

Institute for Chinese Studies & Institute for Japanese Studies

## **Buckeye East Asian Linguistics Forum 3**

**Monday, 22 October 2018**



<http://u.osu.edu/beal/beal-forum/>



**THE OHIO STATE UNIVERSITY**

---

© 2018 by the Graduate Students of East Asian Languages and Literatures and the Graduate Association of Chinese Linguistics, The Ohio State University

Printed and bound by UniPrint, 2500 Kenny Road, Columbus, Ohio, 43210.

# **Buckeye East Asian Linguistics Forum 3**

**Monday, 22 October 2018**

The Ohio State University  
Columbus, Ohio

Program Book

# Organizers and Sponsors

## **BEAL Forum 3 Organizing Committee**

### **Student Co-Chairs**

Lindsey Stirek (President, GREALL) & Seo-Jin Yang (President, GACL)

### **Faculty Co-Chairs**

Mineharu Nakayama, Marjorie K.M. Chan, and Zhiguo Xie

### **Committee Members**

Fredrick C. Bowman, Johnny Bundschuh, Crista Cornelius, Hannah Dahlberg-Dodd, Skylor Gomez, Yawei Li, David Liu, Anzia Mayer, Junyu Ruan, Lindsey Stirek, Kumiko Takizawa, Hiromi Tobaru, Mengling Wang, Qian Wang, Seo-Jin Yang, Ying Zhang, and Yuhong Zhu

### **Special thanks to:**

Meow Hui Goh (OSU), Kiwako Ito (OSU), Litong Chen (U. of Mount Union), and Yuhan Lin (Hong Kong Polytechnic University)

## **Ohio State University Sponsors**

Institute for Chinese Studies

Institute for Japanese Studies

East Asian Studies Center

Graduate Students of East Asian Languages and Literatures (GREALL)

Graduate Association of Chinese Linguistics (GACL)

Department of East Asian Languages and Literatures

Department of Linguistics

*This event is sponsored in part by a Council on Student Affairs (CSA) Strategic Programming Grant, a grant from Confucius Institute Headquarters, and U.S. Department of Education Title VI grant for The Ohio State University East Asian Studies Center.*

# Table of Contents

	Page
Organizers and Sponsors .....	ii
Table of Contents .....	iii
General Information .....	iv
Program .....	1
Poster Sessions .....	2
Abstracts .....	5
Plenary Sessions .....	5
Professor Thomas Hun-Tak Lee .....	7
Professor Yasuhiro Shirai .....	8
Professor Richard VanNess Simmons .....	9
Poster Sessions .....	11
Session A .....	11
Session B .....	37

# General Information

## 1. On-Site Registration

Mershon Center for International Security Studies  
Room 120 & Lounge  
1501 Neil Avenue  
Columbus, Ohio 43201

Monday, 22 October 2018. 9:00 a.m. - 4:00 p.m.

## 2. Arriving at the BEAL Forum 3 Venue

**Parking Garage:** 9th Avenue East Garage, 345 West 9th Avenue, Columbus, OH 43210.

**City Bus:** COTA AirConnect is a route that operates as a direct shuttle service between John Glenn International Airport and Downtown. Running every 30 minutes daily between 6:00 a.m. and 9:00 p.m., a one-way trip costs \$2.75. The bus makes a number of stops downtown, and comes equipped with luggage racks and USB charging ports. For more information, go to: <http://www.cota.com/AirConnect>. From downtown to OSU campus, take the No. 2 High Street bus.

For other destinations on the COTA bus, check out: <http://www.cota.com/>. In addition, COTA bus route 8 travels from downtown and has a bus stop by Neil Avenue and W. 8<sup>th</sup> Avenue where Mershon Center is located. COTA bus schedules and route maps can be found on Google Map and <http://www.cota.com/>.

**Campus Bus:** CABS is a free transit service provided by OSU. Routes MC, CLS and CLN stop within two blocks from the forum venue. Real-time CABS bus tracking is available on the Ohio State app (iOS/Android), and <https://ttm.osu.edu/cabs>.

## 3. Wi-Fi Access at The Ohio State University

Connect to “WiFi@OSU” service set identifier (SSID) from a WiFi-enabled device, then launch your device’s web browser to complete the log-in process.

## 4. Information for Visitors to The Ohio State University, Columbus Campus

OSU provides very helpful information for visitors at:

<http://visit.osu.edu/>

Campus maps are available online at:

<http://www.osu.edu/map/>

# Program

- Room 120:** Plenary sessions and opening/closing remarks  
**Lounge:** Poster sessions, registration, refreshments, lunch, and break
- 9:00-9:15** *Registration & Refreshments*
- 9:20- 9:30** Welcome & Opening Remarks  
Professor Mark Bender, *Chair, Department of East Asian Languages and Literatures, OSU*
- 9:30-10:50** Plenary Session 1  
Chair: Professor Mineharu Nakayama, *Department of E. Asian Languages and Literatures*
- Professor Thomas Hun-Tak Lee** (Tianjin Normal University, Chinese University of Hong Kong)  
“The Use of Child Language in Linguistic Argumentation: Some Methodological Considerations”
- 10:55-11:45** Poster Session A
- 12:00- 1:00** *Lunch*
- 1:00- 2:20** Plenary Session 2  
Chair: Professor Etsuyo Yuasa, *Director, East Asian Studies Center, OSU*
- Professor Yasuhiro Shirai** (Case Western Reserve University)  
“The Current State of the Aspect Hypothesis”
- 2:25- 3:15** Poster Session B
- 3:15-3:30** *Break*
- 3:30- 4:50** Plenary Session 3  
Chair: Professor Marjorie K.M. Chan, *Director, Institute for Chinese Studies, EASC, OSU*
- Professor Richard VanNess Simmons** (Rutgers University)  
“Northern and Southern Variations on a Theme: Three Vivid Portrayals of the Mandarin Koinē of Early 19th Century China”
- 4:50- 5:00** Closing Remarks  
BEAL Forum 3 Organizing Committee

# Poster Sessions

## POSTER SESSION A. 10:55 - 11:45 a.m.

1. **Frederick C. Bowman** (The Ohio State University)  
Toward a Comprehensive View of Degrammaticalization in Japanese
2. **John Carlyle** (University of Washington)  
Some Proposals for Proto-Yue Finals and Grave Initials
3. **Alex Cherici** (Indiana University Bloomington)  
A Corpus-Based Study of Chinese RVC *qilai* and its Interaction with State Predicates
4. **Hannah Dahlberg-Dodd** (The Ohio State University)  
Stylistic Variation and Mediatized Otaku Personae: ‘Steins;Gate’ and the Akihabara Chronotope
5. **Gihyun Gal** (University of Kentucky)  
Disrespectful Attitudes Make Your Verbal Arts So Lovely: The Use Rhyming Patterns in Korean Disrespectful Rap Battles
6. **Kanae Ito, Masatoshi Koizumi & Sachiko Kiyama** (Tohoku University)  
How Native Japanese Speakers Solve Ambiguous Relative Clauses in Their L1 and L2: Evidence from the Self-Paced Reading of Japanese and English
7. **Yawei Li** (The Ohio State University)  
Goodbye Without Saying “*zàijiàn*”: A Pilot Study on Farewell Expressions in Modern Chinese Conversation
8. **Seo-Jin Yang** (The Ohio State University)  
Korean Transfer to Mandarin Spoken in Korea
9. **Wei Zhou** (West Virginia University)  
Temporal Construal Symmetry/Asymmetry of Bare Predicates in Chinese Root and Complement Clauses



# Poster Sessions

## POSTER SESSION B. 2:25 - 3:15 p.m.

1. **Eric de Roulet** (California State University Fullerton)  
The Sino-Korean Influence on Middle Korean Vowel Harmony: A Usage-Based Perspective
2. **Xiao Luo** (University of Cincinnati), **Yike Yang** (The Hong Kong Polytechnic University),  
**Jing Sun** (University of Cincinnati), **Nuo Chen** (South China Agricultural University)  
A Descriptive Study on the Chinese Pronunciation of Korean *Hanja* at the Syllable Level
3. **Qiong Ma** (Tohoku University & Research Institute of National Rehabilitation Center for  
Persons with Disabilities), **Tao Xie** (Tohoku University), **Norihiro Iwaki** (Tohoku  
University), **Sachiko Kiyama** (Tohoku University)  
Interpreting Empty Subjects in Japanese Sentences with Sentence-Final Particles by Chinese  
L2 Learners
4. **Hiromi Tobaru** (The Ohio State University)  
Style Shifting as a Measurement of Linguistic and Cultural Gain during Education Abroad in  
Japan
5. **Keith Tse** (Ronin Institute)  
Formation of Chinese Clefts: Microparametric ‘Lateral’ Grammaticalization
6. **Saori Wakita** (The Ohio State University)  
On the Use of *Futsū-ni* ‘Ordinarily/Usually’ with a New Twist
7. **Qian Wang** (The Ohio State University)  
Grammatical Constraints on Chinese-English Intrasentential Codeswitching
8. **Lan Yu** (Indiana University Bloomington)  
The Comparison of English Tense-Lax Vowel Contrasts Perceived by English Monolingual  
Children and Mandarin-English Bilingual Children



Abstracts  
Plenary Sessions



## The Use of Child Language in Linguistic Argumentation: Some Methodological Considerations

Thomas Hun-tak Lee

Tianjin Normal University, Chinese University of Hong Kong

Two types of linguistic evidence are generally used in linguistic argumentation: internal evidence and external evidence, the former including the distribution of linguistic forms and the syntactic/semantic properties of various representations, and the latter drawing data from child language, language change, language processing and language disorders. On one level, child language data can provide illustrations, explications and interpretations of a particular linguistic theory, as can be seen from Halliday's child language study based on the functionalist framework, Jakobson's structuralist theory of phonological development, and the various transformational analyses of early child syntax in generative grammar. On another level, child language can provide an empirical basis for linguistic analysis, confirming a particular theory or hypothesis, and in turn facilitate the construction of linguistic theory through the discovery of new regularities. One could think of the empirical confirmation of the structure dependence of transformations and early functional categories as successful examples of such uses of child language.

This talk reviews a number of classic studies to observe how child language data should be used in linguistic argumentation, with an aim to exploring methodological requirements. The interaction between child language evidence and linguistic argumentation is complex, and one cannot simply rely on the relative precedence or relative difficulty of particular forms as crucial evidence for a particular analysis. In using child language to confirm a linguistic analysis, a model of language acquisition and its initial state (Universal Grammar) would need to be presupposed before valid connections can be established between theory and evidence. The paper will critically assess the claim that child language supports the recent syntactic proposal that verbs are a subclass of nouns in Chinese, pointing out its inadequacies and its invalidity.

**Bio:** Professor Thomas Hun-tak Lee received his PhD in Linguistics from UCLA and has taught linguistics at City University of Hong Kong and The Chinese University of Hong Kong, where he also served as Associate Dean (Research) of the Faculty of Arts and chairperson of the Department of Linguistics and Modern Languages. Professor Lee is currently Professor of the Tianjin Global Experts Recruitment Program, Tianjin Normal University, and Research Professor of Chinese University of Hong Kong. Dr. Lee's research has centered on the acquisition of syntactic and semantics, with special reference to the quantificational competence of Mandarin-speaking and Cantonese-speaking children.

## The Current State of the Aspect Hypothesis

Yasuhiro Shirai  
Case Western Reserve University

This talk outlines the current state of the Aspect Hypothesis (Andersen & Shirai, 1994; Shirai & Andersen, 1995), which predicts that learners are strongly influenced by lexical aspect in acquiring tense and aspect markers in L1 and L2; namely, past perfective markers are associated with telic verbs (achievements and accomplishments) while general imperfective markers are associated with atelic verbs (states and activities) and progressive markers with activity verbs. Although there has been a general agreement on this association patterns as a universal tendency (e.g., Shirai, Slobin, & Weist, 1998; Andersen & Shirai, 1994; Shirai, 2009), explanations for these tendencies are still controversial. I will argue that the cases that go against the predicted tendencies—namely, Inuktitut (Swift, 2004) in L1 and Japanese (Ishida, 2004), Chinese (Tong & Shirai, 2016), and Russian (Martelle, 2012) in L2—support the input-based explanation (i.e., the Distributional Bias Hypothesis, Andersen, 1993) rather than nativist explanation.

**Bio:** Yasuhiro Shirai is Professor of Applied Linguistics and Cognitive Science and Eirik Borge Professor of Modern Languages in the Department of Modern Languages and Literatures at Case Western Reserve University, USA. He is an associate editor of *First Language*, and serves on several editorial boards, including *Studies in Second Language Acquisition*, *International Review of Applied Linguistics*, and *Journal of Cognitive Science*. His recent publications include *Connectionism and Second Language Acquisition* (Routledge).

## Northern and Southern Variations on a Theme: Three Vivid Portrayals of the Mandarin Koinē of Early 19th Century China

Richard VanNess Simmons  
Rutgers University

This presentation examines the work of three scholars who described the Guānhuà koinē from the beginning of the 19th century for what they reveal about the interplay between Mandarin and local dialect in the urban linguistic milieu in late Qīng, especially with regard to Mandarin spoken in south China: Gāo Jìngtíng (fl. 1800-1810), Lǐ Rǔzhēn (c. 1763–1830), and Robert Morrison (1782-1834). Gāo Jìngtíng's *Zèngyīn cuōyào* was the first indigenous textbook of Mandarin and contains many passages that provide fascinating glimpses of language use in urban areas along the corridors of travel between Guǎngzhōu and Běijīng. In his *Lìshì yīnjiàn* and *Jīng huā yuán*, Lǐ Rǔzhēn reveals the flexible, adaptable attitude toward Mandarin varieties that prevailed in his day. Robert Morrison compiled his comprehensive Mandarin dictionary and grammar working entirely in Guǎngzhōu and Macau. Morrison works are witness to Mandarin's prevalence and utility in China's distant southern urban areas, far away from the metropolises of Nánjīng and Běijīng that gave Guānhuà its powerful linguistic luster.

Together, the three authors and their works reveal much about the history of Mandarin and of language attitudes in south China during the early years of the 1800's. They are first-hand witnesses that allow us to sketch out an outline of the multilingual character of urban language use in late Qīng speech communities. We see therein the nature and utility of the Guānhuà koinē that served as the precursor of, and model for the development of China's national language in the 20th century.

**Bio:** Dr. Richard VanNess Simmons is Professor of Chinese at Rutgers University, where he teaches Chinese language, linguistics, and literature. He received his Ph.D. in Chinese linguistics from the University of Washington, Seattle. His publications include *Chinese Dialect Classification—A Comparative Approach to Harngjou, Old Jintarn, and Common Northern Wu* (1999), *Issues in Chinese Dialect Description and Classification* (1999), *Chinese Dialect Geography: Distinguishing Mandarin and Wu in Their Boundary Region* (2006), *Handbook for Lexicon Based Dialect Fieldwork* (2006), *Shanghainese Dictionary and Phrasebook* (2011), and *Studies in Chinese and Sino-Tibetan Linguistics: Dialect, Phonology, Transcription and Text* (2014). His current research project is to compile a comprehensive history of Mandarin.





Abstracts  
Poster Session A



## Toward a Comprehensive View of Degrammaticalization in Japanese

Frederick C. Bowman

The Ohio State University, [bowman.1033@osu.edu](mailto:bowman.1033@osu.edu)

‘Degrammaticalization,’ the phenomenon of bound grammatical morphemes (e.g. suffixes) becoming (1) freer grammatical morphemes (e.g. clitics) or (2) full lexical words, is generally accepted to be a real, if comparatively rare, occurrence with wide cross-linguistic attestation (Haspelmath 2004, Norde 2009; critical views offered by Askedal 2008, Kiparsky 2012, Lehmann 2015). Norde proposes three subtypes of degrammaticalization based on gains in morphosyntactic freedom and semantic content. These are deinflexionalization, in which a bound affix gains clitic status; debonding, in which a clitic becomes a free function word; and regrammation, which can have bound-affixal, clitic, or free function-word sources, and through which a thoroughly grammaticalized item gains in semantic content, becoming a free content word.

Japanese has long figured prominently in discussions of degrammaticalization. Matsumoto 1988 discusses the Japanese clause-final adversative particle *ga*, which became a free particle capable of standing in sentence-initial position. In the degrammaticalization literature, this has become a standard example, specifically of debonding (Norde 2009). The particles *shi* (‘and, you know’) and *keredomo* (‘but’) have long been recognized by Japanese scholarship to originate in bound adjectival affixes (Yuzawa 1954, Nishida 1978, Suzuki 1990). By Norde’s criteria these are cases of deinflexionalization. Discussion of them is however largely absent from the degrammaticalization literature; Narrog 2016 treats them as instances of exaptation, in which an obsolescent grammatical item is ‘redeployed’ for a new use. Namiki and Kageyama 2016 have further suggested that the verbs *mekasu* and *buru* ‘put on airs,’ derived from bound verbalizing suffixes but now established as lexical words, likewise constitute cases of degrammaticalization. These would be examples of Norde’s ‘regrammation.’

This paper intends to unite these threads of scholarship and move towards a unified picture of degrammaticalization in Japanese. I first observe that Japanese displays all three of Norde’s degrammaticalization types (see Table 1 below), as the brief literature review above demonstrates. I then suggest further possible cases of each de-grammaticalization subtype for further investigation (see Table 2 below). These are drawn from contemporary Japanese dialects and from previous periods of the language, chiefly Late Middle Japanese (late 16<sup>th</sup>-early 17<sup>th</sup> cc.). I lastly consider the possible reasons why Japanese should have such a rich inventory of degrammaticalization phenomena.

Norde proposes ‘*Systemstörung*’—‘system-disruption,’ or large-scale diachronic reorganization of linguistic structures—as a chief motivating factor of degrammaticalization. Askedal likewise views degrammaticalization as a byproduct of typological restructuring. Specific to the Japanese context, Narrog similarly identifies the motivation for *shi* and *keredomo*’s ‘exaptation’ in the complex of changes that overtook the Late Middle Japanese predication system: the loss of the conclusive / adnominal contrast and the subsequent simplification of auxiliary verbs and bound affixes (see also Frellesvig 2010). Such *Systemstörung* can indeed account for much of Japanese degrammaticalization, particularly the cases of deinflexionalization. Here are however difficulties here (e.g. *-keredomo* was deinflexionalized but its corresponding provisional suffix *-kereba* was not). Further, regrammation cases are attested from disparate periods of the language reflecting widely different synchronic conditions. This suggests that different types of degrammaticalization may require different motivations.

Table 1. Japanese degrammaticalization - established cases

<u>Deinflexionalization</u>	<i>shi, keredomo</i> EMJ <sup>1</sup> adj. root+ <i>si/keredomo</i> > NJ inflected word+ <i>shi/keredomo</i>
<u>Debonding</u>	<i>ga, keredomo</i> LMJ <i>takai ga/keredomo...</i> > NJ <i>takai. Ga/keredomo...</i> 'It's expensive but...' 'It's expensive. But...'
<u>Regrammation</u>	<i>mekasu, buru</i> <i>gakusha-mekasu</i> > <i>mekasu;</i> <i>gakusha-buru</i> > <i>buru</i> 'Put on scholarly airs' 'put on airs' 'id.' 'id.'

Table 2. Japanese degrammaticalization - proposed cases

<u>Deinflexionalization</u>	<i>batte(n) ; domo ; zura</i> (dialectal) EMJ <i>yukitareba tote (mo)</i> 'I went but...' > NJ <i>itta batte(n)</i> 'id.' EMJ <i>yukitaredomo</i> > 'I went but...' NJ <i>itta domo</i> 'id.' EMJ <i>yukanzuramu</i> > 'They'll probably go' NJ <i>iku zura</i> 'id.'
<u>Debonding</u>	<i>batte(n)</i> <i>itta batte(n)</i> 'I went but...' > <i>itta. Batte(n)...</i> 'I went. But...'
<u>Regrammation</u>	<i>date</i> LMJ <i>kashiko-date</i> > LMJ <i>date</i> 'the assumption one knows what's going on' 'pretension'

## References

- Askedal, J. O. (2008). Degrammaticalization versus typology: thoughts on a strained relationship. In T. Eythórsson (ed.), *Grammatical change and linguistic theory: the Rosendal papers*. 45-77. Amsterdam: John Benjamins.
- Frellesvig, B. (2010). *A history of the Japanese language*. Cambridge: Cambridge University Press.
- Haspelmath, M. (2004). On directionality in language change with particular reference to grammaticalization. In O. Fischer, M. Norde & H. Perridon (eds.), *Up and down the cline—the nature of grammaticalization*. 17-44. Amsterdam: John Benjamins.
- Kibe, N. et al. (eds.) (2009). *Kore ga Kyūshū hōgen no sokojikara*. Tokyo: Taishukan Shoten.
- Kiparsky, P. (2012). Grammaticalization as optimization. In D. Jonas, J. Whitman, & A. Garrett (eds.), *Grammatical change: origins, nature, outcomes*. 15-50. Oxford, Oxford University Press.
- Lehmann, C. (2015). *Thoughts on grammaticalization*. 3<sup>rd</sup> edition. Berlin: Language Science Press.
- Matsumoto, Y. (1988). From bound grammatical markers to free discourse markers: history of some Japanese connectives. *Proceedings of the fourteenth annual meeting of the Berkeley Linguistics Society*, 340-51.
- Namiki, T. and Kageyama, T. (2016). Chapter 6, Word structure and headedness. In T. Kageyama & H. Kishimoto (eds.), *Handbook of Japanese lexicon and word formation*. Boston: De Gruyter Mouton.
- Narrog, H. (2016). Exaptation in Japanese and beyond. In M. Norde & F. van de Velde (eds.), *Exaptation and language change*. 94-120. Amsterdam: John Benjamins.
- Nishida, A. (1978). 'Keredomo' kō: sono seiritsu kara kakujitsu made. *Tōkyō seitoku tanki daigaku kiyō* 11, 49-60.
- Norde, M. (2009). *Degrammaticalization*. Oxford: Oxford University Press.
- Ōnishi, T. (2016). *Kotoba no chirigaku: hōgen wa naze soko ni aru no ka*. Tokyo: Taishukan Shoten.
- Suzuki, K. (1990). Setsuzoku joshi 'shi' no seiritsu. *Bungei Kenkyū* 64, 149-168.
- Yuzawa, K. (1954). *Edo kotoba no kenkyū*. Tokyo: Meiji Shoin.

