Buckeye East Asian Linguistics Forum 5

Friday, 28 October 2022

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

THE OHIO STATE UNIVERSITY

Buckeye East Asian Linguistics Forum 5

Friday, 28 October 2022

The Ohio State University
Columbus, Ohio

A virtual event via Zoom

Program Book

THE OHIO STATE UNIVERSITY

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This event is sponsored in part by a U.S. Department of Education Title VI grant for The Ohio State University East Asian Studies Center, programming fund for GACL from the Council on Student Affairs, and by the James H-Y. Tai Buckeye East Asian Linguistics Fund.

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General Information

1. Online Registration

https://u.osu.edu/beal/beal-forum/2022-2/registration/

- Register by Sunday, 23 October 2022.

2. Buckeye East Asian Linguistics Forum 5 (BEAL Forum 5)

Date: Friday, 28 October 2022 (Eastern Daylight Time (EDT))
Place: Virtual event via Zoom, The Ohio State University, Columbus, Ohio

The Buckeye East Asian Linguistics Forum 5 **(**BEAL Forum 5) provides a platform primarily for graduate students to articulate and exchange ideas on their research findings with forum participants. It is a one-day event with keynote lectures and students' presentation sessions. Before the COVID-19 pandemic, students' presentation sessions were all posters. However, we had 15-minute presentation sessions via Zoom instead in BEAL Forum 4 (Spring 2021), and we will do so again in BEAL Forum 5. The BEAL Forum is an excellent opportunity to present one's research in a public arena and to receive comments individually. The Forum is intended to showcase regional research activities in East Asian linguistics. The event is free and open to the public.

As in the case of previous BEAL Forums, as part of this event, a Proceedings volume will be published through Ohio State University's Knowledge Bank, a service of The Ohio State University Libraries.

Commentators:
Following the additional activity initiated in BEAL Forum 4, besides keynote speakers, this year's event includes the inviting of several OSU alumni to serve as commentators, to provide feedback to the presenters. Invited to participate as commentators are:

- Dana Scott Bourgerie (Brigham Young University)
- John Bundschuh (Swarthmore College)
- Fang-yi Chao (Sarah Lawrence College)
- Hana Kang (University of Notre Dame)
- Akiko Kashiwagi (Oakland University)
- George Chunsheng Yang (University of Connecticut)

BEAL Forum 5 is free and open to the public, although registration is required in order to obtain the Zoom links.

THE OHIO STATE UNIVERSITY

The 5th Buckeye East Asian Linguistics Forum (BEAL Forum 5)

Friday, 28 October 2022

Venue: Virtual event via 3 Zoom Meeting Rooms – Zoom A, B & C
Time Zone: US Eastern Daylight Time (EDT)
Registration: Free and open to the public, but online registration required

8:50-9:00 am	**Welcoming Remarks** (Zoom A) *Wei Zhou, GREALL President & GACL IPP* *Professor Mark Bender, DEALL Chair*

9:00-10:20 am	**Plenary Session 1: Keynote Speaker** (Zoom A) Chair: Marjorie Chan
	Professor Peggy Pik Ki Mok **Chinese University of Hong Kong** "The Acquisition of Lexical Tone in Various Contexts"

Session I. 10:25-11:45 a.m.			
	Session A-I (Zoom A)	**Session B-I** (Zoom B)	**Session C-I** (Zoom C)
	Chair: Marjorie Chan (OSU)	Chair: Skylor Gomes (OSU)	Chair: Etsuyo Yuasa (OSU)
10:25 am	**Cindy Wan Yee Lau (University of Wollongong College Hong Kong)** Double Dislocation Focus Construction in Cantonese	**Zhixian Huang & Margaret Lei (Chinese University of Hong Kong)** Disambiguating *Ji* in Mandarin: Insights from Child Language	**Reina Mogushi (University of Tsukuba)** Effects of Prosodic Cues and Semantic Plausibility on JLEs' Processing of Structurally Ambiguous Utterances
10:45 am	**Xi Chen (University of Hong Kong)** Lexical Influence of Cantonese on Teochew Dialect — A Case Study of a Chaozhou Immigrant Family in Guangzhou	**Yizhuo Zhang (Beijing Foreign Studies University)** *Bushi* as the Evaluative Negation in Mandarin Chinese	**Min Kim (University of Tsukuba)** Acquisition of English Non-anaphoric Bridging Definite by Japanese Learners: Focusing on Lexical Sensitivity Regarding Situational Uniqueness
11:05 am	**Yin-To Chui & Zhen Qin (Hong Kong University of Science and Technology)** Do Cantonese speakers exhibit distributional learning effects on the acquisition and consolidation of Mandarin tones?	**Erli Tang, Li-Fang Lai, & Eric Pelzl, (Pennsylvania State University)** Mandarin influence on Shanghainese fricatives	**Manami Hattori (University of Tsukuba)** Acquisition of Japanese Relative Clause with Resumptive Pronouns by Chinese Learners
11:25 am	**Xuan Ye (The Ohio State University)** Shanghainese Dialect Writing in Subtitles in Digital Media	**Emily Koenders (Chinese University of Hong Kong)** The count mass distinction in Hong Kong Sign Language	**Yuka Fujii (University of Tsukuba)** Mapping Issues of the Acquisition of L2 Japanese Aspect Markings by Chinese Learners
11:45 am - 1:00 pm	**~~ LUNCH BREAK ~~**		

1:00-2:20 pm	**Plenary Session 2: Keynote Speaker** (Zoom A) Chair: George Chunsheng Yang (UConn)
	Professor Hana Kang **University of Notre Dame** "The Analysis of Communicative Competence in Korean Textbooks: Intercultural Competence Approach"

Session II. 2:25-3:25 p.m.			
	Session A-II (Zoom A)	**Session B-II** (Zoom B)	**Session C-II** (Zoom C)
	Chair: Marjorie Chan (OSU)	Chair: Zhiguo Xie (OSU)	Chair: Mineharu Nakayama (OSU)
2:25 pm	**Hyun Bae (University of Wisconsin)** The effect of syntactically different L2 input on L2 parsing preference	**Yuyang Liu & Ka-Fai Yip (Yale University)** High vs. low 'again': Mandarin you vs. zai and Cantonese *-faan* vs. *-gwo*	**Jared Sharp & Brian Hayden (University at Buffalo)** The Typology of Manchu-Sibe Ideophones in Areal and Genetic Perspective
2:45 pm	**Seojin Yang (The Ohio State University)** Korean *Aegyo* Speech Style: Infantilization of Sounds	**Adæmrys Chihjen Cheng (University of Ottawa)** Cartographic Syntax Approach on Taiwanese U 'Have'	**Yuki Hattori (The Ohio State University)** L2 Japanese Proficiency and Working Memory Capacity
3:05 pm	**Grainger Lanneau (University of Washington)** Glottal Stop Initials and Nasalization in Sino-Vietnamese and Southern Chinese	**Paul Cockrum (The Ohio State University)** Taiwanese Southern Min Tone and Melody Interaction	**Saori Wakita (The Ohio State University)** Orthographic Influence in Processing Katakana and Kanji Nouns in Japanese

3:30-4:50 pm	**Plenary Session 3: Keynote Speaker** (Zoom A) Chair: Mineharu Nakayama (OSU)
	Professor Masahiko Minami **San Francisco State University** "Perspective-taking in Adult Japanese-language Learners' Oral Narratives: A Cross-linguistic Comparison"
4:50-5:00 pm	**Closing Remarks** (Zoom A) *Jinwei Ye, GACL President* on behalf of the BEAL Forum 5 Organizing Committee

Plenary Session Abstracts

(Zoom A)

The Acquisition of Lexical Tone in Various Contexts

Peggy Pik Ki Mok
Chinese University of Hong Kong

More than half of the world's languages are tone languages, but the acquisition of lexical tone by children is much less well understood compared to the acquisition of consonants and vowels. Early studies show that children have acquired lexical tones by the age of two years, well ahead of their acquisition of segments. Some recent studies revisited tone acquisition in Mandarin and Cantonese and found that tone acquisition is more protracted than previously thought. Besides, many studies demonstrated cross-linguistic influence in bilingual acquisition of segments, but little is known about the acquisition of lexical tone in a bilingual context. Tone sandhi involves higher order, sometimes very complex, phonological alternations of lexical tone, however, children's acquisition of complex tone sandhi remains largely unexplored. This talk will address the above interesting issues by discussing Cantonese lexical tone acquisition in monolingual and bilingual contexts, and children's acquisition of the famous tone-sandhi circle in Xiamen Southern Min.

Short Bio. Professor Peggy Mok received her BA in Chinese Language and Literature from the Chinese University of Hong Kong, and her MPhil and PhD in Linguistics from the University of Cambridge. Her main research interest is phonetics. She works on both speech production and speech perception, particularly with cross-linguistic and psycholinguistic perspectives. She investigates both segmental and prosodic properties of speech, focusing more on prosodic aspects especially on lexical tone in recent years. Speech acquisition in different contexts is an important theme in her research, with the acquisition of lexical tone being a prominent focus. In addition to theoretical investigation of speech patterns, she is also interested in forensic phonetics, examining how speech patterns are linked to individual speaker identity. Besides phonetics, she is also interested in the bilingual mental lexicon.

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The Analysis of Communicative Competence in Korean Textbooks: Intercultural Competence Approach

Hana Kang
University of Notre Dame

Language teachers utilize various resources to help students develop linguistic and Intercultural competence (ICC). However, textbooks are still the primary source for learning and teaching foreign languages. Despite the importance of textbooks in developing ICC, few studies are conducted on this topic, especially in less commonly taught languages such as Korean. This paper adopted ICC model of Deardorff (2006) and Gu & Zhao (2021) and applied three dimensions of ICC, "Attitude (attitude toward different cultures)," "Knowledge (linguistic and cultural knowledge)," and "Skill (ability to apply skills)" to examine the popular Korean textbooks in the United States. This study also includes personal interview data of Korean language learners from various backgrounds and how they understand and utilize the cultural components in the textbooks.

The analysis shows that all the information in the culture sections is related to the topics of each lesson, mainly in the "Knowledge" dimension (a simple explanation of Korea and Korean culture). The interview data revealed that the culture sections in their Korean textbook are good resources for general knowledge. However, learners indicated that textbooks should have more activities based on "Skill" dimensions, such as expressing identity (race and ethnicity), choosing proper speech levels, and using correct honorific forms. This study also shares findings on the differences between Korean heritage and Korean as a foreign language learners in their understanding of Korean speech levels and honorific usage.

Short Bio. Professor Hana Kang holds a joint appointment from the Department of East Asian Languages and Cultures (EALC) and the Center for the Study of Languages and Cultures (CSLC). She teaches Korean language courses as well as linguistic courses. Her research interests include foreign language acquisition, language learner identity, and intercultural competence. She has presented research papers on the learners' acquisition of different writing systems and the roles of learners' identity in language learning at various national conferences.

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Perspective-taking in Adult Japanese-language Learners' Oral Narratives: A Cross-linguistic Comparison

Masahiko Minami
San Francisco State University

This study, which compares native Japanese speakers and L2 learners of Japanese, discusses the question of what makes narrative sound natural in the light of macro- and micro- narrative structure. The study found that native speakers of Japanese, regardless of topic, tended to use the passive voice together with multiple aspect forms at the narrative high points. The use of the passive voice indicates that the speakers' viewpoint was fixed on the main characters. In contrast, L2 learners, regardless of topic, tended to use the active voice, which indicates that their viewpoint was placed on the subject of the scene. Further, L2 learners scarcely used aspect forms; even if they did, they chose one of them without attempting to combine them. The study discusses whether these differences are attributable to the L2 learner's L1 transfer or the lack of understanding of the concepts to be acquired in the L2.

Short Bio. Masahiko Minami, who received his doctorate from Harvard University, is a professor in the Department of Modern Languages and Literatures at San Francisco State University, where he specializes in Japanese language and cross-cultural studies. He also served as an invited professor at the National Institute for Japanese Language and Linguistics (2012–2016). He is currently Editor-in-Chief of the *Journal of Japanese Linguistics*. His primary area of interest in research is bilingual education and cross-cultural studies. He has written extensively on psycho/sociolinguistics with a particular emphasis on cross-cultural comparisons of language development and narrative/discourse structure. His major works include *Language Issues in Literacy and Bilingual/Multicultural Education* (Harvard Educational Review, 1991), *Culture-specific Language Styles: The Development of Oral Narrative and Literacy* (Multilingual Matters, 2002), *Telling Stories in Two Languages: Multiple Approaches to Understanding English-Japanese Bilingual Children's Narratives* (Information Age Publishing, 2011), and the *Handbook of Japanese Applied Linguistics* (De Gruyter Mouton, 2016).

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Parallel Session I Abstracts

(Zooms A, B, C)

Session A-I Abstracts

(Zoom A)

Double Dislocation Focus Construction in Cantonese

Cindy Wan Yee Lau

University of Wollongong College Hong Kong

This study investigates the syntax of *Double Dislocation Focus Construction (DDFC)* in Cantonese (1). DDFC is a variation of *Dislocation Focus Construction (DFC)*, both of which are found in colloquial Cantonese. Though some scholars (e.g. Chao 1968, Lu 1980, Tai and Hu 1991, Guo 1999) referred dislocation constructions as 'afterthought' or 'inversion', I follow Cheung's (1997, 2005) analysis of DFC to illustrate that DDFC is also found to be governed by grammatical principles.

(1) Hou2 faai3 sau1lei5jyun4 gwaa, bou6 din6lou5____, ngo5 gu2___. *DDFC*
Very fast repair.finish SP CL computer I think
'I think the computer will be repaired soon.'

Assuming that SP occupies the head of CP, a higher position in the sentence hierarchy, a comparison of the structures of DFC and DDFC is illustrated in table 1. **DFC:** Syntactically, DFC involves three components, a sentence particle (SP), a pre-SP and post-SP part. As in (2), the pre-SP part received focus interpretation; the post-SP part represents the remnant of the sentence. DFC is derived by focalization, in which the focalized part moves from to the Spec of CP to check off the [+Foc] feature (Cheung 1997, 2005, 2009; Law 2003). **DDFC:** Though DDFC resembles DFC, the former involves two remnant-parts occurring after the SP (Lau 2021). Note that the order of these two remnants (αandβ) becomes reversed in DDFC, which makes it not only distinctive from DFC, but also interesting theoretically. In this study, **I argue that the pre-SP part (*γ*) is the only componenet to receive focus interpretation. Thus the derivation of DDFC involves the processes of *focalization* and *defocalization*.**

(2) [Jat bou dinsigei] lo, keoi soeng maai ___. *DFC* (Cheung 2005)
One CL TV SP s/he want buy
'S/he wants to buy a TV.'

Table 1. Illustration of the word order of DFC and DDFC

Sentence type	*Underlying Structure*	*Surface Structure*
DFC	SP α β	β SP α
DDFC	SP α $\beta\gamma$	γ SP β α

DDFC is found to be bound by grammatical principles. First, the focalized component

(γ) must be a constituent, which can relate to a gap in the main clause. It semantically restricts the domain for focus in the Focus Phrase. This focalized phrase could not be followed by topic markers *aa* and *ne*, meaning that it is unable to be analyzed as a topic. Also, following Tancredi (1990), Beaver and Clark (2003), and Erlewine (2014), focus interpretation cannot be associated with the trace of the elment. Focus interpretation must be found in the surface order. Evidence from answering A-not-A question (3), forming a *wh*-question (4), discontinuous construction *zinghai…zaa* (5). Also, the findings from the following tests, reconstruction effect (6), Principle C (7) and island constraints (8), have shown that DDFC is island-sensitive, and the binding relationship holds before A'-movement. Hence, the derivation of DDFC is not just a pragmatical issue, but grammatical principles are involved.

(3) Q: Keoi jicin zeon-m-zeonsi faanhok gaa? (Did he arrive school in time in the past?)

a. [Seng4jat6 ci4dou3]$_F$ gaa3, ji5cin4, keoi5. *(Possible alternatives set: on time/ late)*
always late SP before s/he
'S/he was ALWAYS LATE (to school) in the past.'

b. *Seng4jat6 ci4dou3 gaa3, [ji5cin4]$_F$, keoi5. *(Possible alternatives set: before/ now)*
always late SP before s/he

c. *Seng4jat6 ci4dou3 gaa3, ji5cin4, [keoi5]$_F$. *(Possible alternatives set:* s/he / myself)
always late SP before s/he

(4) a. [$_{wh}$ Maai5zo2 mat1je5] aa3, hai2 syu1zin2, nei5?
buy.ASP what.thing SP at book.fair you 'WHAT did you buy at the book fair?'

b. *Maai5zo2 bun2 syu1 aa3, [$_{wh}$hai2 bin1dou6], nei5?
buy.ASP CL book SP, at where, you

c. *Maai5zo2 bun2 syu1 aa3, hai2 syu1zin2, [bin1go3]?
buy.ASP CL book SP, at book.fair, who

(5) [Bun wun faan]$_F$ zaa, keoi zinghai sikzo, gamziu.
half CL rice SP s/he only eat, this-morning
'This morning, s/he only eats HALF BOWL OF RICE.'

(6) Duk62 zi6gei2 soeng2 duk6 ge3 fo1 aa3, hai2 daai6hok6, so2jau5 hok6saang1 dou1 soeng2
study self want read LP subject SP at university all students all want
'All students want to take the subject that oneself wants to study at the university.'

(7) *[Aa3Ming4$_i$ faat3siu1] aa3, kam6jat4, keoi5$_i$ zi1dou3.
Ming fever SP yesterday s/he know

(8) *Coordinate Structure Island*
*[Saam1zi1bat1]$_i$ aa3,maai5zo2 [$_{CSC}$ loeng5bun5syu1 tung4 t$_i$],Ming4zai2 hai2 syu1zin2
three-CL-pen SP buy.ASP two-CL-book and Ming at book-fair
'Ming bought two books and three pens at the book fair.'

The result predicts that multiple dislocation focus construction is possible. It may also provide insights for future investigation of the whole picture of dislocation constructions cross-linguistically.

Selected Reference:

Cheung, L.Y.L. (1997). *A study of right dislocation in Cantonese*. M.Phil. thesis, CUHK.

Lau, C.W.Y. (2021). Double Right-dislocation in Cantonese. Paper presented at *The 25th International Conference on Yue Dialects*. CUHK.

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Lexical Influence of Cantonese on Teochew Dialect
—— A Case Study of a Chaozhou Immigrant Family in Guangzhou

Xi Chen
University of Hong Kong

Yue, Min and Hakka are the three major dialects prevalent in Guangdong province, China. There is large amount of research describing, analyzing, and comparing these three dialects. Among the literature, previous comparative studies of Yue and Min only provide general descriptions and typical examples of the differences in pronunciation, lexicon, and grammar between these two dialects (Zhan 1990; Lin 1994, 2000; Li 1999; Wen, 2014). However, few case studies have shown how language contact affects individuals. When Min native speakers become transitionally bilingual of Yue, a socially and economically more powerful dialect, language shift may occur (Romaine 1994).

