

# Requirement of Variable-Introducing Elements on Event Quantification in Chinese

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# Universal quantification

*měi-dōu* co-occurrence

One of the ways to construct universal quantification in Mandarin Chinese is to use the *měi-dōu* co-occurrence.

- *měi* is a *quantifier* glossed as 'every'.
- *dōu* is an *adverb* glossed neutrally as DOU.

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(1) *měi yī gè xuéshēng dōu bìyè le*  
every one CL student DOU graduate LE  
'Every student graduated.'

(Huang, 1996, p. 2)

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The English *every* can only occur in nominal environments.

The Chinese *měi* can occur in nominal and in verbal environments.

# Universal quantification in verbal environments

The *měi*-VP clause: with *yī cì* 'one time'

- The *měi*-VP construction occurs when *měi* is in a verbal environment.
- Understudied in the literature. First (known) mention in Huang (1996).

(2) *Lǐsī měi dǎ Wángwǔ yī cì, Zhāngsān dōu yào mà tā yī dùn*  
Lisi every hit Wangwu **one time**, Zhangsan DOU will scold he one session  
'Every time Lisi hits Wangwu, Zhangsan will scold him.'

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(3) \**Lǐsī měi dǎ Wángwǔ, Zhāngsān dōu ...*  
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The sentence requires *yī cì* 'one time'.

Q: How is this "unlike the English *every*"?

# Universal quantification in verbal environments

The *měi*-VP clause: without *yī cì* 'one time'

- (4) *Lǐsī měi dǎ yī gè rén, Zhāngsān dōu yào mà tā yī dùn*  
Lisi every hit **one** cl **person**, Zhangsan DOU will scold he one session  
'Every time Lisi hits someone, Zhangsan will scold him.'

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## Research Question

What is the rule that explains when a *měi*-VP clause is grammatical or ungrammatical?

# Central Hypothesis

The following hypothesis is presented from Huang, 1996.

## Central Hypothesis

A *měi*-VP clause requires a *variable-introducing element*.

What are **variable-introducing elements**?

- The prototypical variable-introducing elements are **indefinite expressions**, like *yī cì* 'one time' and *yī gè rén* 'one person'.
- **Reflexive pronouns** like *zìjǐ* 'self' are also variable-introducing elements.

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This thesis strengthens the Central Hypothesis by showing that it correctly predicts the grammaticality of a larger collection of sentences, such as sentences with

- ditransitive verbs,
- the 把 *bǎ* construction,
- the verb copying construction.

## Why is the Central Hypothesis interesting? (1/2)

In the nominal case, the variable-introducing element is the domain of quantification.

- (1) *měi yī gè xuéshēng dōu bìyè le*  
every one cl student DOU graduate LE  
'Every student graduated.'  
'For each student, it is the case that they graduated.'

## Why is the Central Hypothesis interesting? (2/2)

The variable-introducing element **does not need** to be the domain of quantification.

- (4) *Lǐsī měi dǎ yī gè rén, Zhāngsān dōu yào mà tā yī dùn*  
Lisi every hit **one cl person**, Zhangsan DOU will scold he one session  
'Every time Lisi hits someone, Zhangsan will scold him.'  
'For each hitting of Lisi on someone, Zhangsan will scold him.'

The translation cannot be:

- (6) For each person Lisi hits, Zhangsan will scold him.

- The Central Hypothesis predicts the grammaticality of the larger collection of *měi*-VP clauses included in the thesis.
  - A superficial analysis of ditransitive constructions does not yield correct predictions, but with a more in-depth understanding of the syntax of ditransitive constructions and of the requirement of the Central Hypothesis, the predictions are correct.
- The research in the thesis highlights open questions in the literature, ranging from
  - questions directly related to *měi*-VP clauses to
  - questions about a more broad collection of sentences in Chinese.

Thank you!

### Key References

Huang, S.-Z. (1996). *Quantification and predication in Mandarin Chinese: A case study of dou* [Doctoral dissertation, University of Pennsylvania]. Philadelphia, Pennsylvania, United States.