TEAL-6

The Sixth International Workshop on Theoretical East Asian Linguistics

August 15-16, 2010
Peking University, Beijing, China

ABSTRACT BOOK

北京

Contents

The Sixth International Workshop on Theoretical East Asian Linguistics
August 15-16, 2010

Organizer:

The Hong Kong Polytechnic University - Peking University Research Centre on Chinese Linguistics

Co-organizers:

Department of Chinese Language and Literature, Peking University

Center for Chinese Linguistics, Peking University

Department of Chinese and Bilingual Studies, The Hong Kong Polytechnic University

TEAL-6, The Sixth International Workshop on Theoretical East Asian Linguistics

August 15, 2010
Peking University, Beijing, China
www.teal.cbs.polyu.edu.hk

8:30-9:00 **Registration (Room 211, Natural Sciences Education Building)**

9:00-9:20 **Opening: (Room 211)**
Dingxu SHI
PolyU-PKU Research Centre on Chinese Linguistics, The Hong Kong Polytechnic University

Parallel Session 1a (Room 211)

Chair: Yang GU

9:30-10:00 Guozhen PENG
Zhejiang University of Technology
Causative Constructions in Jinghpo

10:00-10:30 Qiuye ZHAO
The University of Pennsylvania
ba as Spell-out of Little v

Parallel Session 1b (Room 213)

Chair: Thomas H.-T. LEE

9:30-10:00 Aijun HUANG[1]
Nobuaki AKAGI[2]
Stephen CRAIN[3]
Macquarie University[1, 2, 3]
Identification of Two Types of *wh*-indefinites in Mandarin Chinese: Insights from Language Acquisition

10:00-10:30 Yann-Jong HUANG
National Taiwan Normal University
The Pronominal Coreference in Mandarin Adverbial Clauses: A Study of Children's First Language Acquisition

10:30-11:00 **Break**

Parallel Session 2a (Room 211)

Chair: Wei-tien Dylan TSAI

11:00-11:30 Xuping LI
Bar-Ilan University, Israel / Sinotype Project, EHESS, Paris
A Feature Analysis of Classifiers: [±Counting, ± Measure]

11:30-12:00 Paul LAW
City University of Hong Kong
In-situ *wh*-phrases in Vietnamese

Parallel Session 2b (Room 213)

Chair: Hongming ZHANG

11:00-11:30 Jiang LIU
The University of Kansas
Durational Properties of Grammatical and Lexical Stresses in Nanchang Chinese and their Implications for Tonal Contrasts

11:30-12:00 Jie ZHANG
The University of Kansas
Two Levels of Gradience in Mandarin and Taiwanese Tone Sandhi

12:00-2:00 **Lunch (Zhongguanyuan Global Village PKU)**

Parallel Session 3a (Room 211)

Chair: Xiaolu YANG

2:00-2:30 Introduction to E-TEAL
Hiromu SAKAI
Hiroshima University

2:30-3:00 Ming XIANG[1]
Brain DILLON[2]
Matt WAGERS[3]
Fengqin LIU[4]
Taomei GUO[5]
University of Chicago[1]
University of Maryland[2]
UC-Santa Cruz[3]
Beijing Normal University[4, 5]
Processing Chinese Wh-in-situ Dependencies

3:00-3:30 Heeju HWANG[1]
Elsi KAISER[2]
University of Southern California[1, 2]
Effects of Lexical and Perceptual Primes on English and Korean Sentence Production

3:30-4:00 Shengyan LONG[1]
Ying DENG[2]
Hajime ONO[3]
Hiroshi NITTONO[4]
Hiromu SAKAI[5]
Hiroshima University[1, 2, 4, 5]
Kinki University[3]
Real-Time Computation for Semantic Composition of Events: An ERP Study on Aspectual Coercion in Japanese

Parallel Session 3b (Room 213)

Chair: Jo-wang LIN

2:00-2:30 Matthias GERNER
City University of Hong Kong
Compositionality Proofs for De Re Attitudes

2:30-3:00 Jong-Bok KIM[1]
Peter SELLS[2]
Kyung Hee University[1]
SOAS[2]
A Phrasal and Context-dependent Analysis of Korean Comparative Constructions

3:00-3:30 Xiao LI[1]
Carlos FASOLA[2]
Queens College, The City University of New York[1]
Rutgers, The State University of New Jersey[2]
The Semantics of *yue…yue* in Mandarin Chinese

3:30-4:00 Zhiguo XIE
Cornell University
'No Big No Small' for the Degree Use of Size Adjectives in Mandarin: Reality vs. Illusion

4:00-4:30 **Break**

Parallel Session 4a (Room 211)

Chair: Yen-hui Audrey LI

4:30-5:00 Fu-Tsai HSIEH
Kainan University
The Interpretation of Double-gapped Relative Clauses in L1 Chinese and L1 English L2 Chinese

5:00-5:30 Fuyun WU
Shanghai International Studies University
Corpus Investigation of Classifier Mismatching-Matching Configuration in Mandarin Object-extracted Relative Clauses and its Implications for Processing

Parallel Session 4b (Room 213)

Chair: Mamoru SAITO

4:30-5:00 Chihjen CHENG
National Chengchi University
Minimality and Maximality in Japanese Loanword Truncation

5:00-5:30 Yosuke SATO
National University of Singapore
Bare Verbal Nouns, Idiomatization and Incorporation in Japanese

5:30-6:00 **Closing: (Room 211)**
C.-T. James HUANG
Harvard University

6:15 **Dinner (Zhongguanyuan Global Village PKU)**

(Revised on August 9, 2010)

Preface

The Theoretical East Asian Linguistics (TEAL) Workshop was first launched in 1990 at the University of California, Irvine as a mid-size workshop intended to foster research on East Asian linguistics. It has been an important forum for presenting new theories and exchanging novel ideas that bear on East Asian languages with theoretical interests. Since 2002, the TEAL Workshop has been an international event. It was held at Doshisha University, Japan in 2002 (TEAL-1), at Tsing Hua University (in Hsinchu) in 2004 (TEAL-2), at Harvard University, USA in 2005 (TEAL-3), at The Hong Kong Polytechnic University in 2007 (TEAL-4), and at Potsdam University, Germany (TEAL-5). The Hong Kong Polytechnic University - Peking University Research Centre on Chinese Linguistics is proud to organize the 6th International Workshop on Theoretical East Asian Linguistics (TEAL-6) at Peking University, Beijing, China on August 15-16, 2010, in cooperation with our co-organizers, namely the Department of Chinese Language and Literature at Peking University, Center for Chinese Linguistics at Peking University, and the Department of Chinese and Bilingual Studies at The Hong Kong Polytechnic University. We are honored to have Professor C.-T. James Huang of Harvard University to give closing remarks.

This year, we received 134 high-quality abstracts from various countries in Asia, Europe, North America and Oceania. The fields of abstracts included syntax, semantics, phonology, psycholinguistics, and historical linguistics. The TEAL-6 committee came up with a list of some of the world's most qualified reviewers to help with the review process. Abstracts were then matched to reviewers based on the reviewers' specialties. Each abstract was blinded and sent to a minimum of three reviewers. After all of the abstracts were reviewed, the committee selected the abstracts with the highest average review scores. The authors of those abstracts were then invited to present their papers at the TEAL-6 Workshop. Authors were also given comments anonymously from the reviewers, and were allowed to revise their abstracts if desired. The final result of this process is a collection of very interesting and professional papers on theoretical East Asian linguistics. There are papers mainly on syntax, semantics, syntax-semantics interfaces, and syntax-phonology/morphology interfaces. The languages discussed include Japanese, Jingpo, Korean, Mandarin Chinese, Nanchang Chinese, Squliq Atayal, Taiwanese, and Vietnamese, and the selected presenters represent institutions from Asia, Europe, and North America.

The TEAL-6 Workshop would not have been possible without the generous funding support from the following co-sponsors (in alphabetical order of the institutions).

Their support is here duly acknowledged.

Center for Linguistic Theory, Beijing Language and Culture University
Center for Studies of Chinese as a Second Language, Beijing Language and Culture University
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National Key Research Center for Linguistics and Applied Linguistics, Guangdong University of Foreign Studies
Japanese Society for Promotion of Science
Language and Culture Research Institute, Minzu University of China
Institute of Linguistics, Nankai University
Linguistics Institute of the School of Foreign Languages, Peking University
College of Foreign Languages, Tianjin Normal University

The Organizing Committee wishes to put on record its profound appreciation for the authors who submitted abstracts, the 89 reviewers, the 8 session chairs, and the efficiency and diligence of the administrative staff and the student assistants.

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Minimality and Maximality in Japanese Loanword Truncation

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Loanword truncation has been one of the most fascinating issues in Japanese morphology and phonology. Generally speaking, in addition to a range of two to four moras in length, the outputs of Japanese loanword truncation also exhibit variations in both the syllable patterns and accentuation. The varying output length naturally poses a challenge to the minimal word effects proposed by McCarthy and Prince (1986, 1990) in their theory of Templatic Prosodic Morphology. Itô (1990) attempts to tackle this problem by positing two minimal requirements respectively for the stem and the word of any legitimate truncatory output. Such an analysis, as Kenstowicz (1994) points out, inevitably incurs a violation of the Strict Layer Hypothesis (Selkirk 1984, 1986). Itô and Mester (1992) define their own strict layering of the prosodic hierarchy, arguing for a binary branching structure at the PrWd level as a requirement for every licit output. To rule out the undesirable H, i.e. the pattern comprised of a single heavy syllable, they further put forward Syllable Opacity, which asserts that the internal branching structure of the syllable is inaccessible at the PrWd level. This proposal, however, contradicts the fact that the accent-bearing unit in Japanese is the head of the syllable (Shibatani 1990; Kubozono 1999). Set in Optimality Theory (OT hereafter, Prince and Smolensky 1993/2004), Suzuki's (1995) analysis associates the truncatory output patterns with the Japanese default antepenultimate accentuation (McCawley 1968), arguing that the trimoraic LLL and HL are prosodically better output patterns than the bimoraic LL and H. However, her account fails to explain why the number of LL outputs is the largest (Cheng 2001). It also has trouble dealing with the unaccented truncatory outputs. On the other hand, Labrune (2002), making use of Benua's (1995) Base-Truncation Correspondence Theory, offers a different OT account. She attributes the unpopularity of H to *H#, which forbids any output to end in a heavy syllable. However, such an analysis contradicts Mester's (1990) finding that the common size of a truncated output cross-linguistically is a heavy syllable. Worse still, to eliminate the illicit L in favor of HL, Labrune's approach allows a degenerate foot. To sum up, none of the previous studies is able to simultaneously deal with the variations in Japanese loanword truncation.

In light of this, this study, also set in OT, first argues for two types of Japanese loanword truncation, i.e. the minimal and the non-minimal truncation. In the former where the universal minimal word effects are also evident, the constraint imposed by the trochaic accentuation, i.e. NONFIN($\acute{\sigma}$) (Kubozono 1997), plays a pivotal role, taking charge of the most productive LL

and HL truncatory output patterns that always carry a word-initial accent, as in (1). On the other hand, the non-minimal truncation, by definition, is held responsible for such larger output types as LLL, LLLL and HLL, a vast majority of which tend to remain accentless due to the language-specific unaccentedness (Haraguchi 1999; Kubozono 2006). Hence, MAX-BT rather than the accentuation constraint is respected, though not undominated, regardless of the fact that this faithfulness constraint plays no role in the minimal truncation as in (2). Such a minimal/non-minimal distinction is necessary not simply because it can provide a more comprehensive account for the variations observed in Japanese loanword truncation but also because it can lend support to de Lacy's (2003) proposal that besides word minimality, there are also maximal word effects.

(1) Minimal word effects

Base = demoNsutoréeshoN 'demonstration'

	FTBIN	NONFIN(σ́)	ALL-FT-LEFT	PARSE	NONFIN(F́)
a. (dé)	*(!)	*(!)			*
b. de(móN)		*!	*	*	*
c. ☞(démo)					*

(2) Maximal word effects

Base = rihabiritéeshoN 'rehabilitation'

	FTBIN	MAX-BT	ALL-FT-LEFT	PARSE
a. (ri)	*!	**********		
b. (riha)		*******!***		
c. (riha)bi		*******!*		*
d. ☞ (riha)(biri)		******	**	

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Compositionality Proofs for De Re Attitudes

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ABSTRACT. This work is a further development of Gerner (2009, 2010, forthcoming). Attitude ascriptions can be interpreted as declarative speech acts (Heim, 1992) or as expressive speech acts (Gerner, 2010, forthcoming) according to labels used in Searle & Vanderveken (1985)'s typology of illocutionary acts. Heim (1992)'s Graded Possible Worlds Semantics analyzes the English attitude verbs *want*, *hope* and *wish* truth-theoretically as *declarative speech act-indicating devices*. In Gerner (2010), I provide a fuzzy logic analysis of two rare attitude particles in Liangshan Nuosu (Tibeto-Burman: P.R. of China). The Nuosu attitude operators ascribe wishes and fears to the speaker via a hedge and can be interpreted as *expressive speech act-indicating devices*. In this presentation, I am scrutinizing the compositionality of *de dicto/de re* speech acts at two levels, at the level of empirical data and at the level of logical formalization. I demonstrate that the fuzzy model offers the best available match between empirical and formal compositionality, whereas Graded Possible Worlds Semantics manifests a great gap between data- and system-compositionality.

1. English data

The first kind of attitude ascriptions is epitomized by the English expressive verbs *wish*, *want*, *desire*, *fear*, *be afraid of*. These English verbs reflect the attitude of the subject of the sentence, which in general is different from that of the speaker (unless the subject of the clause is the first person). Utterances involving one of the English expressive verbs tend to be naturally interpreted as statements or as declarative speech acts. This is the rationale for why several researchers have modeled the truth rather than the success of wish ascriptions. The most prominent work in this regard is Heim's (1992) *Graded Possible World Semantics*. Heim analyses the truth of wishes in those belief-worlds in which the propositional content is more desirable for the speaker than its opposite content.

In this presentation, I will only consider *de dicto/de re* attitudes (i.e. attitudes to clauses with existential quantification). Consider the following impressionistic example.

(1) (a) Nancy wants to marry *a Norwegian*.
$\varphi(x)$: x is a Norwegian
$\psi(x)$: Nancy marries x.
(b) Three possible interpretations:

WISH($\exists x\,[\varphi(x) \wedge \psi(x)]$): Nancy wants two things: (i) there is a Norwegian, and (ii) she marries that person.

$\exists x$ WISH($\varphi(x) \wedge \psi(x)$): There is someone specific regarding whom Nancy wants two things: (i) that person is a Norwegian, and (ii) she married that person.

$\exists x\,[\varphi(x) \wedge$ WISH($\psi(x)$)]: There is someone specific who is Norwegian and Nancy only wants one thing: she marries that person (i.e. Nancy does not necessarily want that person to be a Norwegian).

These interpretations give rise to entailment relationships. For the above example, it is possible to work through s a truth-table.

(2) Truth Table:

$w \models$ WISH($\exists x\,[\varphi(x) \wedge \psi(x)]$)		$w \models \exists x$ WISH($\varphi(x) \wedge \psi(x)$)
true	$\Rightarrow$	undecidable
false	$\Rightarrow$	false
true	$\Leftarrow$	true
undecidable	$\Leftarrow$	false

If wishes and fears were assessed in truth-conditional terms, we would face the following situation. The truth of a *de re* wish (or fear) implies the truth of the corresponding *de dicto* wish, whereas the truth of a *de dicto* wish does not necessarily imply the truth of the corresponding *de re* wish. This situation is represented by (3) and I will technically prove that (3) is violated in Graded Possible Worlds Semantics.