This case study reveals the lexical influence of Cantonese[1] on Teochew dialect[2] by investigating the word usage of three generations in a Chaozhou immigrant family in Guangzhou. Cantonese features are found among all participants' Teochew expression, especially the words referring to items or behaviors with strong Cantonese regional cultural characteristics such as "wan^{4} tan^{1}" (/wɐn21 tʰɐn5/, wonton) and "kap^{6} dai^{6} zuk^{1}" (/kʰɐp2 tɐi2 tsʊk5/, congee with lean pork, liver and kidney). Factors influenced and accelerated such change and issues related to dialects inheritance in immigrant communities are discussed in this study.

Four representative participants (2 males, 2 females) from a multilingual family aged from 21 to 89 (as of 2019) were recruited. They were born in Chao'an District in Chaozhou, Guangdong province and use Teochew as their mother tongue. They immigrated from Chaozhou to Guangzhou at different ages and have stayed there from 3 to 32 years. The language performances of these learners of Cantonese vary from novice to advanced. Before the study, demographic and sociolinguistic information including age, residence areas, length of residence, first and second languages and their using contexts was collected by means of a questionnaire. Then, they were invited to describe items or behaviors using Chaozhou dialect depending on a 1210-word lexicon-based Teochew investigating wordlist, which was designed and categorized with reference to dialect lexicons for this study. To lessen the influence of Mandarin, the national common language, each entry was shown with a picture (see Appendix 1) or further elaborated by the investigators in Chaozhou dialect. The spoken data were recorded and transcribed into IPA (International Phonetic

[1] Representative dialect of Yue, spoken by the people in Guangzhou and its surrounding area.
[2] Representative dialect of Min, spoken by the Teochew people in Chaoshan region including Chaozhou.

Alphabet) if there are no corresponding Chinese characters (see Appendix 2). The analyzed data were categorized into standard Teochew words, Teochew words with Cantonese features (Cantonese words) and words without Teochew and Cantonese features (non-Teochew and non-Cantonese words) according to the standard word form in dialect lexicons.

The results have indicated that all participants were able to use their mother tongue, Chaozhou dialect, to describe items or behaviors but their performance was affected by Cantonese to a certain extent (see figure 1). Participant B and C who are in their middle-age involved more Cantonese words in the investigation. Compared to B and C, participant D who is a young adult and earlier exposed to Cantonese, seems less disturbed. However, it's noticeable that B and C's length of residence in Guangzhou is much longer that D and both of them have higher motivation in learning Cantonese for work. Therefore, except for the age factor, their years of exposure to Cantonese, motivations and environment could also be relevant factors influencing language shift.

Additionally, the impact of promoting Mandarin in mainland China is worth consideration. The percentage of words without Teochew and Cantonese features ranged from 24.13% to 49.59%. Since the participants share another common dialect which is Mandarin, and respecting the government's policy of promoting Mandarin, we assume that their Chaozhou dialect are affected by Mandarin simultaneously. Some data confirm the assumption. For example, "ziê3 zung5" (/tsie213 tsuŋ55/, just) turned to be "gang1 gang1" (/kaŋ33 kaŋ33/, Mandarin expression of "just") and "ê6 gua3" (/e21 kua212/, afternoon) became "ê6 ngou2" (/e21 ŋou53/, Mandarin expression of "afternoon").

At the moment, Teochew ranks 3 according to Expanded Graded Intergenerational Disruption Scale (EGIDS) developed by Lewis and Simons (2010) in Chaoshan region, which means it is "used for local and regional work by both insiders and outsiders" and is regarded as safe. However, for Teochew immigrant communities in Guangzhou or other big cities, the ranking could drop to 6b/7 (threatened/shifting, used orally by all generations but may/may not transmitting to the next generations) and it is under vulnerable/definitely endangered. Compared to their parents and grandparents, the new generations are facing bigger challenges in the inheritance of Teochew dialects. Institutional support (Giles et al., 1977), building up Teochew people's cultural and ethnic identity (Smolicz, 1981), promoting multilingual education may contribute to the inheritance of Teochew dialects in immigrant communities.

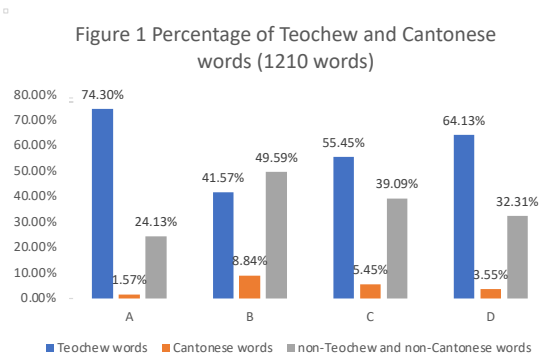

Figure 1. Percentage of Teochew and Cantonese words (1210 words)

Appendix 1. Examples of the 1210-word lexicon-based Teochew investigating wordlist

整合後號碼	原標記號碼	詞類	類目	原詞目	廣州方言	甲	初次標記	重新標記	乙	初次標記	重新標記	丙	初次標記	重新標記	丁	初次標記	重新標記
1	1	名詞	天象、地理	太陽		日頭	3		日頭	3		日頭	3		太陽	1	
2	2			月亮		月娘	3		月娘	3		月娘	3		月娘	3	
3	3			冰		冰	3		冰	3		冰	3		冰	3	
4	4			晴天		天時好	1	3	晴天	1		陰天	1		晴天	1	
5	5			陰天		天時無 dzieh12 好	1	3	陰天	2	P	烏天	1	3	陰天	2	P
6	6			河		河	3		河	3		河	3		河	3	
7	7			池塘		池	3		池	3		水池	1		池	3	
8	8			風景		風景	2	P	風景	2	P	風景	2	P	風景	2	P
9	1	名詞	天象、地理	小河溝	涌	溪	3		小河	1		小溪瀧	1	3	溪	3	
10	2			毛毛雨	細雨	細雨	1		細雨	3		激激雨	1	3	激	3	
11	3			太陽雨	白撞雨	雨合日相拍	3		日撞雨	1	S	太陽雨	1		N/A		
12	9		時間、節令	時候（什麼時候）		dzieh21 點	1	3	時候	2	P	哗	1	3	dzieh21 點	1	3
13	10			現在		tsie213 回	1	3	現在	3		tsie213	1	3	現在	3	
14	11			從前		以前	1		以前	1		以前	1		從前	1	
15	12			剛才		Pup42 hau55	1	3	剛剛	1		tsie213	1	3	Pup42 hau55	1	3
16	13			今年		今年	3		今年	3		今年	3		今年	3	
17	14			明年		明年	1		明年	1		明年	1		明年	1	
18	15			今天		今日	3		今日	3		今日	3		今日	3	
19	16			明天		mua24 起	3		mua24 日	3		mua24 日	3		mua24 日	3	
20	17			昨天		昨日	3		昨日	3		昨日	3		昨日	3	
21	18			前天		前日	3		前日	3		前日	3		前日	3	
22	19			白天		日辨	3		白天	1		日頭	2		白日	1	

Appendix 2. Examples of the transcribed spoken data

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Do Cantonese Speakers Exhibit Distributional Learning Effects on the Acquisition and Consolidation of Mandarin Tones?

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This research examines the acquisition and overnight consolidation of Mandarin lexical tones by Cantonese listeners through a distributional learning paradigm. Distributional learning refers to a type of statistical learning where no explicit instruction is given to the learner, only implicit exposure to different frequency counts of tokens along a continuum of the category to be learned (Maye et al. 2002). Previous literature suggests that both infants (Maye et al. 2002, Kuhl et al. 1992) and adults (Terry et al. 2015) gather statistical information from both segmental categories to be able to discriminate between a pair of phonemes (e.g. /d/ vs /t/, Maye et al. 2002, Escudero et al. 2011). The results show that subjects who are exposed to clearer tokens in a bimodal distribution exhibit better performance than subjects who are exposed to more ambiguous tokens in a unimodal distribution (Figure 1). While most studies investigated the advantage of bimodal distribution exposure in segmental learning, only a handful studies tested the effect in tonal learning (Ong, Burnham & Escudero 2015, Ong et al. 2017). Moreover, new tones need to be consolidated[1] after passive exposure to statistical information to achieve a successful learning outcome. Literature on sleep and learning suggests that sleep facilitates learning a new linguistic rule (Batterink et al. 2014). and can facilitate the stabilization of newly-learned tonal representations (Qin & Zhang 2019). As previous studies have often focused on learning a single pair of stimuli, this study will contribute to the existing research landscape by investigating whether there are any differential effects of distributional learning on an easier (Tone 1-Tone 2) or harder pair of stimuli (Tone 1-Tone 4); it will also broaden the scope of overnight consolidation literature to see if it applies to an already well-established learning paradigm. This study examines whether there is a distributional learning effect of Mandarin tones, specifically on discriminating between a Tone 1-Tone 2 and a Tone 1-Tone 4 pair, by Cantonese speakers ***(RQ1);*** and whether similar effects can be seen after an overnight consolidation ***(RQ2)***.

Young adult Cantonese-speaking participants (age: 18-25) were recruited on campus from the Hong Kong University of Science and Technology. Initial screening ensured they had limited years of Mandarin training and a self-reported proficiency of 'intermediate' or below. Participants first completed a language history questionnaire, followed by a cognitive battery that tested their pitch threshold, pitch memory, working memory, musical aptitude, and Mandarin vocabulary size. They then completed ABX tone discrimination tasks for both the Tone 1-Tone 2 pair and the Tone 1-Tone 4 pair (order counter-balanced). See Example (1). The two stimuli for the discrimination task were /fao/ and /nua/, as produced by two native Mandarin speakers of different genders. The stimuli were novel to minimize the effect of prior exposure, and multiple syllables and genders were included to test participants' generalization to untrained settings. Participants, matched in the cognitive tests, were then pseudo-randomly assigned to

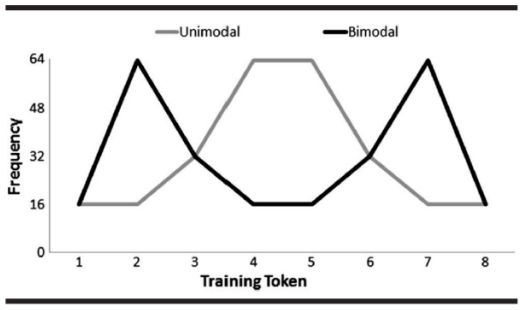

Figure 1. Frequency counts of each token as heard in the unimodal and bimodal conditions

[1]Memory consolidation is defined as a "time-dependent process by which recent learned experiences are transformed into long-term memory, presumably by structural and chemical changes in the nervous system" (Byrne, 2017)

either the bimodal training group or the unimodal training group, where they were exposed to a bimodal tonal continuum or unimodal tonal continuum of /nua/ produced by the female talker (see Example 2, Figure 1)[2]. The continuum was created by acoustically interpolating a synthesized flat Tone 1 token and a naturally produced Tone 4 (respectively, Tone 2) token using Praat (Figure 2). Immediately after training, the discrimination task was assigned again, and then they repeated the training and discrimination tasks for the other tone pair. They were instructed to wear a Fitbit device to record their sleep quality for the night, and they came back the next morning for the third round of ABX discrimination tasks. The target measure is the accuracy in the three rounds of ABX discrimination tasks.

(1) Discrimination task stimuli: /fao 55/ (male talker) vs /fao51/ (male talker)
Note: Each tone is labelled using Chao's tone letters, which are in the range of 1-5, with 5 referring to the highest pitch and 1 referring to the lowest pitch.
(2) Training stimuli: /nua/ (female talker) (Tone 1-Tone 2 continuum), /nua/ (female talker) (Tone 1-Tone 4 continuum)

A summary of preliminary data *(N (unimodal) =21; N (bimodal) =17)* is presented in Table 1-2 and Figure 3. The preliminary results showed a general trend of improvement across sessions by both the unimodal and the bimodal group. Also, performance on the Tone 1-Tone 2 pair is better than for the Tone 1-Tone 4 pair, consistent with previous literature that reports difficulty by Cantonese speakers in distinguishing between Tone 1 and Tone 4 (Hao 2012). Mixed-effects logistic regression models were performed on participants' response accuracy (binary, 1 for correct and 0 for incorrect). The models were fitted in R using the lme4 package. The models started with a maximal random effect structure followed by the backward stepping procedure as described in Matuschek et al. (2017). To examine immediate performance, distribution (two levels: bimodal vs unimodal; deviation coding: -0.5, 0.5), session (two levels: pre-test vs post-test 1; deviation coding: -0.5, 0.5), and tone pair (two levels: Tone 1-Tone 2 vs Tone 1-Tone 4; deviation coding: -0.5, 0.5) were entered as fixed effects, and the random-effects structure included by-participant intercepts and slopes for tone pair, session, and distribution, as well as by-item intercepts. The three-way interaction between distribution, session, and tone pair is marginally significant ($\beta = -0.39, SE = 0.22, z = -1.78, p = .076$). This shows that there is a bimodal training effect on immediate performance, but only on the harder tone pair (Tone 1-Tone 4) ***(Post1-Pre; RQ1)***. For overnight consolidation, a new model is fitted with the same specifications above with only the session level changed (post-test 1 vs post-test 2; deviation coding: -0.5, 0.5) and with the by-participant slope for distribution removed. The model shows a marginally significant three-way interaction between tone pair, distribution, and session ($\beta = -0.40$, $SE = 0.24$, $z = -1.69$, $p = .091$). Numerical trends show an effect of distribution on the consolidation stage for Tone 1-Tone 2, with a steady improvement for the unimodal group after overnight sleep (***Post2-Post1; RQ2***). Taken together, results suggest that Cantonese speakers do exhibit distributional learning effect of Mandarin tones differentially, favoring the harder tone pair, but its role may be reversed for overnight consolidation.

[2] /nua/ was selected because the sonorant onset carried tonal information and the female talker was selected because the syllable would have a higher pitch range; this resulted in a low-difficulty syllable suitable for the training phase.

Table 1. Mean and SD of ABX discrimination accuracy in each session, for Tone 1-Tone 2 (rounded to 3 sig. fig.)

	Unimodal (Pre-test)	Unimodal (Post-test 1)	Unimodal (Post-test 2)	Bimodal (Pre-test)	Bimodal (Post-test 1)	Bimodal (Post-test 2)
Mean	0.803	0.854	0.877	0.845	0.872	0.861
SD	0.136	0.142	0.140	0.106	0.0942	0.103

Table 2. Mean and SD of ABX discrimination accuracy in each session, for Tone 1-Tone 4 (rounded to 3 sig. fig.)

	Unimodal (Pre-test)	Unimodal (Post-test 1)	Unimodal (Post-test 2)	Bimodal (Pre-test)	Bimodal (Post-test 1)	Bimodal (Post-test 2)
Mean	0.686	0.705	0.747	0.717	0.768	0.809
SD	0.133	0.184	0.143	0.132	0.128	0.145

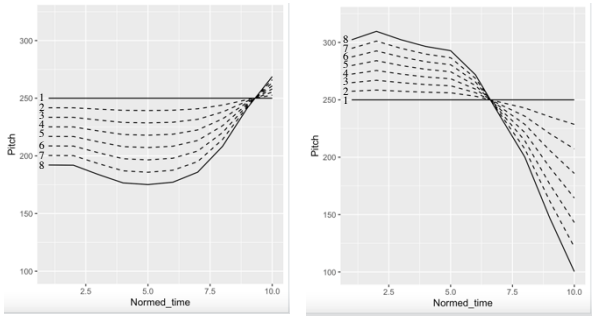

Figure 2. Tone 1-Tone 2 continuum (left). Tone 1-Tone 4 continuum (right). Numbers beside the lines denote token numbers. Dashed line = intermediate tokens

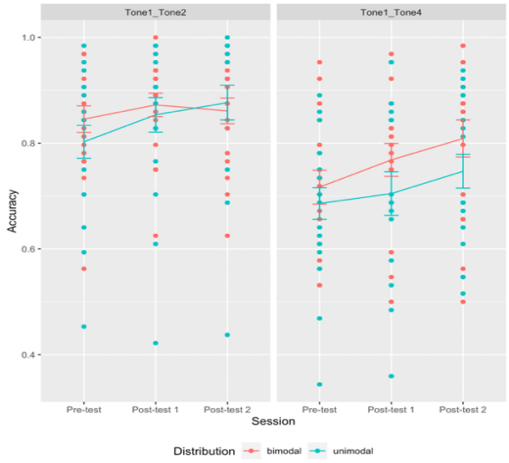

Figure 3. Accuracy in ABX discrimination task by session, by distribution, and by tone pair

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Shanghainese Dialect Writing in Subtitles in Digital Media

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Since the 2000s, there has been a substantial increase in digital media featuring Chinese dialects, such as the Shanghai dialect (Zhang & Guo 2012). The current research analyzes the representation of Shanghainese writing through subtitles in digital media. This research demonstrates how the various digital media channels subtitle the Shanghai dialect and offers some reasons behind these different approaches to subtitling.

The subtitling of dialects with standard Mandarin is an intralinguistic translation (Liu 2014, Chan 2018). Scholars such as Dwyer (1998) and Ramos Pinto (2017) consider such intralinguistic translations as centralization or even control from the standard language variety. Chan (2018), however, criticizes this control paradigm, viewing it as oversimplifying the language situation in China. He argues that the subtitling of dialects plays a mediatory and negotiating role between different digital media channels. In this study, the author compares the subtitles in mainstream media and those in alternative media (Zhang 2011). The research question posed here is thus the following: Does the subtitling of the Shanghai dialect differ between that used in the mainstream media and that used in alternative media?

I consider provincial and national TV shows, as well as publicly accessible movies as "mainstream narration." The reason is two-fold: one, they are approved by China's National Radio and Television Administration; and two, their potential audience is nationwide. Online videos and local shows are here regarded as "alternative narration." This is because they are unofficial, and have a smaller targeted audience. In this particular case, the targeted audience is the Shanghainese people. The sources for the two sets of data for this research are presented in Table 1. One movie and one TV show are selected to be representative for mainstream narration, and one internet video and one talk show are selected to be representative for alternative narration. These shows were chosen because their stories are situated in Shanghai, ensuring that a large amount of the Shanghai dialect is used.

Table 1. Types and tokens of semantic and phonetic borrowings in mainstream and alternative narration.

Category	Source	Semantic borrowing	Phonetic borrowing
Mainstream narration	Movie: *Àiqíng shénhuà* 爱情神话 "B for Busy", 2021	Type: 49 Token: 59	Type: 5 Token: 5
	TV show: *Hùyǔ tuōkǒuxiù* 沪语脱口秀 "Shanghainese Standup Comedy", 2022	Type: 67 Token: 205	Type: 9 Token: 9
Alternative narration	Internet video: Youtube channel of Papi Jiang (Papi 酱), 2017	Type: 37 Token: 78	Type: 15 Token: 25
	Talk show: G Sengdong (G 僧东), 2020	Type: 43 Token: 55	Type: 12 Token: 16

The videos were analyzed to study how the Shanghai dialect is subtitled. The videos' length varies between 3 to 5 minutes, and in most parts of the videos, the Shanghai dialect is spoken. The subtitling in the videos is categorized into two types, semantic borrowing and phonetic borrowing

(Li 2000). Semantic borrowing occurs when the subtitles use a word from standard Mandarin with a meaning similar to the intended, but totally different, word in the Shanghai dialect. Phonetic borrowing occurs when the subtitles use Chinese characters with Mandarin pronunciations that capture approximately the phonetic values of the intended Shanghai dialect word. For example, if the sentence-final particle for yes-no questions, 勩 /və/ in the Shanghai dialect, is subtitled as 吗 *ma*, it is treated as semantic borrowing. However, if 勩 /və/ is subtitled as 伐 *fa*, it will fall under the category of phonetic borrowing. The reason is that *fa* /fɑ/ sounds similar to /və/, but the semantic meaning of 伐 is not related to that of 勩.