<sup>1</sup> Early Middle Japanese (800-1200); LMJ = Late Middle Japanese (1200-1600); NJ = Modern Japanese (1600-)

## Some Proposals for Proto-Yue Finals and Grave Initials

John Carlyle

University of Washington, [jtcarlyl@uw.edu](mailto:jtcarlyl@uw.edu)

This paper explores the finals and grave initials of Proto-Yue by comparing dialectal descriptions of 22 Yue dialects. We mainly examine the data of Zhan Bohui et. al. (1987, 1998) and Tsuji Nobuhisa (1978), but in future revisions hope to extend the scope of this data in the future to better represent the colloquial lexical strata of the Yue dialects. We also briefly examine previous scholarship on the reconstruction of Proto-Yue and explain how this reconstruction attempts to build on it. The initials of our reconstruction and classification of dialects largely follow Yue-Hashimoto (2006).

We conclude that Proto-Yue had an eight-vowel system that distinguished two heights, three levels of backness, and lip rounding of front vowels; in addition to a syllabic dental fricative. (See figure 1). Proto-Yue had eight possible syllable codas, /-m, -n, -ŋ, -p, -t, -k, -j, -w/ and did not permit semi-vowel medials. This configuration helps us explain the so-called *Yinru* tone split of the Pearl Delta dialects. In checked tone syllables that began with historically voiceless consonants, Pearl Delta dialects often exhibit both high and mid tones that correspond to only one tone in the surrounding dialects and other varieties of Chinese. We are of the persuasion that vowel nuclei with the feature [+low], i.e. /-ɛ-, -œ-, -a, -ɔ-/ became associated with a lowered variant of the *yinru* tone, while [-low] vowel nuclei, /-i-, -y-, -ə-, -u-/ became associated with a higher variant. In other words, tongue height conditioned fundamental frequency in the older *yinru* tone. Ohala (1979, 52) predicts a similar scenario in his “Phonetic Explanations for the Development of Tones”, though notes diachronic evidence for such a development is scarce. After the occurrence of the tone split in the Pearl Delta Dialects, [+low] front and back vowels heightened pushed their high counterparts to centered positions in syllables that ended in acute and rounded codas, obscuring the conditioning environment (See figure 2). We can glimpse original situation of the vowels in the more conservative Wuyi-Liangyang dialects, where this heightening largely did not occur (See figure 3 for examples).

We also posit that in a Pre-Proto-Yue stage of the language, labial fricative consonants may not have been phonemic. Instead, we propose a series of labiovelars. Labiovelar fricatives and velars fricatives preceding the high back rounded vowel [u] became labial fricatives in almost all environments (See figure 4).<sup>1</sup> We believe when Pre-Proto-Yue came into contact with a literary variety of Chinese around the 11<sup>th</sup> century, the labial fricative allophones of the velar fricatives before /u/ were used to represent the labial fricatives of the literary language, while [ʔu] and [wu] occasionally represented the velar fricatives in this position. We also observe sporadic instances of /ʔw/ and /w/ to represent literary loans of words that would have started in labiovelars, because the labiovelars of Pre-Proto-Yue had already become labial fricatives (See figure 5).

---

<sup>1</sup> Velar fricatives preceding the rhymes /-uŋ/ and /-uk/ did not seem to undergo this development. Because labiovelars never occurred before rounded vowels in Pre-Proto-Yue, /fuŋ/, /vuk/, etc. were actually phonetic gaps in Proto-Yue until such combinations were used to accommodate similar literary pronunciations.

Figure 1. Proto-Yue Nuclei<sup>2</sup>

	Front		Central	Back
	[-round]	[+round]		
[-low]	*i	*y	*ə	*u
[+low]	*ɛ	*œ	*a	*ɔ

Figure 2. Vowel Heightening Generalized for Pearl Delta Dialects

\*i > jɛ > ɐ / \_\_ {m, p, n, t, w}; \*ɛ > i / \_\_ {m, p, n, t, w}; \*ə > ɐ  
 吉 “auspicious” PY \*kit<sup>7</sup>

	PY	Pearl Delta			Wuyi TS	EP
		GZ	ZS	SD		
急 “urgent”	*kip <sup>7</sup>	kɛp <sup>7</sup>	kɛp <sup>7</sup>	kɛp <sup>7</sup>	kip <sup>7</sup>	kiap <sup>7</sup>
突 “exceed”	*dət <sup>7</sup>	tət <sup>8</sup>	tət <sup>8</sup>	tət <sup>8</sup>	-	-

\*u > {wɐ, ɐ, œ} / \_\_ {m, p, n, t, j} (wɐ after velars, ɐ after [+round], œ elsewhere)

	PY	Pearl Delta			Wuyi TS	EP
		GZ	ZS	SD		
骨 “bone”	*kut <sup>7</sup>	k <sup>w</sup> ɛt <sup>7</sup>	k <sup>w</sup> ɛt <sup>7</sup>	k <sup>w</sup> ɛt <sup>7</sup>	kut <sup>7</sup>	kut <sup>7</sup>
輝 (p. name)	*(xuɟ <sup>1</sup> >) *fuj <sup>1</sup>	fɛi <sup>1</sup>	fɛi <sup>1</sup>	(uei <sup>1</sup> )	fɛi <sup>1</sup>	fui <sup>1</sup>
春 “spring”	*tʃ <sup>h</sup> un	ts'œn <sup>1</sup>	ts'œn <sup>1</sup>	ts'œn <sup>1</sup>	ts'un <sup>1</sup>	ts'un <sup>1</sup>

\*ɔ > u / \_\_ {m, p, n, t, j} (/ \*u/ further fronts to /y/ after acute initials in Pearl Delta Dialects)

	PY	Pearl Delta			Wuyi TS	EP
		GZ	ZS	SD		
杯 “cup”	*pɔj <sup>1</sup>	pui <sup>1</sup>	pui <sup>1</sup>	pui <sup>1</sup>	pɔi <sup>1</sup>	puai <sup>1</sup>
短 “short”	*tɔn <sup>3</sup>	tyn <sup>3</sup>	tyn <sup>3</sup>	tyn <sup>3</sup>	ɔn <sup>3</sup>	tuan <sup>3</sup>

Figure 3. Examples of Vowel Heightening and Tone Split in Checked Syllables

	PY	Pearl Delta			Wuyi TS	EP
		GZ	ZS	SD		
七 “seven”	*ts <sup>h</sup> it <sup>7</sup>	ts'ɛt <sup>7</sup>	ts'ɛt <sup>7</sup>	ts'ɛt <sup>7</sup>	t'it <sup>7</sup>	ts'iat <sup>7</sup>
急 “urgent”	*kip <sup>7</sup>	kɛp <sup>7</sup>	kɛp <sup>7</sup>	kɛp <sup>7</sup>	kip <sup>7</sup>	kiap <sup>7</sup>
骨 “bone”	*kut <sup>7</sup>	k <sup>w</sup> ɛt <sup>7</sup>	k <sup>w</sup> ɛt <sup>7</sup>	k <sup>w</sup> ɛt <sup>7</sup>	kut <sup>7</sup>	kut <sup>7</sup>
仆 “fall forward”	*p <sup>h</sup> uk <sup>7</sup>	p'ok <sup>7</sup>	p'ok <sup>7</sup>	p'ok <sup>7</sup>	p'øk <sup>7</sup>	p'ok <sup>7</sup>
節 “joint”	*tsɛt <sup>7</sup>	tsit <sup>9</sup>	tsit <sup>8</sup>	tsit <sup>9</sup>	tɛt <sup>7</sup>	tsiet <sup>7</sup>
貼 “to stick”	*t <sup>h</sup> ɛp <sup>7</sup>	t'ip <sup>9</sup>	t'ip <sup>8</sup>	t'ip <sup>9</sup>	hiap <sup>7</sup>	hiəp <sup>7</sup>
八 “eight”	*pat <sup>7</sup>	pat <sup>9</sup>	pat <sup>8</sup>	pet <sup>9</sup> ~ pat <sup>9</sup>	(pat <sup>9</sup> )	(pat <sup>9</sup> )
殺 “kill”	*ʃat <sup>7</sup>	sat <sup>9</sup>	sat <sup>8</sup>	sat <sup>9</sup>	sat <sup>7</sup>	sat <sup>7</sup>
客 “guest”	*xak <sup>7</sup>	hak <sup>9</sup>	hak <sup>8</sup>	hak <sup>9</sup>	hak <sup>7</sup>	hak <sup>7</sup>
闊 “wide”	*(x <sup>w</sup> ət <sup>7</sup> >) *fət <sup>7</sup>	fut <sup>9</sup>	hut <sup>8</sup>	fut <sup>9</sup>	(fət <sup>9</sup> )	(fuat <sup>9</sup> )
作 “to make”	*tsək <sup>7</sup>	tsək <sup>9</sup>	tsək <sup>8</sup>	tsək <sup>9</sup>	tək <sup>7</sup>	tsək <sup>7</sup>

<sup>2</sup> Figures use the following abbreviations: PY = Proto-Yue; GZ = Guangzhou; ZS = Zhongshan; SD = Shunde; DG = Dongguan; TS = Taishan; EP = Enping; irreg. = irregular; p. name = personal name. Forms in parentheses are irregular for the data, and indicate Pre Proto-Yue forms for the reconstruction. All data is taken from Zhan et. al. 1987, except the “axe” example, which is from Yue 2006.

Figure 4 . The Origins of Labial Fricatives

	PY	Pearl Delta GZ	ZS	SD	Wuyi TS	EP
火 “fire”	*x <sup>w</sup> ɔ³ > *fɔ³	fɔ³	fɔ³	fɔ³	fɔ³	fua³
苦 “bitter”	*xu³ > fu³	fu³	hu³	fu³	fu³	fu³

Figure 5. Lexical Layering Concerning Foreign Labial Fricatives and Labiovelar Fricatives

	PY	Pearl Delta GZ	ZS	DG	SD	Wuyi TS	EP
斧 “axe”	*vu³	fu⁴	fu⁴	fu⁴	-	-	-
	*bu³	p'u⁴	pu⁴	-	pu⁴	pu⁴	-
毀 “destroy”	*ɣuj³	uei³	uei³	-	uei³	-	-
	*xuj³ > fuj³	-	-	fei³	-	fei³	fui³

### References

- Ohala, J.J., Hombert, J.M. & Ewan W.G. (1979) Phonetic Explanations for the Development of Tones. *Language* 55 (1), 37-58.
- Tsuji, N. (1980) *Comparative Phonology of the Guangxi Yue Dialects*. Kazama Shobu Publishing Co.
- Yue-Hashimoto, A. (2006) Yuèyīn gòunǐ zhī èr: shēngmǔ 粵音構擬之二：聲母. In *Shān gāo shuǐ cháng: tīng pang-hsin xiānshēng qīzhìshòuqìng lùnwénjí: 山高水長：丁邦新先生七秩壽慶論文集*, 75-170. Taipei: Institute of Linguistics, Academia Sinica.
- Zhan, B. & Cheung Y.S. (1998) *Yuēxī shí xiànshì yuè fāngyán diàochá bàogào 粵西十縣市粵方言調查報告*. Jinán Dàxué Chūbǎnshè.
- Zhan, B. & Cheung Y.S. (1987) *Zhūjiāng sānjiǎozhōu fāngyán zìyīn duìzhào 珠江三角洲方言字音對照*. Guǎngdōng Rénmín Chūbǎnshè.

## A Corpus-based Study of Chinese RVC *qilai* and its Interaction with State predicates

Alex Cherici

Indiana University at Bloomington, [acherici@iu.edu](mailto:acherici@iu.edu)

This study expands on Xiao and McEnery's (2004) theory of aspect by investigating the interaction of *qilai*, usually considered a Directional Resultative Verb Complement ((D)RVC) meaning 'up/upward', with situation types and verbal aspect. The data under scrutiny were collected from Weibo in BCC Corpus (Beijing Language and Culture University Corpus Center), as it includes features of both spoken and written discourse and attests the usage of *qilai* in current social interactions.

One hundred and fifty examples of state predicates (namely adjectival predicates) paired with *qilai* were examined from lexical, sentential, and pragmatic perspectives, i.e. both the morpho-syntactic and the pragmatic context of the utterances were taken into consideration. Out of the six domains available in the BCC corpus, only two – literature and Weibo – included tokens of 'adjective + *qilai*'; in the other four domains, not a single token of the structure under scrutiny was attested, as they draw on more formal registers (press, academic journals, etc).

My research reveals that when adjectival predicates occur with *qilai*, they undergo a situation-type change, from states to processes. My findings also show that *qilai* should not only be regarded as an RVC, but it should also be considered as an inceptive marker focusing on initial point, ingressive dynamicity and continuity, similarly to what has been proposed by Xiao and McEnery (ibid.).

This study can contribute to a deeper understanding of 'adjective + *qilai*' construction (A+*qilai*), which might be beneficial from both a linguistic and a pedagogical perspective. Because the use of A+*qilai* is limited to colloquial registers, it is often disregarded by pedagogical grammars. I do believe that classroom instruction, at high-intermediate and advanced levels, should include structures proper of the spoken language, in order to allow the learners to access to a more up-to-date and less crystallized language, which would prove greatly effective in every-day communication with (Chinese) native speakers.

**EXAMPLES** (please note that inceptive marker *qilai* has been glossed as INC)

**(1) State vs. Process**

- a. 天气冷极了，地面都冻硬了。  
*Tianqi leng jile, dimian dou dong ying le*  
Weather cold extremely, ground all frozen hard LE  
“It's so cold, the ground is all frozen solid.”
- b. 天气逐渐冷起来了。  
*Tianqi zhujian leng - qilai le*  
Weather gradually cold - INC LE  
“It's getting cold day by day.”



(2) **Progressive Test**

a. 我正在好起来，虽然不是最好，但是是历史上第二个最好的时期。  
*Wo zhengzai hao -qilai, suiran bu shi zui hao, danshi shi lishi shang di'er ge zui hao de shiqi*  
I PROGR good- INC, although not be most good, but be history on second CL most good DE period  
“I’m getting better now and, although it’s not the best, this is the second best period in my life.”

a'. \*我正在好，虽然不是最好，但是是历史上第二个最好的时期  
*Wo zhengzai hao, suiran bu shi zui hao, danshi shi lishi shang di'er ge zui hao de shiqi*  
I PROGR good, although not be most good, but be history on second CL most good DE period  
\* “I’m being better now, although it’s not the best, it is the second best period in my life.”

(3) **kaishi and bian(de) co-occurring with A+qilai**

a. 大清早7点30整个医院都开始忙碌起来。  
*Da qing zao 7dian30 zhengge yiyuan dou kaishi manglu-qilai*  
Big clear early 7.30 wholeCL hospital all begin busy-INC  
“As early as 7.30 am the entire hospital starts bustling.”

a'. 每到春耕季节，每家每户都会忙碌起来。  
*Mei dao chun geng jijie, mei jia mei hu hui manglu-qilai*  
Each arrive spring plough season, each family each house MOD busy - INC  
“Whenever the spring ploughing season comes, every household will get busy.”

b. 我想和你在一起，我要让自己变得强大起来，我想做你的依靠。  
*Wo xiang he ni zai yiqi, wo yao rang ziji biande qiangda - qilai, wo xiang zuo nide yikao*  
I want and you stay together, I MOD CAUS oneself become powerful-INC, I want do your support  
“I want to be with you, I gotta toughen up, I want to be your rock.”

b'. 我缺失的东西真是太多了，我不想再这样 [...] 我要让自己强大起来。  
*Wo queshi de dongxi zhenshi tai duo le, wo bu xiang zai zheyang [...] wo yao rang ziji*  
I defect DE things really too many LE I not want again this way [...] I MOD CAUS oneself  
*qiangda qilai*  
powerful-INC  
“I’m lacking in so many things, I don’t want to be like this anymore [...] I gotta toughen up.”

(4) **Causative construction and A+qilai**

a. 只有让自己强大起来才可以去放肆。  
*Zhi you rang ziji qiangda - qilai cai keyi qu fangsi*  
Only have make oneself powerful-INC just can go unconstrained  
“Only by making yourself stronger (i.e. toughening up), you can finally run wild.”

a'. \*只有强大起来自己才可以去放肆。  
*Zhi you qiangda - qilai ziji cai keyi qu fangsi*  
Only have powerful-INC oneself just can go unconstrained  
“Only by toughening up (yourself), you can finally run wild.”

Table 1. The 10 most frequent adjectives co-occurring with *qilai*.

Type ( <i>pinyin</i> )	Basic Meaning of A (without <i>qilai</i> )	Meaning of the Compound A+ <i>qilai</i>	Number of tokens
<b>A+<i>qilai</i></b>			31.631
<i>hao qilai</i>	good, well, fine	get better, feel better, improve	12.564 (40%)
<i>kuaile qilai</i>	happy, joyful	cheer up	3.702 (11%)
<i>qiangda qilai</i>	powerful, strong	toughen up, get stronger	1.447 (4,5%)
<i>kaixin qilai</i>	happy, joyful	cheer up, be cheered up	935 (3%)
<i>chengshu qilai</i>	mature, grown up	grow up, become more mature	830 (2,5%)
<i>manglu qilai</i>	busy	get busy, get to work	662 (2%)
<i>jianqiang qilai</i>	strong	toughen up	482 (1,5%)
<i>pang qilai</i>	fat, heavy	gain weight, get fat(ter)	439 (1,4%)
<i>leng qilai</i>	cold, chilled	get cold, cool down	340 (1%)
<i>renao qilai</i>	lively, noisy	liven up	287 (0,9%)

Table 2. The 10 types and their respective number of occurrences with verbs *kaishi* ‘begin, start’ and *bian(de)* ‘change, turn into’, modals *hui* and *yao*, causative verbs, and sentence-final *le*.

Type ( <i>pinyin</i> )	<i>bian(de)</i> + A+ <i>qilai</i>	<i>kaishi</i> + A+ <i>qilai</i>	<i>hui</i> + A+ <i>qilai</i>	<i>yao</i> + A+ <i>qilai</i>	causative+A + <i>qilai</i>	A+ <i>qilai</i> + <i>le</i>	Total tokens
<b>A+<i>qilai</i></b>	1677 (5.3%)	423 (1.3%)	2505 (7.9%)	998 (3.1%)	808 (2,5%)	4400(13,9%)	31.631
<i>hao qilai</i>	89 (0.7%)	31 (0.2%)	2056 (16.3%)	372(2.9%)	33 (0.2%)	579 (4.6%)	12,564
<i>kuaile qilai</i>	51 (1.3%)	1 (0.02%)	77 (2%)	173(4.6%)	138 (3.7%)	22 (0.5%)	3,702
<i>qiangda qilai</i>	137 (9.4%)	5 (0.3%)	29 (2%)	37 (2.5%)	182(12.5%)	37 (2.5%)	1,447
<i>kaixin qilai</i>	12 (1.2%)	0	48 (5.1%)	45(5%)	138 (14.8%)	101(10.8%)	935
<i>chengshu qilai</i>	99 (11.9%)	2 (0.2%)	61 (7.3%)	62(7.2%)	38 (4.6%)	64 (7.7%)	830
<i>manglu qilai</i>	23 (3.5%)	107(16.2%)	8 (1.2%)	48(7.3%)	124 (18.7%)	138 (20.8%)	662
<i>jianqiang qilai</i>	72 (14.9%)	0	18 (3.7%)	83(17.2%)	24 (4.9%)	12 (2.5%)	482
<i>pang qilai</i>	0	4 (0.9%)	22 (5%)	29(6.6%)	8 (1.8%)	59 (13.4%)	439
<i>leng qilai</i>	7 (2%)	26 (7.6%)	3 (0.8%)	25(7.4%)	0	240 (70.6%)	340
<i>renao qilai</i>	24 (8.4%)	41 (14.3%)	2 (0.7%)	4 (1.4%)	2 (0.7%)	99 (34.5%)	287

### Selected References

- Comrie, B. (1976). *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems*. Cambridge: Cambridge University Press.
- Declerck, R. (with S. Reed, and B. Cappelle) (2006). *The Grammar of the English Tense System: A Comprehensive Analysis*. Berlin: Mouton de Gruyter.
- Huddleston, R. D., & Pullum, G. K. (2002). *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.
- Li, C. N., & Thompson, S.A. (1981). *Mandarin Chinese: A Functional Reference Grammar*. Berkeley, CA: University of California Press.
- Smith, C. S. (1994). Aspectual viewpoint and situation type in Mandarin Chinese. *Journal of East Asian Linguistics* 3, 107-146.
- Xiao, R., & McEnery, T. (2004). *Aspect in Mandarin Chinese: A Corpus-based Study*. Amsterdam: John Benjamins Publishing.