(3) Data Property: $w \models \exists x$ WISH($\varphi(x)$) $\Rightarrow w \models$ WISH($\exists x\,\varphi(x)$) ("$\models$" interpreted as truth relation)

2. Nuosu data

The second kind of IFIDs (*illocutionary force indicating devices*, a term used by Searle) is symbolized by two sentence-end particles which are attested in several Yi languages (Tibeto-Burman: P.R. of China). These fully grammatical sentence-operators ascribe wishes and fears to the speaker by means of an impersonal socialised agent (Gerner, 2010, forthcoming). Their meaning can be tentatively paraphrased by the two English matrix constructions *it is desirable that* and *it is to be feared that*. I focus on the attitude particles of Liangshan Nuosu, one of the Yi languages spoken by 2.7 million natives in Sichuan Province. The two Nuosu sentence-end particles are presented below:

	WISH	FEAR
Liangshan Nuosu	$\text{dur}^{21}\text{lo}^{44}$	ma^{55}

For *de dicto/de re* attitudes, the voicing of wishes and fears is partially compositional. If a *de dicto* fear or wish is successful to articulate, then it is also successful to express the related *de re* fear/wish. However, the performance failure of a *de dicto* fear/wish does not imply the failure of the corresponding *de re* fear/wish. The following two pairs of examples illustrate these compositional properties. Whenever it is appropriate to fear or to wish the unspecific existence of an entity, it is also appropriate to voice an attitude about the corresponding specific existence, see (4). The converse is not true though. If it is infelicitous to articulate one's fear/wish about the unspecific existence of some entity, nothing definite can be said about its corresponding specific existence. In (5a) it is odd to voice the existence of someone's father as a wish, but it is not strange to wish that a particular individual be the father of another individual, if one is unaware of the exact kinship relation. See (5b).

(4) (a) FEAR($\exists x\ \varphi(x)$) Successful *de dicto* fear

ts^ho^{33}	$mu^{33}ka^{33}$	ts^hi^{21}	$dʐɯ^{33}mo^{21}$	$ȵi^{21}ha^{33}$	va^{55}	k^hu^{33}	su^{33}	$dʐo^{33}$	**ma^{55}**.
person	person name	3P SG POSS	money	NUM:200	Yuan	steal	NOM	exist	FEAR

'It is to be feared that there is someone who stole Muga 200Y.'

(b) $\exists x$ FEAR($\varphi(x)$) Successful *de re* fear

$ʂa^{33}ma^{55}$	$mu^{33}ka^{33}$	ts^hi^{21}	$dʐɯ^{33}mo^{21}$	$ȵi^{21}ha^{33}$	va^{55}	k^hu^{33}	**ma^{55}**.
person name	person name	3P SG POSS	money	NUM:200	Yuan	steal	FEAR

'It is to be feared that Shama stole Muga 200Y.'

(5) (a) WISH($\exists x\ \varphi(x)$) Unsuccessful *de dicto* wish

#$mu^{33}ka^{33}$	$a^{44}ta^{33}$	$dʐo^{33}$	**$dɯ^{21}lo^{44}$**.
person name	father	exist, have	WISH

'It is desirable that Muga has a father.'

(b) $\exists x$ WISH($\varphi(x)$) Successful *de re* wish

$ʂa^{33}ma^{55}$	$mu^{33}ka^{33}$	$a^{44}ta^{33}$	$ŋɯ^{33}$	**$dɯ^{21}lo^{44}$**.
person name	person name	father	COP	WISH

'It is desirable that Shama is Muga's father.'

This pattern can be represented as in the success-table (6) or as in (7). I shall technically prove that this theorem holds in the fuzzy framework if certain additional assumptions are made.

(6) Success Table:

$w \vDash$ FEAR($\exists x\ \varphi(x)$)		$w \vDash \exists x$ FEAR($\varphi(x)$)
successful	$\Rightarrow$	successful
unsuccessful	$\Rightarrow$	undecidable
undecidable	$\Leftarrow$	successful
unsuccessful	$\Leftarrow$	unsuccessful

(7) Data Property: $w \vDash$ FEAR($\exists x\ \varphi(x)$) $\Rightarrow w \vDash \exists x$ FEAR($\varphi(x)$) ("$\vDash$" interpreted as success relation)

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The Interpretation of Double-gapped Relative Clauses in L1 Chinese and L1 English L2 Chinese

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The syntactic differences between Chinese and English relative clauses (RCs) are significant: (i) Chinese RCs are head-final, whereas English RCs are head-initial; (ii) Chinese has double-gapped relative clauses (both relative subject and object are null), whereas English does not. This paper aims to investigate the interpretation of double-gapped relative clauses in Chinese by native speakers of Chinese and L1-English-speaking learners of Chinese.

There is a debate on subject-object asymmetry with respect to empty category distribution in Chinese: Huang (1984) proposes that embedded null objects can only be A'-bound and be interpreted as variables, while Xu (1986) argues that embedded null objects can also be A-bound and be interpreted as *pro*. To resolve this controversy, Hsieh (2009), by examining the sentences in Huang (1984) and Xu (1986), discovered that matrix verbs play a key role in determining the different interpretations. Two types of matrix verbs were identified, namely, *say*-type and *assume*-type (as shown in Example 1 below), in terms of their semantic and syntactic differences. More importantly, Hsieh (2009) found that embedded null objects tended to be interpreted as variables with *say*-type matrix verbs, either as *pro* or as variables with *assume*-type matrix verbs.

A reference resolution task was conducted, whereby 32 native speakers of Chinese and 36 L1-English-speaking learners of Chinese judged double-gapped relative clauses in which the matrix verb was either a *say*-type or an *assume*-type verb, as shown in Example 2 below. It was predicted that the native speakers of Chinese will refer null subjects to matrix subjects and refer null objects to head nouns (variable interpretation) with *say*-type matrix verbs, while refer null subjects to head nouns and refer null objects to matrix subjects (*pro* interpretation) with *assume*-type matrix verbs. By contrast, the L1-English-speaking learners will refer null subjects to matrix subjects and refer null objects to head nouns (variable interpretation) with both *say*-type and *assume*-type matrix verbs.

The results revealed that the L1 participants, as predicted, showed the *say*-type and *assume*-type distinction in double-gapped relative clause interpretation. The L2 participants, reversed to our prediction, also showed the distinction. The L1 data is compatible with Hsieh (2009) in null object interpretation, while the fact that the L2 data showed the ability to differentiate between *say*-type and *assume*-type matrix verbs is attributed to their proficiency. This finding suggests that, with proficiency growth, L2 learners acquire the subtle grammar that does not exist in their L1.

Example 1

Say-type (Huang 1984:539)	*Assume*-type (Xu 1986:78)
Zhangsan$_i$ shuo [Lisi kanjian $e_{*i/j}$ le] Zhangsan say Lisi see Asp "Zhangsan said Lisi saw (him)."	xiaotou$_i$ yiwei meiren kanjian e_i thief assume nobody see "The thief assumed nobody saw (him)."

Example 2

Say-type (Hsieh 2009:154)	*Assume*-type (Hsieh 2009:154)
Adam shuo [[e renshi e de] Adam say know De nageren] lai le that man come Asp 'Adam said the man who x knows came.' 'Adam said the man who knows x came.'	Albert yiwei [[e wen e de] Albert assume ask De nageren] shi yingguoren that man is British 'Albert assumed the man who x asked is British.' 'Albert assumed the man who asked x is British.'

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Identification of two types of *wh*-indefinites in Mandarin Chinese: Insights from language acquisition

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Introduction *Wh*-indefinites like *shenme* 'what' in Mandarin Chinese are licensed in contexts where the truth of the statement containing the *wh*-phrase is not being asserted, e.g., in so-called non-veridical contexts (Li 1992, Lin 1996; Giannakidou 1998). However, it is worth noting that *wh*-indefinites sometimes require a classifier, even in non-veridical contexts, such as in the imperative sentence in (1) (Lin 1996, Wu 2000).

(1) *Guolai chi *(dian) shenme ba.*
Come eat CL what Prt 'Come eat something.' (Lin 1996)

This study examines distinctions between bare *wh*-indefinites in which the *wh*-element *shenme* has no classifier attached to it, and *wh*-CL-indefinites in which the *wh*-element *ji* has a classifier attached to it. The distinctions involve quantification and polarity licensing. Both the bare *wh*indefinite in (2a) and the *wh*-CL-indefinite with *ji-ge* in (2b) license a 'small amount' interpretation when they appear under negation. However, the bare *wh*-indefinite also allows a 'none' reading, as (2a-i) indicates.

(2) a. *Zhangsan mei chi* ***shenme*** *pingguo*
Zhangsan not eat what apple
(i) 'Z. did not eat any apples.' (ii) 'Z. did not eat many apples.'
b. *Zhangsan mei chi* ***ji-ge*** *pingguo.*
Zhangshan not eat *wh*-CL apple 'Z. did not eat many apples' (just ate a few)

The 'small amount' interpretation of the NEG-*shenme*-NP is attested in focus structures, as in (3).

(3) *Zhangsan jintian mei chi shenme dongxi, zhiyou zaoshang chi le yi kuai binggan.*
Zhangsan today not eat what food only morning eat ASP one CL cookie
'Z. didn't eat much food today – he just ate a cookie this morning.'

The 'small amount' interpretation is felicitous when a contrastive scale is established, as in (4), where the amount of food eaten by Mr. Pig is trivial or close to nothing, as compared to

the large amount of food eaten by Mr. Dog. By contrast, the NEG-*jige*-NP structure in (2b) does not require a contrastive scale in order to generate a 'small amount' interpretation.

(4) *Xiaogou chi le henduo dongxi, keshi xiaozhu mei chi shenme dongxi.*
Mr. Dog eat ASP a lot food but Mr. Pig not eat what food
(i) 'Mr. Dog ate a lot of food, but Mr. Pig did not eat much food (i.e., Mr. Pig ate a little).'
(ii) 'Mr. Dog ate a lot of food, but Mr. Pig did not eat any food.'

Analysis To derive the two interpretations of the NEG-*shenme*-NP structure, we make two assumptions. First, we assume that *shenme* is a proform of the NP modifier, as widely stated in traditional Chinese grammar (Li Jinxi 1924, Chao, R. L 1968, Lü Shuxiang 1985, Wang Li 1943, Ding Shengshu et al 1961, Zhu Dexi 1982). Second, we assume that negation is focus-sensitive (Jackendoff 1972, Rooth 1992, Yuan 2000, Lee and Pan 2001). More specifically, in the absence of a contrastive scale, the semantic value of modifier *shenme* is left unspecified, such that *shenme NP* is semantically equivalent to the unmodified NP embedded in the VP; in this case, no contrastive focus is induced, and negation is associated with the following VP, giving rise to the 'none' interpretation. For the 'small amount' interpretation, by contrast, the presence of a contrastive scale provides a semantic value for the modifier *shenme* and also sets up a contrastive focus (Xu and Liu 1998, Lee, C.M 2003); in this case, the NP modifier *shenme* receives a value and is focalized, and it is hence associated with the c-commanding negation (Lee and Pan 2001).

In view of the absence of the 'none' interpretation for the NEG-*jige*-NP structure in (2b), we assume that the *jige* phrase is a positive polarity item, and must take scope over negation (Szabolcsi 2004). We assume, further, that there is a covert concessive operator in the structure (Lee, C.M.2003); otherwise, a 'large amount' interpretation would also be possible, contrary to fact. The concessive operator is overtly attested in languages like Japanese, where the 'small amount' interpretation of a *wh*-phrase is generated by attaching an overt concessive operator *–mo* to the *wh*-word. When an alternative operator *–ka* is attached, this generates the wide scope interpretation of the *wh*-indefinite, resulting in the 'large amount' interpretation, as in (5).

(5) *Watashi wa ringo-o iku-tsu-**mo/ka** tabe-nakat-ta.*
I Top apple-Acc wh-CL-mo/ka eat-Neg-Past.
(lit.) 'I didn't eat many apples.' (***–mo***)
(lit.) 'There were a few apples that I didn't eat.' (***–ka***)

Bare *wh*-indefinites and *wh*-CL-indefinites also differ in polarity sensitivity. As shown in (6), the bare *wh*-indefinite NP *shenme shu* requires a licensor, such as the inferential *–le*, whereas the *wh*-CL-indefinite NP *jiben shu* can stand on its own (Tsai 2002).

(6) a. *Zhangsan mai le shenme shu *(le).* b. *Zhangsan mai le ji-ben shu.*
Zhangsan buy ASP what book Inf Zhangsan buy ASP wh-CL book
'Z. bought some books.' 'Z. bought several books.'

In short, bare *wh*-indefinites and *wh*-CL-indefinites appear to be distinct types of *wh*-indefinites, both in their quantificational force and in polarity licensing. We attribute the properties of *wh*- CL-indefinites, as distinguished from bare *wh*-indefinites, to the function of classifiers.

Empirical data We offer empirical data to support our analysis of the two kinds of *wh*indefinites. We conducted 4 experiments using the Truth Value Judgement Task (Crain and Thornton 1998), to examine Mandarin-speaking children's interpretation of NEG-*shenme*-NP and NEG-*jige*-NP structures in the 'small amount' and 'large amount' contexts. Sentences (4) above and (7) below are illustrations of the two types of test sentences.

(7) *Xiaogou chi le henduo shucai, keshi xiaozhu mei chi ji-ge shucai.*
Mr. Dog eat ASP a lot vegetable but Mr. Pig not eat wh-CL vegetable
'Mr. Dog ate a lot of vegetables, but Mr. Pig did not eat many vegetables (i.e., just a few).'

In acquiring the NEG-*shenme*-NP structure, children were found to start with the 'none' interpretation and to gradually add the 'small amount' interpretation as they increased in age. This developmental pattern can be explained by invoking the learning mechanism known as the Semantic Subset Principle (SSP, Crain, Ni and Conway 1994). The account begins with the observation that the 'none' interpretation is derived by associating negation with the entire VP. This interpretation is true in a subset of the circumstances corresponding to the 'small amount' interpretation, where negation is associated with a constituent within the VP. According to the SSP, the 'none' interpretation is expected to be hypothesized earlier than the 'small amount' interpretation. The children we tested overwhelmingly rejected the test sentences in the context that supported the 'large amount' interpretation. This is also compatible with our analysis, according to which negation always takes scope over *shenme NP*.

In acquiring the NEG-*jige*-NP structure, children accepted the test sentences more readily in the 'small amount' contexts, even though they had consistently rejected the NEG-*shenme*-NP

test sentences in these contexts in the previous experiment. Interestingly, some children also accepted these test sentences in the 'large amount' contexts. The findings show that children were sensitive to the presence of the classifier in *jige* and analyzed the phrase with *jige* as taking scope over negation. Children's performance supports our analysis of the scope relations between negation and the two types of *wh*-indefinites. Children's acceptance of the 'large amount' interpretation, as well as the 'small amount' interpretation at the early stages of language acquisition can be attributed to children's failure to appreciate that, in Chinese, a covert concessive operator rules out the 'large amount' interpretation.

Based on the proposed analysis, the two types of *wh*-indefinites pose distinct learnability problems. In the acquisition of the NEG-*shenme*-NP structure, children start with the subset interpretation. However, they start with the superset interpretation in the acquisition of the NEG*jige*- NP structure, with the consequence that Mandarin-speaking children take longer to converge on the adult-like comprehension of the NEG-*jige*-NP structure, presumably due to the invisibility of the kind of positive evidence that is available in Japanese, viz., morphological marker like *-mo*. Without such evidence to assist them, Mandarin-speaking children require additional time, and other forms of positive evidence, in order to discard the non-adult 'large amount' interpretation.

Morphologically Induced Vowel Syncope in Squliq Atayal

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This paper investigates a case of morphologically-induced vowel syncope in Squliq Atayal (Austronesian), an endangered language spoken in northern Taiwan, showing its age-correlated variation patterns and presenting the analysis within the framework of Optimality Theory (Prince and Smolensky 1993/2004). Although there have been a few studies on Squliq phonology (e.g. Egerod 1966, 1980, Yamada and Liao 1974, Li 1980, 1981, Rau 1992, 2004, Huang 2006a, 2006b), how the phonology of the language is influenced by morphological factors has never been paid attention to. It will be shown in the paper that the identified vowel syncope results from a morpheme-specific alignment constraint (Prince and Smolensky 1993/2004, McCarthy and Prince 1993, Pater 2000), and that the variable rankings of this alignment constraint with respect to other constraints in the grammar lead to the observed sub-dialectal variations.