I counted both the "types" and "tokens" of the Shanghai dialect as found in the videos' subtitles. Type refers to the number of unique word forms, and token refers to the number of occurrences of the individual words. The types and tokens of the semantic borrowings and phonetic borrowings were respectively counted, and the results are summarized in Table 1. To better demonstrate the results, I made Figure 1 to show the **types** of semantic and phonetic borrowings in the different media channels.

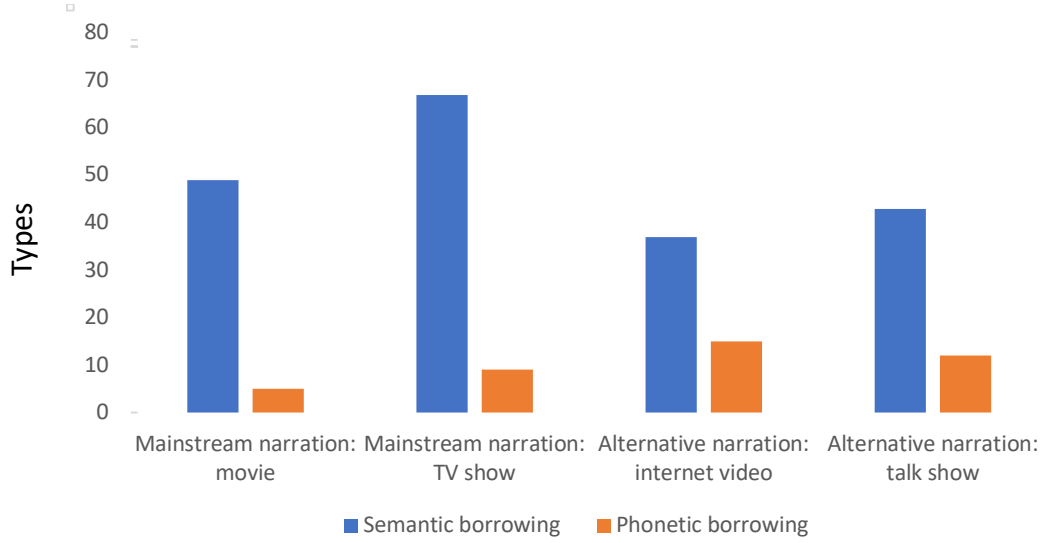

Figure 1. Types of semantic and phonetic borrowings.

The results show that mainstream and alternative digital media channels subtitle the Shanghai dialect differently. Mainstream narration uses more semantic borrowing than does alternative narration. In the case of mainstream narration, 91% of the subtitling in the movie and 88% of the subtitling in the TV show are semantic borrowings. As for alternative narration, 71% of the subtitling in the internet video and 78% of the subtitling in the talk show are semantic borrowings. Turning to phonetic borrowing, alternative narration employs more phonetic borrowing than does mainstream narration. For alternative narration, 29% of the internet video and 22% of the talk show use phonetic borrowings for subtitling. In the case of mainstream narration, only 9% of the subtitling in the movie and 12% of subtitling in the TV show use phonetic borrowings.

Two reasons for the differences are offered. One, since the mainstream narration targets a broader audience who may not be able to understand the Shanghai dialect, use of semantic borrowing of Mandarin will be more comprehensible. Example 1a shows how to subtitle what is said in the video via phonetic borrowing, and Example 1b shows the actual subtitles accompanying the video. Using the semantic borrowing of 时候 *shíhou* instead of using the original dialectal

lexicon 辰光 *chénguāng* helps the audience understand the word's meaning ("time"). And two, mainstream narration goes through strict censorship to ensure that the subtitles use standard Chinese characters to represent the standard language. For example, the meaning of the words 老早 *lǎozǎo* ("long time ago") and 谈朋友 *tán péngyǒu* ("be in relationship") are likely self-evident to audience that do not speak the Shanghai dialect. Nevertheless, the subtitles still employ the standard language semantic borrowings 以前 *yǐqián* ("before") and 谈恋爱 *tán liànài* ("be in relationship"). This practice reflects China's efforts towards language standardization. In contrast to mainstream narration, since alternative narration targets the Shanghai audience, the use of phonetic borrowing is not only understandable to the Shanghainese-speaking audience, but it would also sound more familiar to them.

In conclusion, this small study shows that different media channels' subtitling of the Shanghai dialect varies. Mainstream narration tends to use semantic borrowing more frequently than alternative narration. The practice of replacing dialectal words with their Mandarin correspondences can be regarded as a process of standardization. However, as argued by Chan (2018), the use of semantic borrowing also plays a mediatory role between the common language and the local dialect.

Examples

(1) a.我老早谈朋友个辰光
wo laozao tan pengyou ge chenguang
b.我以前谈恋爱的时候
wo yiqian tan lianai de shihou
1SG before talk date ATTR time
When I used to go on dates (Shanghainese Standup Comedy)

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Session B-I Abstracts

(Zoom B)

Disambiguating *Ji* in Mandarin: Insights from Child Language

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The Mandarin quantity expression *ji* "how many/several" is multifarious in its functions and syntactic distributions. In interrogatives, *ji* is used for forming a quantity question ("how many"), as in (1); in declaratives, *ji* can serve as a negative polarity item (NPI), as in (2), or an amount-denoting word ("several"), as in (3).

(1) Zhangsan fabiao-guo ji-pian lunwen?
Zhangsan publish-ASP JI-CL paper
'How many papers has Zhangsan published?' *Interrogative ji*

(2) Zhangsan mei fabiao-guo ji-pian lunwen.
Zhangsan NEG publish-ASP JI-CL paper
'Zhangsan didn't published many papers.' *NPI ji*

(3) Zhangsan fabiao-guo zhe ji-pian lunwen.
Zhangsan publish-ASP this JI-CL paper
'Zhangsan published these several papers.' *Amount-denoting ji*

The three variants differ in the structural position they occupy in a nominal phrase. Both the interrogative *ji* and the NPI *ji* are incompatible with demonstratives, unlike the amount-denoting *ji*, suggesting that the former are hierarchically higher in the determiner position whereas the latter in the numeral position. They are, however, semantically related: in both interrogatives and declaratives, the amount of entity that *ji* quantifies over has to be small as well as approximate, i.e., a fuzzy quantity between the values of two and nine [2,9] (Lü,1999). This semantic relatedness is also supported by diachronic studies (Feng, 2018).

The complexity of *ji* in its multiple syntactic distributions and restricted semantic interpretation may pose challenges to its acquisition. Previous acquisition studies reported that Mandarin-speaking preschool children were aware of the approximation property of *ji* by the age of four (Li and Ma, 1992). In negative statements, they initially treated *ji* on a par with other *wh*-words and did not fully master its quantity-denoting property until the age of nine (Huang and Crain, 2014). Children's understanding of the small-amount restriction imposed on *ji* in different contexts remains to be further ascertained.

The current study aims to examine Mandarin-speaking children's early knowledge of the multiple uses of *ji* in their naturalistic spontaneous production, addressing the following research questions: (i) Can children master the three quantificational uses of *ji* in interrogatives and declaratives? (ii) Is there any developmental pattern in the sequence of acquisition of the different *ji*? (iii) Are children sensitive to the small-amount restriction imposed on *ji*-quantification in both declaratives and interrogatives?

We examine Mandarin-speaking children's uses of the three *ji* between the ages of one and six in three longitudinal corpora (12 children): Zhou3 (Zhang and Zhou, 2009), Tong (Deng and Yip, 2018), TCCM (Cheung, Chang, Ko, and Tsai, 2011) and one cross-sectional corpus (140 children): Zhou2 (Li and Zhou, 2004) on the CHILDES database (MacWhinney 2000) (Table 1).[1, 2] In addition, caregivers'

[1] As *ji* is not productively used in naturalistic child speech, we exhausted all tokens of the target *ji* in the four corpora on CHILDES.

[2] Tokens of imitations, repetitions, the ordinal and abstract number uses of *ji* were excluded from the current analysis.

utterances containing the quantificational uses of *ji* as well as the child *Xu'er*'s responses to caregivers' *ji*-questions in the longitudinal corpus of *Zhou*3 are also exhaustively examined.[3, 4]

Table 1 The four CHILDES corpora included in the current study

	No. of children	Age range
Zhou3	1	01;08:05-05;05;00
Tong	1	01;07;18-03;04;09
TCCM	10	01;05-04;03
Zhou2	140	03;00;00-06;00;00

Among the 43 child tokens of *ji* involving quantificational uses (Table 2), Mandarin-speaking children are able to use the three *ji* in their naturalistic speech, namely *ji* as a wh-word in interrogatives (4), an NPI in non-interrogatives (5), and an amount-denoting word in non-interrogatives (6-7). Specifically, both the interrogative *ji* and the amount-denoting *ji* in declaratives emerged almost concurrently at around the age of two. The NPI *ji*, however, only emerged until the age of 4;11**.** Children are able to use the amount-denoting *ji* in combination with various classifiers to form structural patterns such as 'JI-CL-noun' (6) and 'Dem-JI-CL' (7). No commission error is found in the occurrence of the interrogative *ji* with a demonstrative.

(4) Womenjia youji-ge huoche? (Tong, 02;05;30)
our.home have JI-CL train
'How many trains do we have?' *Interrogative ji*

(5) Woxie ji-ge, jiu maiji-ge tang. (Xue er, 4;11)
I write JI-CL then buyJI-CL candy
'If I write *x* characters, then you buy *x* candies for me (*x* stands for quantity)' *NPI ji*

(6) Hua ji-ge hongxing. (Yuezhi, 04;00;00)
DrawJI-CL red.star
'(I) draw some red stars.' *Amount-denoting ji*

(7) Jiu zhe-ji-ge lai qing tamen dongwu kaihui (Tong, 03;00;12)
only this-JI-CL come please they animals meet
'Let's invite these animals to attend the meeting.' *Amount-denoting ji*

Table 2 Distribution of the three uses of *ji* in all the four CHILDES corpora (Zhou3, Tong, TCCM, Zhou2)

Age	Interrogative	NPI	Amount-denoting	Total
1;00;00-1;06;00	0	0	0	0
1;06;01-2;00;00	0	0	0	0
2;00;01-2;06;00	0	0	1	1
2;06;01-3;00;00	4	0	5	9
3;00;01-3;06;00	1	0	3	4
3;06;01-4;00;00	1	0	3	4
4;00;01-4;06;00	2	0	2	4
4;06;01-5;00;00	2	2	8	12
5;00;01-5;06;00	0	0	0	0
5;06;01-6;00;00	7	0	2	9
Total	17	2	24	43

Children are in general sensitive to the small-amount restriction of *ji*-quantification in both interrogatives and declaratives. Among tokens uttered in contexts where the exact quantity of objects is

[3] Zhou3 is a longitudinal database which contains the spontaneously speech of a Mandarin-acquiring child named *Xue'er* between the ages of 01;08 and 05;05. It is the most comprehensive set of data in terms of age and target token coverage.

[4] Response to caregivers' questions are examined based on the context, namely the preceding and following ten utterances of the target utterances, excluding caregivers' questions for which responses are non-obligatory or whose intentions are unclear.

identifiable, most of the *ji* are used to denote a small quantity of objects (e.g. (8)). Only a few of the tokens are used in large-quantity contexts (e.g. (9)).

(8) CHI: Ji-ge a? (Chenlai, 05;00;00)
how.many-CL SFP
'How many?'
MOT: San-ge.
three-CL
'Three.'

(9) CHI: Name you ji-ge ren pa a? (Tong, 03;04;09)
then have how.many people climb SFP
'Then, how many people were climbing (the mountain)?'
MOT: Haoduo ren.
many people
'Many people (were climbing the mountain).'

In terms of comprehension, the child *Xuer* could give appropriate responses to adults' questions containing the interrogative *ji* around 70% of the time, with the correct rates increase steadily with age. Furthermore, no direct correlation is found between caregiver input and the child's production (Table 3). Specifically, in spite of the lack of the NPI *ji* in the input, two tokens are found in the child's production, suggesting that children may be able to acquire and differentiate the various uses of *ji* with limited input.

Table 3 The three uses of *ji* by the child *Xu'er* and her caregivers in the longitudinal corpus of Zhou3

Age	Interrogative (child)	Interrogative (adult)	NPI (child)	NPI (adult)	Amount-denoting (child)	Amount-denoting (adult)	Total (child)	Total (adult)
1;00;00-1;06;00	0	0	0	0	0	0	0	0
1;06;01-2;00;00	0	21	0	0	0	1	0	22
2;00;00-2;06;01	0	8	0	0	0	1	0	9
2;06;01-3;00;00	0	12	0	0	0	0	0	12
3;00;01-3;06;00	0	10	0	0	0	5	0	15
3;06;01-4;00;00	0	16	0	0	0	1	0	17
4;00;01-4;06;00	2	13	0	0	2	1	4	14
4;06;01-5;00;00	0	5	2	0	3	0	5	5
5;00;01-5;06;00	0	3	0	0	0	2	0	5

In sum, Mandarin-speaking preschool children show a general mastery of the multiple functions of *ji* in different morphosyntactic environments in spite of its semantic complexities. They are aware of the quantificational restriction of *ji* to some extent. The concurrent onset of the interrogative *ji* and the declarative *ji* suggests that the two may share the same lexical source, providing acquisition evidence for a unified approach to the semantic analysis of the two *ji*.

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Bushi as the Evaluative Negation in Mandarin Chinese

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Opposing the traditional approach that deems "expletive negation" semantically vacuous, Yoon (2011a) proposes the notion of *evaluative negation* (EN) and justifies its semantic significance as an evaluator. As in many other languages, EN has been also found in Chinese, but very few studies to date have elaborated on Mandarin Chinese EN (Qian, 2022).

Following the definition provided by Yoon (2011a), the current research investigates the prosodic, semantic and pragmatic features of the Chinese negator *bushi*. As a common negator in Chinese, *bushi* usually serves as a negative copula (NC), but it also serves as an EN under some circumstances. According to its functions in discourse and positions in sentences (Chen, 2018; Horn, 1989; Liu, 2005; Ran, 2015; Qian, 2022; Xiao & McEnery, 2008; Zhan et al., 2021), occurrences of *bushi* can be categorized as follows:

Table 1. *Classification of bushi by sentence positions and functions*

	Evaluative Negation	**Negative Copula**
Left Periphery (LP)	——我觉得这个真的很好笑。(I really think this is hilarious.) ——*不是*，我们赶紧想想咋办。(*No*, we need to think about how to solve the problem.)	——你是不是已经写完了？(Have you already finished writing?) ——*不是*，还没写完。(*No*, I haven't.)
Middle Position	我*不是*跟你说了。（Have I *not* told you.）	这个包*不是*我的。(This bag is *not* mine.)
Right Periphery (RP)	你觉得这个挺好的*不是*？(*Don't* you think this is good?)	_____

The current study collected data from daily Chinese conversations. Interlocuters involved were all native speakers and the conversations were recorded in comfortable environments to ensure authenticity, and they were all informed of the recording during conversations.

Results show that, phonetically, EN *bushi* has a significantly shorter duration and pause than NC *bushi*, but it cannot be distinguished by pitch height. The normalized pitch range of EN *bushi* and NC *bushi* in natural conversations do not differ to a perceptible extent, which implies that, pragmatically, interlocuters do not rely on tones to identify *bushi* of distinct uses (Li, 2009). In addition to basic phonological descriptions, it is also found that the pronunciation of *bushi* changes into [puz̩] in the flow as an EN (Wang & Zhang, 2016; Yan, 2014), which means that the utterance of *shi* is eroded or disappeared. Usually, the weakened grammatical word *shi* signifies epistemic stance in Chinese, and thus abates the semantic polarity of EN *bushi*.

Semantically, *bushi* can create a quasi-subjunctive mood. By creating a non-veridical situation, the speaker can impose his or her evaluative stance upon the non-veridical proposition by EN *bushi* (Giannakidou, 1998, 2009). In this sense, EN *bushi* is non-expletive, because the loss of negative meaning is filled by evaluative meaning ([+eval$_{unlikely}$]). The evaluation is implicit in the non-veridical situation, making the speaker's intention conveyed in an indirect way. For example, in the conversation discussing the computer system:

(1) 咱　　不是　　整　　了　　个　　什么　　系统。　　[Chinese]
We　　not　　have　made　a　　what　　system.
1Plur　EN　　V　　ASP　CL　　PRON (weak NPI)　NP
[+eval$_{unlikely}$]
(although it is unlikely to happen)

a. EN reading: ‘Haven’t we built a system.’
b. Expletive negation reading: ‘We have built a system.’

What the speaker intended was not just to state the fact that “we have built”, but also to deliver her evaluation by *bushi*. So (1a) and (1b) are not semantically equivalent and EN *bushi* conveys evaluative meaning. EN is a subcase of subjunctive mood marker, which can circumvent a commitment to a truthful event with the combination of attitude (Yoon, 2011a). Therefore, in this example, there are two tenses on different layers:

Table 2. *The intention of the speaker delivered by EN bushi*

	Chinese	**English**	**Attitude**
Subjunctive	咱不是整了个什么系统。	We have not made a system.	Not likely to happen
Declarative	咱整了个什么系统。	We have made a system.	The speaker’s real intention

The evaluation is not only embedded in EN as a lexeme, but is also implemented by other sentence components. For instance, it echoes one constraint on EN—the non-licensing of strong NPIs (negative polar items). In the example above, the NPI *shenme* is a weak NPI. Weak NPIs in negative sentences (in linguistic form) signify a very small amount (Yao, 2020), and by negating which, it also serves as an evaluation made on small probability events, thus allowing its cooccurrence with EN. The logic is as (2) demonstrates:

(2) a. $\exists x[we'(x) \in M_E(y) \rightarrow_{UNLIKELY} [we'(x) \rightarrow \neg (have\ made'(system'))(x)]$
b. $\Rightarrow_{LIKELY} \exists x[we'(x) \rightarrow (have\ made'(system'))(x)]$

*M_E (y), an epistemic model of the speaker y, which is a set of worlds w’ accessible from a world w, compatible with y’s beliefs in w (Giannakidou, 1998, 2009). In this example, [[the speaker believes that we have not made a system]]$_c$=1 iff $\forall w [w \in M_E(y) \rightarrow w \in \lambda w'$. We have not made a system in w'].

