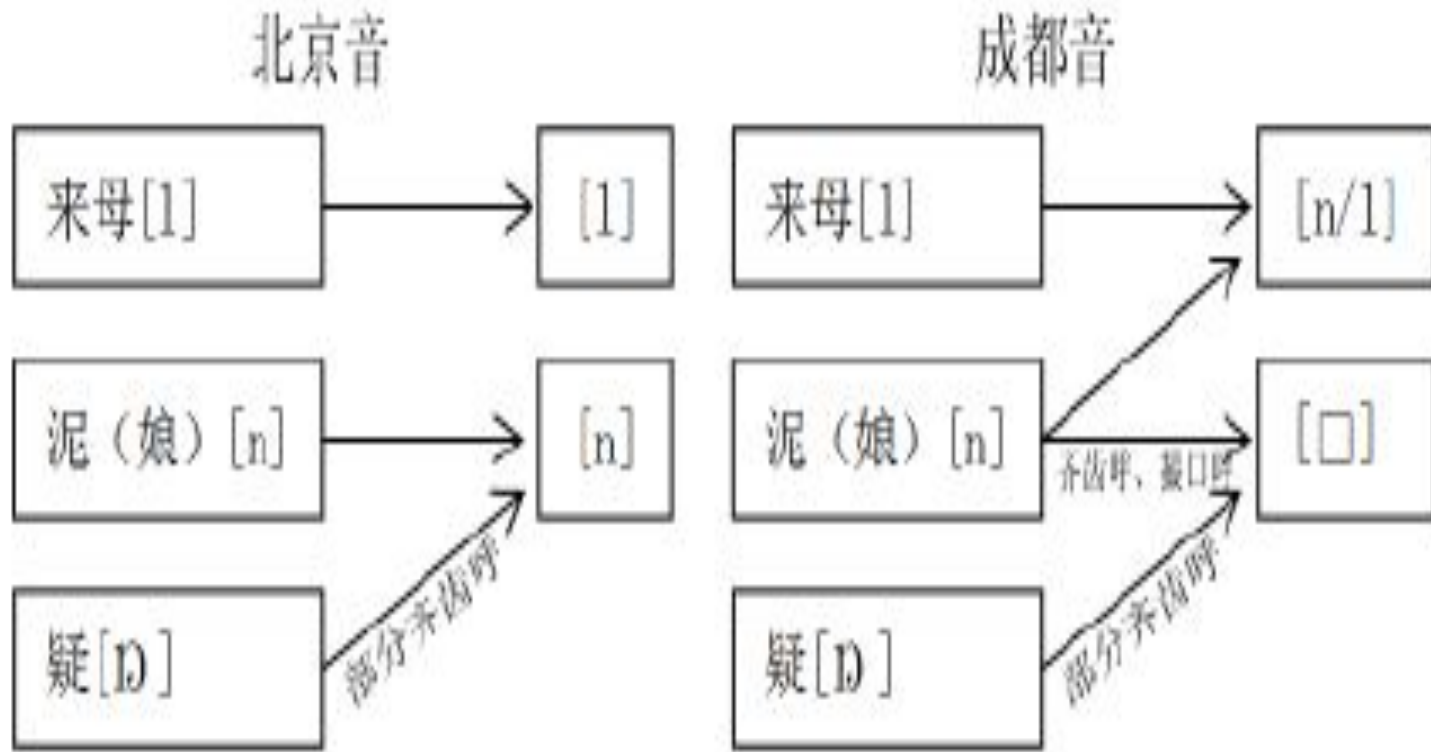
2. Sichuan [ŋ]_[Ø] -[n]? ŋiao-niao-
"bird" ŋian-ian
"rearch"

3. Sichuan [ŋ] initial-[Ø] , ŋai-ai, "love"

4. ?

historical evolution?