Squliq Atayal does not tolerate non-final closed syllables except in forms with the realis marker *in-*, which surfaces as an infix due to the onset requirement. *In*-affixation leads to the presence of a non-final coda by deleting the vowel immediately following the affix, but the vowel cannot be syncopated if it is parsed into a foot. The analysis is built on the assumption that the language contains a single bimoraic iambic foot at the right word edge. (The data are based on the author's own field notes; unparsed vowels undergo reduction.)

(1) a. /mV, in, ŋilis/ [min.ŋi.lis]'cry, realis, agent voice'
b. /in, quriq, an/ [qin.ri.qan]'steal, realis, locative voice'
c. /in, biru, an/ [bin.ruan] 'write, realis, locative voice'
d. /Vm, in, snuliŋ/ [sə.mə.nu.liŋ] 'burn, realis, agent voice' (*[sə.min.liŋ])

In the proposed OT analysis, a high-ranking Align-R-*in* constraint demands that the right edge of the morpheme *in* align with the right edge of a syllable, which leads to vowel syncope in *in*-affixed forms. Vowel deletion in (1d) is blocked by the requirement that feet must be binary and do not include prefixes.

The data (1) are characteristic of the pronunciation of younger speakers. Among older speakers (above 70 years of age), however, vowel syncope takes place in (a) but not in (b,c,d); the four representative examples are therefore pronounced as [min.ŋi.lis], [qə.nə.ri.qan],

[bə.nə.ruan], and [sə.mə.nu.liŋ]. This variety of speech is accounted for by ranking a root-specific Max-V constraint (Max-V-Rt) above Align-R-*in*. Max-V-Rt protects root vowels, but not affix vowels, from being deleted, which is responsible for the different patterns between (a) and (b,c). Some old consultants state that they used to hear [mə.nə.ŋi.lis] for (1a), suggesting that in an even more conservative speech variety, none of the forms in (1) undergoes syncope. Retention of the affix vowel standing to the right of *in* is actually found in the conservative Mayrinax Atayal dialect spoken in neighboring areas, which appears to support the existence of the no-syncope variety in Squliq Atayal. The factorial typology of the proposed OT constraints correctly predicts the three age-stratified varieties, showing that morphological information plays a crucial role in Squliq syncope data.

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The Pronominal Coreference in Mandarin Adverbial Clauses: A Study of Children's First Language Acquisition

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This paper aims to provide an analysis of Chinese-speaking children's acquisition of pronominal reference in three kinds of adverbial clauses: conditional, causal, and temporal constructions. There are three research questions: (1) Does the age factor involve in the development of pronominal references? (2) What is the interaction between forward/backward references and the three choices for referent: coreferent, disjoint referent, or both coreferent and disjoint referent? (3) Do the types of clauses affect the interpretation of pronominal references?

In this experiment three types of adverbial clauses are included as stimuli, i.e. conditional clauses and causal clauses. Participants were 45 children, aged from between 4;0 to 7;0, and 15 adults as the control group. The comprehension task was adopted. Different from previous studies, different scoring system were used in our experiment.

With a new scoring system, we show that acquiring an understanding for forward reference and for backward reference should be equally difficult, and it needs time to develop the correct understanding. Children tend to shift from the coreference to the disjoint reference reading, but there is no preference for choosing disjoint reference in referent-pronoun sentences as suggested by Lust et al. (1996). We also analyze pronominal reference based on deviant adverbial clause types: conditional, causal, and temporal, and observe that adults tend to choose either a coreference reading or a disjoint reference reading. We suggest that the different preference between temporal constructions and conditional/causal constructions may be resulted from the differences of possible clause-linking directions in Mandarin Chinese.

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Effects of Lexical and Perceptual Primes on English and Korean Sentence Production

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Previous psycholinguistic work on English found that the production of actives and passives is sensitive to linguistic and non-linguistic factors. Bock (1986) showed that speakers' choice of active/passive in a (non-eyetracking) picture-description task is influenced by *lexical priming:* presenting a word that is semantically related to the patient increased passives. Gleitman et al. (2007) showed that *perceptual priming* (a subliminal flash on the picture of agent/patient) had a similar effect. If an entity is made more accessible by priming, it is likely to be mentioned first and assigned the subject position in the sentence. However, recent work on Korean (Hwang/Kaiser 2009) found no significant effects of lexical or perceptual primes on the choice of actives vs. passives in a picture-description task. This raises the question of what underlies this apparent difference between English and Korean.

The current study aims to improve our understanding of accessibility effects in language production by *directly comparing effects of lexical and perceptual primes in English and Korean* by using the same set of stimuli and the same experimental set-up for both languages. This will help us to understand whether the absence of priming effects in Korean could be due to typological differences, such as the availability of scrambling in Korean (SOV to OSV) and possible differences in the use of passives in these languages. In addition, *the second main aim of this study is to investigate the relationship between early eye-movements and sentence production.* Griffin/Bock (2000) found that initial eye-movements did not predict which structure was produced, but Gleitman et al. (2007) found that they are closely related. *To see if these claims can be reconciled, we conducted visual-world eye-tracking experiments on English and Korean with lexical and perceptual primes.*

EXPERIMENTS: 80 participants described scenes designed to elicit actives or passives (e.g.(1). In **Exp.1** (lexical primes, 20 English speakers, 20 Korean speakers), the agent/patient was primed with a semantically-related word (e.g., 'wolf' for fox, 'egg' for hen) before the picture appeared. In **Exp.2** (perceptual primes, 20 English speakers, 20 Korean speakers), the agent/patient was primed with an attention-capturing flash following Gleitman et al. (2007).

(1) 
active: A fox is chasing a hen.
passive: A hen is being chased by a fox.

Patient-first (active): A hen is running away from a fox.

PRODUCTION RESULTS-ENGLISH: In **Exp.1** (lexical primes), priming the patient (e.g. *hen* in (1)) resulted in a significant increase in passives (Agent-prime: 4%, Patient-prime: 8%) and patient-first sentences (Agent-prime: 5%, Patient-prime: 11%) (p's<.05). However, no such effect was found in **Exp.2** (perceptual primes). Thus, in these studies only lexical primes influenced the choice of structure and referent, suggesting that lexical primes exert more influence on production. This fits with the levels-of-processing theory (Craik/Tulving, 1975), which suggests that information processed at a deeper semantic level remains more accessible than information processed at a shallow perceptual level.

PRODUCTION RESULTS-KOREAN: Priming the patient did not increase the use of passives or patient-initial sentences in either Exp.1 or Exp.2. Scrambled sentences were very infrequent. These findings are consistent with Hwang/Kaiser (2009).

EYE-MOVEMENT RESULTS: Eye-movement data in English and Korean were very similar (For brevity, we only include figures for English below). Looks to primed characters: In both languages, perceptual primes triggered more looks to the primed character right after picture-onset (0-400ms), consistent with Gleitman et al. (2007). With lexical primes, the effects were slightly delayed (400-800ms) (Fig.1). Looks to first-mentioned referent (N1): In both languages and regardless of prime type, during the first 200ms after picture-onset participants looked more at the character that they would subsequently mention first (Fig.2).

The greater proportion of looks to N1 than N2 during the first 200ms after picture-onset suggests a close relation between eye-movements and production, as suggested in Gleitman et al. (2007). However, additional analyses show that this could be reconciled with Griffin/Bock (2000)'s claims. We found that in both languages, (i) N1-looks were mostly looks to agents, and (ii) on trials where participants produced patient-first sentences, looks to patients were not greater than looks to agents 0-200ms after picture-onset (Fig.3).

In sum, we found that when stimuli and methods were comparable, English was more susceptible to priming than Korean which had a strong canonical word order preference, a finding which fits with observations concerning the more limited use of passives in Korean. Furthermore, our results contribute to our understanding of the relation between eye-movements and real-time language production. The different behavior of agent-first and patient-first sentences suggests that the close relationship between eye-movements and production observed in Fig.2 may be attributable to substantial looks to agents and a high proportion of actives, and may not generalize directly to patient-initial sentences. The initial

preference for agents fits with people's tendency to look at more informative things (Biederman & Vessel, 2006). Because agents provide more information about causality and other aspects, people may initially look at agents first.

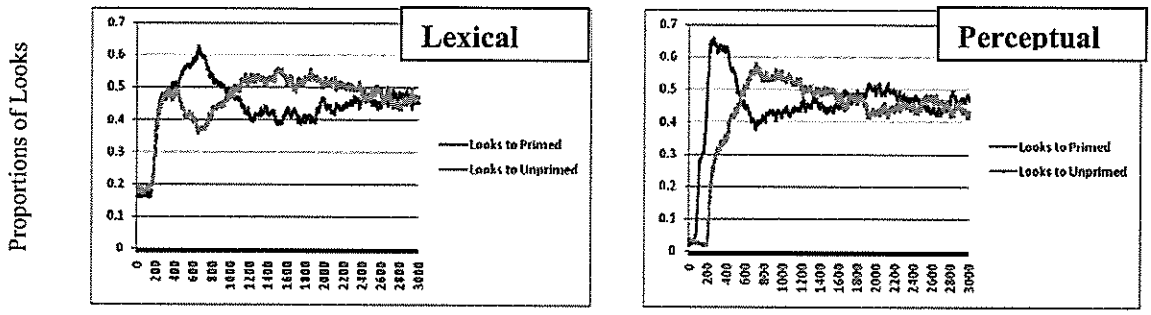

Fig 1: Looks to primed and unprimed characters from picture appearance/onset (0ms = picture appears)

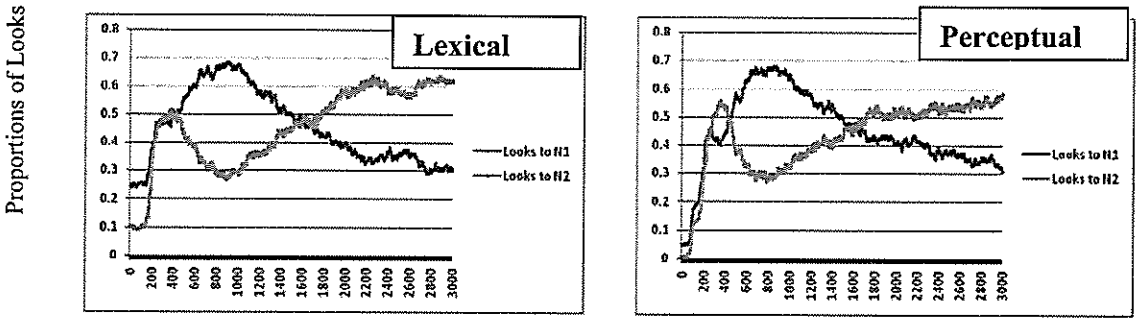

Fig 2: Looks to 1st- and 2nd-mentioned characters, from picture appearance/onset (0ms = picture appears)

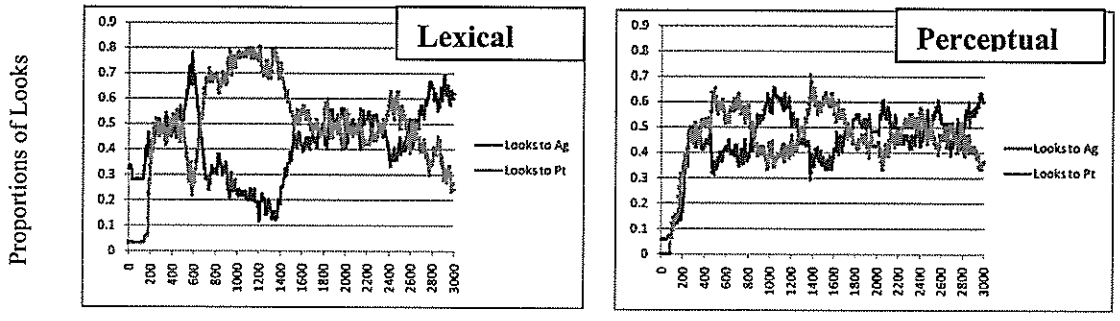

Fig 3: Looks to agent and patient in patient-1st sentences, from picture appearance/onset (0ms = picture appears) appears)

A Phrasal and Context-dependent Analysis of Korean Comparative Constructions

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Comparatives in many languages are canonically classified into phrasal and clausal ones. Korean comparatives, only superficially similar to those in Japanese, show empirical data which questions this dual classification, for Korean. This paper shows that Korean phrasal comparatives (PC) are not derived from clausal sources, and even its clausal comparatives (CC) are nominals headed by the formal noun *kes*. This paper thus argues for 'direct analyses' (cf. Pinkham 1997, Beck et al. 2007) over 'reduced analyses' (cf. Lechner 2001, Pancheva 2006), and further supports Kennedy's (2007) distinction between individual vs. degree comparison for typological variation in comparatives. Unlike English, the comparative marker *te* 'more' is optional in both PC and CC in Korean:

(1) a. [hyeng-pota] tongsayng-i chayk-ul (te) manhi ilkessta (PC)
old.brother-than young.brother-NOM book many read
'The younger brother read more books than his older brother.'

b. [[hyeng-i _ ilk-un] kes-pota] tongsayng-i chayk-ul (te)
old.brother-NOM read-MOD *kes*-than brother-NOM book-ACC more
manhi ilkessta (CC)
many read
'The younger brother read more than his older brother did.'

The complement of the postpositional *pota* 'than' in the PC (1a) is strictly nominal while the complement in the CC in (1b) is a gapped clause and the obligatory noun *kes* (a main difference from Japanese optional *no* in comparatives).

There is evidence that CCs as in (1b) are in fact free relatives headed by the formal noun *kes*. This comes from: the fact that in all the clausal-like comparatives we collected, the obligatory noun *kes* can be replaced by a common noun (as in (2a)), can be preceded by a determiner (as in (2b)), and the clause + *kes* has the same distribution as an NP. This challeneges any clausal analysis in which *kes* is a complementizer introducing a CP (e.g., Lee 2002, Park 2009).

(2) a. John-un [Tom-i sa-n sakwa]-pota pissan kes-ul sassta
John-TOP Tom-NOM buy-MOD apple-than expensive thing-ACC bought
'John bought a more expensive book than what Tom bought.'

b. John-un [Tom-i sa-n ku kes]-pota pissan kes-ul
John-TOP Tom-NOM buy-MOD the thing-than expensive thing-ACC
sassta
bought
'John bought a more expensive book than the one Tom bought.'

The functional noun *kes* in Korean canonically refers to an inanimate entity or an event. This restriction also holds in comparative constructions, indicating its nominal status:

(3) John-un [Tom-i manna-n *kes/salam]-pota chakha-n salam-ul
John-TOP Tom-NOM meet-MOD *kes*/person-than honest-MOD man-ACC
mannassta
met
'John met a more honest man than Tom met.'

There are also cases where *kes* clauses with no syntactic gap as in (4). Within the relative clause analysis we adopt here, such gapless examples are expected when considering Korean also has amount relative clauses. In fact, all the clause-like comparatives with no overt gap can be reinterpreted as amount or degree relative clause with the replacement by a noun like *cengto* 'degree', *sokto* 'speed', or *kil* 'way':

(4) a. John-un [Mary-ka talli-n kes/degree]-pota te ppali
John-TOP Mary-NOM run-MOD *kes*/degree-than more fast
kel-ess-ta
walk-PAST-DECL
'John walked faster than the speed that Mary ran'.
b. [wuli-ka ka-nun kil]-i [haksayng-tul-i o-nun
we-NOM go-MOD way-NOM student-PL-NOM come-MOD
kes/pangpep-pota] phyenha-ta
kes/way-than convenient-DECL
'For us to go is a more convenient way than for students to come.'

The standard marker *-pota* can be attached to a nominal element, allowing only an NP-*pota* phrase. This NP*pota* phrase has rather flexible distributional possibilities. For example the standard expression NP-*pota* can either precede or following the associate NP. However, when the standard phrase is semantic-case marked, the possibility of scrambling the NP-*pota* disappears:

(5) *chaykpang-eyse tosekwan(-eyse)-pota kongpwu-ka te cal toynta
bookstore-at library-at-than study-NOM more well become

'It is better to study at a bookstore than at a library.'