If *shenme* is replaced by *renhe*, a strong NPI in Chinese, the sentence would entail universal quantification, and therefore denies all the possibility, making *bushi* an NC in the context (see (3)). Then its pragmatic meaning will be just the opposite of the sentence meaning when *bushi* is an EN:

(3) a. $\forall x[we'(x) \rightarrow \neg (have\ made'(system'))(x)]$
b. $\exists x[we'(x) \rightarrow (have\ made'(system'))(x)]$

Since Chinese NPIs are special in terms of meaning and frequency[1] (Yao, 2020; Wang & Sheng, 2009), the current study also highlights the importance of language specifics. As EN *bushi* triggers indirect expressions, the pragmatic effect of EN *bushi* is also complex. Under most circumstances, it mitigates the speaker’s tone; while it can also intensify the tone on particular occasions. In general, the findings and observations not only provide a more comprehensive understanding of the negator *bushi*, but also contribute to the Chinese EN study. Hopefully, the findings may also provide some implications for the teaching and learning of negations in Chinese.

[1] [1] *Bushi* would change into *meiyou* (an equivalent negator of *bushi* used in the perfect tense) if the strong NPI *renhe* appears in the sentence.

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Mandarin Influence on Shanghainese Fricatives

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Shanghainese, a once-dominant language spoken in Shanghai, China, has been facing rapid language loss since the designation of Putonghua (i.e., Mandarin Chinese) as the national language in 1956 (Wellman 2013). Subsequently, language use has shifted towards Mandarin on most occasions (Zhou 2001) and there has been contact-induced segmental variation in Shanghainese (Gu 2007). This study aims to add to this area of research by examining (i) whether there is evidence of Mandarin influence on the consonantal variation in Shanghainese fricatives (/v/ → [f] and /f/ → [h]) and if so, (ii) to uncover the patterning of this variation and its impact on the Shanghainese phonological system.

Thirteen native speakers of Shanghainese (8 males and 5 females, aged between 21 and 53) were recruited for a larger project investigating Mandarin influence on Shanghainese. Seven of the thirteen participants were categorized as the younger generation group (and were born between 1979 and 2000), and the other six were categorized as the middle-aged generation group (born between 1956 and 1979). The younger generation group consists of five males and two females. The middle-aged generation group consists of three males and two females. All six middle-aged participants held bachelor's degree. Six out of the seven younger participants were in the progress of completing their bachelor's degree, and one of the younger participants' highest education level was high school degree.

This study focuses on the /v/ and /f/ phonemes. Using web-based platforms (Zoom 2020, Zencaster 2022), participants were instructed to complete speech production tasks that elicited these phonemes in both interactive and non-interactive settings. Acoustic-phonetic analysis of recorded tokens was conducted in Praat (Boersma 2001), with tokens labeled based on the first author's and a second labeler's auditory impressions, yielding 198 /v/ and 202 /f/ tokens for analysis. To check for the reliability of the auditory labeling, the spectral peak location (in Hz) and the normalized duration of the fricative portion in each syllable (Iskarous et al. 2011, Jongman et al. 2000, Yeni-Komshian & Soli 1981) were extracted by implementing scripts in Praat (McCloy 2011, Reetz 2020). The results show that tokens labeled as [v] are indeed acoustically distinguishable from [f] tokens in the /v/ dataset, and [f] tokens from [h] ones in the /f/ sample (Figure 1).

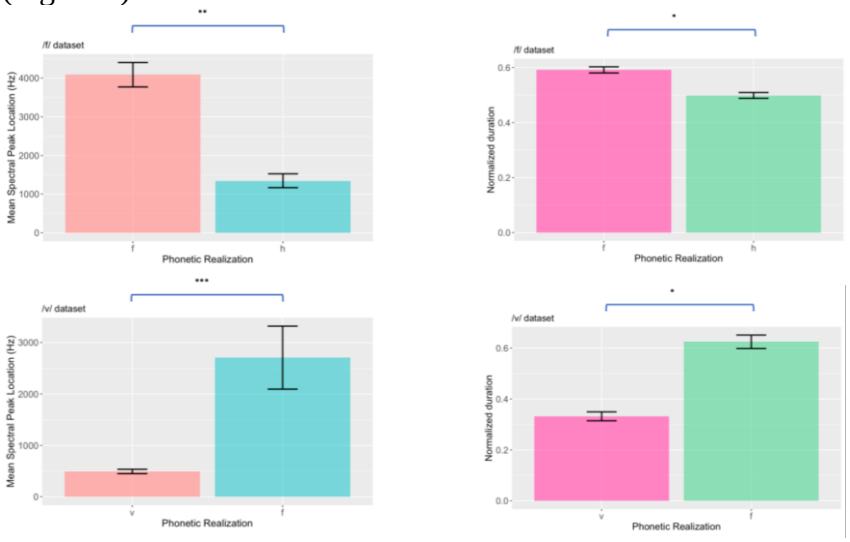

Figure 1 Acoustic Measurements (Hz and normalized duration) of Labeled Tokens

Based on the relationship between the phonetic realization and the intended target phoneme, the tokens were classified into "maintenance" and "change" categories by the authors. This study focuses on those sound-changing cases and two variables (*age* and *conversational setting*) were considered. Somewhat surprisingly, middle-aged speakers exhibited a higher rate of change for both /v/ (64%) and /f/ (57%) datasets than younger speakers (55% for /v/ and 35% for /f/ samples) did. In particular, among those sound-changing /v/ tokens (n = 117), 59% of them converged towards a Mandarin-like pronunciation (e.g., /v/→[f]), and the rest of which maintained Shanghainese-like pronunciation. For sound-changing /f/ tokens (n = 92), 45% of them converged towards a Mandarin-like pronunciation (e.g., /f/→[h]) (Table 1). In addition, regardless of conversational setting, middle-aged speakers tended to converge towards the *Mandarin* system for both /v/ (average: 64%) and /f/ (average: 57%) datasets more often than younger participants (/v/ average: 54%; /f/ average: 35%), while younger speakers tended to maintain *Shanghainese-like* pronunciations for the /f/ sample across settings (average: 64%).

Table 1 Shanghainese and Mandarin Phonemes and Pronunciations (underlined)

Target phoneme	Shanghainese pronunciation	Mandarin pronunciation	Gloss	Sound change
/v/	[**v**u ɦo]	[**f**u haʊ]	**符**号 *'symbol'*	/v/ → [f]
/v/	[**v**u tsʰin]	[**f**u tsʰin]	**父**亲 *'father'*	/v/→[f]
/f/	[**f**u]	[**h**u]	**虎** *'tiger'*	/f/→[h]
/f/	[**f**u]	[**h**u]	**货** *'cargo'*	/f/→[h]

Taken altogether, the results suggest a consonant shift [v]→[f]→[h] in present-day Shanghainese. The difference in sound change rate between middle-aged and younger speakers might be explained through language attitudes. Specifically, during the interview session, most of the middle-aged participants emphasized speaking fluent Mandarin as a crucial aspect of their professional image at work. All younger participants, on the other hand, commented negatively on the recent Mandarin language policy and expressed their desire to speak better Shanghainese to dissent against the Mandarin language policy they grew up with, which may lead to current changes in progress.

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The Count-Mass Distinction in Hong Kong Sign Language

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With the notable exception of Koulidobrova's (2021) research on American Sign Language (ASL), count-mass distinctions (CMDs) have not been studied in the context of Sign Linguistics. Koulidobrova shows that many of the existing diagnostics for CMDs in spoken languages fail to bring the ASL CMD to the surface (cf. Deal 2017). In my research on the CMD in Hong Kong Sign Language (HKSL), I argue that the categorically non-Lexicalist framework of Distributed Morphology (DM) is best suited to account for the HKSL CMD. Data on CMDs in sign languages are important and necessary for several reasons: firstly, sign language data can diversify, supplement, and enrich our current understanding of CMDs. Secondly, though it has a respectable age of several decades, the field of sign linguistics can still be considered young and much pioneering is left to be done. It is important for the field of sign linguistics that CMDs are becoming a topic of interest. This analysis of the HKSL CMD can create the playing field and set a precedent for other sign linguists who want to pursue similar topics for their respective sign languages. Finally, Sign language data are as diverse as those of different spoken languages and they should be considered in the discourse on CMDs as equally important to spoken language data. Sign languages are also not monolithic and count-mass typologies should therefore not only be cross-linguistic but also cross-modal.

These are three examples of the data on the surface manifestations of the HKSL CMD: Firstly, HKSL mass nouns require the intervention of a numeral classifier before numerals, count nouns do not, as shown in (1) and (2), making it a Type I (number marking) language according to Chierchia's (2010) typology.

Secondly, HKSL mass nouns compare based on both volume and number (contra: Bale & Barner 2012, 2018), see (3) and Table 1. HKSL does not differentiate between mass and count quantifiers, as English does with the count quantifiers *many* and *few*, and the mass quantifiers *much* and *little*. In HKSL, mass nouns can combine freely with the quantifier MANY/MUCH 'many/much' and FEW/LITTLE 'few/little' (contra: Deal 2017). Since quantifiers do not differentiate between count or mass nouns, they therefore are not the element that forces number or volume readings. It also implies that quantifiers, like MANY/MUCH, do not have selectional criteria, i.e. they do not care whether they combine with a count or mass noun. This leads to the conclusion that the [count] status of nouns —

root compounds merged under *n* — must have been determined below the projection that quantifiers such as MANY/MUCH head, presumably QP (Quantifier Phrase).

Thirdly, HKSL does not allow for count-to-mass shifts within the NP (i.e. the Universal Grinder), as in (4), but mass-to-count shifts (i.e. the Universal Packager) do occur (contra: De Vries & Tsoulas 2021), as in (5). The two methods for these reference shifts are (a) coercion and (b) [+type] adjectives DIFFERENT and ALL-KINDS-OF, see (6). Presumably, the first method of mass-to-count shift involves the elision of the mensural numeral classifier in ClP. I follow Borer (2005) who argues that what heads ClP can assign range to <e>div, ClP being the dividing structure necessary for the creating of countable units. Since HKSL mass nouns require the intervention of a classifier before numerals, it is the overt numeral classifier in ClP that assigns range to <e>div and allows for the combination with numerals. However, with sufficient context or familiarity, i.e. (5) in a restaurant-setting, it is possible for mass NPs to elide the numeral classifier with the grammaticality of the utterance remaining intact.

The latter method of mass-to-count shift involves two adjectives that "sort" mass nouns into types. In DM, the Narrow Lexicon does not only provide roots, but also features and functional heads. Following Acquaviva (2009), root-related lexical properties are constructional and though roots lack features, features are located elsewhere in the syntactic structure and they are what drive the derivation, for example through selectional criteria. If the Narrow Lexicon introduces a [+sorting] or [+type] feature into the derivation, this could select the adjectives DIFFERENT and ALL-KINDS-OF. Since these adjectives combine with both count and mass nouns, they do have any selectional criteria of their own, however, *n*Ps that merge with an AdjP headed by DIFFERENT or ALL-KINDS-OF receive a count interpretation. Both mass-to-count shift methods confirm the hypothesis that reference shifts occur below QP.

The use of DM makes the choice between a lexicalist or syntactic approach to CMDs obsolete: HKSL nouns are complex root compounds which receive a grammatical category (n) when merged with a functional head in syntax. Since the ClP shows sensitivity to whether an NP is [+count] or [-count], the [count] status of a noun must be an abstract morpheme that is in a local relationship with the root. The feature [±count] is located underneath the category node little *n* with which the rootPhrase merges in syntax, see Figure 1.

(1) **a.** *CAR ONE CL:VEHICLE
b. *CAR CL:VEHICLE ONE
c. CAR ONE
'one car'

(2) **a.** OIL TWO 'two (units of) oil'
b. OIL CL:BOTTLE TWO 'two bottles of oil'

(3) PETER$_{3a}$ HOUSE X MANY $_{3a}$COMPARE$_2$
'Peter has more X at home than you.'

(4) ROAD ALL DOG.
a. *'There was dog all over the road.'
b. 'There were dogs all over the road.'

(5) COFFEE TWO, TEA ONE, WATER THREE.
'Two coffees, one tea, and three waters, please.'

(6) a. GERMANY HAVE BEER DIFFERENT FORTY-SOMETHING.
'There are more than forty (types of) beers in Germany.'
B. IX$_1$ OLDER-SISTER GOOD-AT ALGEBRA ALL-KINDS-OF.
'My sister is good at several types of algebra.'

Table 1. Number and volume reading for HKSL mass nouns

X =	count/mass	reading	interpretation
paper	mass	volume	size of pile
hair	mass	volume/number	hair volume as a result of amount of hair
water	mass	volume number	content of water storage tank glasses drunk
wine	mass	number	bottles

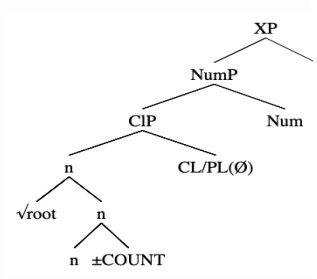

Figure 1. The HKSL NP structure

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Session C-I Abstracts

(Zoom C)

Effects of Prosodic Cues and Semantic Plausibility
on JLEs' Processing of Structurally Ambiguous Utterances

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This paper examines whether prosodic cues and semantic plausibility can facilitate L2 ambiguous English sentence processing. Several studies show that prosody disambiguates the syntactic structure and facilitates sentence processing in L1 (Snedeker and Trueswell 2003, Snedeker and Casserly 2010). As to the L2 processing study, Nakamura et al. (2015) analyzed structurally ambiguous sentences involving reduced/non-reduced relative clauses to examine the processing property by Japanese learners of English (JLEs) using spoken utterances. The result was that prosody was not an important cue for JLEs to activate their comprehension. However, the target sentences in the study are limited to one single type, and other types of ambiguities known as Early/Late Closure (Pritchett 1992, Speer, Kjelgaard, and Dobroth 1996) were not tested. For the semantic factors, Bando (2016) focused on the effects of subcategorization frequency and semantic plausibility using a self-paced reading task and the eye tracking method. Two types of verbs were set as conditions: DO verbs, which tend to be followed by a direct object (DO bias), and SC verbs, which tend to be followed by a complement clause (SC bias). The list of sample SC/DO verbs is given in Table 2 in the Appendix below. The results showed that JLEs use DO-plausibility in SC sentences, leading to the conclusion that the effect of semantic plausibility affects JLEs' processing. However, the study did not analyze spoken utterances.

This study investigates the effect of prosody and semantic plausibility by using spoken utterances with pause condition controlled. The first study performs a listening comprehension task using spoken utterances. A total of 20 Japanese participants are requested to answer the True/False question after they listen to the utterance spoken by a native speaker of English. The response time was collected after listening and answering the True/False comprehension question. The target constructions are (i) Reduced/Non-Reduced Relative clauses and (ii) Early/Late Closures. Pause/No_Pause was controlled for the materials (Table 1 below). The result was that there is a statistical interaction between Early/Late Closure and Pause/No _Pause conditions ($F(1,19)= 24.72$, $p< .000$***, partial $\eta^2= .565$). As to the Relative clauses, no significance was observed (See Figure 1 below). The second study concerns SC/DO biases and semantic plausibility issues. The conditions

were (i) SC/DO sentence; (ii) SC/DO verb; and (iii) semantical plausibility/implausibility. The result was that SC/DO verb and semantic plausibility showed a significant interaction ($F(1,19)= 8.72$, $p = .008$**, partial $\eta^2 = .315$) (Figure 2). These results suggest that both SC/DO and semantic plausibility factors are relevant in the processing of ambiguous utterances. In total, this paper claims the necessity of include prosody and semantic effects on L2 structural ambiguity sentences.

Appendix

Table 1. Examples of each condition

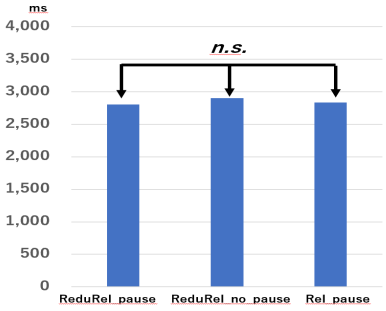
Condition	Example	Condition	Example
ReduRel_pause	The woman, invited the party, made a speech.	SCs_DO_pl	The woman found the error could not be avoided.
ReduRel _no_pause	The boy insulted in the classroom ran away.	SCs_DO_impl	The woman wrote the potatoes were served to her son.
Rel_pause (umambiguous)	The boy, who was insulted in the classroom, ran away.	SCs_SC_pl	The man realized the problem had already solved.
Early_pause	When she called her father, he was out shopping.	SCs_SC_impl	The man claimed the childhood could be remembered.
Early_no pause	When she called her father was out shopping.	DOs_SC_pl	The man believed the report written by the professor.
Late_pause	When he checked, the door was locked.	DOs_SC_impl	The man claimed the childhood to be memorable.
Late_no pause	When he checked the door it was locked.	DOs_DO_pl	The woman learned the language for daily conversation.
		DOs_DO_impl	The woman accepted the river as the candidate for our camp site.

Note. ReduRel=Reduced Relative Clause, Early=Early Closure sentence, Late = Late Closure sentence, pl=plausible, impl=implausible

Table 2. List of verbs for each category (cf. Bando 2016)

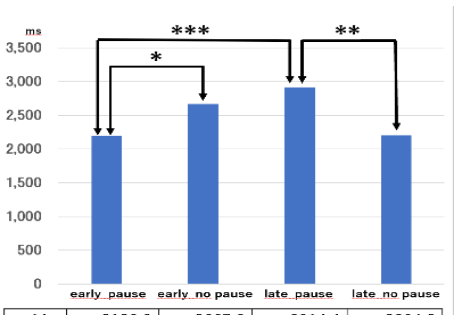
DO	SC
found	realized
learned	noticed
wrote	believe
accepted	promised
ordered	claimed

Figure 1. Reaction Time (Relative Clause)



M	2807.2	2901.8	2834.3
SD	1100.8	928.8	777.6

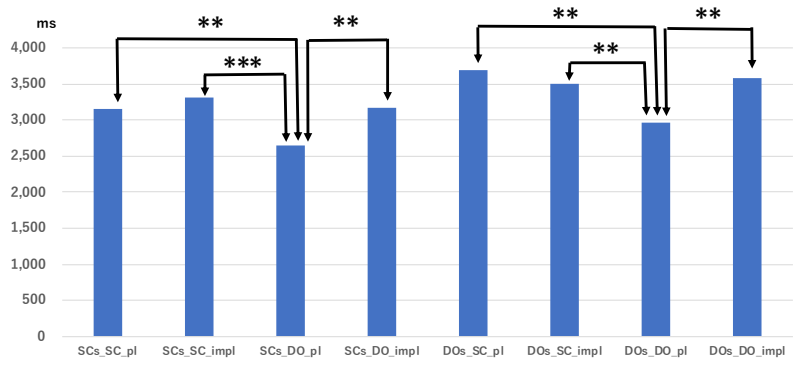
Figure 2. Reaction Time (Early/Late Closure)



M	2189.9	2667.2	2914.4	2204.2
SD	593.3	1181.4	969.5	477.8

Note. *$p < .05$, **$p < .01$, ***$p<.001$

Figure 3. Reaction Time (SC/DO interactions)



	SCs_SC_pl	SCs_SC_impl	SCs_DO_pl	SCs_DO_impl	DOs_SC_pl	DOs_SC_impl	DOs_DO_pl	DOs_DO_impl
M	3158.6	3318.1	2648.8	3169.3	3691.2	3496.5	2956.9	3582.1
SD	739.1	1019.4	647.6	688.4	1140.9	683.9	682.1	1008.5

Note. $*p < .05$, $**p < .01$, $***p < .001$

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The Acquisition of English Non-anaphoric Bridging Definite by Japanese learners: Focusing on Lexical Sensitivity Regarding Situational Uniqueness

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The acquisition of English definite article is known to be extremely difficult, especially for learners whose L1 has no articles (Cho 2017, Feng 2019; Ionin et al. 2004, and others), mainly due to the well-known syntax-semantics mismatch, regarded as one of the most significant factors that causes difficulty with L2 acquisition.