- [n]-->[l] in Adam Grainger 1900: *Western Mandarin, the Spoken Language of West China*.



the confusion of English learning

- the confusion in different environments
- I refer to Li 2013, "An Experimental Study of Negative Transfer on English Phonetic Learning From Native Nasal and Lateral Confusion in Sichuan Dialect"

summary

- 63 subjects of native Sichuanese
- (from different parts of Sichuan area)
- be experimentally tested both in phonetic perception and production
- the confusion are consistently testified

Table 4.1: Items in the Perceptive Experiment

Position	Words	Position	Words
N Initial	nine, negation, night neighbor, not, neglect	L Initial	lack, light, level
N Medial	ionosphere, punt, connect	L Medial	silage, falafel, neglect
N Final	pain, warn, sin, gay	L Final	wool, dull
N Initial Consonant Cluster	snake, snow	L Initial Consonant Cluster	slow, fruit, plain
N Final Consonant Cluster	bank	L Final Consonant Cluster	level

Appendix I Perception Materials

Number : _____ Age: _____ Sex: _____ Name: _____
College: _____ Live Now: _____ Birthplace: _____

I. Choose the word you hear.

- | | | | | |
|--------|----------------|----------------|----------------|----------------|
| 1. () | A. line | <u>B. nine</u> | C. lie | D. nice |
| 2. () | <u>A. lack</u> | B. neck | C. Nike | D. like |
| 3. () | <u>A. pain</u> | B. pay | C. pale | D. peel |
| 4. () | A. slay | B. snow | <u>C. slow</u> | D. snail |
| 5. () | <u>A. not</u> | B. lit | C. nut | D. lot |
| 6. () | A. wild | B. weed | C. wind | <u>D. wide</u> |

II. Write down the word or phonetic symbol you hear.

- | | | | |
|-------------------|--------------------|------------------|-----------------------|
| 7. <u>light</u> | 8. <u>fruit</u> | 9. <u>snake</u> | 10. <u>negation</u> |
| 11. <u>silage</u> | 12. <u>falafel</u> | 13. <u>pain</u> | 14. <u>wool</u> |
| 15. <u>bank</u> | 16. <u>night</u> | 17. <u>warn</u> | 18. <u>ionosphere</u> |
| 19. <u>punnet</u> | 20. <u>gay</u> | 21. <u>plain</u> | 22. <u>neighbor</u> |

Table 4.2: Items in the Productive Experiment

Category	Words	Category	Words
N + Front Vowel	negation, neglect, nebulous, need, anything	L + Front Vowel	liberate, legality, neglect, suddenly, little
N+ Central Vowel	nurse, nerve, winner, china	L+ Central Vowel	learner, ruler, nebulous
N + Back Vowel	number, cannot, north, another	L + Back Vowel	logical, lopsided, last, lot
N + Diphthong	fingernail, noise, night, neighbor, no	L + Diphthong	locate, light, likes, labor, life
N Initial Consonant Cluster	sneeze, snake, snow	L Initial Consonant Cluster	clever, classification, slow, please, place, plane
N Final Consonant Cluster	begins, abandon, bank	L Final Consonant Cluster	bottle, bulge
N Finals	pain, gain	L Finals	still, well, dial, tool

Appendix II Production Materials

I. Read these words.

- | | | | | |
|--------------|----------------|---------------|-------------|--------------------|
| 1. nurse | 2. negation | 3. nerve | 4. winner | 5. number |
| 6. cannot | 7. loudspeaker | 8. fingernail | 9. sneeze | 10. snake |
| 11. bank | 12. begins | 13. abandon | 14. pain | 15. liberate |
| 16. legality | 17. learner | 18. ruler | 19. logical | 20. lopsided |
| 21. Locate | 22. neglect | 23. clever | 24. dial | 25. classification |
| 26. noise | 27. bulge | 28. bottle | 29. tool | 30. nebulous |

II. Read these sentences.

1. Last night, when I was showering the light in my bathroom broke suddenly.
2. With so much snow on the road, the traffic was very slow.
3. You need not buy meat because we still have a lot in the fridge.