Another intriguing property is that Korean allows more than one NP-*pota* phrase. In such case too, these standard expressions must be adjacent:

(6) a. yenge-pota cwungkwuke-pota hankwuke-ka elyep-ta
English-than Chinese-than Korean-NOM difficult-DECL
'(lit.) Korean is more difficult than English and Chinese.'

b. *yenge-pota hankwuke-ka cwungkwuke-pota elyep-ta
English-than Korean-NOM Chinese-than difficult -DECL

This again indicates that NP-*pota* forms a constituent with the associate NP that follows it. This contrast indicates that the *pota*-phrase cannot be scrambled freely, in addition suggesting that there should be a configuration where the two compared individuals are combined. The most natural position is the standard and the compared parameter in adjacent positions.

In terms of semantics, phrasal comparatives appear to be similar to clausal comparatives. For example, the PC in (1a) and the CC in (1b) will have the identical LF structure:

(7) [[MORE]] (λd the younger brother is d-much tall) (λd the older brother is d-much tall).

The main gist of such an analysis is that the *than*-clause and the main clause provide a predicate of degrees in a compositional way (cf. Kennedy 2005). However, there are many obstacles to compose the meaning of comparatives in a compositional way in Korean as hinited earlier. The first issue is the status of the functor 'MORE' that selects two propositional arguments. In languages like Korean, the comparative marker is not present in syntax always: that is, unlike *more* in English, its counterpart *te* 'more' is optional in most cases. Within a compositional analysis where the comparative marker *more* is a functor taking two degree-denoting arguments, we need to assume an invisible comparative morpheme. A second major issue that arises from such a compositional analysis is the existence of many comparative constructions whose interpretations are context-dependent. One such clear instance concerns the head-deletion type: Our corpus examples include dozens of examples where the standard expression NP-*pota* is not the expression that is really compared:

(8) a. nay yenge sillyek-un Chelswu-pota nasta
my English ability-TOP Chelswu-than better
'(lit.) My English is better than Chelswu.'

b. i ccok-eyse tangki-nun him-i ce ccok-pota nemwu yakhay
this side pulling-MOD power-NOM that side-than more week
'(lit.) The pulling power in this side is much weaker than that side.'

In such examples, the NP complement of *pota* does not express the head element which is compared with the associate NP. For example in (8b), the compared elements are not this side and that side: they are the power in both sides. The standard expression thus just sets the context which will help us to conjecture the target of comparison. Such examples strong support the assumption that comparison highly depends on context as suggested by Beck et al. (2004) and Oda (2008).

The present analysis proposes a surface-based analysis with two different functions of the NP-*pota*, one modifying the following associate NP and the other modifying a verbal predicate. We also propose that the standard of comparison is inferred from context, and comparisons are made by pragmatics. This is different from a compositional analysis in which the semantics of comparison is compositionally derived. This way of direction is rather unavoidable when considering the distributional possibilities and preferences of the NP-*pota* and highly context-dependent properties of the comparative constructions in Korean, i.e., head-noun deleted comparatives.

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In-situ *wh*-phrases in Vietnamese

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In this paper, I present conceptual arguments and empirical evidence against Bruening and Tran's (2006) (B&T) claim that in-situ *wh*-phrases in Vietnamese are interpreted according as whether a question particle is present in clause-final position. I suggest instead that these be uniformly interpreted as variables not only in questions but also in declaratives when they are in the scope of negation. In questions they are bound by an interrogative operator in SpecCP regardless of the presence of the question particle, whereas in declaratives they are bound by existential closure (Heim 1982) (at the VP-level to be in the scope of negation, cf. Diesing 1992). My account of Vietnamese in-situ *wh*-phrases provides empirical support for the non-movement analysis of in-situ *wh*-phrases (Pesetsky 1987, Kim 1991, Tsai 1994) relating their failure to undergo movement to their possibly being interpreted as negative polarity items.

According to B&T, Vietnamese in-situ *wh*-phrases can be interpreted by either covert movement or unselective binding without movement. Specifically, covert movement takes place in matrix questions that lack a question particle, while unselective binding is used when there is a question particle and in embedded clauses generally. B&T's account is conceptually and empirically problematic. Conceptually, if Vietnamese in-situ *wh*-phrases can sometimes move covertly, then an undesireable consequence follows. That is, the language has two types of *wh*-phrases, one behaves like quantifiers in undergoing covert movement and the other behaves like non-quantifiers in being interpreted in-situ as variables. It is then hard in such an analysis to avoid the conclusion that the language has two series of homophonous *wh*-phrases with totally opposite properties. Moreover, B&T's suggestion that matrix verbs license unselective binding of in-situ *wh*-phrases in the same way as question particles has no independent justification, insofar as they share no other syntactic or semantic property.

Empirically, the island effect that motivates B&T's movement analysis of in-situ *wh*-phrases (1) are only apparent, the contrast being most likely due to the independent difference in tense in the matrix clause. In a wide range of syntactic islands, in-situ *wh*-phrases hardly show any island effect (2), with or without the question particle. (2d) is of special interest; neither the bracketed phrase nor any substructure of it can be moved, precluding an analysis that evades island constraints by pied-piping the in-situ *wh*-phrase along with a larger phrase. Contrary to B&T's claim, adjunct *wh*-phrases in an embedded clause may have matrix scope (3a), also when the clause is a syntactic island (3b), the sole exception being the reason

adjunct *wh*-phrase *tại sao* 'why' (3c) (see Tsai 1994 and Ko 2005 for a recent account). The grammaticality of these examples remains the same when a particle like *thế*, *đó* or *vậy* appears at the end of the question. There is therefore good reason to treat questions with the question particle and those without in the same way.

If the licenser must scope over the licensee in order to license it, then B&T's account cannot explain why the matrix verb may still license an in-situ *wh*-phrase in an embedded clause having no question particle without c-commanding it (2a, 2b, 3b vs 4a, 4b, 2c, 2d, 3a). The example B&T take to be evidence of movement giving rise to LF blocking effects (5a) (the judgment is not shared by all speakers) is not comparable to Beck's (1996) original German example (5b). An adjunct *wh*-phrase is present in (5b) but not in (5a). The German example comparable to the Vietnamese one shows no such effects (5c).

B&T are correct in that question particles are independent of D-linking, but are incorrect in claiming that the question particle *thế* encodes realis mood and induces a presupposition (6a). The particle may occur in irrealis mood contexts (6b), and questions usually have existential presupposition regardless of the presence of the particle. This is also true with questions with non-D-linked *wh*-phrases (cf. *who (the hell) stole my car?* presupposes *someone stole my car*). The occurrence of *thế* in (6b) and the lack thereof in (6a) follows if the function of *thế* is to reinforce an independently established presupposition. Irrealis clauses may have existential presupposition while the consequent clause of a counterfactual conditional does not.

The data

(1) a. *Tân sẽ chụp hình [$_{NP}$ con hổ [$_{CP}$ đã dọa ai]]?
FUT catch picture CL tiger PAST scare who
'Tan will take a photo of the tiger that scared who?' (no improvement with *thế*)

b. Tân vừa chụp hình [$_{NP}$ con hổ [$_{CP}$ đã dọa ai]] thế?
PAST catch picture CL tiger PAST scare who PRT
'Tan took a photo of the tiger that scared who?' (also OK without *thế*)

(2) a. [$_{CP}$ Tân mua cái gì] tốt nhất? (sentential subject island)
buy CL what good most
'For what *x*, *x* a thing, it's best that Tan buys *x*?'

b. [$_{CP}$ Trước khi ai đến] Dũng đã đến? (adjunct island)
before when who come PAST come
'For which *x*, *x* a person, Dung came before *x* came?'

c. Cảnh sát có [$_{NP}$ bằng chứng ai trộm súng lục]? (complex NP island)
police have evidence who steal pistol

'For which *x*, *x* a person, the police has evidence that *x* stole a pistole?'

d. Ông Hai ăn cá nhiều [$_{CP}$ hơn ông Ba ăn gì]? (comparative island)
Mr. eat fish much more Mr. eat what
'For which *x*, *x* a thing, Mr. Hai eats fish more than Mr. Ba eats *x*?'

(3) a. Họ tin tưởng [tại sao ông ta giúp đỡ cô ấy]?
they believe why he help woman DEM
'Why do they believe he helped that woman?'

b. [Ông ta giúp đỡ cô ấy như thế nào] mới được?
he help woman DEM like manner which then OK
'How would it be OK for him to help that woman?'

c. *Anh muốn gặp [$_{NP}$ người [$_{CP}$ tại sao đã bỏ đi]]? (adjunct island)
you want meet person why PAST leave
'For which *x*, *x* a reason, you want to meet the person who left because of *x*?'

(4) a. Lan muốn biết [cp Tân sẽ mua [np ngôi nhà [cp mà ai đã
want know FUT buy CL house REL who PAST
xây dựng]] (*thế)]
build PRT
'Lan wants to know who Tan will buy the house that built.'

b. Lan tin tưởng [$_{CP}$ Tân sẽ gặp [$_{NP}$ người [$_{CP}$ biết nói tiếng gì]]] (thế) ?
believe FUT meet person know say language what PRT
'What language does Lan believe that Tan will meet the person who speaks?'

(5) a. *Chẳng ai mời ai?
NEG who invite who
'Who does/will no one invite?'

b. ??Wer hat niemanden wo angetroffen?
who have no one where meet
'Who didn't meet anybody where?'

c. Niemand hat wen eingeladen?
no one has who invite
'Who did no one invite?'

(6) a. Ai sẽ vô cùng đao khổ nếu sang năm nữ Hoàng qua đời (*thế)?
who FUT endless hurt suffer if come year Queen pass life PRT
'Who will suffer most if the Queen passes away next year?'

b. Ngày mai anh sẽ đi đâu thế?
tomorrow you FUT go where PRT
'Where are you going tomorrow?'

The Semantics of *yue...yue* in Mandarin Chinese

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Problem: It has been observed that sentences in Mandarin Chinese marked by the form of *yue...yue*, with *yue* preceding either an adjective, e.g. (1a), or a verb, e.g. (1b), correspond to so-called comparative correlatives in other languages, such as the English translations (Chao 1968, Li and Thomas 1981, Hsiao and Tsao 2002, Lin 2007, Liu 2008).

(1) a. Pingguo ***yue*** da ***yue*** tian.
Apple big sweet
'The bigger an apple is, the sweeter it is.'
b. John ***yue*** xihuan Mary, Jane ***yue*** gaoxing.
like happy
'The more John likes Mary, the happier Jane is.

However, it has rarely been noticed that when the first *yue* precedes a certain class of predicates, which we characterize as non-gradable predicates, such as *pao* 'run' in (2b), the sentence receives a different interpretation from typical comparative correlatives and instead receives an interpretation like so-called adverbial comparatives, as in the English translation in (2b).

(2) a. John pao-de ***yueduo***, (jiu pao-de) yuekuai.
John run-de much then run-de fast
'The more John ran, the faster he went.'
b. John ***yuepao*** yuekuai.
John run fast
'John ran faster and faster.'

(2a) and (2b) are semantically distinct. This fact is illustrated by the following scenario in (3):

(3) Scenario: John is doing marathon training. One day, he told Mary the following:
When I ran 7 times per week, my average speed was 6 mph.
When I ran 5 times per week, my average speed was 5 mph.
When I ran 3 times per week, my average speed was 4 mph.

Given the situation in (3), (2a) and (2b) may have different truth-values. In order to evaluate the truth-value of (2b), we actually require a 'temporal ordering relation' among the running situations to be considered. If we impose a temporal ordering to the running situations in the order as given, e.g. *first*, John ran 7 times per week, *then* he ran 5 times, *then* he ran 3 times, (2b) is false, because with time proceeding, John's speed decreases rather than increases. Unlike (2b), (2a) does not require such a temporal ordering relation and is true in (3) under any ordering of the running situations. Thus, (2a) is not equivalent to (2b). Existing semantic analyses of Mandarin Chinese *yue* ... *yue* sentences such as Lin (2007) are able to account for the comparative correlative-like semantics of (1a, b) and (2a) but fail to account for the adverbial comparative-like semantics of (2b). Specifically, Lin's analysis fails to capture the necessity of a temporal ordering interpretation of (2b) and predicts that (2a) and (2b) receive the same interpretation, contrary to fact as we have seen.

Analysis: We propose an analysis which captures the difference in semantic content between (2a) and (2b), which crucially refers to the distinction between gradable and non-gradable predicates. The gradability of a predicate can be decided by whether or not it can be modified by a degree modifier such as *hen* 'very'. This test classifies *duo* 'much' in (2a) and *xihuan* 'to like' in (1b) as gradable, but *pao* 'run' in (2b) as non-gradable, as shown in (4) and (5).

(4) *hen* + gradable predicate	(5) * *hen* + non-gradable predicate
√ hen duo 'very much'	*hen pao 'very run'
√ hen xihuan Mary 'like Mary very much'	*hen chi 'very eat'

We assume that, on the one hand, gradable predicates (typically Adjectives) do not contain a time argument in their semantics while non-gradable predicates (typically Verbs) do, while, on the other hand, gradable predicates do contain a degree argument, while non-gradable predicates do not. Both degrees and times are orderable types, that is, allow an order to be defined on the elements in their type domain. When *yue* combines with a Verbal projection, as in (2b), it creates a set of pairs of situations such that the time of one is ordered before, i.e. prior to, the time of the other. When *yue* combines with an Adjective or Adverbial projection, as in (1a, b) and (2a), it creates a set of pairs of situations such that the degree of one is ordered before, e.g. less than, the degree of the other. In each case, the argument of *yue* is something of type <*o* <s t>>, where *o* is an orderable type, i.e. *o* = i or d, and what *yue* returns is a set of pairs of situations, i.e. something of type <s <s t>>. In this way our account provides a uniform analysis for *yue*. In other respects our account follows Lin (2007), who in

turn closely follows Beck (1997). The interpretation that our analysis assigns to (2a) is presented in (6), and that for (2b) in (7).

(6) || *John$_i$ pao-de yue duo, pro$_i$ jiu pao-de yue kuai* || =
$\exists \mathbf{t}\ \forall s_1, s_2\ \exists \mathbf{d_1}, \mathbf{d_2}$ [run(John)(s_1)(t) $\wedge$ run(John)(s_2)(t) $\wedge$ much(s_1)(d_1) $\wedge$ much(s_2)(d_2) $\wedge$ $\mathbf{d_2} > \mathbf{d_1}$] $\rightarrow$ $\exists d_3, d_4$ [run(*pro$_i$*)(s_1)(t) $\wedge$ run(*pro$_i$*)(s_2)(t) $\wedge$ fast(s_1)(d_1) $\wedge$ fast(s_2)(d_3) $\wedge$ $d_3 > d_4$]
(7) || *John$_i$ yue pao pro$_i$ yue kuai* || = $\forall s_1, s_2\ \exists \mathbf{t_1}, \mathbf{t_2}$ [run(John)(s_1)(t_1) $\wedge$ run(John)(s_2)(t_2) $\wedge$ $\mathbf{t_2} > \mathbf{t_1}$] $\rightarrow$ $\exists d_3, d_4$ [fast(*pro$_i$*)(s_1)(d_1) $\wedge$ fast(*pro$_i$*)(s_2)(d_3) $\wedge$ $d_3 > d_4$]

The formula in (6) says that for all the pairs of situations s_1 and s_2 where John ran if the amount of running in s_1 is greater than that in s_2, then John's speed in s_1 is greater than his speed in s_2 (We assume default existential closure of a time argument if it does not get bound by an operator such as *yue*, as in (6)). The formula in (7) says that for all the pairs of temporally ordered situations s_1 and s_2 where John ran, if s_1 occurs before s_2, John's speed in s_1 is less than his speed in s_1. It differs from (6) in that the universally quantified pairs of situations are ordered based on their 'temporal precedence' rather than degrees. Our analysis thus correctly predicts the fact that for sentence (2b), in which *yue* combines with a non-gradable predicate, a necessarily temporal ordering reading will result, while for sentences (1a, b), (2a), in which *yue* combines with a gradable predicate, a temporal ordering reading is not necessary.

In this talk, we will also discuss examples like in (8), which cannot easily be paraphrased by the English translation *the more...the more*, and cannot be accounted for by Lin's analysis, but can be captured by our analysis.