In addition, previous studies have demonstrated that pragmatic competence complicates the acquisition of *the* as well. Cho (2017) and the replication study by Feng (2019) point out that the pragmatic competence to grasp a given situation makes non-anaphoric bridging (Cho 2017) difficult for Korean and Chinese learners. This could constitute a barrier to obtaining *the*, even for advanced learners. Among the bridging (also known as associative) definites (Clark 1977, Charolles 1999) that construct definiteness based on speakers' situational knowledge, Cho (2017) explains that non-anaphoric bridging is a case in which bridging is established by "situational uniqueness."

(1) I've just been to a wedding. The bride wore blue. (Lyons 1999:7)

Sentence (1) exemplifies non-anaphoric bridging. For the given situation "wedding," "bride" is a unique entity, since it is unnatural to have more than one bride in a single wedding. Therefore, "bride" becomes a definite noun phrase (NP), even though it was not explicitly mentioned beforehand.

In this study, NPs that are situationally unique in a non-anaphoric bridging, such as "bride" in sentence (1), are addressed as uniquely associated NP(U-NP). On the other hand, there are NPs that do not form a unique association with the given situation, which are addressed as non-uniquely associated NP (nU-NP) in this study. NPs such as "guest" or "flower" for the situation in sentence (1) are examples of nU-NPs. Even though these NPs are associated with the situation, they are unlikely to be unique. Thus, nU-NPs cannot be definite NPs in non-anaphoric bridging although learners of English may be confused when determining whether they should be definite or not.

Considering the characteristics of non-anaphoric bridging, sensitivity to a situationally unique NP may be the key to detecting and comprehending the definiteness of non-anaphoric bridging. However, no previous study has attempted to examine the acquisition of non-anaphoric bridging in the sense of lexical sensitivity. Thus, the purpose of this study is to investigate the acquisition of English non- anaphoric bridging definite based on its relationship with lexical sensitivity regarding situational uniqueness.

In this study, the participants of the experiment were upper-intermediate (n = 16) and lower-intermediate (n = 19) learners of English whose L1 was Japanese. Their proficiency levels were labelled based on CEFR, which correspond to their TOEIC scores. CEFR B2 and B1 are considered to be upper-intermediate and lower-intermediate, respectively. These participants were asked to complete two tasks: (1) acceptability judgment; and (2) word ordering that is designed specifically for this study. In the acceptability judgment task, they rated eight acceptable and eight unacceptable tokens in the non-anaphoric bridging condition on a four-point Likert scale, with four being the most acceptable. In the word-ordering task, they put three words, including a situationally unique NP, in the order of association with the given situation. A demonstration of

word-ordering task and the examples of words used are given in the appendix. Each word list was composed of one U-NP, one nU-NPs and one filler (being either another nU-NP or an NP that is unlikely to be definite in the given situation). The example of word-ordering question and its word list is shown in the appendix.

Consequently, the learners who excelled in acceptability judgment tasks were sensitive to situationally unique NPs and were able to distinguish them clearly. In addition, learners who were not sensitive to a particular situationally unique NP were likely to misjudge the acceptability of article usage in non-anaphoric bridging conditions when the situation was mentioned.

(2) Sandra is working in her kitchen. She cleaned the microwave first. (Feng 2019)
(3) ? Sandra is working in her kitchen. She cleaned the fork first.
(Feng 2019; slightly modified)

Take sentences (2) and (3) for examples of U-NP and nU-NP, respectively. For the situation "working in the kitchen", the NP "microwave" is considered to be a U-NP in a general sense, since there is usually one microwave in a single kitchen. Although there may be some exceptions, according to the world knowledge, having one microwave in one kitchen is a quite natural thing. On the other hand, the NP "fork" is a nU-NP, because there are usually more than one forks in a kitchen.

Table 1. Mean ratings of the acceptability judgement

	fork > *microwave* (*n*=5)	*microwave* > *fork* (*n*=11)
Acceptable	2.4	3.6
Unacceptable	2.6	3.2

Upper-intermediate learners' mean ratings of the acceptability of related sentences (2) and (3) are illustrated in Table 1. The learners who answered that "fork" is more associated with the situation of "working in the kitchen" than "microwave" were confused when judging the acceptability of tokens (2) and (3) unlike other learners.

This result supports for the claim that the acquisition of non-anaphoric bridging relates to the sensitivity to situationally unique NPs. Although the method used in this study is not conventional and needs to be elaborated further, the result may indicate the possibility of the link existing between lexical sensitivity and the acquisition of definite article. Furthermore, this study suggests that what has been ambiguously addressed as pragmatic competence in the acquisition of definiteness should be reviewed regarding lexical sensitivity concerning situational uniqueness.

Appendix 1
A demonstration of word-ordering task

[Instruction] *In this section, you will see a [situation] and a word list consists of 3 words. Please consider the association of the words and the situation, and rate the degree of the association in 'best', 'second-best', 'third-best'.*

[situation] wedding / word list: guest, flower, bride

	best	second-best	third-best
guest		√	
flower			√
bride	√		

Note: The check marks show an example of a participant's answer.

Appendix 2

Examples of word lists used in a word-ordering task

situation	U-NP	nU-NP	filler
riding an express train	*ticket*	*book*	*snack*
birthday party	*cake*	*firecracker*	*balloon*
proposal	*ring*	*flower*	*movie ticket*

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Acquisition of Japanese Relative Clause with Resumptive Pronouns by Chinese Learners

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Chinese is a language in which resumptive pronouns (RPs) in relative clause (RC) constructions are common (Chen 2019). This study discusses the transfer issue of L1 knowledge to L2 Japanese RC, with a focus on the acquisition of RPs. This paper attempts to clarify the cross-linguistic difference in the use of RPs between L1 Chinese and L2 Japanese and identify the barriers in acquiring Japanese RPs. Specifically, this paper considers the following two central questions of whether Chinese learners of Japanese transfer L1 RP structural properties to L2 grammar and whether they acquire the uses of the four different RPs in Japanese.

Regarding the structural property of the externalized head in Japanese RC, three different analyses have been proposed: (i) *pro*-binding analysis (e.g., Fukui and Takano 2000), (ii) operator movement analysis (e.g., Ishii 1991), and (iii) the head-raising analysis (e.g., Hoshi 2004). While the *pro*-binding and the operator movement analyses assume that the head NP is base-generated (i.e., *head-base-generation analysis* (HBG)) external to the RC, the head-raising analysis assumes that the head NP is raised from within the RC (i.e., *head-raising analysis* (HR)). Chen (2019) makes a comparison between HBG and HR, focusing on the anaphor *jibun* 'self' within the head NP. A general assumption is that if the anaphor can be bound by the RC subject, then the head NP must be raised from within the RC and reconstruction of the head NP should be possible. Chen claims that the difference between *jibun* and *jibun-jishin* is just the degree of the morphological complexity; that is, *jibun* is regarded as a simple anaphor and *jibun-jishin* as a complex anaphor. Chen (2019) conducted a truth value judgement test for 31 Japanese native speakers, and he demonstrated that a subject-oriented anaphor cannot take the RC subject as its antecedent, regardless of its morphological complexity, when it occurs inside the head NP of a Japanese RC. Thus, Chen concluded that the head NP of Japanese RCs does not reconstruct into the RC at LF, which in turn supports HBG.

On the other hand, the structures of Chinese RC are analyzed in two ways according to whether an RP is used or not: (a) HBG with RPs and (b) HR without RPs (Aoun and Li 2003, Chen 2019). If this is the case, then the following hypothesis is borne out. The hypothesis is that Chinese learners of Japanese acquire HBG with RPs more easily than HBG without RPs in Japanese RC. It also should be noted that the subject/object and matrix/embedded asymmetries are not observed for the use of Chinese RPs. However, it is not clear whether this is true of L1 Japanese.

In addition to the structural issues described so far, there is an important mapping issue about the RPs available in L1 and L2. The only candidate is *ziji* in Chinese, while four different types of RPs are available in Japanese (*kare/kanojo, jibun, jibun-jishin,* and *kare/kanojo-jishin*). Chen (2019) examines only two anaphors in L2 Japanese, *jibun* and *jibun-jishin*. This paper includes such pronouns as *kare/kanojo* and

kare/kanojo-jishin, which are not investigated in Chen (2019). Chen (2019) argues that *jibun* is replaced with a more morphologically complex anaphor *jibun-jishin,* and that *jibun* is more similar to *jibun-jishin* than *kare/kanojo-jishin.* There are some notable differences among these RPs. For example, both *jibun-jishin* and *kare/kanojo-jishin* have the morpheme *-jishin,* but *jibun-jishin* can take QP *daremo* 'everyone' as its antecedent while *kare/kanojo-jishin* cannot (Chen 2019).

This paper sets up the following two research questions: (1) whether the subject/object and matrix/embedded asymmetries are observed for the use of Japanese RPs; and (2) whether Chinese learners of Japanese acquire the differences among Japanese RPs. Through the discussion of these two research questions, how Chinese learners transfer the Chinese RP *ziji* to the four types of Japanese RPs will be considered. In the experiment, a grammaticality judgment task (GJT) based on a five-point Likert scale was conducted for 34 Chinese participants and 30 Japanese speakers as native controls. The average of the age of Chinese participants is 24.7 years old and all participants have N1 or N2 of Japanese Language Proficiency Test. Three within-factors established for the material are (i) Position (Subject or Object), (ii) Clause (Matrix or Embedded), and (iii) RP-Type (gap, *kare/kanojo, jibun, jibun-jishin,* or *kare/kanojo-jishin*). Examples are given in Table 1.

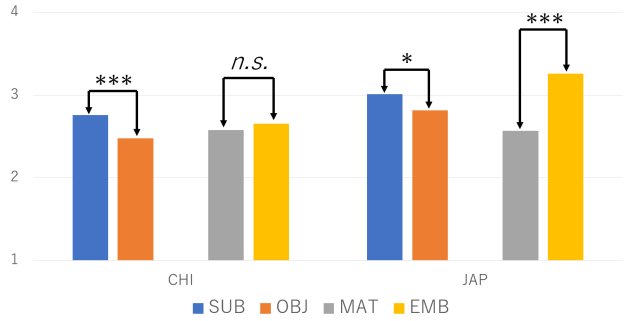
Table1. Examples of the experiment

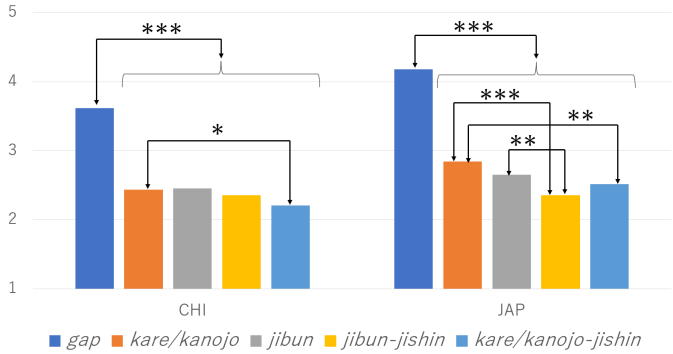
	Subject		Object	
	Matrix	Embedded	Matrix	Embedded
gap	店員を襲った犯人がそこにいる	可愛がっていた犬が死んでしまった子供がそこにいる	母がこの病院で産んだ妹がそこにいる	キャサリンが指導したと週刊誌が騒いでいた男性がそこにいる
kare/ kanojo	彼が店員を襲った犯人がそこにいる	彼女が可愛がっていた犬が死んでしまった子供がそこにいる	母が彼女をこの病院で産んだ妹がそこにいる	キャサリンが彼を指導したと週刊誌が騒いでいた男性がそこにいる
jibun	自分が店員を襲った犯人がそこにいる	自分が可愛がっていた犬が死んでしまった子供がそこにいる	母が自分をこの病院で産んだ妹がそこにいる	キャサリンが自分を指導したと週刊誌が騒いでいた男性がそこにいる
jibun -jishin	自分自身が店員を襲った犯人がそこにいる	自分自身が可愛がっていた犬が死んでしまった子供がそこにいる	母が自分自身をこの病院で産んだ妹がそこにいる	キャサリンが自分自身を指導したと週刊誌が騒いでいた男性がそこにいる
kare/ kanojo -jishin	彼自身が店員を襲った犯人がそこにいる	彼女自身が可愛がっていた犬が死んでしまった子供がそこにいる	母が彼女自身をこの病院で産んだ妹がそこにいる	キャサリンが彼自身を指導したと週刊誌が騒いでいた男性がそこにいる

Note. The material was given in Japanese to both Chinese and Japanese participants.

The results are summarized in the following two points. Firstly, L1 Chinese does not show asymmetries with regard to the structural issues (See Figure.1, below). There was a statistic significance in Position, but no significance in Clause ($F(1,33)=15.351$, $^{***}p < .000$; $F(1,33)= 0.730$, $p = .399$, respectively). Japanese controls, on the other hand, showed a significance in both Position and Clause ($F(1,29)=5.960$, $^{*}p < .021$; $F(1,29)= 32.451$, $^{***}p < .000$, respectively). If transfer occurs to L2 Japanese based on the structural property of RPs, the question arises as to why Chinese learners distinguished the new knowledge of positional property of L2 Japanese RPs. Secondly, the main effect of RPs of native controls showed a significance, but Chinese learners did not. That is, while native controls showed a

significant contrast in almost every combination among the four RPs and gap, Chinese learners did not show a clear difference among the four types of RPs (Figure.2). This seems to suggest that Chinese learners map four types of Japanese RPs to one Chinese counterpart, *ziji*. That is the cause of the acquisitional difficulty in learning RPs of Japanese. Besides, native controls distinguish between *jibun* and *jibun-jishin*, which is contrary to the result of Chen's experiment.





Note. *p < .05, **p < .01, ***p<.001

Figure 1. Average GJ Scores (Subject/Obj and Matrix/ Embedded)

Figure 2. Average GJ Scores (Resumptive Pronouns)

The finding of observed asymmetries in subjects and objects leads to an interesting implication for future research agendas. That is, transfer and mapping factors, in addition to the structural factors like head status (HBG/HR), are highly relevant to the issues of RP uses in L2 acquisition. Future research will include a bi-directional study and acquisition of another language like English, which has different syntactic properties of RCs.

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Mapping Issues of the Acquisition of L2 Japanese Aspect Markings by Chinese Learners

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This paper considers how Chinese learners of Japanese (CLJs) acquire the L2 Japanese aspect marker *-teiru* under resultative and progressive contexts and analyzes the mapping mechanism of the lexical aspect to grammatical markers with a special focus on achievement verbs. There have been numerous observations on Chinese aspects (e.g., Dai (2021), Nishizaka (2019) and Sun (2010)), but few studies deal with the issue of the acquisition of L2 Japanese aspects by L1 Chinese learners. The Japanese aspect marker *-teiru* is attached to achievement verbs to express the resultative state, as well as activity verbs to express the progressive aspect, while tense marker *-ta* is attached to denote a past event (e.g., Shirai and Kurono (1998)). In Chinese, on the other hand, the marker *-zai* is attached to activity verbs to express the progressive aspect and *-le* is attached to activity and achievement verbs to express the perfective aspect. Based on these general observations, Sun (2010) claims that CLJs associate *-zai* with *-teiru* to express the progressive aspect. On the other hand, they associate *-le* with *-ta* to express the perfective aspect in a one-to-one manner. The mismatches between the two languages predict difficulty in acquisition of the resultative *-teiru* and overuse of *-ta* under the achievement resultative contexts in L2 Japanese. Action in progress is easily acquired through a positive transfer by directly associating the progressive *-zai*, instead of *-le*, to *-teiru* (Shirai and Kurono (1998)). In addition, analysis by Sheu (1997, 2005) shows that the resultative state is mapped directly onto the progressive *-le* instead of the progressive form *-zai*, leading to the overuse of *-ta* due to the negative transfer.

This paper investigates how the markers *-teiru* and *-ta* following achievement verbs are associated with grammatical aspects of the progressive and resultative state compared with Japanese native controls (RQ1) and how CLJs use *-zai*, *-zhe,* and *-le* in their L1 and associated Japanese counterparts *-teiru* and *-ta* in their L2 (RQ2). The materials of the elicited acceptability judgment task (EAJT) conducted in this research are constructed according to the following conditions: tense (past/non-past), markers (*-zai*, *-zhe, -le* /*-teiru, -ta*), and lexical aspect (achievement, accomplishment). Examples are given in Table 1 below. A total of 21 CLJs and 20 native Japanese speakers as controls participated in the study. The CLJ participants undertook two tests: one is the EAJT of their native language in Chinese; and the

other is the one of their target language in Japanese. The ANOVA results of EAJT showed that there was a significant interaction between Markers (*-teiru/-ta*) and Speakers (Chinese/Native controls) (F (1,39) = 56.74, p < .000***, partial η^2 = .593). Subsequent comparison showed that there is a significance between CLJs and native controls in achievement resultative state condition (t (39) = 2.39, p = .022*, Cohen's d = 0.75). The individual analysis showed that about 60% of the participants allowed for *-zhe,* and *-le* in addition to *-zai* in L1. For each marker, about 70% of those who permitted them also permitted the use of *-teiru* for the resultative state, that is, under the Achievement verb/Past condition, and 100% permitted the use of *-ta*. In conclusion, our data showed that there is the possibility that CLJs mapped all the three markers, contrary to Sun's (2010) claim, to express the achievement resultative in L2 with less consistency and showed the tendency to overuse *-ta*, along the lines of Shirai and Kurono's study (1998). This result implies that the issue of the association with aspect markers in L1 needs to be carefully reviewed in the field of SLA; that is, the marker *-le* can be a candidate to apply to the resultative *-teiru* in Japanese.

