

An Investigation of Degree Reduplication in Mandarin

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Degree Word Doubling



- In Mandarin, doubling a degree word strengthens the meaning.

(1) John fēicháng xǐhuān tā.
very like 3SG.

‘John likes it very much.’

[e.g. LIKE-DEGREE = 0.6]

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- (1) John fēicháng xǐhuān tā.
very like 3SG.
'John likes it very much.' [e.g. LIKE-DEGREE = 0.6]
- (2) John **fēicháng fēicháng** xǐhuān tā.
very very like 3SG.
'John likes it **very very much**.' [e.g. LIKE-DEGREE = 0.8]

Degree Reduplication Asymmetry



■ **Puzzle** (observed but unexplained in ZHAO 2008):

(3) 'John likes it **very very** much.'

a. John **fēicháng fēicháng** xǐhuān tā.
very very like 3SG

b. *John **hěn hěn** xǐhuān tā.
very very like 3SG

Degree Reduplication Asymmetry



- Disyllabic degree words can be doubled:
fēicháng, chāojí, tèbié, etc.
- **Monosyllabic** degree words **CANNOT** be doubled:
hěn, chāo, tè, etc.
- By 'degree word', we refer to elements that fill in the degree-argument of gradable predicates, excluding composite degree-related expressions like *yǒudiǎn* 'a bit' and the superlative particle *zuì*.

Outline



- 1 More Empirical Data
- 2 Analysis
- 3 More on the Constraint $RED_{XP} \geq F_T$
- 4 Implications
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Monosyll Deg Wrds Actually CAN be Redup-ed

Observations:

- It is misleading to say that monosyllabic degree words cannot be doubled;
- Monosyllabic words can actually appear in reduplication.

Monosyll Deg Wrds Actually CAN be Redup-ed

- Doubling *hěnn* alone is ungrammatical;
- It becomes grammatical once we reduplicate along more materials.

(4) John [hěnn *(xǐhuān (tā))] _ℝ [hěnn xǐhuān tā] _ℝ.
 very like 3SG very like 3SG
‘John likes it very very much.’
✗[hěnn] _ℝ but ✓[hěnn xǐhuān] _ℝ or ✓[hěnn xǐhuān tā] _ℝ

Disyllabic Deg Words

- Disyllabic degree words can also have more reduplicated materials along.

(5) John [fēicháng (xǐhuān (tā))]_R [fēicháng xǐhuān tā]_B.
very like 3SG very like 3SG
'John likes it very very much.'
✓[fēicháng]_R or ✓[fēicháng xǐhuān]_R or ✓[fēicháng xǐhuān tā]_R

The Reduplication is Phrasal

- We conclude that the reduplication here is phrasal;
- Some factors force monosyllabic degree words to not appear alone in the reduplicant;
- We will articulate what these factors are in the following sections.

(6) John RED- [hěnfēicháng xǐhuān tā]_B.
 very like 3SG
 ‘John likes it very very much.’

Total Reduplication of the Phrase?

- Total reduplication gets deviant as the phrase becomes logner.

(7) ?? John[hěnxǐhuānhē hēi kāfēi]_R[hěnxǐhuānhē hēi kāfēi]_B.
verylike drinkblackcoffee verylike drinkblackcoffee
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- But it does not sound categorically bad, and there is also speaker and register variation;
- Under a constraint-theoretic framework, it can be captured by placing **MAX-BR** somewhere *ad hoc* inside the sequence

RED ≤ σσσσσσ >> **RED** ≤ σσσσσσ >> ... >> **RED** ≤ σσσ >> **RED** ≤ σσ

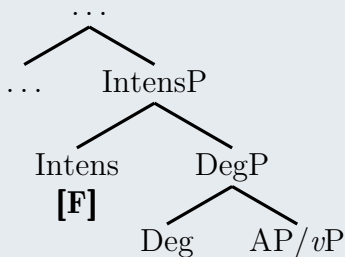
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Reduplication of DegP

- We adopt the syntactic structure in (8);

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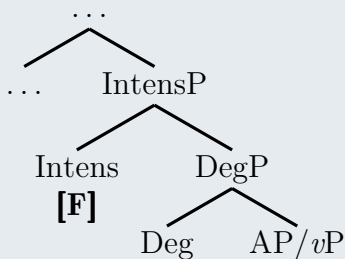