(8) a. John yue chi yue shao.
John eat few 'John is eating less and less.'
b. (qian), John yue hua yue shao.
Money John spend few 'John is spending less and less.'

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A Feature Analysis of Classifiers: [±Counting, ± Measure]

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This paper makes two claims concerning the semantics of classifiers in Chinese. Firstly, we argue that Chinese classifiers have two basic functions: the counting function and the measure function, and that these two functions are distinguished syntactically. Secondly, we propose to use [±Counting] and [±Measure] as features constraining the way how classifiers can be interpreted in a default way. Accordingly, four types of classifiers can be distinguished: [+C, -M] Cls, [-C, +M] Cls, [+C, +M] Cls and [-C, -M] Cls.

It has long been observed (Doetjes 1997, Chierchia 1998, Landman 2004, Rothstein 2009 etc) that container classifier phrases, e.g. *three bottles of water*, are ambiguous between an individuating reading ('a counting reading' in our terms) and a measure reading. Landman (2004) argues that on the counting reading, the classifier *bottle* refers to a concrete bottle (1.a), while on the measure reading, *bottle* denotes an abstract measure unit and the container does not have be present physically (1.b).

(1) a. John carried three bottles of water home. [Counting]
b. I poured three bottles of water into the soup. [Measure]

We note that such an ambiguity also holds of Chinese container classifiers. For example, the verb *ling* 'carry' in (2.a) forces the classifier *ping* 'bottle' to have a counting reading, referring to concrete bottles, while (2.b) means that the stomach can hold wine, which amounts to 2 bottles, where concrete bottles are not involved, which leads to a measure reading.

(2) a. *wo ling le liang ping jiu,*
I lift Perf two $Cl._{bottle}$ wine
zuoshou yi ping, you shou yi ping. [Counting]
left hand one $Cl._{bottle}$ right hand one $Cl._{bottle}$
'I carried 2 bottles of wine, one in the left hand and the other in the right hand.'
b. *ta-de wei neng zhuang xia liang ping jiu.* [Measure]
his stomach can hold two $Cl._{bottle}$ wine
'His stomach can contain two bottles of wine.'

We argue that the counting and measure readings of Chinese classifiers are reflected at the syntactic level. Firstly, Cls can be reduplicated on a counting reading (3.a) but not on a measure reading (3.b).

(3) a. *wo mai le liang ping jiu, ping-ping dou hen gui.*
I buy Perf two $Cl_{-bottle}$ wine $Cl_{-bottle}$-$Cl_{-bottle}$ all very expensive
'I bought two bottles of wine, each of which is expensive.'
b.* *ta-de wei neng zhuang xia liang ping jiu,*
his stomach can hold two $Cl_{-bottle}$ wine
ping ping dou hen gui.
$Cl_{-bottle}$ $Cl_{-bottle}$ all very expensive
'His stomach can contain two bottles of wine, each of which is expensive.'

Secondly, Cl+N can be used without the presence of Num if it is interpreted with a counting reading.

(4) a. *wo mai le ping jiu.*
I buy Perf $Cl_{-bottle}$ wine
'I bought a bottle of wine.'
b. * *ta-de wei neng zhuang xia ping jiu.*
his stomach can hold $Cl_{-bottle}$ wine
'His stomach can contain a bottle of wine.'

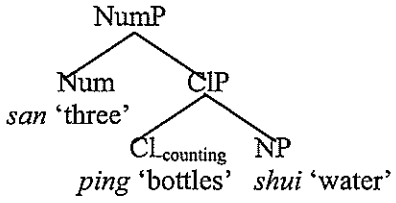
Thirdly, the data from Wu shows that when container classifiers are interpreted with a counting reading, they can used in the form of "Cl+N" to express definiteness.

(5) a. *ngooh qie geq ping jiu yingguo jinqiu geq.* [Wu]
I eat Mod $Cl_{-bottle}$ wine England import Part
'The bottle of wine that I drank was imported from England.'
b.* *ngooh qie geq ping jiu dele wei-li da sao lah.*
I eat Mod $Cl_{-bottle}$ wine at stomach-in Prog burn Part
Intended: 'The bottle of wine that I drank is burning in my stomach.'

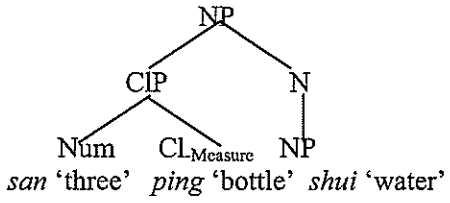
Following Landman (2004), we suggest that the counting and the measure readings of Chinese classifier have two different syntactic structures, as given in (6.a) and (6.b) respectively. On the counting reading, the classifier *ping* 'bottle' is a relational and it denotes a relation between entities which are bottles and the substance they contain. So syntactically, it takes noun denoted by *water* as complement, which is then taken as complement by Num.

In contrast, on the measure reading, *ping* 'bottle' is a modifier which combines with Num to form a complex modifier *san ping* 'three bottles', which then combines with N. (cf. Landman 2004)

(6) a. Counting reading



b. Measure reading



Based on the above syntactic distinction of counting and measure readings, we propose two different compositional semantics for them (Rothstein 2009. We assume that Chinese bare nouns are kind denoting. The variable C is a contextual variable.)

(7) a. k*yi ping shui* k: k *ping shui* k (k*yi*k)

$= \lambda x.\pi_1(x)\ \varepsilon\ (\text{water} \cap C) \wedge \text{Bottle}_{\text{-containment}}(\pi_1(x)) = 1 \wedge \pi_2(x) = C$

b. k*yi ping shui*k: $\lambda P \lambda x.\ P(x) \wedge \text{MEAS}(x) = \langle 1, \text{bottles} \rangle$ (k*shui*k)

$= \lambda P \lambda x.\ P(x) \wedge \text{MEAS}(x) = \langle 1, \text{bottle} \rangle\ (\lambda x.\ \text{INST}(x, \text{SHUI}_{-k}))$

$= \lambda x.\ \text{water} \wedge \text{MEAS}(x) = \langle 1, \text{bottles} \rangle$

Chinese, as a classifier language, has other types of classifiers than container classifiers. We propose to use [±Counting, ±Measure] as features constraining the way how classifiers can be interpreted. We suggest that individual Cls, e.g. the general classifier *ge*, have the default setting of [+C, -M], that container Cls, group Cls and partition Cls are [+C, +M] classifiers, which are equally open for counting and measure readings, and that measure words, such as *gongjing* 'kilo' etc, are characterized with [-C, +M], and that kind Cls, e.g. *zhong* 'kind' can neither count nor measure individuals, so they are [-C, -M] Cls.

The three syntactic diagnostics for distinguishing counting readings from measure readings of container classifiers are also applicable to the distinction between [+C, -M] classifiers and [-C, +M] classifiers. See the illustration from (8) to (10).

Firstly, [+C, -M] classifiers can be reduplicated, as in (8.a), but [-C, +M] cannot, as in (8.b).

(8) a. *ge-ge pingguo dou hen tian.*
Cl-Cl apple all very sweet
'Each apple is sweet.'
b.**gong jin-gongjin pingguo dou hen tian.*

kilo-kilo apple all very sweet
'Each kilo of apples is sweet.'

Secondly, [+C, -M] Cls can have "Cl+N" construction, which is indefinite in Mandarin (9.a), and can be definite in Wu (9.b), but [-C, +M] classifiers cannot have something like "Cl+N" (10).

(9) a. *wo xiang mai ba dao.*
I want buy Cl knife
'I want to buy a knife.'
b. *zeq giu di kungao.*
Cl dog Prog sleep
'The dog is sleeping.'
(10)a. *wo xiang zou *(yi) gongli lu.*
I want walk one kilometer road
'I want to walk one kilometer.'
b.* *dii lu ngooh zeu feu wan.*
mile road I walk not finish
'The mile of road, I cannot walk to the end of it.'

The typology of classifiers can be summarized as follows:

Classifier types	**Default reading**	**Possible derived reading**
[+C, -M] classifiers	Counting	Derived measure reading
[-C, +M] classifiers	Measure	Derived counting reading
[+C, +M] classifiers	Counting or Measure	
[-C, -M] classifiers		

Note that the parameter settings we've proposed for different types of classifiers are default setting. If time allows, we will talk about the derived reading of some classifiers.

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Durational Properties of Grammatical and Lexical Stresses in Nanchang Chinese and their Implications for Tonal Contrasts

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In this study, I argue that the traditional phonological analyses for stress in Chinese fail to capture the tonal contrast difference between stressed and stressless syllables in Nanchang Chinese. However, if the durational property of different syllable and stress types is encoded in the phonological system, then the tonal contrast difference can be explained. This is supported by a phonetic study of the durational property of disyllabic words in Nanchang with different stress statuses.

Nanchang Chinese is a Gan dialect spoken by about 2 million people in the city of Nanchang, capital of Jiangxi province in Southeast China (Li 1995). Certain syllables in Nanchang are lexically stressless, known as qing sheng. Apart from lexical stress, Nanchang, like Standard Chinese, also has grammatical stress. The grammatical stress is introduced as the result of certain syntactic structures, for example, In Verb+Noun (VN) word, N is more stressed than V because N is nonhead in the syntactic structure and in Noun+Noun (NN) word, the first N is more stressed than the second N because the former is nonhead in the syntactic structure. This is known as 'Nonhead stress' rule (Duanmu 2007): The evidence for the stressed nonhead comes from the word length restrictions in [V N] and [N N] words: [V N] words allow [1 1], [1 2] and [2 2] groupings but not [2 1] (the digit corresponds to the number of syllables of the syntactic category), while [N N] words allow [1 1], [2 1] and [2 2] but not [1 2]. Thus, nonhead can have equal or more syllables than head but not otherwise. Nanchang mirrors Standard Chinese in these word-length properties.

There are five lexical tones in Nanchang, transcribed in a five point scale as 42 (yinping), 24 (yangping jia), 45 (yangping yi), 213 (shang), and 21 (qu). All five tones can be realized in open or sonorant-closed syllables. In stop-closed syllables, the tonal inventory is reduced to: 5 (yin ru) and 2 (yang ru) (Hou & Wei 1998). According to Gordon's (1999) cross-linguistic survey, stressed syllables tend to bear more phonological contrasts than stressless syllables. If this is true for Nanchang, we would expect the stress property of the syllable to have an effect on the tonal contrasts realizable on the syllable. Now the question is whether lexical stress and grammatical stress have the same effect on tonal contrasts and whether any difference observed between them is attributable to the phonetic properties of the two stresses.

Zhang's (2002) typological survey of contour tone distribution shows that the rhyme duration is the crucial factor that licenses contour tones. Following his finding, a phonetic study of the durational properties of lexically stressed syllables vs. lexically stressless syllables and grammatically stressed syllables vs. grammatically stressless syllables was conducted. 10 native Nanchang speakers were asked to read 72 disyllabic words where the second syllable can be both lexically and grammatically stressed (in VN words), lexically stressed but grammatically unstressed (in NN words), or lexically stressless (grammatical stress is not relevant to lexically stressless syllables). The rhymes across conditions were controlled. Each word was read twice in a carrier sentence. Measurements of the duration of the second syllable in each word showed that lexically stressed syllables were significantly longer than lexically stressless syllables whereas there was no durational difference between grammatically stressed and grammatically unstressed syllables. The result implies that lexical stress correlates with a durational property but grammatical stress does not. Turning to tonal contrasts, a second phonetic study was conducted to measure the f0 of five underlying tones on the second syllables in 21 disyllabic words which were either lexically stressed but grammatically unstressed (NN structure) or lexically stressless. The f0 measurement was done by using Yi Xu's TimeNormalizeF0 script in Praat, with manual adjustment of pitch parameters for each speaker. Statistically, the five tones in the lexically stressed group were significantly different from each other in terms of both f0 average and shape whereas in the lexically stressless group tones 42, 45 and 21 were the same and tones 24 and 213 were the same. The different tonal directions were all lost. In other words, the underlying tonal contrasts in lexically stressed, but grammatically stressless syllables were preserved whereas in lexically stressless syllables, the five tonal contrasts were reduced to two. To summarize the finding in this study, grammatical stress has no durational correlates in Nanchang whereas lexical stress does. The durational difference in turn is correlated with tonal contrasts, namely, lexically stressed syllables with relatively long duration has more tonal contrasts than lexically stressless syllables with relatively short duration. Grammatically unstressed syllables still keep the five underlying tones.

The correspondence between the durational property of the syllable and its ability to carry tonal contrasts indicates that in order to understand the distribution of phonological contrasts, we must look beyond the purely phonological labels such as "stress" and understand the phonetic properties that the phonological labels entail.

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Real-Time Computation for Semantic Composition of Events: An ERP Study on Aspectual Coercion in Japanese

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Studies on natural language semantics have long been concerned with how sentence meanings are composed from meanings of their component parts [5]. Compared to this long tradition, psycholinguistic research on computation for compositional meaning is relatively new [4,10], and cognitive processes and the neural basis of real-time computation for semantic composition are waiting for further investigation. A particularly interesting case is the semantic composition of events expressed by sentences. Researchers have still not agreed on how aspectual mismatch is handled in which an aspectually-unbounded durative modifier and an aspectually-bounded punctual verb appear in the same sentence. For instance, it has been argued that sentences, such as, the clown jumped for ten minutes involve a process called 'aspectual coercion'. Some of the psycholinguistic literature on aspectual processing demonstrated that the aspectual incompatibility between verbs and modifiers increases the behavioral cost [1,12,13], while others did not observe such cost [11]. A recent magnetoencephalography (MEG) study revealed that the aspectual mismatch is associated with increased amplitudes of the AMF (the anterior midline field), localized in ventromedial prefrontal cortex [1]. Nevertheless, it is still unclear what kind of computation leads to an increase of the neural activation in this cortical region. Additional data tightly linked to well-known neurocognitive effects would be helpful in interpreting the nature of such results. For instance, electrophysiological studies on language processing have established that an event-related brain potential (ERP) component known as N400 reflects computation for sentence meaning associated with context integration [7], whereas P600 is associated with syntactic and/or semantic repair [9]. LAN (left anterior negativity) is mainly detected in studies on syntactic violation [2,8], heavy working memory load [6], or semantically complex expressions with lexical or referential ambiguity [3,14]. If such components are observed in the processing of aspect mismatch, we can link the activation in the AMF to either type of these processes. We thus conducted an electrophysiological study on real-time computation for Japanese aspectual mismatch using ERP.

We prepared sentences containing an aspectual mismatch between an atelic (unbound) verb and a punctual (bound) modifier for the Coercion condition. Aspectually matched sentences with an atelic (unbound) verb and a durative (unbound) adverb were also prepared for the

Non-Coercion condition. Samples of the stimuli are given in (a) and (b) below. In the Coercion condition, an aspectual mismatch between a verb and a modifier triggers aspectual coercion that introduces the inchoative 能改 meaning into the event expressed by the sentence. The sentence (b) is thus interpreted that the newborn infant started to cry fiercely in ten minutes. The EEG recording with participants' readings of such sentences would reveal an ERP component reflecting the mental computation for aspectual coercion.

(a). Non-Coercion Condition:

zyuppun-kan sinseiji-ga oonakisita-to kangosi-ga itta.

10 min.-for the newborn infant-NOM cried-Cnurse-NOM said.

"A nurse said that the newborn infant cried loudly for ten minutes."

(b). Coercion Condition:

zyuppun-de sinseiji-ga oonakisita-to kangosi-ga itta.

10 min.-in the newborn infant-NOM cried-Cnurse-NOM said.

"A nurse said that the newborn infant started to cry loudly in ten minutes."

Twenty-two native speakers of Japanese (11 female, mean age: 22.1) with normal or corrected-to-normal vision participated in the ERP study. To ensure that the stimuli sentences were highly plausible and the coerced sentence (b) would be interpreted as the inchoative meaning, the stimulus were first normed by 29 native speakers of Japanese who did not participate in the ERP experiment. The sentences that received a mean judgment less than 3.0 in the 5-point scale (5=highly plausible) were removed or amended (M = 3.40, SD = .31). A total of 72 verbs were chosen as the critical words in the ERP experiment.