## Stylistic Variation and Mediatized Otaku Personae: 'Steins;Gate' and the Akihabara Chronotope

Hannah Dahlberg-Dodd  
The Ohio State University, [dahlberg-dodd.1@osu.edu](mailto:dahlberg-dodd.1@osu.edu)

'Steins;Gate,' a popular media-mix franchise, follows the story of Okabe Rintaroo, is self-proclaimed "mad scientist" who runs the "Future Gadget Laboratory" in an apartment together with his friends Shiina Mayuri and Hashida Itaru ("Daru"). Set in Akihabara in 2010, Okabe accidentally discovers a method of rudimentary time travel that involves sending a text message to the past, thereby changing the present. In his efforts to fix the present, Okabe changes timelines multiple times, encountering along the way a number of eccentric characters who are all fellow denizens of Akihabara, Tokyo's electronics district and so-called "otaku mecca" (e.g. Kikuchi, 2015). This study examines the use of linguistic features found in the speech of the characters of the 'Steins;Gate' anime and their role in the creation of otaku-oriented personae, as well as the contribution of such personae to the construction of 2010 Akihabara as a chronotope ('time-space') for popular media consumption.

As a figure of personhood, the otaku has been a prominent target of research in the fields of media and cultural studies (e.g. Okada, 1996; Azuma, 2001; Otsuka, 2004; Morikawa, 2012). That being said, the majority of the literature in this area imagines the prototypical otaku as a male cultural participant. Such a focus is typical of earlier otaku research, but has survived well into more recent work due in large part to the highly publicized serial killings by the so-called Otaku Murderer in the late 80s, not to mention the success of the media-mix franchise *Densha Otoko* (2004-2005), which stars a character who is the quintessential early 90s male otaku. Because of this, even recent research on the otaku figure seemingly stops at *Densha Otoko* despite the fact that the mediatized otaku of today's popular media belongs to no specific gender or even hobby area (Kam 2015). 'Steins;Gate' is one such mass media franchise that capitalizes on the wide variety of personae that may ostensibly be classified as otaku. As each character in the narrative inhabits a different subsection of the citizens of the "otaku mecca," so, too, do their styles of speech differ in accordance with their persona.

With the figure of the otaku in mind, this study builds on a recent volume of research that pursues mediatized stereotypes and their linguistic features (e.g. Teshigawara, 2007; Hiramoto, 2010; Nishida, 2011). More specifically, this study analyzes the linguistic variety found in Steins;Gate through the lens of *yakuwarigo* ('role language'), whereby a collection of linguistic features may be associated with a particular character type. Rather than as the broader character types discussed in Kinsui (2003) such as "old man speech" and "warrior speech," however, this study approaches the characters of Steins;Gate from the perspective of what role they fulfill within the chronotope of 2010 Akihabara (cf. Blommaert, 2015). This study will focus specifically on three styles that appear in the anime: *chuunibyoo kotoba* (lit. 'second-year illness speech'), characterized by its high use of literary vocabulary (Example 1); *neko mimi meido kotoba* (lit. 'cat-eared maid speech'), which is identified by its use of the onomatopoeia for a cat meow (Example 2); and *2-chan kotoba* (lit. '2-chan speech'), in which the speaker uses stylistic resources typical of the internet message board "2-channel" in non-internet spaces (Example 3). Stylistically, the tools that are used to construct a given figure or setting in popular media are numerous; in the case of animation, this can include anything from the color palette and character designs to the genre of music featured on the soundtrack and the linguistic features

utilized by the characters within the narrative. Focusing on these linguistic features, this study explores in what ways speech characteristics of the mediatized otaku personae presented in ‘Steins;Gate’ contribute to the stylistic bricolage of the Akihabara chronotope.

#### EXAMPLES

- (1) *Furue yo, waga migi ude, keiyaku ni motozuki menjiru. Shikkoku no honou o matoite waga nozomi o mitase!!*  
‘Tremble, my right arm, I will command you as based on our contract. Bathe yourself in jet black fire and carry out my desires!’
- (2) *Feirisu wa... kako o furikaeranai nyan! Mae o muite aruku no ga minna ni shiawase o todokeru neko mimi meido no shimei nyan!*  
‘Feiris... doesn’t look back on the past, meow! It’s the duty of a cat-eared maid who brings everyone happiness to forge ahead, meow!’
- (3) *Feirisu-tan wa betsu! San-jigen demo ni-jigen damashii o yadoshiteru o!*  
‘Feiris-tan is special! She may be 3D, but she has a 2D soul!’

#### References

- Agha, A. (2005). Voice, Footing, Enregisterment. *Journal of Linguistic Anthropology* 15(1), 38-59.
- Azuma, H. (2001). *Doobutsuka suru posuto modan: Otaku kara mita Nihon shakai*. Tokyo: Kodansha.
- Blommaert, J. (2015) Chronotopes, Scales, and Complexity in the Study of Language in Society. *Annual Review of Anthropology* 44, 105-116.
- Hebdige, D. (1984) *Subculture: The Meaning of Style*. New York: Methuen.
- Hiramoto, M. (2010). Anime and intertextualities: Hegemonic identities in *Cowboy Bebop*. *Pragmatics and Society* 1(2), 234-256.
- Kam, T. H. (2015). Otaku as a Label: Concerns of Productive Capacities in Contemporary Capitalist Japan. In P. Galbraith, T. H. Kam, & B.-O. Kamm (eds.), *Debating Otaku in Contemporary Japan: Historical Perspectives and New Horizons*. London: Bloomsbury Publishing.
- Kikuchi, S. (2015). The Transformation and Diffusion of ‘Otaku’ Stereotypes and the Establishment of ‘Akihabara’ as a Place-brand. In P. Galbraith, T. H. Kam, & B.-O. Kamm (eds.), *Debating Otaku in Contemporary Japan: Historical Perspectives and New Horizons*. London: Bloomsbury Publishing.
- Kinsui, S. (2003). *Vaacharu nihongo: Yakuwarigo no nazo*. Tokyo: Iwanami shoten.
- Morikawa, K. (2012). Otaku and the City: The Rebirth of Akihabara. In M. Ito, D. Okabe, and I. Tsuji (eds.), *Fandom Unbound: Otaku Culture in a Connected World*: 133-157. New Haven: Yale University Press.
- Okada, T. (1996). *Otakugaku nyuumon*. Tokyo: Ota shuppan.
- Otsuka, E. (2004). *Otaku no seishinshi: 1980-nendai-ron*. Tokyo: Kodansha.
- Nishida, T. (2011) Tsundere expressions as role language, focusing on circumstances of usage. In S. Kinsui (ed.), *Yakuwarigo kenkyuu no tenkai*: 265-278. Tokyo: Kuroshio Shuppan.
- Teshigawara, M. (2007) Voice Qualities of Vocal Stereotypes of Good Guys and Bad Guys: A Phonetic Study in the Role Language Framework. In S. Kinsui (ed.), *Yakuwarigo kenkyuu no chihei [Foundations of Role Language Research]*, 49-70. Tokyo: Kuroshio Shuppan.

## **Disrespectful Attitudes Make Your Verbal Arts So Lovely: The Use of Rhyming Patterns in Korean Disrespectful Rap Battles**

Gihyun Gal

University of Kentucky, [gihyun.gal@gmail.com](mailto:gihyun.gal@gmail.com)

This research examines rhyming patterns in rap battles among Korean male and female rappers. Today, Korean Hip Hop (KHH) has been slowly moving beyond a localized pop culture and rap battles have quickly grown in popularity through the internet. This study finds that rhyming patterns in Korean Hip Hop are much more complex than prior research suggests. Park (2016) discusses how Korean rappers think about using rhyming tactics as “[m]over, the concept of rhyming was not conceptualized as belonging to the Korean language by most of rappers. Even if rappers understand rhyme conceptually, it is not necessarily a straightforward matter for them to ‘use’ rhyme in their creative processes at the pragmatic level” (p. 284). However, this study suggests that the rhyming patterns of Korean rap lyrics are actually quite similar to those found in English (Alim 2003).

While Park assumes that the rhyming structure of Korean should be identical to that of English, this study examines rhyme from a Korean perspective suggested by perceptual phonetic experiments. In a series of experiments such as a sound similarity judgement (SSJ) and concept formation (CF), Yoon and Derwing (2001) find evidence to argue for a left-branching syllable for Korean. Yoon and Derwing suggest that, in contrast to a language like English, speakers of Korean are more sensitive to similarities between Onset-Nucleus CV pairs than to Nucleus-Coda VC pairs. Building on this work, this study analyzes Korean rap lyrics in light of a left-branching syllable pattern.

In his study of English Hip Hop lyrics, Alim (2003) shows a wide range of rhyming tactics including end rhymes, chain rhymes, assonance, alliteration and so on. Park (2016) shows only a couple of rhyming tactics such as end rhymes or assonance in his study, but concludes that rhyme does not play an important role in Korean Hip Hop. However, considering the rhyming patterns associated with left-branching syllables shows a much more complicated set of rhyming tactics than Park describes. If Alim (2003)’s tactics are applied with left-branching syllable structure, then there are many tactics that Korean rappers deploy in their lyrics and the differences between Korean and English rhyming patterns have more to do with differences in syllable structure between languages (and not because of some rejection of rhyme on the part of Korean rappers as Park suggests). Through this study, it is possible to see Korean rappers actually can utilize American rhyme tactics albeit with the different syllable type found in Korean. This analysis demonstrates the skill of Korean rappers in producing rhymes in spontaneous compositions. It also suggests that Korean rap has evolved a great deal to have more complicated and complex patterns of rhyme.

The English rhyming tactics that are described by Alim in 2003.

- End Rhyme – a rhyme at the end of a line.
  1. [Yo, where you at?] Uptown let me **see ’em**
  2. Notorious for the six-fives and the **BM’s**
  3. Heads give you beef, you put ’em in the **mausoleum**
  4. And the shit don’t start jumpin til after 12 **PM**
  5. Ungh, ignorant minds, I **free ’em**
  6. If you tired of the same old everyday you will agree **I’m**
  7. The most obligated . . .

- Alliteration – the repetition of a particular consonant.
  - 1 **F-f-f-f-f-f-f**-follow me for now
  - 2 For no formidable fights I've been formed to forget
  - 3 For **Pharoha**e fucks familiar foes first
- Assonance – the repetition of a particular vowel.
  - 1 We're going to learn to hear words with the vowel **A** sound . . . Listen with care
  - 2 I be the analog arsonist **aimin at** your arteries
  - 3 All-seeing **abstract, analyze** everything
  - 4 Adding on, **absolutely abolishing**
- A masculine rhyme simply refers to a one-syllable rhyme, such as **sink/pink, defeat/eat, and sleep/creep**.
- Feminine rhymes are rhymes that involve two syllables, with the first syllable of the rhyme being the accented one: **drilling/grilling, reparation/nation, and quiet/riot**.
- More than 2 syllables - Triple, as the name suggests, are rhymes that consist of three syllables. The stress is on the antepenultimate syllable: **daringly/glaringly, steadily/readily, and audacity/tenacity**. And there are more rhymes such as Quadruplet and Quintuple.
- Multirhyming - The interplay of assonance, alliteration, and internal and end rhymes in this verse constitutes a multirhyme matrix while making the poet's point perfectly clear. A simple definition is a pattern of rhymes that repeats across several lines of a song.
  1. My exterior serene with the potential of a killin machine
  2. Ex-marine you drag queen, we tag team
  3. Queens finest the alliance defiant we bag fiends
  4. The fuck you lookin in my face fo nigga?
  5. I mace mics and then lace the bass with figgas
- Wordplay – Altering the form of a word in order to fit it into a rhyme sequence (breast → “breasteses” in order to rhyme with “Lexuses”).

Rhyming tactics which are based on Alim's work in Korean rap lyrics

End Rhyme – Both genders use roughly it roughly half out of the entire lines.

Male = 0.57 203/354 lines, Female = 0.44 104/235 lines

33) RRK<sup>1</sup>: nae/i.reu.meul/pal.go.na/seo.ya/neon/il.tteung.eul/jjik.jji

Hangeul:내 이름을 팔고나 서야 넌 일등을 찍지

IPA:[ne: irumul p<sup>h</sup>algona saja nan ilt\*unul te\*ik<sup>h</sup>te\*i]

IPA(MBM<sup>2</sup>): [ne: i.ru.m-ul p<sup>h</sup>al.go.na sa.ja nan il.t\*un-ul te\*ik<sup>h</sup>.te\*i]

34) RRK: geu.ge/na.ui.ma.ji.mak/mercy/Syo.mi.deo.meo.ni.ppeol.jjit

Hangeul:그게 나의 마지막 mercy 쇼미더머니 뽀뽀

IPA:[guge nauji mateimak] mercy [sjomidamani p\*al<sup>h</sup>te\*it]

IPA(MBM): [gu.ge na-uj ma.tei.mak] mercy [sjo.mi.da.ma.ni p\*al<sup>h</sup>.te\*it]

35) RRK: Brand new pussy/Gye.yak.sseo/a.pe.seo/mu.reup/kku.leot.jji

Hangeul: Brand new pussy 계약서 앞에서 무릎 꿇었지

IPA: brand new pussy [gje jaks\*<sup>h</sup> a<sup>h</sup>pesa mu.rup<sup>h</sup> k\*ulatte\*i]

IPA(MBM): brand new pussy [gje jak.s\*<sup>h</sup> a-p<sup>h</sup>e.sa mu.rup<sup>h</sup> k\*u.la<sup>h</sup>.te\*i]

from Simon Dominic “Control”

More than 2 syllables – Both genders use less multirhyming tactics than above tactics. However, still we can find multirhyming in their lyrics.

38) RRK: neon/mik.seu.te.i.bi/han.gae/Geun.de/na.bo.go/tto/seol.le.bal?

Hangeul:넌 믹스테잎이 한개 근데 나보고 또 설레 발

IPA: [nan miksut<sup>h</sup>eibj hange gunde nabogo t\*o sallebal]

IPA(MBM): [nan mik.su.t<sup>h</sup>e.i.b-i han-ge gun.de na-bo.go t\*o sal.le.bal]

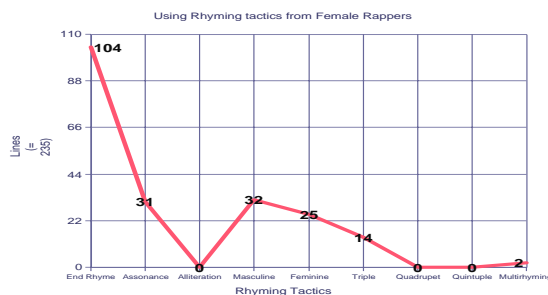
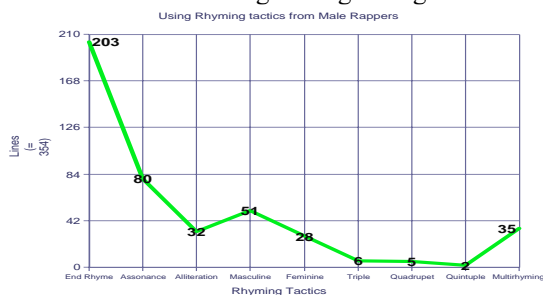
39) RRK: neon/mik.seu.te.i.bi/han.gae/neon/mik.seu.te.i.bi/han.gae

Hangeul:넌 믹스테잎이 한 개 넌 믹스테잎이 한 개

<sup>1</sup> RRK: Revised Romanization of Korean

<sup>2</sup> MBM: Morpheme-by-morpheme

IPA: [nan miksut<sup>h</sup>eibi hange nan miksut<sup>h</sup>eibi hange]  
 IPA(MBM): [nan mik.su.t<sup>h</sup>e.i.b-i han-ge nan mik.su.t<sup>h</sup>e.i.b-i han-ge]  
 41) RRK: ssam.dɨ/jang.gɨ.pan/dwi/nan/nɨ/am.nɨ/pal/gwi/ba.kwi/bap/jim  
 Hangeul:쌘디 장기판 뒤 난 니 앞니, 팔, 귀, 바퀴 밥 짐  
 IPA: [s\*amdɨ teangp<sup>h</sup>an duɨ nan nɨ amni p<sup>h</sup>al guɨ bak<sup>h</sup>ɨɨi bap<sup>h</sup> teim]  
 IPA(MBM): [s\*am.dɨ teang.gɨ.p<sup>h</sup>an duɨ nan nɨ am.nɨ p<sup>h</sup>al guɨ ba.k<sup>h</sup>ɨɨi bap<sup>h</sup> teim]  
 42) RRK: sap.jjɨl.ha.jɨ/an.kɨl/nan/nɨ/bak.pɨ.ha. \_\_/ppal.lɨ/kka.jɨ  
 Hangeul:삽질 하지 않길 난 니 박피하지 빨리 까지  
 IPA: [sap<sup>h</sup>te\*ɨɨl hateɨ an<sup>h</sup>k<sup>h</sup>ɨɨl nan nɨ bak<sup>h</sup>p<sup>h</sup>ɨ hateɨ p\*alɨɨ k\*a<sup>h</sup>teɨɨ]  
 IPA(MBM): [sap<sup>h</sup>.te\*ɨɨl ha.teɨ an.k<sup>h</sup>ɨɨl nan nɨ bak.p<sup>h</sup>ɨ.ha.teɨ p\*a.lɨɨ k\*a<sup>h</sup>.teɨɨ]  
 43) RRK: wae/geul.sseu.nya.go/geul/jon.na/jal.sseu.ni.kka  
 Hangeul:왜 글 쓰냐고 글 존나 잘 쓰니까  
 IPA: [wɛ guɨɨ s\*umjago guɨɨ teonna teal s\*unɨk\*a]  
 IPA(MBM): [wɛ guɨɨ s\*u-njago guɨɨ teonna teal s\*u-nɨk\*a]  
 44) RRK: wae/gwi.cheok/geu.lae.ya/bin.ji.nocheo.leom/tteu.ni.kka  
 Hangeul:왜 귀척 그래야 빈지노처럼 뜨니까  
 IPA: [wɛ guɨte<sup>h</sup>ɨɨk guɨɨ.le:ja binteino<sup>h</sup>te<sup>h</sup>ɨɨlɨm t\*unɨk\*a]  
 IPA(MBM): [wɛ guɨ.te<sup>h</sup>ɨɨk guɨɨ.le:ja bin.tei.no-te<sup>h</sup>ɨɨlɨm t\*u.nɨk\*a]  
 Swings "King Swings Part 2"



There are two line graphs that show how many times they deploy each rhyming tactic between male and female rappers in their lyrics. Both male and female rappers deploy end rhyme roughly half out of each total lines. Assonance, alliteration, and masculine are more frequently used by male rappers. Otherwise, female rappers use more triple than male rappers. Multirhyming is shown more in male rappers' lyrics than female rappers' lyrics. These line graphs show they do not prefer to use over 4 syllables rhyme tactics in general.