Table 1 Examples of Materials in This Study

Condition	Japanese version	Chinese version
Non-Past/Achievement	現在 4 時 45 分であり、到着予定時刻はこのあと 5 時である。沐宸は空港に到着し（ている/た）。	现在是下午 4 点 45 分，到达时间是下午 5 点。沐宸（在）到达（着/了）航空港。
Past/Achievement	現在 5 時 30 分であり、到着時刻は 5 時であった。沐宸は空港に到着し（ている/た）。	现在是下午 5 点 30 分，到达时间是下午 5 点。沐宸（在）到达（着/了）航空港。
Non-Past /Accomplishment	今日は一日中暇なので、茗泽は一枚の絵を描い（ている/た）。	今天，茗泽有一整天的空闲时间，所以（在）画（着/了）一幅画儿。
Past/Accomplishment	昨日は一日中暇だったので、茗泽は一枚の絵を描い（ている/た）。	昨天，茗泽有一整天的空闲时间，所以（在）画（着/了）一幅画儿。

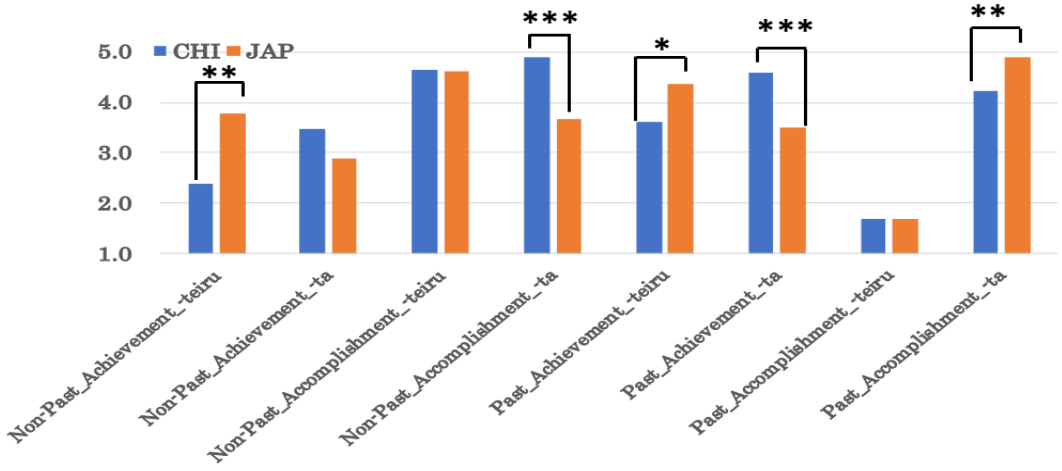

Figure 1. Results of EAJT

Table **2.** Results of the Individual Analysis

-teiru / *-zai*	acceptable ≧2.5	reject <2.5
acceptable ≧2.5	9	3
reject ≧2.5	7	2

-teiru / *-zhe*	acceptable ≧2.5	reject <2.5
acceptable ≧2.5	10	3
reject <2.5	6	2

-teiru / *-le*	acceptable ≧2.5	reject <2.5
acceptable ≧2.5	10	3
reject <2.5	6	2

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Parallel Session II Abstracts

(Zooms A, B, C)

Session A-II Abstracts

(Zoom A)

The Effect of Syntactically Different L2 Input on L2 Parsing Preference

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Previous research on second language (L2) acquisition has identified L2 input, especially intensive L2 immersion experience, modulates both L1 and L2 parsing strategies. Most leading studies, however, employed L2 languages that are structurally similar to L1 concerning the target linguistic feature (e.g. English and Spanish ambiguous relative clause (RC) constructions). This left it unclear whether L2 input affects L2 parsing even when L1 and L2 target structures are contrasting. Therefore, **this study investigates whether L2 input affects L2 parsing preference of ambiguous RCs that are structurally dissimilar to L1.**

Ambiguous RC attachment has been repeatedly utilized to study parsing strategies due to its idiosyncratic structure.

(1) Someone shot [the servant of the actress] who was on the balcony.
(Cuetos & Mitchell 1988: 89)

The RC "who was on the balcony" can modify either "the servant" (high attachment, HA) or "the actress" (low attachment, LA) depending on one's parsing preference as the sentence is syntactically correct either way. Moreover, ambiguous RC parsing varies cross-linguistically. Some languages (e.g. Spanish, Korean) display a preference for HA and others (e.g. English, Mandarin) LA (Jun 2003, Shen 2006).

Concerning how parsing preference works, the Linguistic Tuning Hypothesis (Mitchell & Cuetos 1991: 1) argues "the parser simply chooses the structural analysis that has worked most reliably in the past." This implies L2 learners with HA-preferring L1 and LA-favoring L2 can switch from HA to LA with intensive L2 input. Dussias (2003) and Dussias and Sagarra's (2007) research offer a power empirical evidence. They looked at how sequential L1 Spanish L2 English bilinguals resolve ambiguous RCs. Dussias (2003) focused on L2 proficiency and Dussias and Sagarra (2007) on the amount of L2 immersion experience in the US. The results of the two studies showed that L1 Spanish L2 English bilinguals with intensive English input favor LA and those with limited English input prefer HA.

Despite the significant finding, Spanish and English ambiguous RCs are structurally identical; they are both post-nominal and head-initial. Thus, it is unresolved whether such linguistic tuning would occur even when L1 and L2 are structurally incompatible as in L1 Korean L2 English or L1 Mandarin L2 English (See Table 1).

Table 1. Attachment preferences and structural differences between English, Korean and Mandarin

	English	**Korean**	**Mandarin**
Attachment preference	LA	HA	LA
Head directionality	Initial	Final	Initial + Final (with RC)

Accordingly, this study examines whether input affects structurally different L2 parsing preference by examining how L1 Mandarin L2 English and L1 Korean L2 English speakers with intensive L2 input resolve ambiguous RCs in L2 English compared to those without such intensive L2 input. In this study, input is operationally defined as the number of years bilingual speakers have resided in the countries where their mother tongue or L2 is spoken, which is equivalent to the definition of input used in Dussias and Sagarra (2007)'s study. In total, 29 L1 Mandarin L2 English and 20 L1 Korean L2 English speakers are recruited along with 23

monolingual English speakers as the control group. All the bilinguals are advanced L2 learners.

Following Dussias (2003) and Dussias and Sagarra's (2007) study, it is predicted L1 Korean L2 English participants with intensive L2 input (KEI) prefer LA and L1 Korean L2 English participants with no such experience (KEN) do not. Meanwhile, all L1 Mandarin L2 English participants, those with intensive L2 (MEI) and those with no intensive L2 (MEN), are expected to prefer LA (see Table 2). If KEI do experience re-tuning, significant tuning from L1 parsing preference to L2 parsing preference, and the others do not, it is possible to claim that the Linguistic Tuning Hypothesis is unsusceptible to crosslinguistic structural differences.

Table 2. Hypotheses on L1 Mandarin L2 English & L1 Korean L2 English speakers' parsing preference of ambiguous RC structures in L2 English

Group	Parsing preference of ambiguous RCs
L1 Mandarin L2 English with limited or intensive L2 input	LA (Mandarin + limited or intensive English)
L1 Korean L2 English with limited L2 input	HA (Korean + limited English)
L1 Korean L2 English with intensive L2 input	LA (Korean + intensive English)

The participants complete a language background questionnaire, English proficiency test, and timed comprehension test where they read sentences and answer questions in 3 seconds (20 target items + 20 distractors + 40 fillers, quasi-randomized). All target sentences have ambiguous RCs with no disambiguating cues and are followed by a comprehension question indirectly inquiring which noun the RC modifies. The length of RCs is controlled because it was found to affect parsing strategies of ambiguous RCs (Fernandez 2003). Both the nouns before each ambiguous RC have the same animacy, animate, since previous studies identified animacy effects on parsing preference (Uludağ 2020). Among, several different types of RCs, only subject RCs where the head noun is coreferential with the null subject of the RC are used and all the target RCs are positioned in the subject position because subject RCs are used by all the three languages with great regularity and sentence structures need to be controlled (Kwon et al. 2019). Concerning complementizer, English has two complementizers that can be used in the target sentences, *who* and *that*, unlike Korean and Mandarin. To avoid any possible confounding effects, only *who* was used; all the complex genitive nouns in the target items are nominative and are made of animate nouns, exclusively matching *who*, but the relativizer *that* can be linked to diverse types of nouns.

Table 3. *Sample target items*

Target sentence	Question
The uncle of the composer who came to our city was very poor.	Who came to our city? (a) the uncle (b) the composer
The nanny of the child who slept until noon needed my help.	Who slept until noon? (a) the child (b) the nanny

To analyze the data gathered from the bilingual speakers, the number of HAs and LAs made by individual participants was first recorded. Then, the sum and the average of the numbers were calculated with each group (MEI, MEN, KEI, KEN) for descriptive analysis. Lastly, group-based input effects have been investigated using linear models (all L1 Mandarin L2

English bilinguals and all L1 Korean L2 English bilinguals). R software was used for the analyses. Before the analyses of the bilingual speakers were conducted, it was confirmed that the monolingual English speakers favor LA with 63%.

The findings of this study contradict and confirm previous findings at the same time. The descriptive statistics in Figure 1 presents the percentage of LA selections per group. MEN do not show a particular preference for LA with 51.54%. Not only that MEI has preference for HA with 40%, indicating that L2 input tuned their parsing preference towards HA. Meanwhile, KEN have strong tendencies towards HA with 27.73% as predicted. Also, KEI favor LA 26.16% more than KEN with 53.89%, implying that the expected linguistic tuning took place with L1 Korean speakers even though the tendency towards LA is not as strong as the control group.

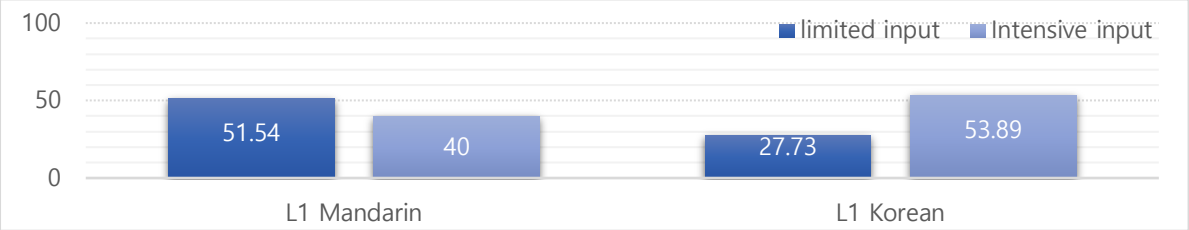

Figure 1. *Preliminary data – Average preference of LA from the participants (Recruitment – in progress)*

According to the linear regression analyses, L2 input has a significant interaction with parsing preference in L2 with L1 Korean L2 English speakers ($\beta = 0.557370$, $p < 001$). The overall regression shows a correlation with R^2 being 0.31 ($p = < 001$). On the other hand, L1 Mandarin L2 English speakers' L2 input does not trigger linguistic tuning; even though it appears to encourage LAs, the overall regression is not significant ($R^2 = 0.004$, $p = 0.001$). Figure 2 clearly shows how L2 input and L2 parsing preference of the two bilingual groups interact.

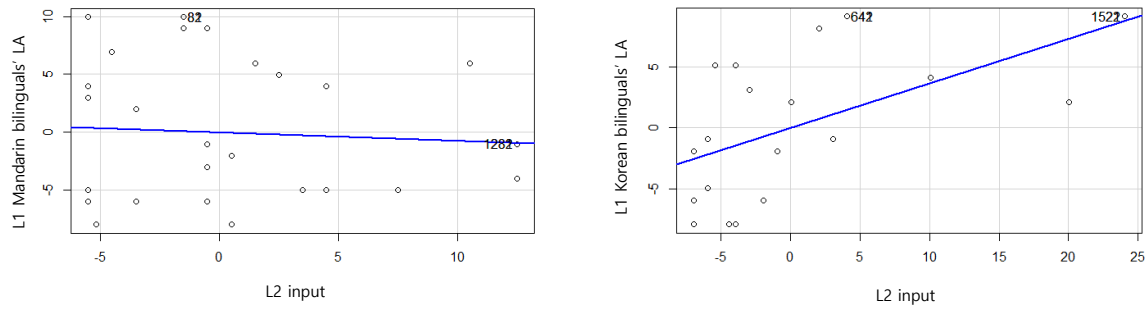

Figure 2. *The effects of L2 input on L1 Mandarin (**First**) and L2 Korean speakers' (**Second**) preference for LA*

Returning to the question posed at the beginning of this study, it is now possible to state that crosslinguistic structural differences affect L2 parsing preference of ambiguous RCs when one's L1 and L2 have the same parsing preference with L2 being a head-initial language and L1 being a language whose head-directionality is mixed.

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Korean *Aegyo* Speech Style: Infantilization of Sounds

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Cute, feminine speech style has become part of popular culture among young females in East Asia. In Korea, a cute, feminine act/attitude called *aegyo* has emerged as a new popular trend. *Aegyo* (hangul: 애교, hanja: 愛嬌) involves performances that is perceived to be cute by others. *Aegyo* speech style accompanies a set of salient features both in verbal and non-verbal forms. Especially, performers of *aegyo* adopt such features as high-pitched voice, nasalization, or other features of baby-talk, accompanied by body movements and facial expressions, to draw attention to themselves. This study explores the use of *aegyo*, with a particular focus on the infantilization of sounds.

Among the verbal features of *aegyo*, the most notable feature is the infantilization of consonants and vowels, resulting in so-called *hyeo jjalbun sori'* short tongue sound' (Moon under review, Jang 2021). There are sound symbolic associations between this *hyeo jjalbun sori* and attempting to sound cute, in that phonological changes of *hyeo jjalbun sori* contribute to cuteness and infantilization by mimicking baby-talk. To be more specific, salient features of baby-talk, such as high pitch and affricates, have sound symbolic relation to something small and subdominant (Ohala 1994).

Hyeo jjalbun sori include various phonological alternations as shown in (1). Consonantal changes of *hyeo jjalbun sori* are discussed as 'infantile consonants' in Moon (under review). Jang (2021) reports that *hyeo jjalbun sori* also involves vowel rounding and nasal coda insertion alongside consonantal changes.

(1) Phonological process of infantilization

a. Palatalization	Affrication	[s̻] → [tɕ̻]
	Insertion of /j/	/j/ insertion
b. Stopping	Fricative	[s̻] → [t̻]
	Affricate	[tɕ/tɕ̻] → [d/t̻]
c. Vowel changes	Rounding	[ɯ] → [u], [ʌ] → [o]
	Vowel-raising	[o] → [u], [jo] → [jʌ]
	Monophthongization	/j/, /w/, /ɯ/ deletion
d. Coda changes	Nasal coda insertion	/ŋ/, /m/ insertion
	Coda deletion	/n/, /l/ deletion

(2) Variations of 했어 [hɛs̻ʌ] 'did' in *aegyo* speech

a. 해쩌 [hɛtɕ̻ʌ]

b. 해쪄 [hɛtɕ̻jʌ]

c. 해떠 [hɛt̻ʌ]

Phonological alternations listed in (1) are mimicry of baby-talk in attempting to sound cute. In (1a), palatalization, including affrication of fricatives and /j/ insertion, is mimicry of baby-talk as Korean children learn affricates before fricatives (Kim and Pae 2005). (2a-b) show affrication in 해쩌 [hɛtɕ̻ʌ] and /j/ insertion in 해쪄 [hɛtɕ̻jʌ]. In another variation of 했어 [hɛs̻ʌ] 'did', 해떠 [hɛt̻ʌ] shows stopping of fricative.

(3) a. 오빵, 띠드버거 사주세요.
Standard: Oppa, chijeubeogeo sajuseyo.
Aegyo: Oppa, ttideubeogeo sajuseyeo.
'Oppa, buy me a cheeseburger'

b. 예뿐 척 하눈 게 아니라, 구냥 예뿌게 태어난 곤데.
Standard: Yeppeun cheok haneun ge anira, geunyang yeppeuge taeeonan geonde
Aegyo: Yeppun cheok hanun ge anira, gunyang yeppuge taeeonan gonde
'I'm not pretending to be pretty, I'm just born pretty.'

c. 오빠가 애라하테 가방을 또, 또, 사 주 꼬에요?
Standard: Ni ga nahante gabangeul tto sa jul geoya?
Aegyo: Oppaga Aerahate gabangeul tto,tto, sa ju ggoeyo?
'Will oppa buy Aera another bag?'

Similarly, (3) shows how this infantilization can be used in daily speech. Example in (3a) is a famous *aegyo* line from the legendary sitcom 'High Kick Through the Roof' (2009), and (3b-c) are from the drama 'Fight for My Way' (2017). In (3a), 치즈 [tɕidʑɯ] 'cheese' is pronounced as 띠드 [t̪idɯ]. As in (1c), *hyeo jjalbun sori* involves vowel changes, including rounding, vowel-raising, and monophthongization of vowels in attempting to sound cute. In (3a), *yo* [jo] is pronounced as *yeo* [jʌ] in *aegyo* style speech. Also, (3b) shows vowel changes that *eu* [ɯ] is pronounced as a rounded vowel *u* [u], and *eo* [ʌ] is pronounced as *o* [o]. Besides rounding and rising of vowels, diphthongs are monophthonized with the deletion of /j/, /w/, /ɯ/. Ann et al. (2004) argue that Korean children start to differentiate diphthongs only after 3 years of age. Also, Korean children cannot fully differentiate roundness and frontness of vowels until the age of 4 (Ann et al. 2004). Therefore, these vowel changes can be seen as mimicry of baby-talk in that Korean children have difficulties with distinguishing vowels.

Another notable sound change takes place in coda position; nasal coda /ŋ/, /m/ insertion in open syllables, and coda deletion in syllables ending in /n/ or /l/. As one can see in (3a) 오빵 [opɑ̈ŋ], the [ŋ] epenthesis is added. Adding nasality is a typical way of performing *hyeo jjalbun sori*, since nasality is one of the well-known features of baby-talk cross-linguistically (Jang 2021). In (3c), some consonants in the coda are deleted: 한 [han] became 하 [ha], 줄 [tɕul] became 주 [tɕu]. In Korean children's language development, /l/ in coda position is the last acquired consonant (Kim and Pae 2005). Sound changes of coda also contribute to sound symbolic associations between this *hyeo jjalbun sori* and cuteness in that it mimics the baby-talk register.

To summarize, *hyeo jjalbun sori* in *aegyo* speech has sound-symbolic functions in that consonants and vowels are changed to imitate baby-talk. Thus, this study aims to provide a clear picture of how infantilization of sound is used to add cuteness and childishness.

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Glottal Stop Initials and Nasalization in Sino-Vietnamese and Southern Chinese

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Middle Chinese (MC) glottal stop [ʔ-] initials, also called *Ying* 影 initials, usually develop into zero initials with rare occasions of nasalization in modern day Sinitic languages and Sino-Vietnamese. Scholars such as Edwin Pullyblank (1984) and Jiang Jialu (2011) have briefly mentioned this development without further analysis. There are approximately 26 MC glottal stop initial words that nasalize in Sino-Vietnamese. Scholars such as John Phan (2013: 2016) and Hilario deSousa (2016) argue that Sino-Vietnamese in part comes from a spoken interaction between Việt-Mường and speakers of an Annam variety of Chinese called Annamese Middle Chinese (AMC), part of a larger continuum called Southwestern Middle Chinese (SMC). Phan and deSousa also claim that SMC developed into dialects spoken in Southwestern China today (Phan, Desousa: 2016). Using data of dialects mentioned by Phan and deSousa in their hypothesis, this study compares initial nasalization words in Southwestern Chinese Languages and in the 26 Sino-Vietnamese words. This study argues that nasalization of Middle Chinese glottal stop initial words was a possible feature in AMC and SMC that is partially inherited in Sino-Vietnamese as well as Southwestern Chinese dialects today. It is possible that this nasalization feature occurred via merger between MC palatal nasal initial syllables and MC glottal stop initial syllables, followed by a merger with MC velar nasal initial syllables. It is also possible that some of these initials nasalized via development of zero initial from glottal stop initials, followed by velar nasalization, and then to alveolar nasalization. This study also finds that Sino-Vietnamese MC glottal stop nasalization occurs in Hán-Việt (HV) readings, in readings found in the Chữ Nôm (CN) script as well as for additional Sino-Vietnamese words not found in HV or CN collected by Jiang Jialu (2011) which he calls *Yi du zi* 異讀字 or "Alternate Development/Reading".