A total of 144 target sentences were distributed into two lists by a Latin Square design, and each list was combined with 152 filler sentences. About half of the filler sentences were followed by a comprehension question. All of the trials were presented phrase-by-phrase in the center of a computer screen. Each trial began with the presentation of a fixation cross for 700 ms, followed by a 500 ms blank, followed by the first phrase. Each phrase appeared for 900 ms with an interstimulus interval (ISI) of 300 ms. A 3500 ms blank-screen interval followed the final phrase, followed by a phrase of tuginobun desu ('next sentence') for 1300 ms. Participants were told to read the sentences and if a comprehension question was presented after the last phrase, they need to press a "Yes" or "No" button to make a response.

The electroencephalogram (EEG) was recorded from 19 standard scalp locations of the international 10-20 system and referred to the linked earlobes. Interelectrode impedances were kept below 10 kΩ. A 0.1-30 Hz bandpass filter was applied on-line. The recorded EEG

was averaged up to 900 ms after the onset of each phrase, using 100 ms before the onset of presentation as the pre-stimulus baseline.

Trials containing eye-movement artifacts or excessive drifts are removed from the data analysis. The recorded data from 3 participants was excluded due to the exceeding number of artifacts. The embedded verb of each sentence was the critical region on which ERP were compared. A three-way ANOVA was conducted including the factors of condition (Non-Coercion vs. Coercion), hemisphere (left vs. right), anteriority (anterior vs. posterior). The analysis revealed a significant three-way interaction ($F(1,18)=5.08$, $p<.05$) in the 350-750 ms time-window. A further planned comparison showed a marginally significant two-way condition × hemisphere interaction ($F(1,18)=3.27$, $p<.10$) in the anterior field. Subsequent pairwise comparisons revealed that there was a significant difference only in the left hemisphere ($F(1,18)=6.72$, $p<.05$), due to a larger negativity elicited by the Coercion condition, compared to the Non-Coercion condition. Considering the timing and scalp distribution, this increased negativity for the Coercion condition is likely to be a LAN effect.

In the present study, the N400 component associated with semantic anomaly was not elicited in the Coercion condition, showing that semantic computation for an aspectual mismatch is different from those for a semantic mismatch between words and their discourse context. One possible explanation for the LAN effect observed in the Coercion condition is that it would reflect a heavy working memory load required for semantic computation for aspectual coercion [4,6]. Another possibility is that aspectual coercion would enhance the cortical activation related to semantic computation and result in the LAN effect. Although the ERP component and the MEG effect do not necessarily correlate each other straightforwardly, the 350-750ms latency in the present study overlaps with that in the AMF effect reported in the previous MEG research [1]. Future research is needed to examine these possibilities.

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Causative Constructions in Jinghpo

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This paper describes causatives in Jinghpo, an SOV Tibeto-Burma language spoken largely in Yunnan Province of China and Burma, with a smaller population also in India. Jinghpo has two main causative mechanisms: morphological causative and analytic causative in the form of serial verb construction, as illustrated by (1) and (2) respectively.

(1) Ngai patgom gabye shagrop kau seai.
1sg glass trample cause-break AUX Subj1sg, obj3sg, Perfective
'I trampled break the glass.'

(2) Shi ma hpe yup shangun nuai.
3sg child OM sleep cause Subj3sg, Obj3sg, Perfective
'She made the child sleep.'

There are five morphological causative morphemes in Jinghpo: s*a-*, *sha-*, *ja-*, *a-*, *shing-*. The first three causative prefixes, which are very productive, are different allophones of one causative morpheme coming from the oldest causative category of Tibeto-Burman languages *s- (Dai 2001).They show complementary distribution according to the pronunciation of the first syllable of the following verb. The last two causative prefixes are only used with a few verbs. There are also limited number of causative verbs which involve such morphological process as vowel changing or difference in voicing /aspiration of the initial.
The serial verb causative makes use of an auxiliary word *shangun* after the lexical verb. As shown in (2), the constituent order of such causative form can be specified as $SOV_{lexical}V_{cause}$. The meaning of *shangun* can be very schematic, since, depending on the constructional and pragmatic contexts in which it occurs, it can be translated into English as 'make', 'let', 'allow'.

Both causative forms are quite productive in Jinghpo, but with variant shades of meaning. This paper mainly discusses the two causative constructions in terms of their syntax and semantics.

1. Verb class and causative form

Morphological causative and serial verb causative are used with different verbs. This section discusses the relationship between causative forms and verb types. It is found that inactive

intransitive verbs (change of state verbs) (such as *do* 'break'), adjectives (such as *madi* 'wet') and even activity intransitive verbs (such as *hkrap* 'cry') allow only morphological causatives; Common transitive verbs (such as *yu* 'watch') allow only serial verb causatives. Whereas, there are verbs can respond to both causative forms. These include intransitive verbs relating to body positions (such as *dung* 'sit', *tsap* 'stand', *hkom* 'walk') , information acquisition transitive verbs (such as *mu* 'see', *chye* 'know') and reflexive transitive verbs (such as *bu* 'wear').

This seems to indicate that the causative forms are related to the verb classes. However, we will argue that the real difference lies in the treatment of the causee. In morphological causative the causee is conceptualized as a patient; while in serial verb causative it is viewed as an agent with its own volition. The reason that some verbs can have both causative forms is because their main protagonists can be both agentive and patientive, as Shibatani (2001) suggests.

2. The semantic distinction between morphological causative and analytic causative

This section will examine the semantic contrasts between morphological causative and serial verb causative mechanism based on the semantic parameters Dixon (2000) proposed. The data examined reveal that morphological causative expresses directive and sociative causation, whereas, serial verb causative encodes indirective causation. This supports the general claim that the causative mechanism continuum of lexical- morphological-analytic (periphrastic) correlates with the continuum from more direct causation to more indirect causation and with that from low control to high control on the part of the causee.

3. Syntactic status of morphological causative and analytic causative

As Comrie (1981:160) pointed out that causative forms in languages do not always fit neatly into the three-way typological distinction, rather a number of intermediate types are found. In this section we will show that the morphological causative of Jinghpo actually lies between the lexical causatives and morphological causative on the causative continuum, while the serial verb causative of Jinghpo lies between the morphological and the analytic causative on the continuum. Evidences in favor of our viewpoint come from some syntactic tests, including tests in double causative and recursive use of the causative morpheme.

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Bare Verbal Nouns, Idiomatization and Incorporation in Japanese

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As is well-known, verbal nouns/VNs in Japanese can occur either as bare VNs or accusative VNs (Grimshaw and Mester 1988). Previous work has investigated the two types of VNs as a probe into the interface among syntax, argument structure and the lexicon but seems to have assumed tacitly that they are synonymous. Against this background, this paper reports a hitherto unnoticed dimension in which the two types of VNs differ. Specifically, for VNs that can occur either in the VN-*suru* or VN-*o suru* forms, their bare variants are often subject to idiomatization whereas the accusative variants are not. I bring this observation to bear on the morphosyntactic derivation of VNs. I propose that a bare VN is derived by merging the light verb *suru* with the bare noun, followed by the incorporation of the noun into the verb. The idiomatic reading of the bare VN is accounted for by this incorporation. By contrast, the derivation of the accusative VN involves a merger of a phrasal object (CaseP) with *suru* without incorporation. This derivation thus explains the absence of idiomatization effects on the accusative VN. The results of this paper thus support the recent view (Massam 2001; Dayal 2003; Harley 2008, among others) that non-compositional interpretation is correlated with incorporation.

The interpretive asymmetry between bare VNs and accusative VNs with respect to idiomatization is illustrated below with five VNs, shown in (1-5), which may occur both in the VN-*suru* form and the VN-*o suru* form.

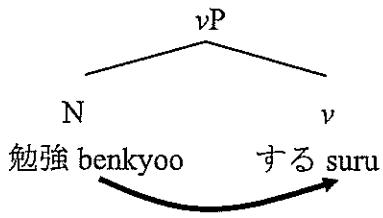
(1)a. 勉強する 'to study'	b. 勉強を する 'to study'
benkyoo-suru **'to discount'**	benkyoo-o suru **'* to discount'**
(2)a. 料理する 'to cook'	b. 料理を する 'to cook'
ryoori-suru **'to handle'**	ryoori-o suru **'*to handle'**
(3)a. 暴走する 'to burn up'	b. 暴走を する 'to burn up'
boosoo-suru **'to go out of control'**	boosoo-o suru **'*to go out of control'**
(4)a. 計算する 'to count up'	b. 計算をする 'to count up'
keisan-suru **'to plan meticulously'**	keisan-o suru **'*to plan meticulously'**
(5)a. 処分する 'to cast away'	b. 処分をする 'to cast away'
shobun-suru **'to murder'**	shobun-o suru **'*to murder'**

For example, the VN 勉強 *benkyoo* in (1a) not only has the core meaning 'to study' (the meaning which native speakers of Japanese would most likely associate the VN with) but

also has the idiomatic meaning 'to discount', a meaning that is unpredictable based on the core meaning of the VN. Consider the same VN now marked with the accusative case. As shown in (1b), this variant can only be associated with the core meaning 'to study' which is available to the bare VN. This consistent semantic asymmetry in idiomatization between the two types of VNs has never been reported in the literature.

I propose that the asymmetry in question follows from the different derivations that underline the two VNs. Suppose that the bare VN is derived by merging the light verb *suru* directly with the bare noun. Under this analysis, the derivation for 勉強するする *benkyoo-suru* will be as in (6).

(6)



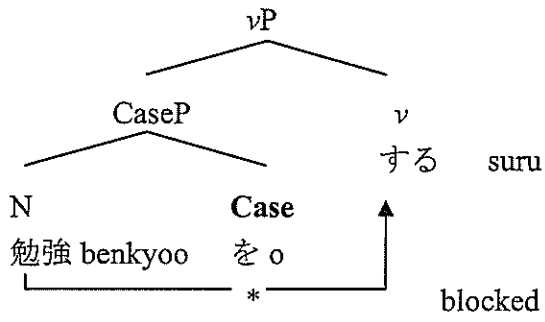
It is cross-linguistically observed that incorporation (semantic or syntactic) is often correlated with a special/non-compositional interpretation (Massam 2001; Dayal 2003; Karimi 2003; Megerdoomian, to appear; Stvan 1998, 2009; Harley 2008). To illustrate with English, noun phrases in this language generally require nominal functional superstructure (e.g., determiners, bare plurals). However, as first noted by Stvan (1998), a handful of nouns such as *school, church, sabbatical, college, home, breakfast* and *tape* can occur as bare singular forms. Harley (2008) observes that an idiomatic interpretation arises precisely in this bare environment. Thus, in (7a) with the bare noun *school*, John is going to school for education, which is the most prototypical function of schools. In (7b) with the definite DP *the school*, on the other hand, John may be going to the school for other reasons (e.g., to deliver something, to dance, to enjoy a concert held in that school). A similar observation holds for (8a, b).

(7) a. John is going to school.
b. John is going to the school. (Harley 2008)
(8) a. The pastor wants everyone to come to church once a week.
b. The pastor wants everyone to come to the church once a week. (Harley 2008)

Based on this observation, Harley argues that the special reading in (7a) known as the effect of the Canonical Use Constraint (Kiparsky 1997) is correlated with (abstract) incorporation. I propose that the idiomatic interpretation in (1a) is also caused by the incorporation of the bare noun into the light verb *suru*.

The derivation for the accusative-marked 勉強をする *benkyoo-o suru* is shown in (9).

(9)



Assuming that case particles in Japanese instantiate the head of a Case phrase (Fukui and Takano 2000; Watanabe 2006; see also Ritter 1988), the incorporation of the bare VN into the verb *suru* is blocked by the intervening Case head in compliance with the Head Movement Constraint (Travis 1984). Note that the entire CaseP cannot be incorporated into the *v* because only a head can incorporate into another head position. As a result, 勉強をする *benkyoo-o suru* can only be interpreted with the core meaning 'to study'.

In sum, it is cross-linguistically observed that incorporation often feeds a special meaning to complex predicates so formed. I have proposed that the asymmetry between the bare and accusative VNs in Japanese with regards to idiomatization is a language-particular case of this cross-linguistic observation. Specifically, the morphosyntactic derivation for a bare VN consists in the obligatory incorporation of the bound VN into the light verb. This process thus explains why a bare can give rise to idiomatic readings. The derivation of the accusative VN involves merger of a phrasal object (CaseP) with the verb *suru* on a par with a regular object + verb construction without incorporation. Thus, this type of VN is never subject to idiomatization.

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Corpus Investigation of Classifier Mismatching-Matching Configuration in Mandarin Object-extracted Relative Clauses and its Implications for Processing

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Existing research on whether pre-RC classifiers in Mandarin can facilitate the processing of object-extracted relative clauses (RC) has mixed findings (Hsu, Phillips & Yoshida, 2005; Wu, Haskell & Andersen, 2006; Hsu, 2006). These studies have often made use of a classifier *mismatching-matching* configuration, wherein a preceding classifier (*ben*) mismatches the following RC-subject (*laoshi* 'teacher') but matches the modified head noun (*shu* 'book'), as in (1).

(1) yi-ben laoshi tuijian de shu
one-CL$_{*human/book}$ teacher recommend DE book
'a book that the teacher recommended'

However, three criteria must be met in order for a classifier to be useful in online comprehension of an object-extracted RC. First, the classifier must occur at the left periphery of the RC. Second, the distance between the pre-RC classifier (*ben*) and the head noun (*shu* 'book') cannot be too long, and the number of intervening phrasal heads cannot be too many. Otherwise, the resultant storage and integration cost would be too high (Gibson, 1998; 2000) for the classifier mismatch to be integrated with the head noun. Third, the structure of an object-extracted RC with a mismatching pre-RC classifier should be fairly frequent and therefore *familiar*, making it readily possible for a human parser to recover from the lexical disruption effect induced by the mismatch and to start to build an RC to connect the classifier with an upcoming head noun.

This study probes the third criterion by examining the frequency of classifiers occurring at the left edge of object-extracted RCs in the Chinese Treebank (CTB 5.0) corpus. Specifically, it investigates the distribution of three types of (mis)matching relationships that a pre-RC classifier bears with the two nouns in object-extracted RCs: **Type 1** (*mismatching-matching* configuration) as discussed in (1); **Type 2** (*matching-mismatching* configuration) as in (2), where the pre-RC classifier (*wei*) is congruent with the following noun (*laoshi* 'teacher') but does not match the head noun (*shu* 'book'); and **Type 3** (*matching-matching* configuration)

as in (3), where the pre-RC classifier (zhi) is congruent with both the local noun (*zuqiu* 'football') and the head noun (*huaping* 'vase').

(2) yi-wei laoshi tuijian t_i de shu_i
one-$CL_{human/*book}$ teacher recommend t_i DE $book_i$
'the book that a teacher recommended'

(3) yi-zhi zuqiu dasui t_i de $huaping_i$
one-$CL_{ball/vase}$ football break t_i DE $vase_i$
'a vase that a football broke'

A total of 1,209 RCs -- with a subset of 331 transitive RCs with action-denoting verbs-- were extracted from the corpus. These RCs were coded according to i) whether or not they contained classifiers and ii) whether the classifier preceded or followed the RCs.

The corpus analyses indicate an overwhelmingly greater absence of classifiers associated with RCs: only 349 (or 28.9%) of 1,209 RCs and 95 of 331 (or 28.7%) transitive RCs have classifiers. Analyses of classifier positioning conducted on classifier-present RCs show a strong preference for object-extracted RCs to have post-RC classifiers, whose occurrences account for 84.4% of 64 object-extracted RCs regardless of verb types and 84.9% of 33 transitive object-extracted RCs, respectively. In other words, pre-RC classifiers occur very rarely in object-extracted RCs, with a total of 10 tokens only.

Among these 10 tokens of object-extracted RCs with pre-RC classifiers, 7 of them fit the category of Type 1(*mismatching-matching*) configuration, 3 tokens fit the category of Type 2 (*matching-mismatching*) configuration, and zero tokens fit the category of Type 3 (*matching—matching*) configuration.