## References

- Alim, H. S. (2003) On some serious next millennium rap ish: Pharoah Monch, hip hop poetics, and the internal rhymes of internal affairs. *Journal of English Linguistics* 31(1), 60-84.
- Lee, J. S. (2007) I'm the illest fucka. *English Today* 23(2), 54-60.
- Lee, J. S. (2010) Globalizing keepin'it real: South Korean hip-hop playas. In M. Terkouafi (ed.), *The languages of global hip hop*, 139-162.
- Mercury, R. E. (1995) Swearing: A "bad" part of language; A good part of language learning. *TESL Canada Journal* 13(1), 28-36.
- Park, J. (2016) Rap as Korean Rhyme: Local Enregisterment of the Foreign. *Journal of Linguistic Anthropology* 26(3), 278-293.
- Park, S. (1990) Vowel harmony in Korean. *Language Research* 26, 469-499.
- Yoon, Y. B., & Derwing, B. L. (2001) A language without a rhyme: Syllable structure experiments in Korean. *Canadian Journal of Linguistics/Revue canadienne de linguistique* 46(3-4), 187-237.
- 이센스, 개코, 쌘디, 스윙스 등 힙합 디스 랩 총 모음 (Korea War Battle Hip Hop Rap disrespect Collection Music). (2013, August 25). Retrieved from <https://youtu.be/f5IfQXXIChw>
- [DISS 정리 및 모음] 한국 여성래퍼 디스전 (줄리브이,최삼,타이미,펍,요안나,키디비). (2016, September 24) Retrieved from <https://youtu.be/uLLvIzDRAsc>
- A. (2013, August 27) A Concise Guide to the "Diss" Battles Involving E-Sens, Amoeba Culture, Simon D and More. Retrieved from <https://www.soompi.com/2013/08/26/a-concise-guide-to-the-diss-battles-involving-e-sens-amoeba-culture-simon-d-and-more/>



# How Native Japanese Speakers Solve Ambiguous Relative Clauses in Their L1 and L2: Evidence from the Self-Paced Reading of Japanese and English

Kanae Ito, Masatoshi Koizumi & Sachiko Kiyama  
Tohoku University, [kanae7831@gmail.com](mailto:kanae7831@gmail.com)

**Purpose:** A relative clause (RC) can be ambiguous when it has two candidate antecedents, such as noun phrases (NPs) connected by a genitive marker. This is especially the case when both NPs are equally plausible (neutral) as the agent of the action described in the RC (1a), rather than when one NP is more plausible than the other (1b).

Predicting which NP should be the antecedent of the RC differs according to the following two principles: Recency Preference (RP; Gibson, Pearlmutter, Gonzales, & Hickcok, 1996) and Predicate Proximity (PP; Hemforth, Conieczny, & Scheepers, 2000). RP predicts that the NP closer to the RC (CNP) is the antecedent. By contrast, PP predicts that the most distant NP (DNP) from the RC is the antecedent. Native English speakers prefer RP (Felser, Roberts, & Marinis, 2003), whereas native speakers of German, Japanese, and Greek tend to prefer PP (Hemforth, Konieczny, & Scheepers, 2000; Kamide & Mitchell, 1988; Papadopoulou & Clahsen, 2002). Given the difference among languages, second language (L2) learners who have a conflicting preference in their first language (L1) are likely to be confused when interpreting such an ambiguous type of RC in their L2. Moreover, advanced English learners whose L1 is German or Greek reportedly tend to interpret DNP as the antecedent of neutral RCs more often than native English speakers do (Felser, et al., 2003). Although numerous studies have examined the preference by native Japanese speakers (e.g., Miyamoto, Gibson, Pearlmutter, Aikawa, & Miyagawa, 1999; Yamada, Arai, & Hirose, 2016), it remains unclear how they change the preference between their L1 and L2. The present study combines off-line (questionnaire) and on-line (self-paced reading; SPR) tasks to demonstrate how native Japanese speakers learning English specify two NPs as the antecedents of the RCs between their L1 (Japanese) and L2 (English).

## Methods

*Participants:* A total of 40 intermediate level English learners whose L1 was Japanese participated in this study.

*Stimuli and Procedure:* A total of 16 sentences like (1) were prepared in Japanese and English. We assumed (1a) as the neutral condition, and (1b) as the DNP-preferred condition because DNP (the most distant noun phrase from RC) was found to be a more plausible agent based on the results of a pre-test. In the questionnaire, participants were asked to judge which NP was the antecedent of the RC. Participants also underwent a self-paced reading task in which they read each sentence region by region (RC-NPs-Subject-Verb in Japanese, S-V-NPs-RC in English), they were then asked to specify the antecedent. The content of the self-paced reading task was presented at the center of the computer monitor. Reading times of each region were recorded. E-prime ver. 2.0 (Psychology Software Tools, Sharpsburg, PA) was used to present stimuli and record reading times.

*Analysis:* As for the off-line task (questionnaire) of each language, a chi-squared test was performed to examine whether the frequency of the selected antecedent (CNP or DNP) of the RC differed between the two conditions of RCs (neutral and DNP-preferred). Data obtained from the on-line task (SPR) was examined with linear mixed effect (LME, Baayan, Davidson, & Bates,



2008) modeling. For predicting the reading time (RT) of each region as a dependent measure, the RT conditions (CNP and DNP) was set as a fixed factor (of interest) as well as the RT of the previous region(s) as another fixed factor (of no-interest) to examine a spill-over effect. Item and participant were also included in the model as random factors. Packages *lme4* (Bates, Maechler, Bolker, and Walker, 2018) and *lmerTest* (Kuznetsova, Brockhoff, & Christensen, 2018) were used on R ver. 3.5.1.

**Results and Discussion:** The off-line task indicated that the native Japanese speakers tended to attach neutral English RCs to the approximately same numbers of CNPs and DNPs just like German and Greek speakers rather than native English speakers ( $\chi^2 = 55.983, p = .000$ , Fig. 1). The on-line SPR task revealed that, although the RT in Japanese did not yield significant effects (Fig. 2), the RT of RC was marginally different between the two conditions in English RCs ( $\beta = -.239, p = .088$ , Fig. 3), even after the spill-over effect was separated. The longer reading time for neutral RCs in their L2 may reflect a conflict between the two principles of RP and PP. As such, this crosslinguistic combined study of on- and off-line tasks first demonstrated that intermediate English learners whose L1 is Japanese are still learning a disambiguating strategy based on RP and affected by PP in their L2 English.

- (1a) *Kooen-o arui-teiru sensei-no seito-o Misaki-ga warawase-ta*  
 park-LOC walk-PROG teacher-GEN student-ACC Misaki-NOM amuse-PST  
 ‘Peter amused the student of the teacher who was walking in the park.’
- (1b) *Tesuto-de rakudaishi-ta sensei-no seito-o Misaki-ga warawase-ta*  
 test-LOC fail-PST teacher-GEN student-ACC Misaki-NOM amuse-PST  
 ‘Peter amused *the student of the teacher* who had failed in the test.’

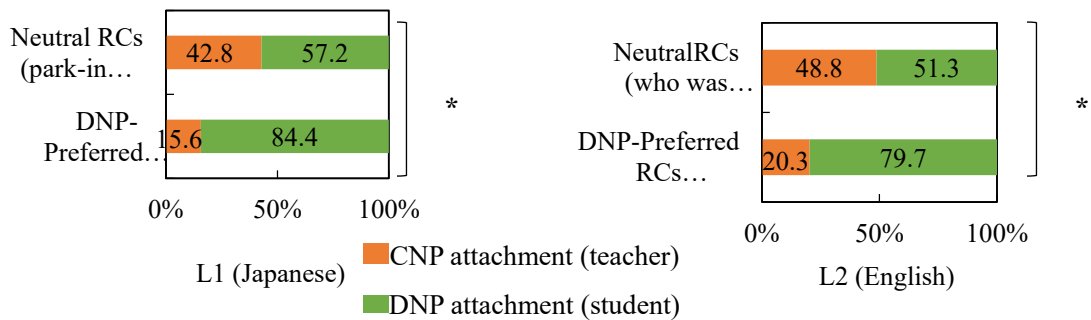


Fig 1. The ratio of NP attachment in the questionnaire

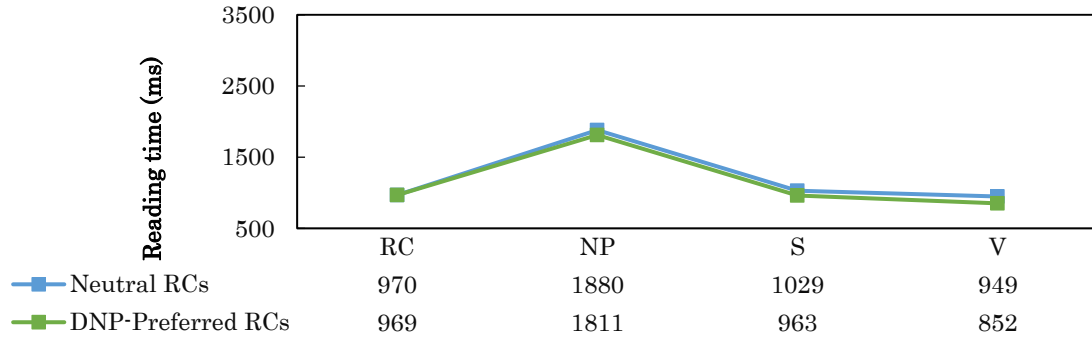


Fig 2. Mean reading times by condition in Japanese SPR

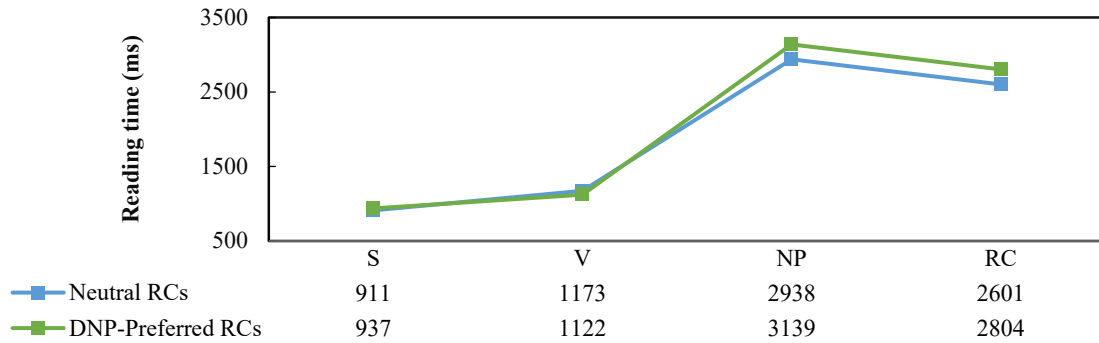


Fig 3. Mean reading times by condition in English SPR

## References

- Baayan, H., Davidson, D., & Bates, D. (2008). Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language* 59, 390-412
- Bates, D., Maechler, M., Bolker, B., & Walker, S. (2018). Package 'lme4', retrieved from; <https://cran.r-project.org/web/packages/lme4/lme4.pdf>
- Felsler, C., Roberts, L., & Marinis, T. (2003). The processing of ambiguous sentences by first and second language learners of English. *Psycholinguistics* 24, 453-489.
- Gibson, E., Pearlmutter, N., Gonzalez, E., & Hickok, G. (1996). Recency preference in the human sentence processing mechanism. *Cognition* 59, 23-59.
- Hemforth, B., Konieczny, L., & Scheepers, C. (2000). Modifier attachment: Relative clauses and coordination. In B. Hemforth & L. Konieczny (Eds.), *German Sentence Processing*. 161-186. Dordrecht: Kluwer Academic.
- Kamide, Y., & Mitchell, D. C. (1997). Relative clause attachment: nondeterminism in Japanese parsing. *Journal of Psycholinguistic Research* 26, 247-254.
- Kuznetsova, A., Brockhoff, B. & Christensen, R. (2018). Package 'lmer Test', retrieved from; <https://cran.r-project.org/web/packages/lmerTest/lmerTest.pdf>
- Miyamoto, E., Gibson, E., Pearlmutter, N., Aikawa, T., & Miyagawa, S. (1999). A U-shaped relative clause attachment preference in Japanese. *Language and Cognitive Processes* 14, 663-686
- Papadopoulou, D., & Clahsen, H. (2002). Parsing strategies in L1 and L2 sentence processing: A study of relative clause attachment in Greek. *Studies in Second Language Acquisition* 25(4), 501-528.
- Yamada, T., Arai, M., & Hirose, Y. (2016). Unforced Revision in Processing Relative Clause Association Ambiguity in Japanese: Evidence Against Revision as Last Resort. *Journal of Psycholinguistic Research* 46, 661-714.

# 不说“再见”的再见 Goodbye Without Saying “zàijiàn”: A Pilot Study on Farewell Expressions in Modern Chinese Conversation

Yawei Li

The Ohio State University, li.6888@osu.edu

This paper does a pilot study on the expressions of presenting farewell in modern Chinese conversations among Chinese younger generations.

Being one of the so called “five courteous phrases” in Chinese, “再见 zàijiàn” (goodbye) was highly recommended in the 1980s, to be used when conversation finishes and interlocutors are going to be separated in China. However, as society has developed, the ways for Chinese people to express farewell have expanded and the use of “再见 zàijiàn” is not as frequent as it used to be. This paper explores answers to three questions:

- 1) How often is the word “再见 zàijiàn” used nowadays among Chinese young people in different situations?
- 2) What are the other ways to say “goodbye” in Chinese among young Chinese native speakers?
- 3) What are the reasons that cause the change of word use in different situations?

Under three different communication modes<sup>1</sup> (face-to-face talking; voice chatting; online chatting (typing)), ten Chinese native speakers<sup>2</sup> took part in an interview, in which the interviewer plays different roles (A. close family members such as brothers and sisters; B. close friends; C. colleagues; D. superiors such as professors and E. strangers;) and the interviewees respond accordingly, assuming that they’ve been talking for a while and they are reaching the end of the conversation. The interviewees need to organize their words and form a farewell<sup>3</sup>.

The data reveals several other ways of bidding farewell such as English equivalents showing appreciation, making further promise, changing of topics, and so forth. The word “再见 zàijiàn” is used more in face-to-face communication and voice chatting when people face their superiors (bosses or professors), but this traditional expression is used much less frequently than other variations.

Several reasons may have influenced the change of this word use. The Chinese politeness, the D, P and R’s influence<sup>4</sup> during communication, the development of China and Chinese language are all aspects that need to be considered.

This study not only indicates the change of language use, the development of society and the development of technology, but also sheds light on teaching and learning Chinese as a foreign language. It gives a clearer idea that roles, discourse, and context play crucial parts in both teaching and learning foreign languages. In order to allow language learners to do things in the target language rather than solely learn the language itself, it is better and wiser to let the language learner access meaning and culture through discourse observation, interactions and context rather than through single sentences.

---

<sup>1</sup> All modes are constraint by time duration. Only instant messages are considered in this research.

<sup>2</sup> Subjects are in their 20’s and 30’s.

<sup>3</sup> To avoid the language accommodation that following the use the other people’s word use in communication, the interviewee should be the one who uses farewell language first during the communication.

<sup>4</sup> D: The social distance of speaker and hearer; P: The relative power relation and R: The absolute ranking of imposition in the particular culture (Brown & Levinson, 1987, p. 74)

This study does have some shortcomings, one being the lack of gender consideration, as all subjects are female. In this case, the data might reveal more about female preference when conducting farewell in Chinese. It will be better and more persuasive to find more male subjects participating. In addition, the number of subjects is comparatively small, which only represents a small group of the younger generation. A more plausible conclusion will be reached based on future research of a larger number of subjects. Moreover, the reasons why “再见 zàijiàn” is being used less nowadays are not fully elaborated upon. Besides the reasons mentioned earlier, people’s different cultural background and different cultural values should also be explored. Last but not least, how to introduce the function of various kinds of “再见 zàijiàn” phrases, and how to help learners access the implied meaning of those expressions in Chinese language teaching should also be considered as a focus for future research.

### Examples of variations function as “再见 zàijiàn”

Use English equivalence: bye-bye; 88 (online communication)

Show concern to the hearer:

路上小心点。(lùshang xiǎoxīn diǎn.; Take care.);

那我不耽误您了。(nà wǒ bù dānwu nín le; I will stop bothering you then.)

Show appreciation to the hearer

好的，谢谢。(hǎode, xièxie; Alright, thank you.); 辛苦您了。(xīnkǔ nín le; Thanks a lot.)

Make a future promise

回头联系。(huítóu liánxi.; Talk to you later.);

我一会儿回你。(wǒ yíhuìr huí nǐ.; I will call you back later.);

下次打折哦。(xiàcì dǎzhé o.; Give me a discount next time.)

Change a topic to finish the conversation

我先去上课了。(wǒ xiān qù shàngkè le.; I have to go to class now.);

先这样吧，我得去……(xiān zhèyàng ba, wǒ děi qù...; Alright, I have to...);

我要上班了，先挂了哈。

(wǒ yào shàngbān le, xiān guà le ha.; I have to go to work now, see you.)

Special utterances or pictures to show the emotion

么么哒!(mē mē dā!; onomatopoeic word for “kiss”);

Mua. (onomatopoeic word for “kiss”);

Emoji (online communication only)

More specific context of the above examples and other detailed data analysis can be found in the paper and presentation.

### References

- Bi, J. (毕继万). (1997). 汉英告别语的差异. *语文建设 Language Planning* 7, 37-9.
- Brown, P. and Levinson, S. (1987). *Politeness: Some Universals in Language Usage*. Cambridge: Cambridge University Press.
- Erbaugh, M. (2008). China Expands its Courtesy: Saying "Hello" to Strangers. *Journal of Asian Studies* 67, 621-52.
- Gu, Y. (顾曰国). (1990). Politeness Phenomena in Modern Chinese. *Journal of Pragmatics* 14, 237-57.
- Gu, Y. (顾曰国). (1992) 礼貌、语用与文化. *外语教学与研究 Foreign Language Teaching and Research* 92(4), 10-7.
- Hong, W. (洪玮). (2011). Refusals in Chinese: How do L1 and L2 Differ. *Foreign Language Annals* 44(1), 122-34.
- Li, L. (李丽娜). (2003). 告别言语行为分析. *安徽教育学院学报 Journal of Anhui Institute of Education* 21(4), 79-81.
- Qu, W. (曲卫国) & Chen, L. (陈流芳). (2005). 告别语“拜拜”与汉语口语语体的缺环现象. *修辞学习 Rhetorical Learning* 3(129), 25-7.

## **Korean Transfer to Mandarin Spoken in Korea**

Seo-jin Yang

The Ohio State University, yang.3170@osu.edu

The number of foreigners living in South Korea has been increasing rapidly, with the Chinese comprising the largest number among them. In addition, the Korean Chinese (hereafter referred to as the ethnic Korean) form the absolute majority, in that they constitute over half of the total number of the Chinese in Korea. The Chinese speakers in Korea can be divided into three major groups: (1) Han Chinese, (2) ethnic Koreans, the vast majority of whom were from Yanbian Korean autonomous prefecture (延边朝鲜族自治州) in Jilin Province in northeastern China, and (3) overseas Chinese.

This study focuses on the first two groups, the Han Chinese and the ethnic Koreans from Yanbian living in Korea. The aim is to study the main characteristics of the Chinese language that is used by these two groups in Korea and how the language use of these two groups is influenced by the Korean language. Factors explored are language differences between the two groups, their length of stay in Korea, and their gender.

It is to be noted that in the ethnic Korean enclave in Yanbian, the ethnic Koreans acquire the Korean language first, as their mother tongue, with learning Chinese as their second language. Moreover, Korean is used on more occasions than Chinese, including in their daily conversations. Thus, one would expect that the Chinese spoken by these ethnic Koreans from Yanbian living in Korea would be substantially more influenced by the Korean language than that of the Han Chinese in Korea. Given the differences between these two groups with respect to their past knowledge and their experience in learning their first and second language—Korean being their first for the ethnic Koreans and Chinese being their first for the Han Chinese—one would expect different results in the transfer from first language to target language for these two groups. Length of stay in Korea may also play a role, as may gender differences. The following three hypotheses are proposed:

### (1) Three Hypotheses

1. Ethnic Koreans are more influenced by the Korean language, which is similar to their native language, than are Han Chinese speakers.
2. The degree of influence of the Korean language is dependent upon the length of stay in Korea.
3. The degree of influence of the Korean language is dependent upon the gender of the speaker.

Also germane here is Brown's (2000:94) concept of 'transfer,' in which old knowledge, or experience, is moved to later learning. Thus, the native language of learners affects their L2 acquisition, be these cases of positive transfer or negative transfer, the latter (Negative) further subdivided into Overgeneralization and Interference. Interference, in turn, occurs not only from the native language to the second language, but also conversely, from the second languages to the native language. That is, he considers both to be the same transfer.

This study on the influence of Korean on the Chinese language of these two groups is conducted in two parts: first, in terms of vocabulary, word order, and tone, by measuring errors in each category, and second, in terms of pronunciation via a phonetic analysis of their phonological system.

A total of 24 subjects in their 20's were recruited: 12 Han Chinese speakers and 12 ethnic Korean speakers, with the same number of men and women in each ethnic group. The Han Chinese speakers were limited to those who spoke standard Chinese and from northeastern China in order to reduce the influence of dialects. The ethnic Korean speakers were restricted to those who from the ethnic Korean enclave in Yanbian. These two groups were further subdivided into 2 groups based on their length of stay in Korea: one group of 6 subjects—consisting of 3 men and 3 women—had resided in Korea for less than a year, and a second group of 6 subjects—again, 3 men and 3 women—had resided in Korea for over a year.