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Session B-II Abstracts

(Zoom B)

High vs. Low 'again': Mandarin *you* vs. *zai* and Cantonese *-faan* vs. *-gwo*

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Introduction. Mandarin has two preverbal adverbs for 'again': *you* and *zai* (Lü 1980 and others). Cantonese has two postverbal suffixes for 'again': *-faan* and *-gwo* (≠ experiential *-gwo*) (Zhan 1958, Cheung 1972, Tang 2015 and others). They all operate on an event by presupposing that an antecedent event that is identical to the current event has happened before, although, in some cases, with different specifications on its relation to the current event (i.e., resumption for *-faan*, Tang 2001 and others; and "fixing" undesirable results for *-gwo*, Yan 2009 and others). This talk presents observations on a cross-linguistic asymmetry of the exceptional scopal behaviors of Mandarin *you* and *zai* and of Cantonese *-faan* and *-gwo* in embedding contexts (for Mandarin *you*, see also Xu 2012, 2016). Despite that the exceptional scopal behavior is highly context-dependent, we made a novel observation that its (un)availability is sensitive to *syntactic* factors. We propose that such asymmetries can be explained by two different syntactic positions of 'again', and we present evidence from the compatibility of 'again' with other postverbal aspectual elements.

Observations: Asymmetries in scopal behavior. For Mandarin preverbal *you* and *zai*, we examine whether 'again' in matrix clauses can cross the clause boundary and operate on embedded events (1); and for Cantonese postverbal *-faan* and *-gwo*, we examine whether `again' in embedded clauses can cross the clause boundary and operate on matrx events (2).

Preverbal 'again' in Mandarin: As illustrated in (3a), Y. Liu (2021, to appear) reports that *you* can "skip" the matrix predicate ('want') and take a narrow scope to directly operate on the embedded predicate ('go'). According to Huang's (2022) typology of verbal complementation, 'want' takes a *nonfinite* clause. The scope "skipping" effects of *you* apply to other *nonfinite* clause taking verbs as well, such as *bipo* 'force' and *tingzhi* 'stop'. Such effects, however, are not shared with *zai*, which, when surfaced in the matrix clause, can only operate on the matrix events (3b). Additionally, *you* cannot cross a *finite* clause boundary to operate on an event embedded under verbs like 'believe' (4).

Postverbal 'again' in Cantonese: When *-faan* and *-gwo* are attached to a predicate embedded under the *nonfinite* clause taking verb 'want', only *-faan* can take scope over 'want' (5a). Similar patterns are observed with other *nonfinite* clause taking verbs, such as *hoji* 'may' and *gaizuk* 'continue'. On the other hand, *-gwo* only has an infelicitous narrow scope reading in which the event of "killing the boss" has happened before (5b). This contrast can be made even clearer by adding preverbal *jau* or *zoi* 'again', and it echoes the contrast in Mandarin discussed above. Similar to Mandarin *you*, *-faan* cannot cross a *finite* clause boundary and take scope over verbs like 'believe' 0.

Proposal: High vs. low 'again'. We follow the split-aspect analysis (Gu 1995, Tsai 2008 and others) and suggest that there are two positions for 'again': One is in an **outer AspP** above vP, and the other is in an **inner AspP** below vP (cf. Lin & C. Liu 2009 and Y. Liu to appear for Mandarin). We locate the position of 'again' by testing its compatibility with aspectual suffixes (outer Asp^0, above vP), phase complements (PCs, inner Asp^0, below vP but above VP) and resultative verb complements (RVCs, below VP). The results for the four 'again' are:

	Aspectual affixes	PCs	RVCs
Mandarin *you*	✓	✓	✓
Mandarin *zai*	✗	✓	✓
Cantonese *-faan*	✗	✓	✓
Cantonese *-gwo*	✗	✗	✓

Conclusion: Only *-faan* and *you* can be located high in outer AspP, whereas *-gwo* and *zai* are always low in inner AspP, giving rise to the cartography in (7). We will show how (7) derives the scopal contrasts by assuming that *nonfinite* clauses lack outer AspP to license high 'again'.

Implications: (i) We offer an analysis for a newly observed *syntactic asymmetry* in scopal behaviors of 'again' in Mandarin and Cantonese; and (ii) we provide additional support for the *two syntactic positions* of again (Lin & C. Liu 2009).

Examples.

(1) AGAIN [V_{matrix} … [**$V_{embedded}$** … (preverbal)
wide scope over matrix e

(2) [**V_{matrix}** … [$V_{embedded}$-AGAIN … (postverbal)
scope "skipping" matrix e

(3) *Context:* Yesterday, reluctant to travel but forced by his boss, Xiaoming went to Taipei for some work, but he did not manage to finish it before he came back. Today, afraid of getting fired due to his unfinished work, he wants to go to Taipei again to finish it. (Adapted from Lin & C. Liu 2009)
a. Xiaoming **you** xiang **qu** Taibei.
Xiaoming AGAIN want go Taipei
'Xiaoming wants to again go to Taipei.' / '#Xiaoming again wants to go to Taipei.'
(want > again > go, #again > want)
b. #Xiaoming **zai** xiang **qu** Taibei, ba gongzuo zuo-wan.
Xiaoming AGAIN want go TaipeiDISP work do-finish
'#Xiaoming again wants to go to Taipei, to finish up the work.'
(*want > again > go, #again > want)

(4) *Context:* During the 2003 SARS outbreak, Xiaoming was so ignorant that he thought that SARS was just a flu, and he did not believe in the existence of coronavirus. After the outbreak, coronavirus was not found anywhere. In 2019, however, Xiaoming became an epidemiologist and collected a sample that contained coronavirus. Now, he does believe that there had appeared coronavirus, and it appeared again.
#Xiaoming **you** xiangxin **chuxian**-le guanzhuangbingdu.
Xiaoming AGAIN believe appear-PFV coronavirus
Only: '#Xiaoming again believes that there appeared coronavirus.'
(*believe > again > appear, #again > believe)

(5) *Context:* When Ming was a gangster, he always wanted to murder his maniac boss, though he never tried to. He no longer wanted so after he left the gang. Today, he met his boss on the street, who insulted and slapped him. Ming is so angry that he wants to kill him again.
a. Aaming (jau) **soeng** (#jau/#zoi) deoilam-**faan** keoi daailou.
Ming AGAIN want AGAIN kill-AGAIN 3SG boss
'Ming again wants to kill his boss.' / '#Ming wants to again kill his boss.'
(again > want, #want > again > kill)
b. #Aaming (jau) **soeng** (#jau/#zoi) deoilam-**gwo** keoi daailou.
Ming AGAIN want AGAIN kill-AGAIN 3SG boss
Only: '#Ming wants to again kill his boss.' (*again > want, #want > again > kill)

(6) *Context:* Ming quitted being a Christian years ago. Today, he had a traffic accident, and heard God's voice when he was badly injured. He once again believes that God exists.
#Aaming (jau) **seon** (#jau/#zoi) jau-**faan** san.
Ming AGAIN believe AGAIN exist-AGAIN God
'#Ming believes that there is again God.' (*again > believe, #believe > again > exist)

(7) [$_{outAspP}$ *you* [$_{outAsp'}$ {*-faan*/Asp suffixes} [$_{vP}$ ... [$_{inAspP}$ *zai* [$_{inAsp'}$ {*-gwo*/PCs} [$_{VP}$ RVCs …

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Cartographic Syntax Approach on Taiwanese *U* 'HAVE'

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This study sheds light on Taiwanese *u* 'have', going with diverse situational predicates[1], as shown in (1), and follows the cartographic framework (Huang, 1988; Rizzi, 1997, 2004a, 2004b; Cinque, 1999; Pan, 2019) to argue that *u* should be analyzed as Intensification under Intensification Phrase (hereafter [Inten, IntenP]) in the wake of the latest research (Cheng, 2021; Wu & Zheng, 2018). Previous studies claim that based on (1). *U* can respectively trigger the dissimilar temporal and situational construals, for instance, past-tense (perfective) reading, habitual reading, inchoative and/or emphatic affirmatives interpretation (Li, 1986; Tsao & Cheng, 1995; Cheng, 1997), whereas these do not propose a unified syntactic analysis on *u* along with diverse situational predicates and temporal interpretations.

According to cartographic syntax, a functional head merely holds one feature, i.e., there is a one-to-one relationship between a syntactic feature and a functional head within a fixed order in the hierarchy. This study thus proposes that *u* projects Inten under IntenP, as sketched in (2), in order to intensifies a(n) event/situation, and it hosts the feature of [INTENSIFICATION]. Due to the cartographic syntax, a question may arise: where does Inten *u* land within a hierarchy of functional heads? Thus, it simply is argued that *u* is syntactically lower than the Focus *si* 'be', as seen in (3a), but higher than a degree word, such as *khah* 'COMP', as shown in (3b). Moreover, it is argued that from the semantic standpoint, the diverse temporal interpretations (1) actually result from the interaction of *u* along with the different situations rather than from *u* bearing different features per se (cf. Lin, 2001 on light verb analysis). The fixed order of functional heads in hierarchy is illustrated in (4). This hierarchy also reveals that the syntactic positions of Inten *u* and Poss *u* are located differently, where Inten *u* lands Inten of IntenP while Poss *u* occupies *v* of *v*P; therefore, the former denotes intensification while the latter addresses possession.

To sum up, this study manifests a unified syntactic analysis on Taiwanese *u* 'have', along with diverse situational predicates, following cartographic approach. *U* is a functional head and serves as Inten under IntenP to trigger intensification to diverse situation only. In other words, *u* does not signal any temporal features per se. The temporal construals are activated by semantic denotation instead.

(1) a. Aldo u [$_{PredP}$ be sann-pun tsheh].
Aldo HAVE buy three-CL book
'I **certainly** bought three books.'

b. Aldo u [$_{PredP}$ tsiah-hun].
Aldo HAVE eat-cigarette
'Aldo **certainly** smokes/smoked.'

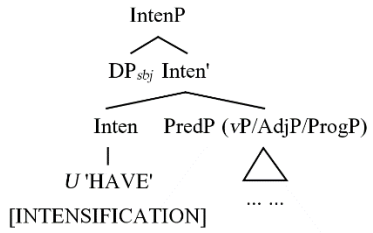
c. Aldo u [$_{PredP}$ leh khun].
Aldo HAVE PROG sleep
'Aldo **certainly** is sleeping.'

d. Aldo u [$_{PredP}$ khi-kue Taiwan].
Aldo HAVE go-EXP Taiwan
'Aldo **certainly** has been to Taiwan.'

e. Hue u [$_{PredP}$ ang].
flower HAVE red
'The flower **certainly** is red.'

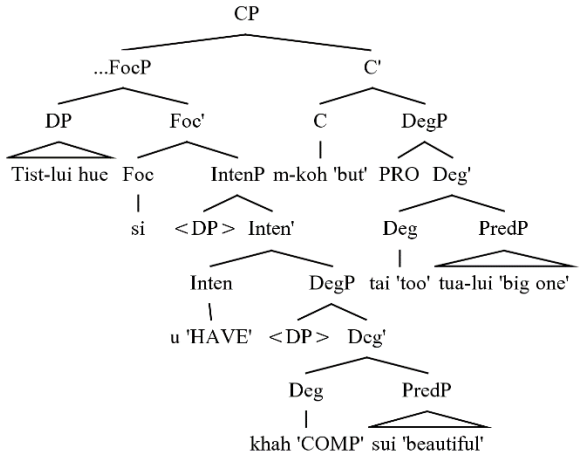
[1] The situational predicates in this study refer to verbal predicates, progressive predicates, experiential predicates as well as adjectival/nominalized predicates, etc. This research does not discuss the lexical *u* 'have' in the possessive constructions.

(2)



(3) a. Tsit-lui hue si u khah sui, m-koh tai tua-lui.
this-CL flower BE HAVE COMP beautiful, but too big-CL
'The flower **certainly** is **much** more beautiful, but (it is) too big.'

b.



(4) … (ModalP *itting* 'must') > FocP > (ModalP *itting* 'must') > IntenP *U* 'HAVE' > (DegP *khah* 'COMP') > *v*P *u* 'have' > VP …

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Taiwanese Southern Min Tone and Melody Interaction

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The interaction between tonal information and musical melody has been a point of interest for many researchers (e.g. Chan 1987, Tsai et al. 2018, Lau 2010). However, research into tone-melody interaction in the Sinitic language family has thus far been mainly limited to Cantonese and Mandarin. The present work expands this body of work to examine Taiwanese Southern Min, a widely spoken language in Taiwan with distinct tonal system differences from Cantonese and Mandarin. Through the comparison of musical pitch contours with relative tone differences of four original songs composed and performed by three Taiwanese artists, the present project asserts that there is correlation between lexical tone and musical melody for Taiwanese songs.

Such an effect, however, is not as strong as the one observed in Cantonese music. Chan (1987:30) compared the tonal structure of verses that matched in melody across stanzas. The results showed that out of eight words, six were identical in tone. For the remaining two, the target, or endpoint, of the tones were identical, differing in contour. In the entire corpus, only 9.3 percent displayed complete tonal mismatches (Chan 1987:31). As such, Chan concluded that Cantonese music displayed strong tone-melody interaction. Lau (2010:11) in a preliminary study discovered that Cantonese pitch contours were also important, contrary to Chan's original analysis. In converse, no tone-melody interaction was found for songs performed in Mandarin (Chan 1987:26). Tsai et al. (2018:125) found that similar neural networks were utilized in distinguishing relative pitch differences in both Taiwanese level-tone disyllabic words as well as non-linguistic pitch pairs. Such results from Tsai et al. suggest that the neural networks at play for distinguishing pitch difference in spoken Taiwanese are also utilized during musically-oriented tasks. However, this does not address whether there is crossover between the linguistic and non-linguistic system.

Adapting the methodology of previous research, the current project analyzed relative pitch differences, operationalized as the range in a single musical utterance, compared with the canonical tonal structure of the same sentence spoken in Taiwanese. Taiwanese contains 7 lexical tones, leading to a total of 49 different tone combinations. Each tone combination in the music could have a pitch relationship that increases, decreases, or remains steady. Of these choices, only one is the canonical pitch difference according to Taiwanese tone rules. One major complication in studying the relationship between tones in Taiwanese is the extensive tone sandhi process. In Taiwanese utterances, the produced tone is based upon utterance position and all items change tone except for the last object in a prosodic unit. To account for this extensive tone sandhi patterning, the author utilized both musical cues and personal lexical judgement to notate tone sandhi. Whenever the singer would pause to breathe or to take a break, that was counted as one musical utterance. Not all short breaks were counted if they lasted for less than half a beat and their inclusion would break up a logical prosodic unit. Afterwards, these pairs were then coded as to if the pitch direction matched the anticipated tone direction. Finally, these were combined into an overall correspondence rate for the entire song.

The results, reported in Table 1, showed that there was strong interaction between lexical tone and musical pitch in all the songs. This correspondence rate was then tested with a Chi Square Goodness of Fit test to determine the significance of these results as related to chance level. All songs returned p values less than 0.05 for all songs, suggesting that these the rate of correspondence was unlikely due to mere chance. Nonetheless, this effect was not equal: three of the four songs show a positive correspondence between tone and melody, while one of the songs showed a negative relationship.

Table 1. Chi Square Goodness of Fit Test

Song Title	Correspondence Ratio	Chi Square Value	P value	Directionality
島嶼天光	164:61	158.42	<.00001	Positive
閣愛你一擺	118:71	72.024	<.00001	Positive
浪流連	88:83	25.289	<.00001	Positive
無眠	65:178	4.741	.02946	Negative

The data support the claim of an interaction between the lexical tone and musical melody in Taiwanese pop music. According to the results, it can be suggested that accounting for tonal correspondence may be the default composition method, although the artist may choose to ignore tonal relationships. While lower than Chan's (1987) correspondence rate in Cantonese, Taiwanese shows the influence of not only pitch target, but also that pitch contour direction was also relevant. While the present study has demonstrated a correspondence between pitch and tone in Taiwanese music, there is more investigation necessary to determine the exact nature of the relationship and the various strategies that are used by artists performing in Taiwanese. For example, what is the relationship between utterance position, note duration, and semantic importance on the likelihood of correspondence? While the present research provides some insights, it is left to future research to determine the exact relationship.

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Session C-II Abstracts

(Zoom C)

The Typology of Manchu-Sibe Ideophones in Areal and Genetic Perspective

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Ideophones have long been an object of intense scholarly interest within East Asian linguistics. Extensive studies have examined ideophones in Japanese (Hamano, 1986), Korean (Lee, 1992), and Udihe (Tolskaya, 2011). However, little has been written about ideophones in the sister languages Manchu and Sibe (Tungusic). The present study seeks to contribute to the literature on East Asian ideophones in two ways. First, Manchu-Sibe ideophones are examined in their own right, with a focus on their morphology and syntax. Second, the morphosyntax of ideophones in Manchu-Sibe is compared to other languages of East Asia, especially fellow members of the Altaic Sprachbund.

In the typological literature ideophones are typically understood to constitute a fuzzy category whose most prototypical members are sound-symbolic forms denoting imagery, sound, texture, and other sensory attributes and experiences (cf. Lee, 1992). Drawing upon corpora at the manc.hu database (Sam-Sin & Rodenburg, 2014) and elicitation with Sibe speakers, we present new analysis and data on Manchu-Sibe ideophones, a topic that has seen some discussion in Manchu-Sibe (see Gorelova, 2002:335-343 on "onomatopoeic words"; Möllendorf, 1892:13; Stary, 1981; Zakharov, 1879: 315-320). Manchu-Sibe ideophones may be simplex items **(1)**, but are often formed through reduplication (Gorelova, 2002:341). Formally, reduplicative ideophones in Manchu-Sibe divide into two groups - exact reduplicative ideophones, in which the base and the reduplicant are identical **(2),** and inexact reduplicative ideophones, which may exhibit either vowel mutation (apophony) **(3)** or consonant mutation in the reduplicant (cf. Gorelova, 2002:341). We expand previous work by placing the characteristics of Manchu-Sibe ideophones with those of neighboring languages. The variety in the formal patterns of reduplication is similar to Manchu-Sibe's areal neighbors Japanese (cf. Hamano, 1986) and the South Siberian languages (cf. Harrison, 2004), as well as the related Tungusic language Udihe (Tolskaya, 2011).

(1) ᡭᠠᠩ
ang
'hee-haw (braying of a donkey)'[1]

(2) ᠮᡠᡴᡝ ᠪᡳᠶᠣᡨᠣᡵ ᠪᡳᠶᠣᡨᠣᡵ ᡦᡠᡳᡶᡠᠪᡳ
muke ***piyotor piyotor*** *fuifu-mbi*
water piyotor-piyotor boil-IPFV.FIN
'the water vigorously boils'

[1] Leipzig glossing conventions are largely employed, namely: AUX = auxiliary, CVB = converb; FIN = finite; GEN = genitive, IPFV = imperfective; PFV = perfective; PTCP = participle; QUOT = quotative; TOP = topic. All Manchu-Sibe examples are in Möllendorf romanization. Unless otherwise indicated, all examples are from elicitation or primary author's (Jared Sharp's) own knowledge.