Close examination of the 7 tokens of object-extracted RCs with the Type 1 (*mismatching-matching*) classifier configuration shows that the local nouns (i.e. RC-subjects) are most likely to be dropped (totaling 5 tokens). When the local mismatching nouns do show up (totaling 2 tokens), there are extra lexical categories (either a numeral or a syntactic morpheme YOU) intervening between the mismatching classifier and the local noun, thereby no lexical disruptions ensue.

The rare occurrence of pre-RC classifiers in object-extracted RCs can be accounted for by the posited Semantic Clash Avoidance principle, which states that classifier positioning should avoid disrupting lexical access to the following noun. Strikingly, there is virtually no token found in the naturally-occurring CTB corpus that conforms to the "classifier mismatch"

condition (i.e., the Type 1 *mismatching-matching* classifier configuration) normally adopted in the experimental studies probing the role of pre-RC classifiers in signaling object-extracted RCs. The results help shed light on the frequency controversy in the research on Mandarin RC processing.

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Processing Chinese Wh-in-situ Dependencies

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Processing wh-dependencies in English-type languages necessarily involves retrieving a wh-filler from working memory, because the wh-phrase is linearly dislocated from its argument position. However, in wh-in-situ languages like Mandarin Chinese, the wh-phrase remains in a canonical argument position (1). The structural adjacency of a wh-phrase to its theta-role assigner raises the possibility that no memory retrieval and dependency-construction are necessary. On the other hand, syntactic theories posit that there is a dependency between the insitu position and the higher [spec, CP] position that hosts a LF-moved wh-element, rendering wh-in-situ languages and wh-movement languages abstractly similar[1]. Therefore it may still be necessary to retrieve information about the clause-initial position to correctly interpret a wh-insitu question. The current study investigates whether the processing of Mandarin wh-in-situ questions indeed involves constructing a long-distance dependency.

The multiple-response speed-accuracy (SAT) paradigm was used to study the comprehension of Mandarin wh-questions. The SAT paradigm allows separate estimates of both the speed and accuracy with which a dependency is constructed [2]. The critical conditions consist of 6 pairs of sentences, each consisting of an acceptable and unacceptable sentence. The first two pairs were mono-clausal and bi-clausal non-wh controls (2a-b). Unacceptability was introduced by semantic anomaly between the verb and its object. The rest were mono-clausal and bi-clausal wh-in-situ questions, and the unacceptability was introduced in two ways: the presence of semantic anomaly (2c-d) and the insertion of an extra wh-phrase (e.g. why) in clause-initial position (2e-f). This latter anomaly is not detectable through any local strategy, since unacceptability is induced by blocking the dependency formation between the clause-initial position and the object argument, due to the unavailability of the clause-initial position. 40 sets of the 12 conditions were presented to 15 native Mandarin speakers in Beijing over 6 1-hour sessions, embedded with 720 fillers. From the onset of the last word, participants were cued by a sequence of tones (18 total, one in every 350ms) to make an acceptability judgment of each sentence at each tone. For each acceptable-unacceptable pair of condition, a d-prime score was calculated at each response-latency by scaling hits against false alarms. This time course data was modeled as a saturating exponential growth function.

The best-fitting function, evaluated by the adjusted R^2[3,4] and paired t-tests of parameter values across individual subjects, reveals following patterns. For the declarative controls, length didn't affect either the speed of the accuracy of processing. For wh-in-situ questions: (i). wh-insitu questions are processed with a slower rate than the declarative controls [$p<.01$]; (ii). Length of the wh-in-situ questions didn't affect the rate, but the accuracy decreased for longer wh-questions [$p<.01$]. These findings suggest some critical similarities between wh-in-situ questions and English-type questions. First, processing Mandarin wh-questions, like processing English wh-questions, also involves a slower rate, even though the wh-word is adjacent to it theta assigner. This suggests a similar process of constructing long distance dependencies. Second, processing speed is insensitive to the length of the dependency, suggesting a content-addressable querying mechanism. Finally, processing accuracy on wh-questions, but not on controls, suffers as a function of distance, suggesting interference or decay due to the long distance relationship. It is also notable that local semantic anomalies showed similar dynamics to the extra-wh anomalies, suggesting local semantic fit is not evaluated prior to the establishment of the wh-dependency.

(1) 你 买了 什么?
ni maile shenme?
You bought what? (" What did you buy?")

(2) a. 约翰 申请了 / *干洗了 那所学校
John applied to / dry-cleaned that school.

b. 老师 希望 约翰 申请 / *干洗 那所学校 ▪ ▪ ▪ ▪
The teacher hoped John applied to / dry-clean that school.

c. 约翰 申请了 / *干洗了 哪所学校
John applied to/dry-cleaned which school?

d. 老师 希望 约翰 申请 / *干洗 哪所学校
The teacher hoped John applied to / dry-clean which school?

e. (*为什么) 约翰 申请了 哪所学校?
(why) John applied to which school?

f. (*为什么) 老师 希望 约翰 申请 哪所学校?
(why) The teacher hoped John applied to which school?

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'No Big No Small' for the Degree Use of Size Adjectives in Mandarin: Reality vs. Illusion

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Background: In languages like English, 'positive' size adjectives like 'big' and 'enormous' can characterize the degree to which a gradable noun holds of an individual, but 'negative' size adjectives like 'small' and 'tiny' typically cannot (1) (Morzycki 2005/09). Xie (2010) claimed that the bigness constraint is largely absent with the degree use of size adjectives in Mandarin: though not as productive as their positive counterparts, negative size adjectives in Mandarin are more productive to serve as degree modifiers than those in English. Building on Morzycki's analysis, Xie proposed that the contrast boils down to whether the adnominal degree morpheme that licenses the degree use of size adjectives receives the 'at least' (for English) or the 'exactly' interpretation (for Mandarin). In this paper we first point out that Morzycki's analysis of the bigness constraint hinges upon an unjustified assumption and is at best 'half correct'. The 'incorrect half' *ipso facto* leads to the crash of Xie's extension of Morzycki's analysis. Then we offer an alternative, semantic-pragmatic account of the constraint, and suggest that the difference between Mandarin and English with respect to the degree use of size adjectives is not semantic one. Rather, it may be due to pragmatics.

(1) a. He is an **enormous enthusiast** of replica Rolex. (=$_{\text{degree}}$ His enthusiasm is enormous.)
b. %The guy over there is a **tiny dork**. (% indicates unavailability of degree reading.)

(2) a. hen duo ren dou tingshuo chenglong shi ge **da shoucangjia**
very many person all hear Jackie Chan be CL big collector
'Many people heard that Jackie Chan is a big collector.'
b. zuotian yudao de na dui fufu yuanlai shi **xiao pianzi**
yesterday meet MOD that pair couple originally be small cheat
'The couple that (I) met yesterday turned out to be cheats-to-a-small-degree.'

Morzycki (2005/09): Morzycki drew an insightful parallel between the degree use of size adjectives and measure phrases (MPs) that modify adjective phrases (APs): both are interpreted as an argument of an appropriate degree morpheme that is framed in terms of a minimality operator and a comparative relation. Due to interaction with the scale structure of size adjectives, the degree morpheme associated with the degree use of size adjectives

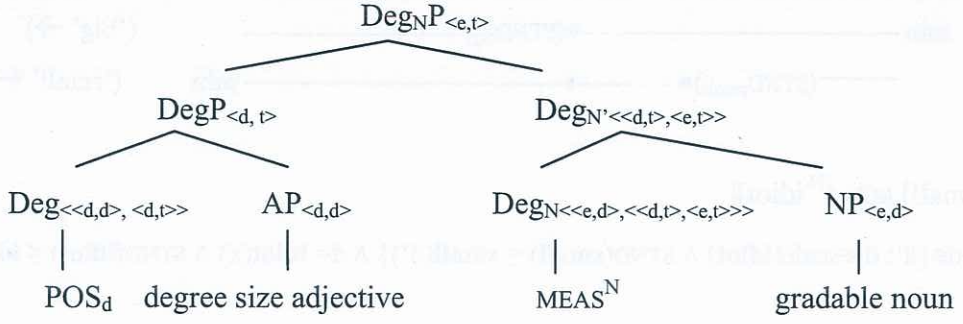
renders negative size adjectives meaningless on the intended degree reading, which translates into a ban on negative size adjectives being degree modifiers. Morzycki's analysis crucially depends on the assumption that AP-modifying MPs receive the 'at least' interpretation as the default (*6 ft tall* means AT LEAST *6 ft tall*). He provided no justification for the assumption. Empirical evidence, theoretical argumentation and psycholinguistic experiments all point to the exactly opposite conclusion that MPs (more broadly, number words) receive the 'exactly' semantics (*6 ft tall* means EXACTLY *6 ft tall*), with the 'at least' implicature arising via pragmatic considerations (König 1991, Horn 1992, Breheny 2008, Papafragou & Musolino 2003, Huang, Spelke & Snedeker 2010, *inter alia*).

A Semantic-Pragmatic Analysis: We adopt Morzycki's analytic intuition regarding the analogy between the degree use of size adjectives and MPs that modify APs. The morpheme MEAS^{N} for size adjectives (3) involves an identity relation, duly reflecting the 'exactly' interpretation of AP-modifying MPs. In addition, a null POS_{d} morpheme takes the size adjective as an argument and introduces a contextual standard of comparison to give the adjective its positive interpretation (4). The tree in (5) represents the general LF for size adjectives modifying gradable nouns. The semantic-pragmatic interface of degree polarity provides an account of the bigness constraint.

(3) $[\![\text{MEAS}^{N}]\!] = \lambda g_{<e,d>} \lambda m_{<d,t>} \lambda x.\exists d\, d \in \{d' : d' \in \text{scale}(g) \wedge m(d')\} \wedge d = g(x) \wedge \text{STND}(g) \leq g(x)$

(4) $[\![\text{POS}_{d}]\!] = \lambda g_{<d,d>} \lambda r_{d}.\ \text{STND}(g) \leq g(r)$ (subscript *d* stands for degree)

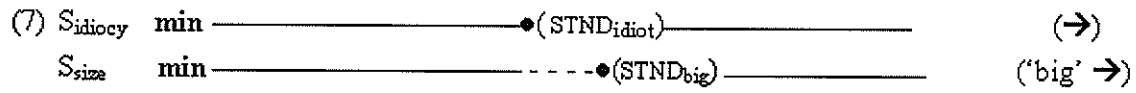
(5)



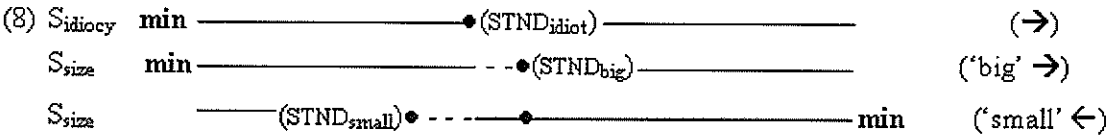
For the semantics of 'big idiot' (6), 'big' is interpreted with reference to the scale of 'idiot' (i.e. idiocy). So the standard of 'big' stands in a comparable relation to that of 'idiot'. A 'standard-big' idiot is necessarily an idiot, so STND_{big} has to be a superset of $\text{STND}_{\text{idiot}}$, under the ontology of degrees as intervals (Kennedy 1997, 2001), schematically as in (7). An individual whose 'size', so to speaker, of idiocy exceeds the standard of 'big' with reference to idiocy is a 'big idiot'.

(6) $[\![[\text{POS}_{d}\ \text{big}]\ \text{MEAS}^{N}\ \text{idiot}]\!]$

$=\lambda x.\exists d\ d \in \{d'\colon d' \in \text{scale}(\textbf{idiot}) \wedge \text{STND}(\textbf{big}) \leq \textbf{big}(d')\} \wedge d = \textbf{idiot}(x) \wedge \text{STND}(\textbf{idiot}) \leq \textbf{idiot}(x)$



Kennedy (1997, 2001) proposed that an adjectival antonym pair map identical arguments to complementary regions of the same scale. The standards for the pair stand in a complementation relation when the relevant context admits no extension gap (Klein 1980). The gap, however, generally exists in contexts and plays an important role in understanding vagueness and grammar. It contains objects that fall within the maximal and minimal points of the standard of the 'positive' adjective and that of the 'negative' adjective, respectively. The extension gap is represented with dotted lines in (7-8). In the context of size adjectives as degree modifiers, it is intuitive and reasonable to assume that the extension gap of the adjectival antonym pair is symmetric with respect to the standard of the gradable noun. Because STND_{big} is a superset of STND_{idiot}, STND_{small}, seen from a positive perspective, is a subset of STND_{idiot} (8). If the smallness of an individual's idiocy is at least as great as STND_{small}, the corresponding degree on the idiocy scale falls below STND_{idiot}. The semantics of 'small idiot' (9), which contains conjunction of the antecedent of the preceding if-sentence ('$\text{STND}(\textbf{small}) \leq \textbf{small}(d')$') and the exact opposite of the consequent ('$\text{STND}(\textbf{idiot}) \leq \textbf{idiot}(x)$'), denotes the empty set; hence the typical lack of degree reading of 'small idiot'.



(9) $[\![[\text{POS}_d\ \text{small}]\ \text{MEAS}^N\ \text{idiot}]\!]$

$= \lambda x.\exists d\ d \in \{d'\colon d' \in \text{scale}(\textbf{idiot}) \wedge \text{STND}(\textbf{small}) \leq \textbf{small}(d')\} \wedge d = \textbf{idiot}(x) \wedge \text{STND}(\textbf{idiot}) \leq \textbf{idiot}(x)$

When a context allows no extension gap of an adjectival antonym pair, their standards are complementary in the strictest sense. Then STND_{small}, seen from a positive perspective, is too a superset of STND_{idiot}, and the semantics of 'small idiot' no longer denotes an empty set. One such context is where only a small number of individuals are exclusively relevant for determining the standards of the antonym pair such that there is no object that falls within the indeterminate middle, hence the availability of degree reading of 'small idiot' in (10). The semantics of the (regular) comparative and superlative of 'small' does not involve comparison with a contextual standard (Kennedy 1997, Klein 1980); thus it comes as no surprise that 'smaller' can be a degree modifier in (11). Third, if the standard of 'idiot' is low

in a context such that it falls below the complement of $\text{STND}_{\text{small}}$, (9) denotes a non-empty set. Though this prediction is harder to test empirically, the acceptability of negative size adjectives modifying gradable nouns which have an inherently low standard (e.g. 'criminal' as in (12)) provides indirect evidence for it. We also take the prediction to explain many other instances of 'small' degree-modifying 'idiot' (e.g. (13)).

(10) Domestic violence is a case of two idiots fighting -- and the **small idiot** losing.

(11) The fight was about some idiot wanting to prove he could outsmart a **smaller idiot.**

(12) They might have confined themselves to pursuing **small criminals**.

(13) Unchecked and unhealed, it makes an idiot out of us over and over. ... But at the end of the day, even a **small idiot** feels like a big idiot. (taken from *So Long, Insecurity*)

Going back to Mandarin, we find that when a gradable noun has an inherently high standard, it is much less acceptable to be modified by the degree use of size adjectives. For example, the suffix *jia* denotes a person of considerable achievement in some (art) profession. The standard associated with a gradable noun formed out of this suffix is high regardless of the context, and is very unlikely (if not impossible) to be greater than the (positive) complement of $\text{STND}_{\text{small}}$. Therefore, when combined with such gradable nouns, 'small' generally does not have the degree reading. As confirming evidence, for (14) it is hard to come up with a context where *xiao* 'small' degree-modifies the penmanship of the relevant calligraphers. On the other hand, if a gradable noun allows for a contextualized low standard such as 'cheat' and 'fan', it can be degree-modified by *xiao*, as evident from the acceptability of (2b) in the degree reading. We have seen that English behaves similarly. Thus, the alleged contrast between Mandarin and English with regard to negative size adjectives as degree modifiers may not be as qualitatively significant as Xie (2010) claimed.