For the first part of this study, errors in vocabulary, word order, and tone were measured and compared to determine the number and types of changes that the Han Chinese and ethnic Koreans produced in their Chinese production. Subjects were asked to say the Korean sentences and to translate them into Chinese. They were also asked to include Chinese words which had certain grammatical functions and to produce natural translations that closely reflect daily life conversations. To prevent subjects from making self-corrections, they were requested to translate and respond immediately after seeing the test sentences, and their responses were audio-recorded. The recorded answers were processed, and the errors, error types and frequency were analyzed and compared. For the study of tone and the phonological system, a short interview was conducted. To measure errors in tone production and pronunciation, the interviewer communicated with each subject for about 10 minutes in Chinese to induce natural speaking, which was recorded. The conversation was mostly about personal information, language background, and how they used and thought about the two languages. The recorded conversation was processed, and errors were flagged with help from a native speaker of Standard Chinese, who read and heard the recorded content to mark the parts with wrong tones or unnatural pronunciations. In addition, for a more detailed phonological analysis to examine the significant differences in the pronunciations of the two groups, both reading and speaking tasks were administered in this study. For the reading part, subjects were asked to read the words in a table with tones, consonants and vowels <方言調查字表> (修訂本). The audio-recorded reading and interviews were transcribed using the International Phonetic Alphabet (IPA) for analysis and comparison.

The results of the study show different patterns for the two groups. For the Han Chinese speakers, there was interference from the Korean language in vocabulary, word order, and tone, as well as the overall phonological system. For the ethnic Korean speakers, their production of Chinese showed more errors, errors similar to those that Korean learners of Chinese frequently make, than their Han Chinese counterparts with respect to grammatical structure and certain tones. Neither length of stay in Korea nor gender played a particularly significant role their speech production. Thus, only the first hypothesis is strongly supported.

The Chinese language spoken by both the ethnic Koreans and the Han Chinese exhibited influence from the Korean language. Both groups were using Korean-style Chinese vocabulary but differed with respect to the degree of Korean-style Chinese vocabulary. Ethnic Korean speakers—and speakers who had resided longer in Korea—tended to use Korean-style Chinese vocabulary more frequently. In the case of word order, both ethnic Korean speakers and Han Chinese speakers used word order that was affected by the Korean language. Error rate for words was high in some patterns where word order differed between the two languages, Chinese and Korean, with ethnic Korean speakers producing more of these errors than the Han Chinese speakers. Error rate was also higher with female speakers than with male speakers. In the case of tone or intonation, however, the transfer from the Korean language to Chinese for the ethnic

Korean speakers was not as clearly shown, and tone errors were only partly observed in ethnic Korean speakers' speech. Influence from the Korean language in intonation, in cases of reading Chinese sentences with pitch-raising at the end of the sentence—as in the intonation of Korean interrogative sentence—was observed in the speech of the ethnic Korean speakers. Finally, influence from the Korean language did not appear in the comparison of pronunciation (tone, consonants, vowels) through the phonetic transcription. The tendency of failing to differentiate certain vowels that are absent in the Korean language was observed only for the ethnic Korean speakers and not for the Han Chinese speakers.

To conclude, this study partly supports Brown's (20006) theory of language interference. Not only were the ethnic Korean speakers influenced by the Korean language, but that also held true for the Han Chinese speakers. However, there was a difference in the degree of interference, and the nature of the interference was also different. Transfer from Korean to Chinese appeared more clearly in the case of the ethnic Korean speakers, for whom their L1 was Korean. Even though both ethnic Korean speakers and Han Chinese speakers were aware of influences from the Korean language in their own use of Chinese, the language interference for tone and intonation was only observed by ethnic Korean speakers. In addition, this study provides evidence that the interference can be bi-directional: from L1 to L2, and from L2 to L1, thus supporting Brown's proposal. However, this study also showed that there were differences in the degree of interference, and that the interferences from L1 to L2 were greater than from L2 to L1.

## Reference

- Brown, D. H. (2007). *Principles of Language Learning and Teaching*. Fifth Edition. New York: Pearson Education Inc.
- Eom, I. (1999). Dialect of Immigrant Chinese in Korea: suggestions for investigation and study. *中國語文學論集 (Chinese Language and Literature Studies)* 1.11: 373-393.
- Eom, I. (2008). *Korean Pronunciation of Chinese Letters from the Chinese Viewpoint*. Seoul: Korean Culture Company.
- Kang, Y. (1992). State and problems of bilingual education at the ethnic Korean schools of China. *Bilingualism* 9.1:194-207.
- Kang, H. (2003). Synchronic study of native language use of ethnic Korean students in China. *Sociolinguistics* 11.2:1-24
- Kim, K. (2008). Mistakes of Chinese speakers in writing Korean. *Study of Chinese Culture* 13:53-66.
- Kim, H. (2009). Experimental study of Yanbian ethnic Koreans' dialect sound. *Speaking Voice and Voice Science* 1.1:47-52
- Ryu, Y. (2000). Vocabulary error in learning Chinese. *Study of Chinese Language* 11:1-23.
- Maeng, J. (1990). Korean-Chinese bilingualism state in China and influence of Chinese language. *Citizen Liberal Arts* 1:183-215.
- Maeng, J. (2002a). Analysis of errors frequently made by Korean in Chinese writing. *한국인 한어어서편오분석 (Study of Chinese Language)* 15:61-73.
- Maeng, J. (2002b). Analysis of errors made by Koreans in Chinese vocabulary. *中國學研究 (Chinese Studies)* 23:1-13.
- Lee, J. (2008). A study on vocabulary errors made by Chinese speaking learners of Korean language. *Korean Language Education* 19.3:1-23.
- Shin, S. (2004). Analysis of errors made by Korean learners in using Chinese verbs. *Study of Chinese Language* 18:299-320.
- Shim, S. (1999). Problems in Chinese tone spoken by Koreans and the improvement. *中國語文學誌 (Journal of Chinese Language & Literature)* 6.1:237-253.

## Temporal Construal Symmetry/Asymmetry of Bare Predicates in Chinese Root and Complement Clauses

Wei Zhou

West Virginia University, wz0010@mix.wvu.edu

A tremendous number of studies on temporal construals of sentences in Mandarin Chinese (hereafter referred to as Chinese) have focused on the properties of aspect markers due to the language's lack of inflectional morphology (Chan, 1980; Li & Thompson, 1981; Klein, Li & Hendriks, 2000; Lin, 2006, among others). In contrast, predicates without overt aspect markers (bare predicates, BPs) have received minimal attention, despite occurring as regularly. Sun (2014) examined the temporal construals of BPs in root clauses and argued that root clauses with eventive bare predicates (eventive BPs) yield generic readings. Root clause eventive predicates can yield non-generic (episodic) readings only if they occur with an overt aspect marker. This is illustrated in (1).

- (1) a. Ta [kan yingwen dianying].  
he watch English movie  
'He watches English movies.'  
✓ generic reading  
\* episodic reading
- b. Ta zai-kan yingwen dianying.  
he PROG<sup>1</sup>-watch English movie  
'He is watching English movies.'  
\* generic reading  
✓ episodic reading

However, as Sun observed, the above situation applies to embedded clauses only to an extent. BPs in complement clauses sometimes exhibit the same temporal behaviors as they do in root clauses, but not always. Consider the temporal construals of the embedded eventive BP *kan yingwen dianying* 'watch English movies' in the complement clauses in (2):

- (2) a. Wo zhidao ta [kan yingwen dianying].  
I know he watch English movie  
'I know that he watches English movies.'  
✓ generic reading  
\* episodic reading
- b. Wo zhidao ta zai-kan yingwen dianying.  
I know he PROG-watch English movie  
'I know that he is watching English movies.'  
\* generic reading  
✓ episodic reading

In (2a), the complement BP *kan yingwen dianying* 'watch English movies' yields the same generic construal as the root BP in (1a). As (2b) shows, in order to yield an episodic reading, it requires an overt aspect marker, just as the root clause BP in (1b) does. I refer the identical temporal behaviors of the BPs in (1) and (2) as *BP behavior symmetry*.

However, in some cases, eventive BPs in complement clauses display different temporal behaviors than they do in root clauses. Consider the same embedded BP from (1) and (2) in (3):

- (3) Wo guli ta [kan yingwen dianying].  
I encourage he watch English movie  
'I encourage/encouraged him to watch English movies.'  
✓ generic reading  
✓ episodic reading

---

<sup>1</sup> PROG: progressive aspect



The complement clause BP in (3) can yield an episodic reading without requiring an aspect marker, unlike in (1) and (2). I refer to this situation as *BP behavior asymmetry*.

These BP behaviors raise interesting questions. Under what circumstances do root and complement clause eventive BPs exhibit behavior symmetry, and under what circumstances do they not? And, more specifically, what is responsible for the different behaviors of eventive BPs in complement clauses?

I adopt Li's (1985) proposal on embedded clause finiteness/non-finiteness in Chinese to approach this question. Li proposes that complement clauses in Chinese can be finite or non-finite. One piece of evidence that Li provides for this claim rests on Negative Polarity Item (NPI) licensing. Li argues that when the matrix negation can license an NPI in an embedded complement clause, the clause must be non-finite, while when it cannot, the complement clause must be finite. Consider, now, the examples in (4), which have the same matrix and embedded predicates as (2a) and (3).

- (4) \*a. Wo bu zhidao ta kan renhe yingwen dianying. → counterpart of (2a)  
 I not know he watch any English movie
- b. Wo bu guli ta kan renhe yingwen dianying. → counterpart of (3)  
 I not encourage he watch any English movie  
 'I do not encourage him to watch any English movies.'

In (4a), the matrix negation marker *bu* cannot license the NPI *renhe* in the embedded clause, given that the complement clause is finite. In (4b), on the other hand, the embedded NPI *renhe* is licensed by the matrix negation, because the embedded clause is non-finite.

In addition, Li proposes another test for distinguishing finite clauses from non-finite ones. She adopts Tsang's (1981) proposal that *hui* 'will, can' and *yao* 'will, want' can be tense markers. More precisely, she shows that *hui*, for example, is ambiguous. It can operate both as a tense marker and as a modal denoting ability (similar to *can* in English). Crucially, if *hui* is found in an embedded clause as a tense marker, then the clause must be finite. With this in mind, consider the examples below, which are duplicates of (2a) and (3) with *hui* preceding the embedded predicates.

- (5) a. Wo zhidao ta hui kan yingwen dianying.  
 I know he watch English movie  
 'I know he will watch English movies.' —Interpretation 1  
 'I know he can watch English movies.' —Interpretation 2
- \*b. Wo guli ta hui kan yingwen dianying.  
 I encourage he watch English movie

Given that example (5b) is ruled out, it must be that the embedded clause is non-finite. More precisely, the reason why *hui* is unacceptable in (5b) is because neither of *hui*'s meanings can play a part: *hui* as a tense marker is not possible, because the embedded clause is non-finite. Furthermore, it cannot be used as a modal due to its semantic incompatibility with the matrix predicate: an ability cannot be encouraged. On the other hand, (5a) is compatible with both *hui*'s meanings, resulting in two interpretations. Notably, when functioning as a tense marker, *hui* can occur in the embedded clause, giving rise to Interpretation 1, because the clause is finite.

So far, we have settled with the issue of finiteness/non-finiteness of clauses. Now, recall the discussion about BP behavior symmetry/asymmetry presented above. The BP *kan yingwen dianying* 'watch English movies' in root clause (1a) and the same BP in complement clause (2a)

both yield generic readings, communicating that he watches English movies routinely. That is the BP behavior symmetry case. On the other end, the same BP *kan yingwen dianying* in (3) can yield an episodic reading, contrary to that in (1a), conveying that the action of watching English movies carried by the BP may (or may not) take place after the action of encouraging. That is the BP behavior asymmetry case. As discussed above, the only difference between (2a) and (3) lies in the finiteness of the complement clauses: the clause in (2a) is finite, and that in (3) is non-finite. Therefore, it is actually the finite/non-finite clause distinction that divides BPs' temporal behaviors in complement clauses. When complement clauses are finite, complement BPs yield the same temporal construals as their root clause counterparts. When complement clauses are non-finite, BPs can yield different construals than their root clause counterparts.

## References

- Chan, M. (1980). Temporal reference in Mandarin Chinese: an analytical-semantic approach to the study of the morphemes *le*, *zai*, *zhe*, and *ne*. *Journal of the Chinese Language Teachers Association*, 15(3), 33-79.
- Klein, W., Li, P., & Hendriks, H. (2000). Aspect and assertion in Mandarin Chinese. *Natural Language & Linguistic Theory*, 18(4), 723-770. <https://doi.org/10.1023/A:1006411825993>
- Li, Y. A. (1985). *Abstract Case in Chinese*. Retrieved from ProQuest Dissertations & Theses Global. (303387509)
- Li, C., & Thompson, S. (1981). *Mandarin Chinese: A Functional Reference Grammar*. Berkeley, CA: University of California Press.
- Lin, J. W. (2006). Time in a language without tense: The case of Chinese. *Journal of Semantics*, 23(1), 1-53.
- Sun, H. (2014). *Temporal Construals of Bare Predicates in Mandarin Chinese*. Utrecht, the Netherlands: Netherlands Graduate School of Linguistics. Retrieved from <https://openaccess.leidenuniv.nl/handle/1887/29991>
- Tsang, C. L. (1981). *A Semantic Study of Modal Auxiliary Verbs in Chinese*. Retrieved from ProQuest Dissertations & Theses Global. (303174087)

Abstracts  
Poster Session B



## **The Sino-Korean Influence on Middle Korean Vowel Harmony: A Usage-Based Perspective**

Eric de Roulet

California State University Fullerton, edderoulet@gmail.com

The rules governing Korean vowel harmony (VH) have become less productive (applying less routinely and consistently) and narrower in scope (applying to fewer phonological contexts) over the history of the language (Kim 1978; Chang 1982; Park 1990; Sohn 2001; Lee & Ramsey 2011). While Early Middle Korean (EMK) exhibited largely consistent vowel harmony, including regular harmonization of vowels within word stems, a reduction of these rules began to occur in Late Middle Korean (LMK) onward. (See the next page for examples.)

The body of Sino-Korean loans in Contemporary Korean is both extensive—likely 60 to 70% of the entire lexicon (Sohn 2001; Jung & Cho 2006)—and diverse in terms of semantic categories. Chang (1982) attests that VH and other phonological rules typically applied to EMK words “are generally inapplicable to SK [Sino-Korean] morphemes,” (p. 99); only the earliest Sino-Korean loans tend to conform to native Korean rules and surface phonetic constraints (Lee & Ramsey 2011, 69-76). Despite the minimal exceptions to native harmonic rules in EMK (Park 1990), non-archaic Sino-Korean loans are clear outliers; these are often derived from Chinese compounds of two or more syllables, which frequently do not harmonize with each other stem-internally. For instance, a list of Sino-Korean words provided by Jung & Cho (2006) presents 104 instances (out of a total of 261, or 39.8%) that violate the rule of stem-internal vowel harmony. Lee & Ramsey (2011) also describe several Chinese morphological suffixes that were appended to native Korean words irrespective of standard harmonic rules. The frequent disharmony of Sino-Korean loans is consistent with findings such as those of Silverman (1992), Kang (2003), Itō et al (2006), and Kim (2008), in which speakers, when adopting and adapting loans, attempt to faithfully represent their original pronunciations so far as the borrowers’ perception and linguistic habits allow.

Here it is argued that the influx of Sino-Korean loans and their higher frequency of use beginning in the LMK period influenced Korean phonology at a more fundamental level than merely introducing individual exceptions to Korean phonological rules and constraints. Recent work in Usage-Based Linguistics (UBL) supports the notion of Sino-Korean interference in Korean vowel harmony rules by offering a novel perspective that better explains the emergence of supposedly irregular forms in a language, particularly Bybee’s work on usage-based phonology and functionalism (1999). Two of the central tenets of UBL are that speakers infer—and arguably construct—the rules of their language via inference of patterns from their accumulated linguistic data and experiences, and that speakers give priority to local schemas (rules inferred from clusters of associated words) over global ones—otherwise, the “exceptions” would not remain as stable features of the language. Bybee (1999) further argues that “[t]he degree of productivity of a morphological pattern corresponds quite closely to... the number of lexical items participating in the pattern” (225). The converse argument can be made regarding changes in Korean harmony: As LMK accumulated a growing number of Sino-Korean loans, the deviance of these loans from native Korean harmonic rules began to interfere with native speakers’ inference of the previous rules from the linguistic data available to them. As the local schema of non-harmonic Sino-Korean loans grew in prominence, stem-internal disharmony eventually became permissible in Korean more broadly. Whereas generative analyses attempt to

establish overarching rules across a language and then explain exceptions in terms of sub-rules or lexicalizations (essentially, idiosyncrasies), UBL accounts for apparent irregularities more elegantly via the notion that speakers can form new local-level rules upon receiving a sufficient volume of new linguistic data. Bybee’s network morphology model (1985; see also Diessel 2017) and studies of frequency effects on first-language acquisition and change (Bybee 2001, 2006; Tomasello 2009; Kapatsinski 2014) further support a UBL-based reconception of harmonic change in Korean, culminating into a model for vowel harmony reduction as a historical process.

Figure 1: Basic Harmonic Paradigm in Korean<sup>1</sup>

Yang	ㅏ a, ㅑ ya	ㅓ o, ㅕ yo	ㅗ ae, ㅛ yae	ㅜ oe, ㅠ wo, ㅞ wae	ㅛ ɔ <sup>2</sup>		
Yin	ㅓ eo, ㅕ yeo	ㅗ u, ㅠ yu	ㅗ e, ㅛ ye	ㅜ wi, ㅞ wa, ㅞ we	ㅡ eu	ㅣ ui	
Neutral							ㅣ i

<sup>1</sup>Transcriptions here use the McCune-Reischauer romanization scheme.

<sup>2</sup>Denotes a historical vowel that has since split into other realizations.

Figure 2: Native EMK (Early Middle Korean) Harmony

Lexeme	Translation	Type of Harmony
버들 peo.teul	willow	stem-internal
구름 ku.rum	cloud	stem-internal
사란 sa.ram [modern]	person	stem-internal
벌어 peol.eo	to earn	stem and inflectional suffix
살아 sal.a	to live	stem and inflectional suffix
먹어 meok.eo	to eat [informal]	stem and inflectional suffix

Figure 3: Non-Harmonic Sino-Korean Lexemes

Lexeme	Translation (from Korean)	Harmonic Rule Violated
악명 (惡名) ak.myeong	notorious; notoriety	stem-internal
상념 (想念) sang.nyeom	thought	stem-internal
사유 (思惟) sa.yu	reason (i.e. justification)	stem-internal
도서관 (圖書館) to.seo.kwan	library	stem and derivational suffix
뒷간 (- 間) twi.kan <sup>1</sup>	toilet	stem and derivational suffix
백두산 (白頭山) paek.tu.san	Mount Paekdu	stem-internal

<sup>1</sup> 뒷 twi.kan is a native Korean word meaning ‘rear’; 간 (間) here derives from Sino-Korean /-kan/ ‘room’ (Lee & Ramsey 2011 175).

### References

Binnich, R. I. (1991). Vowel harmony loss in Uralic and Altaic. In W. G. Boltz & M. C. Shapiro (eds.), *Studies in the historical phonology of Asian languages*. John Benjamins.  
 Bybee, J. (1985). *Morphology: A study on the relation between meaning and form*. Amsterdam: John Benjamins Publishing.

- Bybee, J. L. (1999). Usage-based phonology. In M. Darnell (ed.), *Functionalism and formalism in linguistics: General papers*. Amsterdam: John Benjamins Publishing.
- Bybee, J. L. (2001). *Phonology and language use*. Cambridge, UK: Cambridge University Press.
- Bybee, J. L. (2006). From usage to grammar: The mind's response to repetition. *Language* 82, 711-733.
- Chang, N. (1982). Phonological variations in 15th-Century Korean. *Journal of Chinese Linguistics Monograph Series* 1, 1-204.
- Diessel, H. (2017). Usage-based linguistics. *Oxford research encyclopedia of linguistics*.
- Eom, I. (1999). Different layers of borrowing: Sino-Korean characters with multiple readings (多层借用: 韩国多音汉字分析). *Journal of Chinese Linguistics* 27, 27-44.
- Itō, C., Kang, Y. & Kenstowicz, M. (2006). The adaptation of Japanese loanwords into Korean. *MIT Working Papers in Linguistics* 52, 65-104.
- Jung, M. & Cho, Y. Y. (2006). Chinese character education in teaching Korean as a foreign language: A new paradigm of cognitive expansion (외국어로서 한국어 교육에서 한자 교육의 문제점과 개선방향). *The Korean Language in America* 11, 64-83.
- Kang, Y. (2003). Perceptual similarity in loanword adaptation: English postvocalic word-final stops in Korean. *Phonology* 20, 219-273.
- Kapatsinski, V. (2014). What is grammar like? A usage-based constructionist perspective. *LiLT* 11, 1-41.
- Kim, H. (2008). Loanword adaptation between Japanese and Korean: Evidence for L1 feature-driven perception. *Journal of East Asian Linguistics* 17, 331-346.
- Kim, K. (1977). Sound symbolism in Korean. *Journal of Linguistics* 13, 67-75.
- Kim, W. (1978). Reflections on the vowel system and vowel harmony (Moeum chegyewa moeum johwae daehan banseong). *Language Research* 14.
- Ko, S. (2012). Tongue root harmony and vowel contrast in Northeast Asian languages. PhD dissertation, Cornell University.
- Ko, S. (2014). The end of the Korean vowel shift controversy. *Korean Historical Linguistics* 15(2), 195-216. <https://doi.org/10.1075/kl.15.2.02ko>
- Lee, K. & R. S. Ramsey. (2011). *A history of the Korean language*. New York, NY: Cambridge University Press.
- Park, S. (1990). Vowel harmony in Korean. *Ohak Yongu/Language Research* 26, 469-499.
- Shibatani, M. (1973). The role of surface phonetic constraints in generative phonology. *Language* 49(1), 87-106.
- Silverman, D. (1992). Multiple Scansions in Loanword Phonology: Evidence from Cantonese. *Phonology* 9, 289-328.
- Sohn, H. (2001). *The Korean language*. Cambridge, U.K.: Cambridge University Press.
- Tomasello, M. (2009). *Constructing a language*. Cambridge, MA: Harvard University Press.