Lin and Wang (1992)

Table 1.1: Regional Differences of Initial Nasal and Lateral

	PTH	Cheng du	Lan zhou	Chang sha	Nan jing	Yang zhou	Nan chang	Xia men	Wu han
nan	n-	n-	n-/l-	n-/l-	l-	l-	l-	l-	n-/l-
lan	l-	n-	n-/l-	n-/l-	l-	l-	l-	l-	n-/l-
nian	n-	n-	n-/l-	l-/n-	l-	n-	n-	n-	n-/l-
lian	l-	n-	n-/l-	n-/l-	l-	n-	l-	l-	n-/l-

■ Sichuanese	English	Glossory
■ light	night	"ye"
■ line	nine	"jiu"

英语辅音	成都话声母
/p/	/p/
/b/	(p ^h)
/m/	/m/
/f/	/f/
/v/	*
/θ/	*
/ð/	*
/ʃ/	*
/ʒ/	*
/k/	/k/
/g/	(k ^h)
/j/	*

英语辅音	成都话声母
/t/	/t/
/d/	(t ^h)
/s/	/s/
/z/	/z/
/n/	/n/
/r/	*
/l/	*
/tʃ/	*
/dʒ/	*
/ŋ/	*
/h/	/h/
/w/	*

Table 3.1: Comparative Phonemes in English and Sichuan Dialect

Sichuan Dialect	/m/	/n/	/ŋ/	/ŋ/		
English	/m/	/n/		/ŋ/	/l/	/r/

the interactive transfer effect on foreign language learning

- I refer to Zhao 1995.

赵德梅. 英汉比较语言学[M]. 青岛: 海洋大学出版社, 1995.

- How should we explain such linguistic facts?

Phonological Analysis on the Confusion

- Perceptual Assimilation Model (Best 1994, 1995)
 - perceptual limitation
 - It involves discriminating between two L2 sounds from one another (similarity category)
 - It involves distinguishing the L2 sounds from L1 sounds. (discrepancy discrimination)
- phonological knowledge
- psychological factors
- linguistic factors: **Marked Differences**

Perceptual Assimilation Model (Best 1994, 1995)

- perceptual limitation
- It involves discriminating between two L2 sounds from one another (similarity category)
- It involves distinguishing the L2 sounds from L1 sounds. (discrepancy discrimination)

Two-Category (TC): members of the L2 contrast assimilate to two different native categories, that is, one member assimilates to one native category and the other one to another native category.

Category goodness (CG): each member of the L2 contrast assimilates to the same one native category with one of the members being more deviant from the native sound than the other.

Single Category (SC): both L2 phones assimilate to one phoneme in the native category and both are equally deviant from the native sound.

the phonotactics

表五 声母与四呼配合表

	开	齐	合	撮
p p' m	+	+	(u)	
f	+		(u)	
t t'	+	+	+	
l [n]	+	+	+	(ü[y])
ts ts' s	+	+	+	+
ch[tʂ] ch'[tʂ'] sh[ʂ] r[ʐ]	+		+	
ch[tɕ] ch'[tɕ'] sh[ɕ]		+		+
n[n̩]		+		(ü[y])
k k' h[x]	+		+	
ŋ[ŋ]	+	(i)		
∅	+	+	+	+

explanation?

- relaxed life style in long tradition
- the speaker is likely to refuse more or complex motions when there is less or simple replacement.
- even the trained learner stilled produced the second initial [n] as [l] when there are two nasal initials, in SC: niu lai vs niu-nai
- for some speakers, even use "zero" to replace the initial nasal, "niu-yiu".

■ Any suggestions to help me out are warmly welcome!

references

- Best, C. 1994. The emergence of native-language phonological influences in infants: A perceptual assimilation model. In C. Goodman & H. Nusbaum (Eds), *The development of speech perception*, 167-224. Cambridge: The MIT Press.
- Best, C. 1995. A direct realist view of cross-language speech. In W. Strange (Ed.). *Speech perception and linguistic experience*, 171-204. Baltimore: York Press.
- Best, C. McRoberts, G., & Goodell, E. (2001). Discrimination of non-native consonant contrasts varying in perceptual assimilation to the listener's native phonological system. *Journal of the Acoustical Society of America*, 109(2), 775-794.
- Flege, J. (1993). Production and perception of a novel second language phonetic contrast. *Journal of the Acoustical Society of America*, 93(3), 1589-1608.
- Fries, C. 1945
- **Jarvis & Pavlenko, 2008**, *cross-linguistic influence in language and cognition* . Routledge, Taylor and Francis Group, New York and London.
- Odllin, T. 2001. *Language transfer*. Shanghai: Shanghai Foreign Languages Education Press.
- Ellis, Rod. 2008. *The study of second language acquisition*. Shanghai: Shanghai Foreign Languages Education Press.
- **Weinreich, 1953, Languages in contact.**