(14) shequ de xiao shufajia xianchang zhanshi le canyi.
community DE small calligrapher on the spot exhibit PAST talent
'Those kids in the community who like calligraphy wrote on the spot.' (most natural)

Conclusion: The discussion can be extended to other size adjectives modifying gradable nouns. The analysis draws on the scale structures of size adjectives and gradable nouns, the complementation relation and ordering relation among their contextual standards, and extension gap. Standard and extension gap are both functions of the utterance context; in this sense our analysis is more pragmatic. It allows for more room for contextual variation in

negative size adjectives as degree modifiers, which *prima facie* may be disguised as a crosslinguistic variation.

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Two Levels of Gradience in Mandarin and Taiwanese Tone Sandhi

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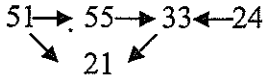
In a recent trend, phonological research is moving beyond the assumptions that (a) phonological patterns are invariant and exceptionless, and (b) it suffices to study lexicallymanifested sound patterns observable from elicited data. The abandonment of assumption (a) stems not only from long-standing observations that many phonological patterns are variable (Labov 1972, 1994), gradient (Bolinger 1961), and full of exceptions (Zimmer 1969), but also from recent experimental work that shows that speakers have phonological knowledge that reflects the variability, gradience, and patterns of exceptionality observed in the lexicon (Zuraw 2000, Frisch and Zawaydeh 2001, Hayes and Londe 2006). The validity of assumption (b) was particularly challenged by recent studies that indicate that speakers' phonological knowledge does not always match, and can in fact be both more (Zuraw 2007, Moreton 2008) and less (Sanders 2001, Zhang 2009) than the lexical patterns.

Experimental paradigms such as the wug test (Berko 1958) have proven useful in the assessment of the speakers' phonological knowledge and the nature of gradience in this knowledge. In particular, Zhang and colleagues' work (2008, 2009, 2010) has shown that wug-testing the tone sandhi patterns in Chinese dialects is a fruitful area of research that can provide insight into how speakers internalize these complex patterns and how frequency of usage and phonetics may affect the productivity of these patterns. Zhang et al. identified two types of gradience that can occur in patterns of tone sandhi productivity. First, the sandhi may only apply to a subset of the nonce items. This is found in Taiwanese: when Taiwanese speakers were asked to pronounce disyllabic wug words, the tone sandhi patterns exceptionlessly attested in the Taiwanese lexicon (1) only applied 0-50% of the time, with the majority of the "mistakes" non-application of the sandhi. The differences among the productivities of the different sandhis were argued to be the result of the interaction among the opaque nature, phonetic property, and frequency of the different sandhis (Zhang et al. 2009). Second, the sandhi may apply 100% of the time to the nonce items, but the application is incomplete. This is found in Beijing Mandarin, whose speakers applied the Third-Tone sandhi (2a) to all disyllabic wug words, but incompletely as compared to the sandhi in real words (Zhang and Lai 2010). The application of the Half-Third sandhi (2b), however, is identical between real and wug words. Zhang and Lai attributed this difference to the difference in phonetic basis between the two sandhis.

(1) Taiwanese tone sandhi in non-XP-final positions:



(2) Beijing Mandarin tone sandhi:

a. Third-Tone sandhi: 213 → 35 / __ 213

b. Half-Third sandhi: 213 → 21 / __ T (T≠213)

I present a model of learning in this paper that can capture both types of gradience. The model is based on the Maximum Entropy grammar (Goldwater and Johnson 2003), in which constraints are associated with weights, the probability of a candidate being the output is based on its harmonic score calculated from the weights of the constraints it violates, and the learning of the grammar is done by calculating the constraint weights so that the probability of observing the training dataset is maximized. The crucial elements of the model are as follows. First, the tone sandhi patterns are listed in the speakers' grammar via USELISTED constraints (Zuraw 2000) with three levels of abstraction: word level, syllable allomorph level, and tonal allomorph level. An existing syllable in an existing word will benefit from all three types of constraints; an existing syllable in a wug word will only benefit from the last two types; and a wug syllable will only benefit from the tonal allomorph listing. In the learning process, the weight promotion of more general USELISTED constraints is suppressed via an analytical bias (Wilson 2006). This allows exceptionless sandhi patterns in the lexicon to be only partly productive when wug-tested. Second, phonologically transparent tone sandhi patterns also benefit from markedness constraints, while opaque tone sandhis do not. For instance, *213-NONFINAL, whose weight gets promoted quickly in the learning process due to its exceptionlessness, further encourages the Mandarin sandhis, while the Taiwanese sandhis in the tone circle find no comparable encouragement. This explains the difference in the nature of gradient productivity between Mandarin and Taiwanese. Third, there is an analytical bias in the learning process that favors the weight promotion of USELISTED constraints that govern tone sandhis with stronger phonetic bases. This serves the dual purpose of accounting for the effect of phonetics in both types of gradience: the lower application rates for sandhis with less phonetic motivation in Taiwanese wug words and the incomplete application for the third-tone sandhi in Mandarin wug words. Finally, the effect of frequency on both types of gradience obtains naturally from a Maximum Entropy grammar, as it inherently encodes the frequency effect by letting more frequent patterns to have greater pulls on constraint weights in the learning process.

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ba AS SPELL-OUT OF LITTLE *v*

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Background. In this paper, we propose a new analysis of the *ba* construction (*ba*C) in Chinese,whereby *ba* is identified with the light verb, *v*. *ba* is previously treated as a preposition (e.g.Li90), a lexical verb (e.g. Bender00), a functional head above *v*P (e.g. Whitman05), a fillerinserted to where verb raising landed (Sybesma99), etc., in literature.

Categorical Analysis. The possibility of *ba* being prepositions, case markers or lexicalverbs has been effectively ruled out in literature (e.g. Huang09); but it is clearly verbal innature. Therefore, we will focus on differentiating whether *ba* is a separate causative morphemeabove the bipartite verb structure (*v*P) or, as we claim, simply a spell-out of little *v*. Firstly, *ba*doesn't introduce a causative event argument other than the external argument given that *ba*cannot be used to causativizeunergatives or transitives (1); furthermore, *ba* doesn't assign anytheta role, since there is always a non-*ba* counterpart of each *ba*C. Secondly, if *ba* headeda projection above *v*P, then agentive adverbs should be allowed after post-*ba* NP, contrary tofact, (2). Moreover, we observe that *ba* never co-exists with little *v*: besides unergatives andtransitives, double object constructions (DOC) cannot be expressed in *ba*C either. RegardingDOC, consider (3b) (which avoids the complicating factor of the categorical status of *gei* 'give'or 'to' in (3a)). Since there is no preposition meaning "off" at all in Chinese, the only possibleanalysis of (3-b) is a bipartite shell where *tou* is decomposed as CAUSE+NOT-HAVE; then asexpected, the silent CAUSE, which is semantically associated with the 'real' double object verb,makes the presence of *ba*, another spell-out option of little *v*, impossible.

Challenges. Treating *ba* as little *v* is not a surprising idea, but faces the challenge raisedby the adverb positioning in (4). So as to explain (4-b), the lower adverb in (4-a) was arguedto adjoin *v*P instead of VP, then the higher one needs an extra position (Huang09). However,in a *ba*C, the lower adverb must be VP-level, because, at this position, (i) agentive adverbsare not allowed and (ii) *zai-yi-ci* 'again' unambiguously modifies the resultant event (5). We argue thatthe contrast between (4-a) and (4-b) does not necessarily witness a structural difference, sincesyntactic constraints can also be imposed on other merge conditions. Possible constraints on (4-b) could be (i) adverbial ending *di4* must be preceding averbal element; or (ii) adjunction to a projection headed by a trace may be dispreferred.

Structural Analysis. Since the lower scope of *ba*C allows for manner adverbs but notagentive adverbs, then following (Pylkkanen02), *ba* selects VP. Furthermore, we notice that,compared to judging the affected meaning, testing for the acceptability of VP complementsor the non-existence of corresponding verb-object idioms is more accurate to predict the restrictionson *ba*C. These indicate that post-*ba* NP is base-generated at the specifier position ofVP, so as to allow for complex VP complements and to not be an integral part of the predicate.Finally, since Chinese don't allow such manner-of-motion or verb-particle constructionsas parallel to English, then following Harley07, verb roots don't appear in the higher positionof *v*P. In summary, for *ba*C, we propose (7) that involves no movement at all and for its non-*ba*counterpart, the surface order is derived by raising Vto *v*.

Semantics. Adopting (7), *ba*C simply follows the general interpretation of *v*P, and thestructural position of post-*ba* NP can naturally give rise an affected meaning, though not necessarily as in (6). Moreover, two possibilities of the spell-out of (7), *ba*C and its counterpart, may haveslightly different meaning as expected.

Implications. Our analysis of *ba*C accounts for the empirical facts of this construction aswell as its interactions with other constructions. e.g., it nicely explains why *ba*C allows fewerexpressions than passives and successfully predicts the legal form of 'real' DOC in Chinese.

(1) a * *ta ba xiaohaier* ($_{ok}$ *nong*) *ku le.*
he BA baby ($_{ok}$ make) cry LE.
(intended) "He made the baby cry."

b * *ta ba Mary xue yingyu.*
he BA Mary learn English
(intended) "He made Mary learn English."

(2) *wo guyi ba beizi* (* *guyi*) *fang zai zhuozi shang.*
I on-purpose BA cup (* on-purpuse) put on tabe on.
"I put the cup on the table on purpose."

(3) a *wo di (gei) ta jintian de baozhi, danshi ta mei jiezhu.*
I give (to) him today 's newspaper, but he not receive.
"I give today's newspaper to him but he didn't get it."

a' *wo ba jintian de baozhi di (gei) ta, danshi ta mei jiezhu.*
I BA today 's newspaper give (to) *him,* but he not receive.
"I give today's newspaper to him but he didn't get it."

b *wo tou le ta yibai-kuai qian* (* *danshi ta mei diu qian).*
I steal LE him 100-CL money (* but he not lost money).
"I steal ¥100 from him."

b' * *wo ba yibai-kuai qian tou le ta.*
I BA 100-CL money steal LE him.
(intended) "I steal ¥100 from him."

(4) a *wo (ok xiaoxin-di) ba (ok xiaoxin-di) beizi fang xia.*
I (ok carefully) BA (ok carefully) cup put down.
"I put the cup down carefully."

b *wo (ok xiaoxin-di) fang xia (* xiaoxin-di) beizi.*
I (ok carefully) put down (* carefully) cup.
"I put the cup down carefully."

(5) a *ta zai-yi-ci ba women de xiwang dianran le.*
he again BA *we* 's hope burn LE.
"He provide us with hope again."

b *ta ba women de xiwang zai-yi-ci dianran le.*
he BA *we* 's hope again burn LE.
"We are full of hope again thanks to him."

(6) *ta ba shuxue dang-zuo ta zhongshen de zhiye.*
he BA *math* view-as him life-long DE career.
"He view math as his life-long career."

(7) [$_{vP}$ (pre-ba NP) [$_{v'}$ba [$_{VP}$ (post-ba NP) [$_{V'}$...]]]]

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Call for Papers and Receipt of Abstracts

The call for papers was posted on the TEAL-6 website in October of 2009. The deadline was March 15, 2010. We accepted abstracts until the evening on March 16 in Hong Kong Time, assuming the local time of the abstract authors and allowing for a short grace period. At that time, a total of 134 abstracts were received, representing 18 countries and areas as shown in the following table.

Asia	93 (69.4%)
Bangladesh	1
China	
Mainland	39
Hong Kong	12
Taiwan	20
Japan	9
Malaysia	1
Singapore	1
South Korea	8
Thailand	1
The United Arab Emirates	1
Americas	30 (22.39%)
Canada	3
United States	27
Europe	10 (7.46%)
Belgium	1
France	6
Germany	1
Russia	1
United Kingdom	1
Oceania	1 (0.75%)
Australia	1
Total	**134**

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We would like to thank our reviewers. The following prominent international experts kindly accepted our request to help with the review process.

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abstract to a reviewer from the same institution. Each reviewer was requested to anonymously review a maximum of 6 abstracts each and to rate them from one (*reject*) to six (*must accept*). After all of the abstracts were reviewed, the committee carefully read all the comments on those abstracts from the reviewers and selected the abstracts with the highest average review scores. The authors of those abstracts were then invited to present their papers at the TEAL-6 Workshop.

Abstracts submitted to the TEAL-6 Workshop were reviewed separately from those submitted to the Eighth GLOW in Asia and the Zhu-Lu Symposium.

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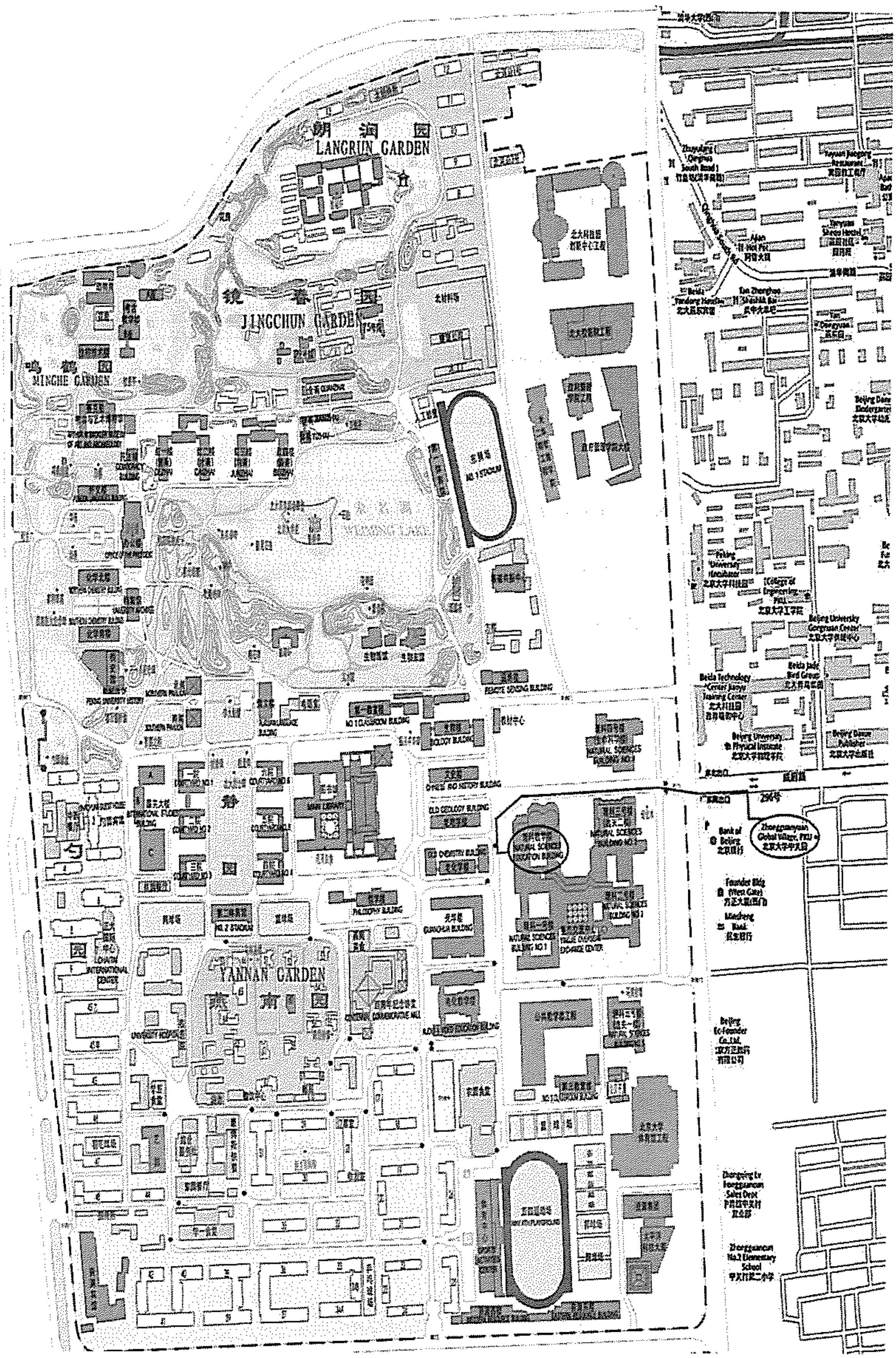
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