## A Descriptive Study on the Chinese Pronunciation of Korean *Hanja* at the Syllable Level

Xiao Luo<sup>1</sup>, Yike Yang<sup>2</sup>, Jing Sun<sup>1</sup>, Nuo Chen<sup>3</sup>

<sup>1</sup>University of Cincinnati, <sup>2</sup>The Hong Kong Polytechnic University,

<sup>3</sup>South China Agricultural University, [luoxo@mail.uc.edu](mailto:luoxo@mail.uc.edu)

Korean has a large number of Sino-Korean words, which are etymologically rooted in logographic Chinese characters (*Hanja*) but are pronounced with Korean phonology and written in alphabetic *Hangul* (Wang, Yeon, Zhou, Shu, & Yan, 2016). Sino-Korean words serve as a useful source for Chinese native (L1) speakers to learn vocabulary in Korean as a second language (L2) (Im & Lee, 2008). Correspondence between the Korean and Chinese pronunciation of *Hanja* has been measured at the phonemic level (Im & Lee, 2008). However, since Chinese L1 speakers tend to apply “whole-word processing” when reading words in an alphabetic L2 (Akamatsu, 2003, p. 210), it is vital to have a better understanding of the correspondent relation between the two languages with regards to *Hanja* pronunciation at the syllable level instead of at the phoneme level.

From a historical linguistic perspective, Korean language started receiving and using Chinese characters and imitating pronunciations of Chinese characters since the era of Old Chinese (or Archaic Chinese, 上古漢語) and Ancient Chinese (or Middle Chinese, 中古漢語) (Moon, 2005). However, the modern pronunciations of Chinese characters in Mandarin and Korean appear to be very different because the pronunciations changed a lot in China due to historical reasons, such as wars and cultural communications with other ethnic groups since the Jin Dynasty (Moon, 2005). The changes in the pronunciations of Chinese characters in Mandarin happened in various aspects. For example, the disappearance of final consonants or checked tones (e.g., 入聲, such as *-k*, *-m*, *-t*, *-p*) in the Chinese pronunciation of Chinese characters, except for *n* and *ng*, is one of the major sources of the difference in pronunciation between the two languages. In ancient Chinese, the pronunciations of many characters (e.g., 福, 感, 習) contain a final consonant. As time went by, such final consonants disappeared. However, the final consonants still exist in the pronunciation of Chinese characters in Korean and varieties of Chinese (i.e., Cantonese).

**Research Method:** The present study involves synchronic linguistic analysis and imitated Kim and Shin (2015)’s research method. The comparison was conducted based on the contemporary Mandarin and Korean pronunciation of Chinese characters (*Hanja*). The Mandarin pronunciations of *Hanja* were addressed because we expect that the research outcome can inform the learning of Korean as an L2 by native Chinese speakers, most of whom speak Mandarin as their L1 regardless of the dialects they speak. In addition, Mandarin tones were not considered because this study aims to construct the correspondent relation of phonological pattern of *Hanja* pronunciation between the two languages and including tones of Mandarin increases the complexity of the research purpose. Moreover, relevant literatures in this topic did not take tones into account as well (Im & Lee, 2008; Moon, 2005). For example, Im and Lee exclude tones in their study because of the diverse change of tones in Mandarin and that it was difficult to set up a representative pattern for one *Hanja*’s tone.

The research method is explained as follows: First, based on the 1,800 frequently used Chinese characters (*Hanja*) in South Korea, we formed *Hanja* families. A *Hanja* family contains all the *Hanja* that have the same Korean pronunciation in Korean. Second, within each *Hanja* family, we classified *Hanja* members into sub-families according to their Mandarin pronunciation without considering tones. Third, the following categories in each *Hanja* family



were counted: the number of *Hanja*, the number of *Hanja* with the same Mandarin pronunciation, and the number of Korean-Chinese syllable correspondent pairs (K-C pairs). In addition, this study calculated the Korean-Chinese syllable pair correspondent rate (K-C rate), which is the result of division of the number of *Hanja* with the same Mandarin pronunciation by the total number of *Hanja* in a *Hanja* family. An example can be found in Table 1.

**Results and Discussion:** A total of 406 *Hanja* families in Korean constituted 846 K-C pairs in total, among which 179 pairs (21.2%) had a K-C rate of 1, suggesting a one-on-one correspondent relation between Korean and Chinese syllables. There were 667 K-C pairs (78.8%) with a K-C rate less than 1, of which 212 (25.1%) had a K-C rate higher than or equal to 0.5 and 455 (53.8%) had a K-C rate lower than 0.5 (See Table 2). The 179 K-C pairs with a K-C rate of 1 can facilitate meaning inference for Chinese learners of Korean as L2 when processing unfamiliar Sino-Korean words that contain the Korean syllables in such K-C pairs because learners only have one candidate of Chinese syllable to correspond to. The Korean syllables from the 212 pairs with a K-C rate between 0.5 and 1 have more than one correspondent Chinese syllable and readers are more likely to correspond such Korean syllables to the Chinese syllables with the highest K-C rate.

For the K-C pairs with a K-C rate of 0.5, readers have two candidates with equal chance to corresponded to. The K-C pairs with a K-C rate lower than 0.5 may cause more difficulties in meaning inference because readers may be less likely to correspond the target Korean syllables to the Chinese syllables with a low K-C rate. These results provide useful guidelines for teaching Korean to L1 Chinese speakers.

**Pedagogical Implications:** The present study suggests that Chinese L1 speakers who learn Korean as an L2 need to pay more attention to the Sino-Korean words containing Korean syllables that have a lower K-C rate than 0.5. For example, the Sino-Korean word *분주*(奔走)하다 (Korean pronunciation: *bun-ju*; Mandarin pronunciation: *ben zou*) means *to be busy with something*. The first Korean syllable of the Sino-Korean word, *분*(*bun*), has a low K-C rate of 0.14 to correspond to the Mandarin syllable *ben*. However, it has a high K-C rate of 0.86 to correspond to the Mandarin syllable *fen*. The same situation happens to the *주*(*ju*) syllable whose K-C rate with the Mandarin syllable *zhu* is 0.47, 0.35 with *zhou*, and 0.12 with *zou*. If the word is unknown or unfamiliar to a Chinese learner, the learner may infer the word's correspondent Chinese pronunciation as *fen zhu* or *fen zhou*, neither of which is correct. As a result, we suggest that more attention should be paid to the K-C pair with a correspondent rate lower than 0.5.

Korean Syllable	<i>Hanja</i> members	Number of <i>Hanja</i>	Chinese syllable	K-C pair	K-C pair correspondent rate
신(shin)	身神申伸慎	5	<i>shen</i>	제( <i>je</i> ) - <i>shen</i>	0.5 (=5 ÷ 10)
	新信辛	3	<i>xin</i>	제( <i>je</i> ) - <i>xin</i>	0.3 (=3 ÷ 10)
	臣晨	2	<i>chen</i>	제( <i>je</i> ) - <i>chen</i>	0.2 (=2 ÷ 10)
Number of Chinese Characters ( <i>Hanja</i> ): 10; Number of K-C pairs: 3					

Table 1. Information of the 신(shin) *Hanja* family

K-C rate [0-0.5)	[0-0.1)	[0.1-0.2)	[0.2-0.3)	[0.3-0.4)	[0.4-0.5)
# of K-C Pairs	60 (7.1%)	129 (15.3%)	122 (14.4%)	105 (12.4%)	36 (4.3%)
Sub-total	<b>452 (53.5%)</b>				
K-C rate [0.5-1.0)	[0.5-0.6)	[0.6-0.7)	[0.7-0.8)	[0.8-0.9)	[0.9-1.0)
# of K-C pairs	117 (13.8%)	55 (6.5%)	28 (3.3%)	11 (1.3%)	0
Sub-total	<b>211 (25%)</b>				
K-C rate = 1.0	1.0				
# of K-C pairs	182 (21.5%)				
Sub-total	<b>182 (21.5%)</b>				

Table 2. Distribution of K-C pairs and their correspondent rate (K-C rate)

### References

- Akamatsu, N. (2003). The effects of first language orthographic features on second language reading in text. *Language Learning* 53(2), 207-231.
- Im, H. & Lee, C. (2008). The study on the correspondent relation between the Korean pronunciation of Chinese characters and the Chinese pronunciation of Chinese characters. *어문연구* 36(3), 393-418.
- Kim, S.-A, & Shin, S.-H. (2015). Consistency of phonetic families and principles of teaching Chinese as a foreign language. *Hanyu Xuebao Chinese Linguistics (汉语学报)* 51, 19-30.
- Moon, M. (2005). A comparative study of the initial consonant between Sino-Korean and Mandarin for Korean students. *Foreign Languages Education* 12(4), 463-476.
- Wang, A., Yeon, J., Zhou, W., Shu, H., & Yan, M. (2016). Cross-language parafoveal semantic processing: Evidence from Korean-Chinese bilinguals. *Psychonomic Bulletin & Review* 23(1), 285-290.

# Interpreting Empty Subjects in Japanese Sentences with Sentence-Final Particles by Chinese L2 Learners

Qiong Ma<sup>1,2\*</sup>, Tao Xie<sup>1\*</sup>, Norihiro Iwaki<sup>1</sup>, Sachiko Kiyama<sup>1</sup>  
<sup>1</sup> Tohoku University, <sup>2</sup> Research Institute of National Rehabilitation Center  
for Persons with Disabilities, maqiong1992@gmail.com

**Introduction:** Subject ellipsis is a significant characteristic of the Japanese language; numerous auxiliaries, such as tense and sentence-final particles (SFPs) after a verb stem, display cues to identify ellipsed arguments, although the subject-verb agreement has not been grammaticalized (Nariyama, 2003). Tamaoka et al.'s (2007) reaction time experiment indicates that native speakers (NSs) interpret empty-subject sentences with an SFP faster than those without an SFP; non-native speakers (NNSs), however, experience difficulties in learning SFPs because of the multiple functions of the most popular SFPs, *-ne* and *-yo* (Nazukian, 2005). Individual differences in the interpretation of *-ne* can be observed even among NSs (Kiyama et al., 2018). Therefore, to explore how NNSs interpret empty subjects in spoken Japanese sentences with SFPs *-ne/-yo* as a function of the verb tense, we conducted a reaction time experiment to evoke their interpretation preference as well as the processing load.

## Methods:

**Participants:** Study participants were 20 NSs (11 males;  $M = 21.2$ ) and 24 NNSs (8 males;  $M = 23.5$ ). The first language of the NNSs was Chinese and they had passed the Japanese-Language Proficiency Test at the N1 (the most advanced) level; their average residence time in Japan was 12.5 months.

**Stimuli and Procedure:** We created and recorded a total of 28 subject-ellipted target sentences with *-ne/-yo* with flat intonations, and 28 filler sentences with SFPs *-no/-ka* (Table. 1). Every single sentence was tested to investigate the influence of the verb tense on interpretation. The participants were instructed to judge via button press whether the speaker or the addressee was the underlying subject of the sentence presented verbally as accurately and as fast as possible (Fig. 1).

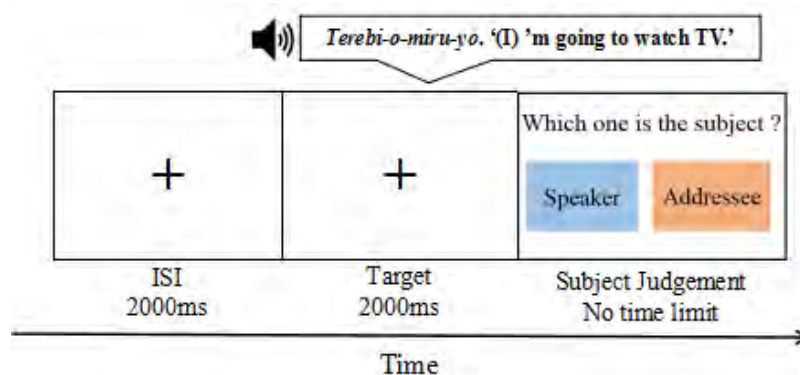


Fig. 1. Experimental trial for subject judgement task  
Note: Everything was presented in Japanese for the actual experiment

\* Equally contributed to this presentation.

**Analysis:** Linear mixed effects (LME) modeling was used to estimate the effects (fixed factors) of *SFP type* (*-ne* and *-yo*) and *tense* (present and past) on participants' judgment, as well as the reaction time from the beginning of the sentence presentation to the judgment to elicit participants' processing load for empty-subject interpretation. Each participant and sentence were included into the model as random factors. For the NNSs model, the third fixed factor of their residence time in Japan was also examined; however, this factor was not considered in the NSs model because they had no experience of long residence abroad.

**Results:** The participants' inclination to interpret the empty subject as the speaker was generally consistent in sentences with *-yo*, in both the past and present tense (above 98% in NSs; above 85% in NNSs: Fig. 2). However, there were inconsistent preferences and greater individual differences in judging sentences with *-ne*, depending on tense. When a sentence with *-ne* was presented in the present tense, 75.0% of the NSs judged the subject as the speaker while in the past tense, 80.7% judged the subject as the addressee. The NNSs' judgment was similar to that of the NSs in interpreting sentences with *-ne* in the past tense (82.1% for the addressee), but indistinctive in the present tense (44.0% for the speaker; 56.0% for the addressee). Thus, the NNSs experienced difficulties in interpreting ellipted subjects in sentences with SFP *-ne* in the present tense.

The reaction time data revealed that the NSs' judgment of *-ne* sentences was faster in the present tense (605 ms) than in the past tense (869 ms), whereas that for *-yo* sentence was the opposite: faster in the past tense (515 ms) than in the present tense (766 ms,  $p < .001$ : Fig. 3). This suggests that the NSs had a strong preference for *speaker reference* on empty-subject sentences with *-ne* in the present tense. By contrast, the NNSs did not indicate such a significant interaction effect: the interpretation of sentences in the past tense was consistently faster (*-ne*: 1633 ms; *-yo*: 1505 ms) than those in the present tense, for both of *-ne* and *-yo* (*-ne*: 1887 ms; *-yo*: 1663 ms). Thus, the reaction time analysis revealed that the NNSs did not have preferences like the NSs.

**Discussion:** The findings revealed differences in interpretation preference for the empty-subject of spoken Japanese sentences between the NSs and NNSs. The NNSs were confused when identifying the ellipted subject, particularly in sentences with SFP *-ne* in the present tense, whereas the NSs quickly interpreted it as the speaker. This suggests that tense is critical in interpreting the empty subject, whether the speaker or the addressee, in sentences with SFP *-ne*, especially among NSs.

The NNSs, however, exhibited a different interpretation, especially for SFP *-ne*, suggesting that some NNSs (even at the advanced level) may misunderstand the referent of a given sentence with SFP *-ne* in the present tense, uttered by the NSs in daily spoken communication. A widely-used introductory textbook of Japanese for Chinese learners (Zhou & Chen, 2009) provides only limited description; it explains that SFP *-ne* is used when the speaker requests agreement/confirmation or is impressed by something, and that *-yo* is used to express the speaker's will. It includes no explicit mention of the preferred referent of the ellipted subject in sentences with SFPs, and the different preference according to the tense. Consequently, NNSs may have a stereotypical strategy to interpret the ellipted subject of sentences with SFPs; namely, interpreting the ellipted subject to be the addressee rather than the speaker in sentences with *-ne*, and vice versa in sentences with *-yo*. Thus, the present behavioral results indicated that it is crucial for learners of Japanese to better understand different preferences for ellipted subjects in sentences with SFPs when they communicate with NSs. Further elaboration is needed to compensate for the lack of descriptions about diverse uses of SFPs in Japanese learning textbooks.

Table 1 Examples of stimuli

Tense	Sentence with <i>-yo</i>			Sentence with <i>-ne</i>		
Present	<i>Terebi-o</i>	<i>miru</i>	<i>yo</i>	<i>Terebi-o</i>	<i>miru</i>	<i>ne</i>
	television-ACC	watch	-SFP	television-ACC	watch	-SFP
	'(I/you) watch television.'			'(I/you) watch television.'		
Past	<i>Terebi-o</i>	<i>mi-ta</i>	<i>yo</i>	<i>Terebi-o</i>	<i>mi-ta</i>	<i>ne</i>
	television-ACC	watch-PST	-SFP	television-ACC	watch-PST	-SFP
	'(I/you) watched a television.'			'(I/you) watched television.'		

Note: The abbreviations represent as follows: ACC [Accusative], PST [Past], SFP [Sentence-final particle].

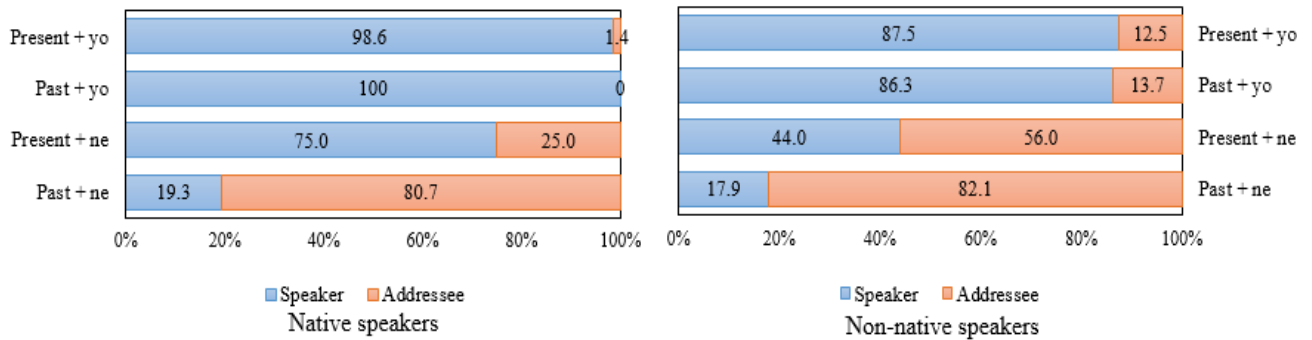


Fig. 2 Empty-subject interpretation for spoken Japanese sentences with SFPs

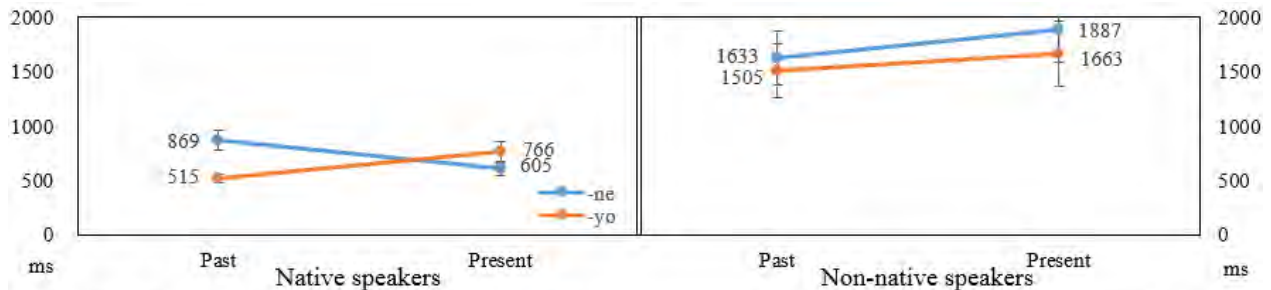


Fig. 3 Mean reaction time of empty-subject interpretation of spoken Japanese sentences with SFPs

**References**

Kiyama, S., Verdonschot, R., Xiong, K., & Tamaoka, K. (2018). Individual mentalizing ability boosts flexibility toward a linguistic marker of social distance: An ERP investigation. *Journal of Neurolinguistics* 47, 1-15.

Nariyama, S. (2003). *Ellipsis and reference tracking in Japanese*. Amsterdam: John Benjamins.