(3.a) ᡦᡠᡨᡠᡵ ᡦᠠᡨᠠᡵ

putur patar

'sound of a structure collapsing or failing'

(3.b) ᡥᡝᠴᡝᠨ ᡦᡠᡨᡠᡵ ᡦᠠᡨᠠᡵ ᡠᠯᡝᡩᡞᡶᡳ/ᠮᠠᡴ ᠰᡳᠨᡩᠠᡥᠠᠪᡳ

hecen	***putur patar***	*uleje-fi/mak*[2]	*sinda-habi*
wall	clash	collapse-PFV.CVB	end.up(AUX)-PFV.FIN

'the wall completely collapsed (with a crashing sound)'

Ideophones occur in several functionally-distinct Manchu-Sibe constructions. Although reduplicated Manchu-Sibe ideophones only occur as reduplicated forms when used as a clause's sole predicate **(4)** or as an attributive modifier in an NP **(5)**, for some items the base for a Manchu-Sibe reduplicated ideophonic form may occur singly when used as an adverbial modifier in a larger construction with the quotative *se-* **(6, 7)**.

(4.a) *ᡨᡝᡵᡝ ᡦᡠᡩᠠ ᡳᠴᡳ ᠯᠠᡴ

**tere*	*buda*	*(oci/ni)*	***lak***
that	food	TOP	sticky

'That food is sticky'

(4.b) ᡨᡝᡵᡝ ᡦᡠᡩᠠ ᡳᠴᡳ ᠯᠠᡴ ᠯᠠᡴ

tere	*buda*	*(oci/ni)*	***lak***	***lak***
that	food	TOP	sticky	sticky

'that food is sticky'

(5) ᠯᠠᡴ ᠯᠠᡴ ᡦᡠᡩᠠ

lak	***lak***	*buda*
sticky	sticky	food

'sticky food'

(6) ᡦᡳᡵᠠ ᡥᡠᠨ ᡦᡠᠸᠠᠩᡤᠠᡵ ᡮᡳᡤᡳ

bira-i	*muke*	***hūwanggar***	***se****-mbi*
river-GEN	water,	roar(water)	QUOT-IPFV.FIN

'The river water roars'

(7) ᡦᡠᠸᠠᠩᡤᠠᡵ ᡮᡝᡵᡝ ᡥᡠᠨ

hūwanggar	***se****-re*	*muke*
roar(water)	QUOT-IPFV.PTCP	water

'roaring water'

Overall, the large number of Manchu-Sibe ideophones and the productivity of their word-formation strategies are in keeping with the general typological profile of languages in the Altaic sprachbund. However, the lack of exact formal analogues to certain Manchu-Sibe ideophonic

[2] In instances where two elements are separated by a forward slash, the first element is Manchu and the second is Sibe.

constructions suggests language-specific or sub-regional idiosyncrasies among the sound-symbolic systems of the languages of northeast Asia.

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L2 Japanese Proficiency and Working Memory Capacity

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Introduction: The effect of Working Memory (WM) on L2 language skills has been a contentious topic in the field of psycholinguistics. WM is the storage that holds and manipulates information temporarily during cognitive tasks such as comprehension, reasoning, and learning (Baddeley 1986, 2000, Baddeley and Hitch 1974). It is said that WM plays an important role in language processing. Recent studies have mixed results concerning the correlation between L2 speech production and Working Memory Capacity (WMC). Although, some studies showed a positive correlation between the two (e.g., Fortkamp 2000, Mota 2003). It can be assumed that L2 Japanese learners with larger WMC (i.e., higher span test scores) are more skilled in using their WMC effectively. Daneman and Green (1986) created the Speaking Span Test (SST) as a tool to measure WMC in English. In the SST, participants are asked to recall target words and produce sentences with them. This test has been widely used among researchers in the psycholinguistics field. To our knowledge, however, there is no L2 Japanese Speaking Span Test (L2JSST). Therefore, it seems too early to claim that there is a positive correlation between WMC and L2 proficiency in Japanese. In the current study, an L1 English Speaking Span Test (L1ESST) will measure WMC scores. These scores will be compared with those measured by the newly created L2JSST and Japanese language test scores to better understand the correlation between L2 Japanese proficiency and WMC. Produced sentences in the L2JSST were analyzed in different aspects: accuracy, structural complexity, and prosody. Following other SST, prosody was not included in whether the produced sentence is counted as correct in the L2JSST, but many studies in L2 Japanese showed the difficulty in acquiring prosodic features by non-native learners of Japanese (e.g., Ayusawa 2003, Goss and Nakayama 2011, Lee and Mok 2018). Venditti (2006) claims that understanding prosody is an important element in speech, and in particular, downstep is one of the most important prosodic features in the Japanese language. Downstep is a phonological process in which F0 declines gradually after the first highest pitch (Venditti 2006). Thus, it would be beneficial to include a prosodic feature like downstep as an important component for fluency and examine it in L2 Japanese learners' speech production.

Design: The L2JSST was created based on Daneman and Green's (1986) L1ESST and Fortkamp's (2000) L2ESST. A total of 70 unrelated three and four morae words were selected from three Japanese language textbooks. The words are rated at the Japanese Language Proficiency Test N3 level. Eleven English-speaking learners of Japanese participated in this study. The participants were enrolled in the 3rd, 4th, and 5th levels of Japanese language courses at a Midwestern American university. Learners were given two Japanese language proficiency tests: the Japanese language proficiency test (PT) (Itomitsu and Nakayama, 2005) and the Minimal Japanese Test (MJT) (Maki, Dunton, and Obringer, 1999). After completing the tests, participants took both the L1ESST[1], and L2JSST. They were compensated for their participation with a nominal fee.

Results: The current analysis is based on the data from ten participants as one learner's data was removed due to a technical error. The data for regression analysis is illustrated in Table 2. There

[1] Fortkamp's (2000) ESST, which was modeled after Daneman and Green's (1986) original speaking span test, was used in this study.

is a positive correlation between Japanese proficiency level (total scores of PT and MJT=JLPT) and JSST scores (Multiple r=0.64). The JLPT scores are not correlated with L1ESST scores (Multiple r=0.39). For sentence production, the number of grammatically correct sentences is correlated with the L2JSST scores (Multiple r=0.92). Among the produced sentences, most utterances were mono-clausal (91.6%). Since the L2JSST does not have length restrictions, learners tended to focus on recalling the words and producing simple sentences rather than complex sentences. The complexity of the clausal structures strongly correlated with the JLPT scores (Multiple r=0.91), but it was only r=0.62 with the L2JSST scores.

Table 1. Summary of the Scores by the Participants

Learner#	ESST(S)	ESST(L)	ESST(100)	JSST(S)	JSST(L)	JSST(100)	PT(50)	MJT(50)	JLPT(100)
1	53	55	90	45	52	69.3	50	48.8	98.8
2	49	53	85	47	47	67.1	42.5	50	92.5
3	45	49	78.3	38	39	55	22.5	46.4	68.9
4	42	44	71.7	37	39	54.3	43.8	48.8	92.6
5	39	41	66.7	44	46	64.3	43.8	46.4	90.2
6	39	40	65.8	33	33	47.1	36.3	46.4	82.7
7	33	45	65	31	38	49.3	37.5	42.9	80.4
8	37	39	63.3	35	42	55	41.3	46.4	87.7
9	35	37	60	30	30	42.9	43.8	48.8	92.6
10	30	42	60	25	27	37.1	22.5	35.7	58.2
Average	40.2	44.5	70.6	36.5	39.3	54.1	38.4	46.1	84.4

Table 2. Summary of the Data Analysis

Data 1		Data 2	Multiple r
ESST	vs	JSST	0.809
PT	vs	MJT	0.702
JLPT	vs	JSST	0.644
JLPT	vs	ESST	0.390
JSST Correct Sentences #	vs	JSST	0.922
JSST Downsteps #	vs	JSST	0.250
Complexity (more than a clause)	vs	JLPT	0.911
Complexity (more than a clause)	vs	JSST	0.624

Some tendencies observed in produced sentences are illustrated below. Particle misuse was one of the most common errors among produced sentences. In (1), the postposition *de* should have been *ni*. Since topic markers and case markers can be dropped in Japanese speech, such particle drops as in (2) were not regarded as errors. Other errors include lexical choice. In (3), *nani* 'what' should be *doko* 'where' or *donna omise* 'what kind of store.' Furthermore, most learners did not show downstep successfully within the produced sentences (45.2%), indicating the difficulty of acquiring this prosodic feature. However, our regression analysis did not show a strong correlation between the L2JSST scores and the number of downsteps (Multiple r= 0.25).

(1) Keitai-<u>de</u> takusan apuri-ga arimasu. de → ni
'There are many application in my cellphone.'

(2) Kono kooen ∅ shizuka desu-ne.
'This park is quiet, isn't it?'

(3) Ichiban osusume-<u>na</u> omise-wa <u>nan</u> desu-ka. osusume-na → osusume-no
'Where is the shop you recommend most?' nan-desu-ka → doko-desu ka

Conclusion: The L2JSST we created is as functional as other SST. Individuals with higher L1ESST scores tended to have higher L2JSST scores. Language proficiency also correlates with the L2JSST scores, meaning that learners with higher WMC tend to have higher Japanese proficiency levels. This might be because they can process and manipulate the information more efficiently and flexibly. However, this explanation needs to be verified by an independent test. As for the produced sentences in the L2JSST, when prosody is disregarded, the participants of this study produced grammatical sentences with a relatively high success rate. When prosody is considered, however, proper downstep was observed in less than half of the correctly produced sentences. As the prosodic difficulty in L2 Japanese was reported in Goss and Nakayama (2011), the acquisition of prosody seems challenging for speakers of intermediate to advanced Japanese. Despite the small number of participants, this study took the first step in analyzing the relationship between WMC and Japanese L2 proficiency. Utilizing the L2JSST in future trials with additional participants and varied testing factors can help further reveal the validity of the test and the relationship between WMC and L2 Japanese proficiency.

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Orthographic Influence in Processing *Katakana* and *Kanji* Nouns in Japanese

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This study investigates how nouns in *katakana* and *kanji* in a simple Japanese sentence are processed using self-paced reading tasks. It examines the claim made by Darnell et al. (1994) that the orthographic type used for nouns does not affect reading times (RTs) when a target noun appears within a sentence without its lexical associates: those words which are semantically related to the target nouns, such as 'cats' and 'dogs.' We extend their study by using the *katakana* script, which they did not use in their experiments, to see whether we can still obtain similar results and find more evidence to suggest that script types do not affect the RTs.

There are three main script forms in Japanese: *kanji* (Chinese characters), *hiragana* (cursive *kana*), and *katakana* (square *kana*). Using two script types, *kanji,* and *hiragana*, Darnell et al. investigated the influence of script type and orthographic familiarity on the processing of target nouns in sentences with and without priming by lexical associates. Their target words consisted of nouns in *kanji* and *hiragana*, under the conditions of script neutral (where both *kanji* and *hiragana* scripts are equally used by native Japanese speakers), *kanji* dominant (where *kanji* script is preferred by natives), and *hiragana* dominant (where the *hiragana* script is preferred by natives) They found that the script type, *kanji* or *hiragana*, and their orthographic familiarity, did affect the RTs when the stimulus sentence contained lexical associates as in (1). They found that the type of orthography did not affect the RT when it appeared without lexical associates in the stimulus sentence as in (2), regardless of the dominant script condition. In other words, *kanji* and *hiragana* were processed at the same rate when there was no priming in the sentence.

(1) target: roosoku 'candle' lexical associates: tanjoobi 'birthday', keeki 'cake', tatsu 'to stand'
tanjoobi-no **keeki**-no ue-ni **taterareta** **roosoku**-wa kireini maru-o egaiteita
birthday-GEN cake-GEN top on stand-PASS-PAST candles-TOP pretty circle-ACC arrange-PAST
'The candles placed on top of the birthday cake were arranged in a pretty circle.' (Darnell et al.: 96)

(2) target: roosoku 'candle' no lexical associates
Yamamoto-san-wa chiisana kawaii nuigurumi-o, soshite ruumumeito-no Morii-san-wa
-TOP little cute stuffed animals-ACC and roommate-GEN -TOP
roosoku-o atsumeteita.
candles-ACC collect-PAST
'Yamamoto collected cute little stuffed animals, and her roommate, Morii, collected candles.'
(Darnell et al.: 100)

Our study employs the *katakana* orthography and investigates Darnel et al.'s very point that orthographic type does not affect the reading speed. If we obtain results similar to their own, we can provide further support for their conclusion that any script type can be processed at the same rate when there is no priming and when familiarity is controlled. Our Research Questions are: (I) whether the RT is faster for words written in a familiar script, *katakan*a, in the *katakana*-dominant condition when a lexical associate is embedded in a stimulus sentence, as Darnell et al. found for the target nouns in *kanji* and *hiragana* in *kanji*-dominant and *hiragana*-dominant conditions respectively; and (II) whether the RTs are the same for words written in familiar and unfamiliar script forms when there are no lexical associates in the sentence.

Forty native speakers of Japanese participated in two self-paced reading task experiments. We conducted a survey to select target nouns consisting of two groups: *katakana*-dominant and script-

neutral (see (3)). As for the structure of the stimulus sentences, we followed Darnell et al. and inserted the selected nouns into sentences with lexical associates. Although they used two different syntactic stimulus sentences for those with and without lexical associates, we instead used the same test sentence structure with and without a lexical associate to keep the stimuli as identical as possible in the two experiments as in (4) and (5). For the selection of lexical associates, we used the Tsukuba Web Corpus, and assigned them as the lexical associates to our target nouns.

(3) Sample nouns used in the experiments
Script neutral list: tabako 'cigarette', ari 'ant', neko 'cat', ebi 'shrimp', budoo 'grapes', bara 'rose'
***Katakana* dominant list:** tansu 'chest of drawers, negi 'leek', buri 'yellowtail', raamen 'ramen'

(4) target: tabako 'cigarette' lexical associates: sake 'sake'
Yamamoto-san-wa yuumeide jooshitsuna **sake**-o soshite ruumumeeto-no Morii-san-wa
-TOP famous high quality sake-ACC and roommate- GEN -TOP
tabako-o yooishita.
cigarette-ACC prepared
'Yamamoto-san prepared a famous, high-quality sake, and his roommate Morii-san prepared cigarettes.'

(5) target: tabako 'cigarette' no lexical associate
Yamamoto-san-wa yuumeide jooshitsuna **nuno**-o soshite ruumumeeto-no Morii-san-wa
-TOP famous high-quality cloth-ACC and roommate- GEN -TOP
tabako-o yooishita.
cigarette-ACC prepared
'Yamamoto-san prepared a famous, high-quality cloth, and his roommate Morii-san prepared cigarettes.'

In the two experiments, one was with Lists 1 and 2 with a lexical associate appearing before the target noun in a sentence, and the other was with Lists 3 and 4 without the lexical associate. Lists 1 and 2 contained the same words. In reverse, where *kanji* is used in List 1, the same word was written in *katakana* in List 2 to balance the stimuli between the two participant groups. The same was true for Lists 3 and 4. The experiments were conducted with the software PsychoPy3 in a self-paced reading task where the participants were instructed to access the website using their own computers with a physical keyboard. Each segment of the stimulus sentence was displayed one item at a time. They consisted of a noun and a particle, an adjective or an adjectival noun with an inflectional ending, or a verb with an inflected ending as in 猫を (/neko o/, 'cat-particle').

The individuals' RTs were measured, and the average RT per mora was determined for each participant based on their own RTs for all stimulus and filler sentences. The average RT spent per mora was calculated by dividing the total time each person took to read the sentences by the total number of morae. The acceptable RTs for each orthography of each noun were defined as one's 2.5 standard deviations (SD) above and below the item mean, following the criteria of Darnell et al. used for their experiments. RTs for the target items that fell outside of this 2.5 SD range were replaced with the cut-off values for each person. A summary of the experiment with Lists 1 and 2 is presented in Table 1, and Lists 3 and 4 in Table 2.

To answer the Research Questions, Lists 1 and 2 were combined, and the average RTs of each individual and each item were analyzed by a two-factor Analysis of Variance (2 script types x 2 dominance types). There was a significant interaction between the effects of script and dominance types [$F_1(1,19) = 12.59$, $p = 0.002$, $F_2(1,18) = 5.93$, $p = 0.025$]. The significant difference in both script and script-dominance interaction suggests that *katakana* words were read faster than *kanji*.

Table 1. Mean RTs per mora in List 1 and 2 (n = 400)

		Dominance		
		Neutral	*Katakana*	Ave. (per second)
Script	*Kanji*	.2230	.2521	.2376
		(L1: .2565, L2: .1973)	(L1: .2685, L2: .2321)	
	Katakana	.1948	.1797	.1873
		(L1: .1918, L2: .1985)	(L1: .2090, L2: .1439)	
	Ave.	.2089	.2159	.2124

Table 2. Mean RTs per mora in Lists 3 and 4 (n = 400)

		Dominance		
		Neutral	*Katakana*	Ave. (second)
Script	*Kanji*	.2386	.2915	.2650
		(L3: .2517, L4: .2255)	(L3: .2724, L4: .3104)	
	Katakana	.2250	.2185	.2218
		(L3: .2019, L4: .2482)	(L3: .2248, L4: .2122)	
	Ave.	.2318	.2550	.2434

Lists 3 and 4 were also combined, and the average RTs of each individual and each item were analyzed by a two-factor Analysis of Variance (2 script types x 2 dominance types). There was a significant interaction between the effects of script and dominance types [$F_1(1,19) = 5.58$, $p = 0.029$, $F_2(1,18) = 12.13$, $p = 0.003$] as well. The significant difference in both script and script-dominance interaction suggests that *katakana* words were read faster than *kanji*. This is the same finding as in Lists 1 and 2.

Finally, the two experimental results, the one with lexical associates and the other without, were compared to each other. The RTs were analyzed by a three-factor Analysis of Variance (2 experimental list types x 2 script types x 2 dominance types). The script type was significantly different by both subject and item analyses [$F_1(1,38) = 38.47$, $p < 0.001$, $F_2(1,18) = 46.27$, $p < 0.001$] whereas the dominance type was not significantly different [$F_1(1,38) = 2.19$, $p = 0.147$, $F_2(1,18) = 0.28$, $p = 0.606$]. There was not a significant interaction between the effects of the list and script [$F_1(1,38) = 0.67$, $p = 0.419$, $F_2(1,18) = 0.62$, $p = 0.44$]. There was not a significant interaction among the effects of list, script and dominance [$F_1(1,38) = 0.02$, $p = 0.877$, $F_2(1,18) = 0.02$, $p = 0.887$].

In sum, sentences with and without lexical associates do not affect the RTs when familiarity is controlled. Given this finding, we conclude that script familiarity is a vital factor for lexical processing in Japanese. Since our results were different from theirs, it is still unknown if the *hiragana* and *katakana* scripts are processed in exactly the same way. Further investigation is necessary.

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