Nazukian, H. (2005). Shuujoshi -yo -ne to nihongo kyouiku shuujosi. [Sentence-final particles 'yo' 'ne' and sentence-final particles in Japanese education]. *Gengokyouiku no shintenkai [The New Frontier of Linguistics education]*. Tokyo: Hituji Syobo.

Tamaoka, K., Matsumoto, M., & Sakamoto, T. (2007). Identifying empty subjects by modality information: The case of the Japanese sentence-final particles -yo and -ne. *Journal of East Asian Linguistics* 16, 145-170.

Zhou, P., & Chen, X. (2009). *Xinbianriyu [New Japanese]*. Shanghai: Shanghai Foreign Language Education Press.

## Style Shifting as a Measurement of Linguistic and Cultural Gain During Education Abroad in Japan

Hiromi Tobaru

The Ohio State University, tobaru.1@osu.edu

Several studies on education abroad (EdA) employ the American Council on the Teaching of Foreign Language Oral Proficiency Interview (OPI) test for measurement of linguistic gain (Baker-Smemoe et al., 2014; Berg et al., 2009, etc.). However, some researchers have raised concerns over the test as a measurement of oral proficiency gain for EdA participants (Feed, 1990 etc.). In addition, employing only one test/instrument to measure linguistic development may not provide the whole picture of every EdA participants' learning experience, which may have different results due to cultural differences, such as cultural differences in gender roles (Polanyi, 1995).

To overcome the issues, the current study investigates Japanese style shifting as an additional measurement of linguistic and cultural competence during EdA in Japan. Japanese speakers often shift between plain and *masu* forms in a conversation. Plain forms are predominantly used in casual conversation or in soliloquy-like utterance. In contrast, *masu* forms are often used in formal conversation. Style shifting in a conversation is triggered by various factors, such as changes in a social rank of addressees as well as the speaker's emotional or psychological status. Style shifting is a salient and important aspect of Japanese conversation (Cook, 2008a; Taguchi, 2015). Yet, it is difficult for learners to fully acquire the skill only through a limited amount of formal instruction at their home institution due to its complexity. Considering that an EdA context provides ample opportunities for EdA participants to engage in style shifting in Japanese, it is a desirable learning environment to acquire style-shifting skill in Japanese.

Five undergraduate students in a Midwest university in the U.S. participated in the current study. All of them studied abroad in Japan for nine months during 2017-2018 academic year. One student completed level 2, three students completed level 3, and one student completed level 4 Japanese courses at the home institution before EdA in Japan. OPI interviews were conducted before and after EdA in Japan, which were used as data in the current research. The interview data was transcribed for data analysis. For quantitative analysis, all sentence matrix predicates were divided into plain form, *masu* forms, and fragments (i.e. incomplete sentence) using Iwasaki's (2008) data analysis. In addition, endings of each plain form were categorized into noun + *desu*, verbs, adjectives or others. For qualitative analysis, all plain forms were categorized into informal plain form (IF plain form), detached plain form (DT-plain form), and others by examining the functions of each plain form in a context. IF plain forms refer to plain forms that index informal speech. DT-plain forms refer to plain forms that have functions of soliloquy-like utterance as well as co-construction of idea.

The findings revealed that all the participants predominantly used *masu* forms in both pre- and post-EdA interviews. This suggests that all of the participants had cultural knowledge on appropriate speech style in a formal interview setting. In contrast, 68% of plain forms ended with a noun, which may have resulted from a lack of linguistic skills of using *desu* with a noun in formal speech rather than a lack of cultural knowledge on appropriate speech style in a given context. In addition, all but one increased use of plain forms in post-EdA OPI interviews. Similar findings were also reported in Iwasaki (2008). The findings also revealed that the participants whose OPI ratings were Intermediate Low or lower tended to use IF plain forms more than DT

plain forms in their style shifting in pre-EdA OPI, and some of the IF plain forms were clearly culturally inappropriate, such as the use of the IF speech style for speech acts of thanking or requesting. However, such inappropriate uses of the IF speech style were not observed in the post-EdA OPIs. In addition, one participant, whose pre- and post- EdA OPI ratings did not show improvement, used style shift and fragments more often in her post-EdA OPI than her pre-EdA OPI. Because previous research literature reported the use of style shifting and incomplete sentences as observed more in native speakers' speaking than second language learners' speaking, an increase in the use of style shifting and fragments in the participant's conversation suggests improvement in cultural and linguistic knowledge.

This study suggests that examining style shifting in Japanese conversation is a useful measurement for linguistic and cultural competence that may not be clear in an OPI rating. Because an EdA context in Japan is the ideal learning environment for style shifting, it can provide a better understanding of linguistic and cultural gain during EdA in Japan.

## References

- Baker-Smemoe, W., Dewey, D. P., Bown, J., & Martinsen, R. A. (2014). Variables Affecting L2 Gains During Study Abroad. *Foreign Language Annals* 47(3), 464-86.
- Berg, V. M., Connor-Linton, J. & Paige, M. R. (2009). The Georgetown Consortium Project: Interventions for Student Learning Abroad. *Frontiers: The interdisciplinary journal of study abroad*, 3, 1-48.
- Cook, H. M. (2008a). Style Shifts in Japanese academic consultations. In K. Jones & T. Ono (eds). *Style shifting in Japanese*, 9-38, Amsterdam: John Benjamins Pub.
- Freed, B. (1990). Language learning in a study abroad context: effective of interactive and non-integrative out-of-class contact on grammatical achievement and oral proficiency. In J. Atlatis (ed.), *Linguistic, language teaching and language acquisition: The interdependence of theory, practice and research*. (GURT 1990), 459-477. Washington D.C.: Georgetown University Press.
- Iwasaki, N. (2008). Style Shifts among Japanese Learners before and after Study Abroad in Japan: Becoming Active Social Agents in Japanese. *Applied Linguistics* 31, 1, 45-71.
- Polanyi, L. (1995). Language learning and living abroad: Stories from the field. In B. F. Freed (ed.), *Second language acquisition in a study abroad context*, 271-91. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Taguchi, N. (2015). *Developing interactional competence in a Japanese study abroad context*. Tonawanda, NY: Bristol: Multilingual Matters.

## Formation of Chinese Clefts: Microparametric ‘Lateral’ Grammaticalization

Keith Tse (謝嘉麒)

Ronin Institute, keith.tse@balliol-oxford.com

Chinese cleft constructions typically consist of a matrix copula verb (ex. 1a-c)) selecting an embedded clause headed by a particle homophonous with the adnominaliser (e.g. Mandarin 是 *shi*... 的 *de* and its dialectal correspondences), and although northern varieties permit an alternation between sentence-final *de* (VO<sub>de</sub>) and sentence-medial *de* in the form of a verbal suffix intervening between the verb and its object (V<sub>de</sub>O) (ex. 2a)) (Simpson and Wu (S&W) (2002), Paul and Whitman (P&W) (2008)), southern dialects utilize *ge*-forms which typically occur only in sentence-final position (VO<sub>ge</sub>) and not elsewhere (\*V<sub>ge</sub>O) (ex. 2b)), which yields a clear and sharp divide between northern (*de*) and southern (*ge*) Chinese cleft formation with significant microparametric variation (Tang (2011), Sio (2011)). In this paper, it is proposed that these differences can be traced back to the historical origins of *de* as a phrase-final nominalizer (*de* 的 < *di* 底 < *zhe* 者) (Lu (1943), Liu (2008), Aldridge (2008), Yap et al (2010)) and those of *ge* as a classifier (*ge* 個) (Cao (1995)) respectively, which give rise to different cleft constructions due to their differences in inherent deixis. This constitutes empirical support and refinement to S&W’s (2002:196-199) influential ‘lateral’ grammaticalization which argues that *de* undergoes ‘lateral’ reanalysis from being an adnominaliser (D) to a past-tense suffix (T(past)), since *de* and *ge* do show ‘lateral’ reanalysis from nominal to clausal and their differences give rise to a sophisticated variationist account of ‘lateral’ grammaticalization.

It has recently been shown that Chinese cleft constructions are formed in the Medieval period where copula *shi* selects nominalized relative clauses which are reanalysable as cleft clauses (Long and Xiao (2009, 2011), Zhan (2012), Han (2012)), especially in contrastive contexts where focus is prominent (ex. 3a)) and the nominal interpretation of *de/ge* is weakened by the omission of a nominal complement (ex. 3b)). In sentence-medial position, on the other hand, *de* and *ge* differ in terms of referentiality, since the former in being reanalyzed from phrase-final nominalizer to linker (Liu (2008), Yap et al (2010), cf den Dikken (2006)) does not necessarily denote definiteness and may hence be reanalyzed as a verbal suffix denoting past tense, especially when it is used with generic and non-realis nominal complements which weaken its nominal interpretation (ex. 3c-d)) while the latter does denote definiteness as a determiner (Li and Bisang (2012)) and hence pre-empts reanalysis as a clausal element as it always selects specific and known nominal complements which makes its deictic force harder to suppress (ex. 3e)). These microparametric variations in the nominal hierarchy between *de* (n) and *ge* (CL (+D)) hence yield different cleft constructions in northern (VO<sub>de</sub>/V<sub>de</sub>O) (ex. 2a)) and southern (VO<sub>ge</sub>/\*V<sub>ge</sub>O) dialects (ex. 2b)), and while both *de* and *ge* seem to undergo ‘lateral’ categorial reanalysis from nominal to clausal, their differences in deixis give rise to different types of ‘lateral’ grammaticalization where the two northern variants (VO<sub>de</sub>/V<sub>de</sub>O) form inverse correspondences between the nominal and clausal domains where higher and lower clausal elements like VO<sub>de</sub> and V<sub>de</sub>O (CP/TP) are reanalyzed from lower and higher nominalisers (nP/DP) respectively, and *ge*, which is inherently definite as a determiner, can only be reanalyzed in clause-final position (VO<sub>ge</sub>) and not elsewhere (\*V<sub>ge</sub>O). Furthermore, southern Chinese *ge*, in addition to being ‘laterally’ reanalyzed from nominal to clausal, shows signs of being merged relatively low in the hierarchy of C-elements in the inventory of Chinese sentence-final particles (SFP) (cf Paul (2015)) and can also combine with other SFPs in forming composite particles (*gaa3*, *gaa4*, *gak3*, *ge2* (Fung



(2000), Li (2006)), which entails further layers of C features and renders it a unique form of ‘lateral’ grammaticalization.

- 1a) ni shi bu shi zuotian lai de  
you COP NEG COP yesterday come DE  
‘Is it or is it not yesterday that you came?’ (S&W (2002:196))
- 1b) you/bu shi ta jiejie kai de men  
again/NEG COP his sister open DE door  
‘It was again/not his sister who opened the door.’ (P&W (2008:439))
- 1c) hui shi wo mingtian zai gongyuan-li yao jian ta de  
FUT.AUX COP I tomorrow at park-LOC FUT.AUX see him DE  
‘It will be I who will see him in the park tomorrow.’ (modified from Cheng (1983:76))
- 2a) wo shi zuotian mai piao de / wo shi zuotian mai de piao  
I COP yesterday buy ticket DE I COP yesterday buy DE ticket  
‘It was yesterday that I bought the ticket.’ (S&W (2002:169))
- 2b) kui hai kamyat maai sue ge / \*kui hai kamyat maai ge sue  
he COP yesterday buy book GE he COP yesterday buy GE book  
‘It was yesterday that he bought the book.’ (Cantonese, Lee and Yiu (1998))
- 3a) fei shi pusa xingcang ; ci shi sumen zuo di  
NEG COP divine.beings behaviour this COP laymen do DE  
‘This is not the behaviour of divine beings; this is the doings of laymen.’ > ‘... it was laymen who did this.’  
(*Dunhuang bianwenji* 敦煌變文集)
- 3b) ni shi xiaode ge (ren)  
you COP understand GE person  
‘You are the one who understands.’ > ‘You do understand.’ (broad focus) (*Shange, Duyang* 山歌, 篤癢)
- 3c) niang yuan shi qinao-shang qi de bing  
Mother originally COP angry-LOC contract DE illness  
‘As for my mother, it was originally illness that was contracted via anger.’ > ‘It was via anger that my mother originally contracted illness.’ (*Jinping meici hua* 金瓶梅詞話)
- 3d) Wukong ni shi na shi xiu-lai de yuanfa?  
Wukong you SHI which life obtain-AFF DE karma  
‘Wukong, as for you, it was the karma of which life that was obtained?’ > ‘Wukong, which life did you obtain your karma?’ (*Xiyouji* 西游記)
- 3e) jie shi you ge bing / que shi shengren shuo ge yingzi  
all COP have GE illness but COP saint mention GE shadow  
‘They all have an illness’ / ‘But it was the shadow mentioned by saints.’ (Zhuizi Yulei 朱子語類)

## References

- Aldridge, E. (2008): ‘Old Chinese determiner zhe as a determiner’, in Crisma, P. and Longobardi, G. (eds) *Historical Syntax and Linguistic Theory*, Oxford University Press, p. 233-248.
- Cao, G-S (1994): *Particles in Modern Chinese*. Beijing: Language Publishers.

- Fung, R. (2000): *Final particles in Standard Cantonese: Semantic Extension and Pragmatic Inference*. PhD dissertation, Ohio State University.
- Lee, T, H-T and Yiu, C. (1998): 'Final 'de' and 'ge3'- a nominalization analysis for cleft sentences in Mandarin and Cantonese'. Paper presented in the Annual Research Forum of Linguistics Society of Hong Kong.
- Li and Bisang, W. (2012): 'Classifiers in Sinitic languages: from individuation to definiteness-marking'. *Lingua* 122(4):335-355.
- Long, H-P (2013): 'On the formation of Mandarin VdeO'. *Acta linguistica Hungarica* 60(4):409-456.
- Tang, S-W (2011): 'On gerundive nominalization in Mandarin and Cantonese', in Yap, F-H, Grunow-Harsta, K. and Wrona, J. (eds), *Nominalization in Asian Languages: Diachronic and Typological Perspectives*, Amsterdam: John Benjamins, pp. 147-160.
- Zhan, F-Q (2012): *The structure and function of the Chinese copular construction*. PhD dissertation, Stanford University.

## On the Use of *futsū-ni* ‘Ordinarily/Usually’ with a New Twist

Saori Wakita

The Ohio State University, wakita.2@buckeyemail.osu.edu

This study deals with expressions containing the adverb *futs. -ni* ‘ordinarily/usually’ in Japanese. The use of this adverb changed in the last decade. The adverb expanded its meaning with a use that it did not have before. This new use of *futsū-ni* has been utilized in a statement that is made with a reason, cause, or situation that is believed to be common to most people in the language community. For instance, example (1) is ambiguous as in meanings (1a) and (1b). The most common or traditional reading of example (1) is that the speaker often misses the train, and as usual, s/he missed the train today again, i.e., (1a). However, the newer meaning (1b) that can be taken if the sentence is uttered in reply to a question like *Dō shite ma-ni awanakatta-no?* ‘Why did you miss it?’. Here *futsū-ni* does not necessarily indicate the speaker’s habitual manner of not being punctual or missing a train or bus, but instead could mean that s/he missed the train without any unusually noteworthy reason to be mentioned. The choice of two interpretations is possible based on the person or situations who uttered the expression. If the speaker and the listener are aware that the train/bus line s/he takes is often delayed or s/he often oversleeps, the traditional translation of *futsū-ni* is preferred. On the other hand, the new interpretation can be used in situations where the listener and speaker do not share the information as written above. In such cases, the *futsū-ni* is used indicating that the cause for being late was a common reason for most people such as the person overslept or lost track of time while s/he was doing something unimportant. This new use of the adverb is very common among younger generations especially people who are 30 or younger. This expected common idea led to the gradual expansion of the meaning of *futsū-ni*.

According to Nishimura (2016), *futsū-ni* is used in contexts where incidents expressed are unexpected and sudden to the speaker, and the incident that happened was not rare or uncommon according to his/her experiences. She also argues that this new usage is characterized by social agreement in younger generations. Their typical ideas and opinions enable them to use and interpret the adverb. This study attempts to find out when this new meaning of *futsū-ni* can be used by testing if the sentences containing an adverb that is not *futsū-ni* allows us to replace it with *futsū-ni* without changing or impairing the original meaning of the sentence. For instance, (2a) can be rephrased like (2b) for some people. This indicates that *futsū-ni* conveys what *itoshitatōri-ni* expresses.

The sentences for this study were collected primarily from the Corpus of Spontaneous Japanese (NINJAL 2018a). For the adverbs which do not have as many examples the Balanced Corpus (NINJAL 2018b) and Followthehashtag (2018) are also employed. Followthehashtag is a website that can collect data from twitter. This allows the users to collect only tweets containing specific terms or phrases the user wants to find.

In total there are 16 different adverbs such as *itosezu-ni* ‘unintentionally’, *itoshitatōri-ni* ‘as one intended’, *heikinteki-ni* ‘on average’, and *omottatōri-ni* ‘as one’s thought.’ These adverbs are chosen based on the adverbial usage dictionary by Hida and Asada (1999) and consultation with native Japanese speakers. According to the adverbial usage dictionary, typical *futsū* means something is average, normal, or nothing special which can be used to display contempt. A total of 2,522 sentences were analyzed by the author. The number of expressions examined on each adverb varies since the number of available sentences was not even, but at least 50 were studied for each. Those adverbs were replaced with *futsū-ni* and categorized based on their acceptability. This has three levels; acceptable, unacceptable, and unknown. The unknown category has

sentences that have grammatical errors, are ambiguous, and the sentence might be uttered by some people with *futsū-ni*.

The questionnaire with these categories was given to eight native Japanese speakers who are currently living in Japan or were living in Japan till a few years ago and regularly communicate with native speakers in Japan. The questionnaire consists of 28 questions in total with 14 different adverbs listed below. Each adverb has two different questions. The results show that there was only one instance that everyone said was unacceptable. There are seven sentences out of 28 that more than five people chose as unacceptable. There are four sentences that half of them said were unacceptable. Of the other 17 examples more than half of them were said to be acceptable. Among those 17 sentences, everyone chose as acceptable four instances. As a whole 21 instances had more than 50 percent acceptability. Among those seven expressions that more than five people said were unacceptable, four of them contains the same form ‘my, someone, or some institute’s *futsū-ni*’ like *jibun-no futsū-ni* ‘my *futsū-ni*’ or *seifu-no futsū-ni* ‘government’s *futsū-ni*.’ This indicates that when the context is not considered as something standard, expected, or reasonable to expect (or believed by most people), then the use of *futsū-ni* was less acceptable or unacceptable. For instance, consider (3) replacing *omotta tōri-ni* with *futsū-ni*. This shows that *futsū-ni* does not simply add a meaning like ‘ordinarily,’ ‘averagely’ or ‘usually;’ instead it tells us that the incidents, events, ideas, or opinions expressed by the speaker are, for some reason, considered common, ordinal, or usual in society. Another example is in (4). When the questionnaire was administered, seven out of eight people said this sentence was not acceptable when *omottatōri-ni* was replaced with *futsū-ni*. It does not mean that *omottatōri-ni* cannot be replaced with *futsū-ni*. Eight people said *omottatori-ni shōjiki-ni kotaetekurete iiyo* ‘you can answer honestly as you thought’ can be changed to *futsū-ni omottatōri-ni shōjiki-ni kotaetekurete iiyo*. The reason can be that it has *jibun-tachi* ‘ourselves’ in front of *omottatōri* ‘as-intended,’ which lowers the acceptability of the expression. The shared idea of their expectation expressed by *futsū-ni* is not open to other people or people who do not belong to the group. In example (5), six out of eight people responded that it is unacceptable. The two people said the sentence could be fine, only when the *futsū-ni* expresses the speaker talking about the fact that his/her life without Godzilla is becoming normal. Thus, it is plausible to say that *futsū-ni* is not replaceable with *yosōdōri-ni* in this context.

In conclusion, Nishimura’s definition is more or less correct. However, as in (2), it is possible to use *futsū-ni* without “contexts where incidents expressed are unexpected and sudden to the speaker.” Her definition requires this adjustment. As long as the speaker assumes that the listener has some shared ideas of the reason for the incident, this new use appears permissible. However, if the ideas or reasons are only accepted by a limited number of people and not a norm for the community as a whole, then the acceptability decreases. These conditions make it possible for *futsū-ni* to be used instead of other adverbs.

- (1) *Futsū-ni* densha-ni maniaimasen deshita.  
As-usual train-Dat make it not was  
a. ‘I missed the train as usual.’  
b. ‘I missed the train for no special reason.’
- (2) a. *jibun-de itosihat. ri-ni tokeru-kara ii nda-yo-ne.*  
self-by as expected solve because good-NM-be-SFP  
b. *jibun-de futsū-ni tokeru kara iinda-yo-ne.*  
ordinarily  
‘It’s good because you can solve it as you yourself wished.’

- (3) Sokkenai-furi-o site itta watashi desita-ga kokoro-no-naka-wa, omottatōri-ni/  
 uninterested-pretend-Acc did-said I was-but heart-inside-Top, as-intended  
 \*futsū-ni natteita-to iu jikomanzuku-de tsukare-ga sukoshi iyasaremashita.  
 became that say self-satisfied with tiredness-Nom little healed  
 ‘Although I pretended to be uninterested, my mind was a little healed with the satisfaction that things went  
 as I expected.’
- (4) Motto jiyū-ni yaritai. Jibun-tachi no omottatōri-ni/\*futsū-ni yaritai.  
 more feely do self-PL-Gen as-intended want to do  
 ‘We want to do it more feely. We want to do it as we think.’
- (5) Gojira no kehai-ha dokonimo naku, watasi-no yosodori-ni/\*futsū-ni narisō datta.  
 Godzilla-Gen sign-Top nowhere absent, I-Gen as-expected seem to be-Past  
 ‘There was no sign of Godzilla anywhere, and it seemed to be as I expected.’

Example adverbs that are analyzed in this study. “New” indicates that the adverb can be replaced with *futsū-ni*.

New: Yosōdōri-ni ‘as expected’

Gan-no shinkō-wa, yosōdōri-ni hayakute, 3gatsu kōhan-niwa zenshin-ni  
 cancer-Gen progress-Top as expected fast late March-by whole body-on  
 ōdangshōjō-ga dete imashita.  
 symptoms of jaundice-Nom appeared  
 ‘The progress of cancer was fast as expected, by late March the symptoms of jaundice had spread all over the body.’

Literal reading:

Sono gimu-wa hatasanakereba naranai. Shikashi, benchaakyapitaru no nakani-wa,  
 that duty-Nom accomplish have to But venture capital-Gen inside-Top,  
 yosōdōri-ni ikanai-to handansuru-to sono mochibun-o baikyaku-site satte itta  
 as expected not go-as judge when that share-Acc sold and left  
 kaisha-mo atta.  
 company also existed  
 ‘The duty must be accomplished. However, some venture capital sold their shares and left as they judged that it  
 would not go as they expected.’

New: Yosōgai-ni ‘unexpectedly’

Hajime-ni jūman-en kurasu-no-o mita-seika, yosōgai-ni yasuku kanjiru.  
 First at hundred-thousand-yen-class-NM-Acc looked-because, unexpectedly cheap feel  
 ‘Because I saw the hundred-thousand-yen-class one first, it seemed cheap.’

The following adverbs are replaceable with *futsū-ni* with the new readings.

Yosōdōri-ni	‘as expected’	Ippanteki-ni	‘typically, generally’
Yosōgai-ni	‘unexpectedly’	Tsune-ni	‘always’
Itoshitatōri-ni	‘as intended’	Tōzen	‘of course’
Itosezu-ni	‘unintentionally’	Heikinteki-ni	‘on average’
Itsumo	‘always’	Tsūjōdōri-ni	‘as usual’
Itsumodōri-ni	‘as always’	Fudandōri/Fudandōri-ni	‘as usual’
Tōzen-no-yō-ni	‘as a matter of course’	Omottatōri/Omottatōri-ni	‘as one’s thought’

## References

- Hida, Y. & Asada, H. (1999) *Gendai fukushi yōhō jiten* [Modern adverbial usage dictionary]. Tokyo: Tōkyōdō Syuppan.
- National Institute for Japanese Language and Linguistics (2018a) *Corpus of Spontaneous Japanese* (Version 2018.01 Chunagon version 2.4.2) <https://chunagon.ninjal.ac.jp/> (accessed June to July, 2018)
- National Institute for Japanese Language and Linguistics (2018b) *Balanced Corpus of Contemporary Written Japanese* (Data version 1.1 Chunagon version 2.4) <https://chunagon.ninjal.ac.jp/> (accessed June to July, 2018)
- Nishimura, M. (2016) Futsū-ni kawaii saikō [Reconsidering “futsū-ni kawaii”] *Eigogaku Eibeibungaku Ronshū* 42, 43-63. (Nara Joshi Daigaku Eigo Eibei Bungakukai, Retrieved from <http://nwudir.lib.nara-wu.ac.jp/dspace/handle/10935/4331>)
- Followthehashtag (2018) DNOiSE. [Data sets]. Retrieved from <https://www.followthehashtag.com/>

# Grammatical Constraints on Chinese-English Intrasentential Codeswitching

Qian Wang

The Ohio State University, wang.5026@osu.edu

**Introduction** This study highlights the necessity of distinguishing Chinese-English bilinguals (whose first language is Chinese, hereafter CE bilinguals) from English-Chinese bilinguals (who learn Chinese as a second language, hereafter EC bilinguals) through investigation of grammatical constraints on intrasentential codeswitching between Chinese and English. The proposed distinction has rarely been made in codeswitching studies, which may have led to overgeneralization.

**Acceptability Judgement Task** Differences between CE bilinguals and EC bilinguals in perception of constraints were explored through an acceptability judgment task. 11 participants (six CE bilinguals and five EC bilinguals) were fluent bilingual speakers with extensive immersion experience in their L2 culture. The acceptability judgement task asked participants to rate the naturalness of 37 intrasentential codeswitching sentences (Chinese = the Matrix Language/ML, English = the Embedded Language/EL) in oral speech on a scale of one (unnatural) to five (natural). Most of the test items were adapted from the 21 naturally occurring codeswitching sentences in Wei 2002. 13 of the 21 sentences were used as filler items in this study, and the rest of the sentences were manipulated in terms of number agreement to generate minimal pairs, which gave 24 test items in total.

**Grammatical Constraints Hierarchy** Acceptability judgements of the 13 fillers suggested a preference hierarchy of grammatical constraints in Chinese-English intrasentential codeswitching. Given that the fillers were produced by CE bilinguals in Wei (2002), all 13 fillers were predicted to receive the five (natural) rating. Thus, rating differences in the 13 fillers reflected CE bilinguals' and EC bilinguals' preference in Chinese-English intrasentential codeswitching. Both groups agreed on the most (single word switch & idiomatic phrase) and least favorable constraints (long English islands & incorrect word order), though CE bilinguals had an identifiable middle ground (verbal phrases) in the preference hierarchy.

**Plurality Marking** Test items in this study exhausted the overt means of marking plurality in Chinese: numeral + classifier (e.g., *liang-fen* 'two-classifier'), question word + classifier (e.g., *ji-ge* 'several', *duoshao-ge* 'how many-CL'), and determiner + *xie* (e.g., *na-xie* 'those'). Thus, the embedded English noun phrases such as *paper* should be marked for plurality (i.e., *papers*) if the grammar of the EL is employed. However, the embedded EL islands shall remain unmarked (i.e., *paper*) if the grammar of the ML is at work given that Chinese is not an inflectional language and noun phrases in Chinese do not have obligatory morphological changes (e.g., *yi-fen lun-wen* 'one-CL paper' vs. *liang-fen lun-wen* 'two-CL paper', the noun phrase *lun-wen* 'paper' does not have morphological changes). Differences between CE and EC bilinguals on plurality constraints were explored through acceptability judgments of 24 intrasentential codeswitching sentences, which were minimal pairs in number agreement, including both single marking and double marking.

**Single marking** refers to the use of the English plural maker *-s* to mark plurality in sentences such as (1). Analysis of six minimal pairs (differing in [ $\pm s$ ]) suggested that CE bilinguals

consistently perceived the uninflected version of test items as more natural than their inflected counterparts (i.e., [-s] > [+s]). The EC bilinguals, in contrast, showed the opposite pattern in weighing sentences with morphological inflections. EC bilinguals preferred to apply the English grammar in embedded English islands while CE bilinguals preferred to apply the ML grammar to the entire sentence, EL islands included. Contrary to the consensus in previous literature (Liu, 2008; Zhang, 2013) that the uninflected form of English NPs would be used in Chinese-English intrasentential sentences if plurality is overtly marked in ML, this study suggests that EC bilinguals prefer to apply English grammar in EL islands while CE bilinguals prefer to apply Chinese grammar to the entire sentence, EL islands included (c.f. Myers-Scotton, 1993).

- (1) Wǒ yǒu liǎng fèn paper(s) míngtián bìxū jiāoshàngqù.  
 I have 2 CL paper(s) tomorrow must turn in  
 ‘I have two papers that I must turn in tomorrow.’

**Double marking** refers to the use of both English and Chinese morphology to mark plurality, i.e., -s and -men, respectively. -Men in Chinese is a restricted optional marker to indicate the plurality of pronouns/NPs that denote individuals. In (2), [ $\pm s$ ] and [ $\pm men$ ] create three sets of four test items that minimally differ from each other in the value of one feature. Analysis of 12 test items reports that CE bilinguals and EC bilinguals seem to favor different ways in achieving number agreement. CE bilinguals favor inflection-free ([-s] [-men]) the most and double inflection ([+s] [+men]) the least, while EC bilinguals favor the English inflection morpheme ([+s] [-men]) the most and the Chinese inflection ([-s] [+men]) the least. The preference of [-s] and [+s] by CE and EC bilinguals, respectively, confirms the previous observation on single marking. The consistent preference of [-men] over [+men] of both CE and EC bilinguals suggests that [+men] is not the optimal way to mark plurality in both the matrix and embedded language.

- (2) Nà xiē visiting scholar(s) (men) bú shì hěn yǒu qián ma?  
 those XIE visiting scholar(s) MEN NEG BE very have money SFP  
 ‘Aren’t those visiting scholars rich?’

**Conclusion** Differences in the hierarchy of grammatical constraints and number agreement marking support the proposed distinction between CE bilinguals and EC bilinguals, which potentially has implications for theoretical models of bilingual codeswitching production and perception. The boundary of ML and EL may be more fluid than previously assumed, and bilinguals’ L1 difference seems to contribute to the fluidity of the ML-EL dichotomy.

## References

- Myers-Scotton, C. (1993). *Duelling languages: Grammatical structure in codeswitching*. Oxford and New York: Oxford University Press.  
 Wei, L. (2002). The bilingual mental lexicon and speech production process. *Brain and Language* 81, 691-707.

## The Comparison of English Tense-Lax Vowel Contrasts Perceived by English Monolingual Children and Mandarin-English Bilingual Children

Lan Yu

Indiana University Bloomington, [ly29@indiana.edu](mailto:ly29@indiana.edu)

Previous studies have shown that the primary acoustic cue for the perception of English tense-lax vowel contrasts by English native speakers is the spectral differences between the vowels, which also refer to the vowel quality that is primarily related to the first two formant frequencies: F1, F2 (Hillenbrand et al., 1995; Reetz & Jongman, 2009). Vowel durations are argued to serve as the secondary acoustic cue for the perception of this contrast (Reetz & Jongman, 2009; Smiljanic & Bradlow, 2008). However, different from English native speakers, L2 speakers (Korean, Russian, Spanish and Mandarin) of English are reported to weight durational differences more heavily compared to spectral differences (Tsukada et al., 2005; Kondaurova & Francis, 2008; Wang & Munro, 1999; Hsieh & Pan, 2010).

Here we explored the cue weighting strategies adopted by eight 5-9-year-old children. Our goal is to compare the relative cue weighting strategies used by English monolingual children (EC) and Mandarin-English bilingual children (MEC). Two adult groups, four English-speaking adults (EA) and four Mandarin-English bilingual adults (MEA) were also included to observe the developmental changes. Perception stimuli were obtained from natural productions of two word pairs *beat & bit* and *sheep & ship*. We resynthesized the natural tokens to create *beat/bit* and *sheep/ship* continuums, each in six perceptually equal spectral and durational steps using Pratt. To make this experiment more children-friendly, we introduced those word pairs by presenting the subjects with the corresponding pictures. Identification experiment was created in the form of an interactive computer game using *construct 3* where subjects were asked to click the corresponding picture for the word they hear to save their friend who accidentally activated the trap and was lock up in the dungeon. During the identification experiment, there were 144 (36\*2 repetitions\*2 word pairs) target trials and 288 dummy trials. In each target trial, subjects saw four pictures, two of them were two target pictures (either corresponding pictures of *beat & bit* or corresponding pictures of *sheep & ship*), and two of them were distractors presented on the computer screen and heard the resynthesized token at the same time. They were asked to click the corresponding picture for the word they heard. The dummy trials were designed the same as the target trials except that there were neither target pictures nor resynthesized tokens.

The discriminant function analysis was run to determine the relative contributions of spectrum and duration using Wilk's lambda coefficient that varies from 0 to 1 (the closer it is to 0, the stronger the independent variable contributes to the stimuli tokens' categorical membership. The closer it is to 1, it suggests little or no contribution). The results show regarding EC, MEC, EA, only spectrum contributes to their identifications of this contrast as shown in Table I. As for MEA group, they utilize an additional perceptual cue, duration, to identify this contrast though the relative weight of spectral cues is much larger than the durational cues as indicated in Table I. Identification (ID) matrixes for those four groups are illustrated in Figs. 1(a-h). ID matrixes illustrate a more complex pattern than for EC, MEC and EA, durational differences might have effects in the middle spectral steps 2 and 3, where the spectral cues are ambiguous to them. However, regarding MEA group, in spectral steps 1 and 6, they appear to only use spectral cues to classify tokens. However, in the middle spectral steps 2 to 5, the spectral and durational cues interact with each other and both contribute to the identifications of this contrast. ID



functions for duration and spectrum are shown in Figs. 2(a-d). A logistic regression model with duration and spectrum was fitted into each subject's identification data. As shown in Table II, the slopes of spectrum are much larger than those of duration, which suggests that the average tense identification rates are greatly influenced by spectral differences rather than durational differences across groups. One-way ANOVA was run to determine the differences of ID functions across groups, and the results address that those differences are not statistically significant.

In conclusion, regarding the relative cue weighting strategies utilized by L2 adult learners of English, this study suggests that MEA relies on spectral cues predominantly. This contradicts with Bohn's desensitization hypothesis that proposed a universal bias to utilize the durational differences on the non-native vowel contrasts where spectral differences are insufficient to distinguish those contrasts due to listeners' limited linguistic experience in their native languages to sensitize the spectral differences. However, the results from this study and some other studies show that the reliance on spectral cues is an acquired skill that can be learnt relatively easily by more exposure to L2 or specific training of L2 since advanced or trained Mandarin learners of English appear to rely more on spectral differences (Wang & Munro, 1999; Hsieh & Pan, 2010). The widely demonstrated durational bias has also been challenged by the limited phonetic experience with vowel duration in some L2 (Spanish, Mandarin, Korean) speakers' native languages and a lack of evidence that durational differences are more salient than spectral differences auditorily. Considering the developmental changes of this contrast, EC and EA adopt the same weighting strategies, which challenges developmental weighting shift hypothesis that argued the perceptual weighting shifts developmentally. Therefore, it suggests that this hypothesis should not be applied to all situations and needs to be interpreted in certain phonetic contrasts. As for the L2 development, MEA uses an additional perceptual cue, duration, while MEC performs similarly as EC and EA. This further confirms that the reliance of the spectral cues is an acquired skill that would be greatly affected by other factors such as the amount of exposure to L2, the specific training of L2 and age of acquisition of L2. This study fills the gap of developmental changes of relative cue weighting of this contrast, yet the relative auditory salience and interactions of those two cues need more attention and investigations in the future.

Table I: Wilks' lambda coefficients of both duration and spectrum for EC, MEC, EA and MEA in *beat & bit* and *sheep & ship*.

<i>Beat &amp; Bit</i>	Wilks' lambda for duration	Wilks' lambda for spectrum
EC	.992	.388
MEC	.997	.398
EA	.998	.431
MEA	.983	.610
<i>Sheep &amp; Ship</i>	Wilks' lambda for duration	Wilks' lambda for spectrum
EC	1.000	.347
MEC	1.000	.349
EA	.999	.454
MEA	.977	.546



FIG (1a) beat & bit EC

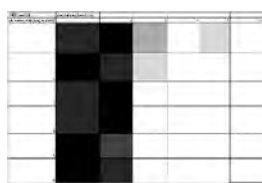


FIG (1b) beat & bit MEC

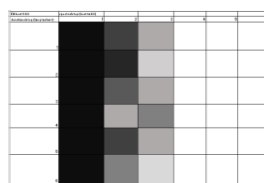


FIG (1c) beat & bit EA

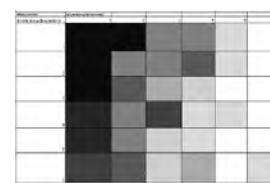


FIG (1d) beat & bit MEA

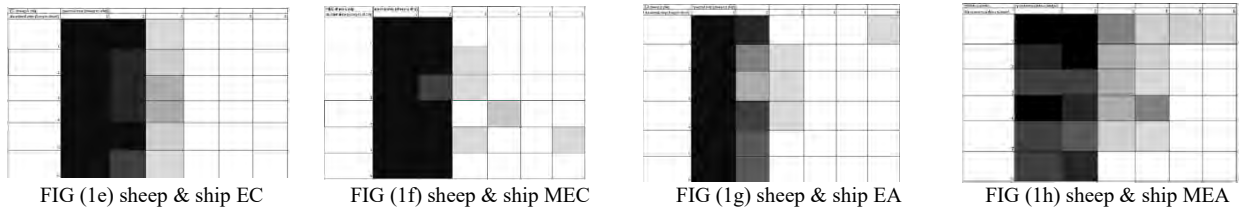


FIG. 1(a-h). ID matrixes, six columns represent six spectral steps (from tense to lax) and six rows represent six durational steps (from long to short). The group averages were calculated for each cell with darkest areas indicating 100% tense identifications and lightest areas indicating 100% lax identifications.

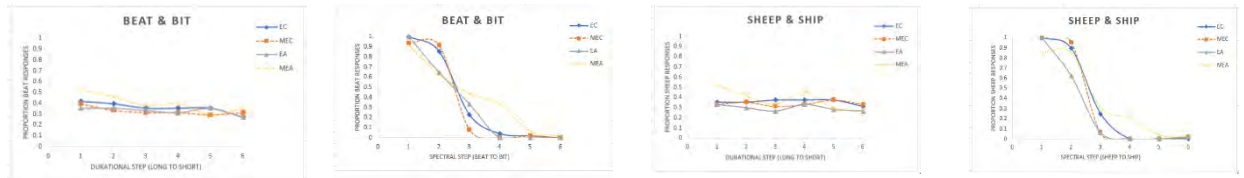


FIG (2a): beat & bit duration steps      FIG (2b): beat & bit spectral steps      FIG (2c): sheep & ship duration steps      FIG (2d): sheep & ship spectral steps

FIG 2 (a-d): ID function, average proportion of tense responses to all stimuli shared a given spectrum (durational continuum) and a given duration (spectral continuum).

Table II: Steepness of the slopes of the logistic regression model for EC, MEC, EA and MEA groups.

		Slope	
Word pairs	Group	Steepness ( $\beta_1$ : duration)	Steepness ( $\beta_2$ : spectrum)
beat & bit	EC	-0.8293	-9.193
	MEC	-0.4959	-18.985
	EA	-0.54351	-13.351
	MEA	-0.4250	-1.782
sheep & ship	EC	-0.1113	-22.03
	MEC	0.06137	-23.133
	EA	0.00455	-16.85
	MEA	-0.4472	-2.1074

### Selected References

Hillenbrand, J., Getty, L. A., Clark, M. J., & Wheeler, K. (1995). Acoustic characteristics of American English vowels. *The Journal of the Acoustical Society of America* 97(5), 3099-3111.

Hsieh, B. R., & Pan, H. H. (2010). L2 Experience and non-Native vowel categorization of L1-Mandarin speakers. In *Eleventh Annual Conference of the International Speech Communication Association*.

Kondaurova, M. V., & Francis, A. L. (2008). The relationship between native allophonic experience with vowel duration and perception of the English tense/lax vowel contrast by Spanish and Russian listeners. *The Journal of the Acoustical Society of America*, 124(6), 3959-71.

Ohde, R. N., & German, S. R. (2011). Formant onsets and formant transitions as developmental cues to vowel perception. *The Journal of the Acoustical Society of America* 130(3), 1628-42.

Reetz, H., & Jongman, A. (2009). *Phonetics: Transcription, Production, Acoustics, and Perception*, 182-207. Chichester, UK: Wiley-Blackwell.

Smiljanic, R., & Bradlow, A. R. (2008). Stability of temporal contrasts across speaking styles in English and Croatian. *Journal of Phonetics* 36(1), 91-113.

Tsukada, K., Birdsong, D., Bialystok, E., Mack, M., Sung, H., & Flege, J. (2005). A developmental study of English vowel production and perception by native Korean adults and children. *Journal of Phonetics* 33(3), 263-90.

Wang, X., & Munro, M. J. (1999). The perception of English tense-lax vowel pairs by native Mandarin speakers: The effect of training on attention to temporal and spectral cues. In *Proceedings of the 14th International Congress of Phonetic Sciences vol. 3*, 125-28). Berkeley, CA: University of California.





**GACL**

漢語語言學研究生聯合會

Graduate Association of Chinese Linguistics

<http://u.osu.edu/gacl/>