- the gradable predicate (AP or vP) is headed by Deg° (see ABNEY 1987, KENNEDY 1999 *i.a.*);
- $Intens^\circ$ (same as F_{RE}° in WANG 2023) merges with $DegP$;

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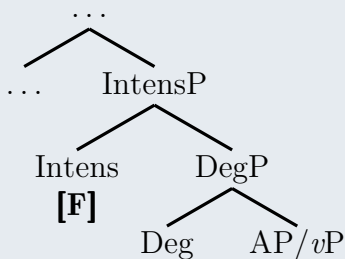
(9) **[F]** $\leftrightarrow$ RED-

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- Intens^o (same as F_{RE}^o in WANG 2023) merges with DegP;
- Intens^o carries a feature **[F]** phonologically interpreted as RED (9);

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(10) The critical constraint:

$$\text{RED}_{\text{XP}} \geq \text{F}_T$$

Phrasal reduplicants are minimally one foot (two syllables).

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- **[F]** $\leftrightarrow$ RED- is subject to a minimality constraint (10).

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- No phrasal reduplicants can underlength a foot (11);

(11) reduplication of $vP \rightsquigarrow$ iterative reading
Zhěngtiān {**dǎyóuxì** dǎyóuxì/ **xīxì** xīxì/ ***wán** wán}.
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(12) Zhěngtiān [{wán wán/ wán ya}]_R [_{vP}wán]_B.
day.long play play play PRT play

(13) $\text{RED}_{\text{XP}} \geq \text{FT} \gg \{\text{DEP-BR}, *\sigma\}$

- Notice that the phrasal base in (12) is itself monosyllabic;

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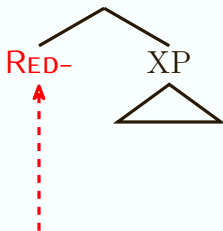
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- Notice that the phrasal base in (12) is itself monosyllabic;
- Morpheme- (or word-) level reduplicants (see LEE-KIM 2016 for

A Visualisation of the Constraint

- **ALL** phrasal reduplicants are no less than one foot.



☹ if realised as less than one foot

FTBIN is Not Enough

- Foot binarity is **NOT** enough to cover the pattern;
- Notice that (14a) passes the foot binarity filter;
- There is also no need for the base to left align with a foot;

(14) a. *zhěngtiān (wán wán)_{FT}
day.long play play
b. zhěngtiān (**wán wán**)_{FT} (**wán wán**)_{FT}
day.long play play play play

- However, foot binarity may still play a role in the end. For example, it seems that a zero syllable (DUANMU 1999) is accommodated to the base in (15) (see also HUANG 2017).

(15) zhěngtiān (**wán wán**)_{FT} (wán $\emptyset_{\sigma}$)_{FT}
day.long play play play

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Implications

- **All phrasal reduplicants** in Mandarin are subject to **the same minimality requirement**;
- In reduplication, phonology must know the **syntactic structure** of the base *i.e.* whether it is an XP.

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Multiple Intens^o's?

- Expectedly, for monosyllabic degree words, repeating itself several times is also an option (16);

- (16) a. *John hěn hěn gāo.
 very very tall
- b. John hěn hěn hěn gāo.
 very very very tall
- c. John hěn hěn hěn hěn gāo.
 very very very very tall

- One problem is whether we need to encode the difference between (16b) and (16c) in syntax, or attribute it to how RED- is implemented in phonology.

DegP-External Particles Never Appear in Red

- Certain degree words co-occur with particular sentence final particles (see [SOH 2009](#), [XIONG & HSIEH 2021](#));
- These SFP's may clitise into the base, but never into the reduplicant (17).

- (17) a. Zhè dào wèntí [tài nán -le]_ω!
this CLF problem too difficult -PFV
'This problem is too difficult.'
- b. Zhè dào wèntí [tài nán (*-le)]_ω [tài nán -le]_ω!
this CLF problem too difficult -PFV too difficult -PFV
'The problem is too too difficult!'

An Example of Both Head & Phrasal Redup

- Deg^o itself can be realised as -RED;

(18) '(?) somewhat beautiful'

- a. měi~měi-de
beautiful~_{DEG}-DE
- b. piào<~piào>liàng<~liàng>-de
beautiful<~_{DEG}>-DE

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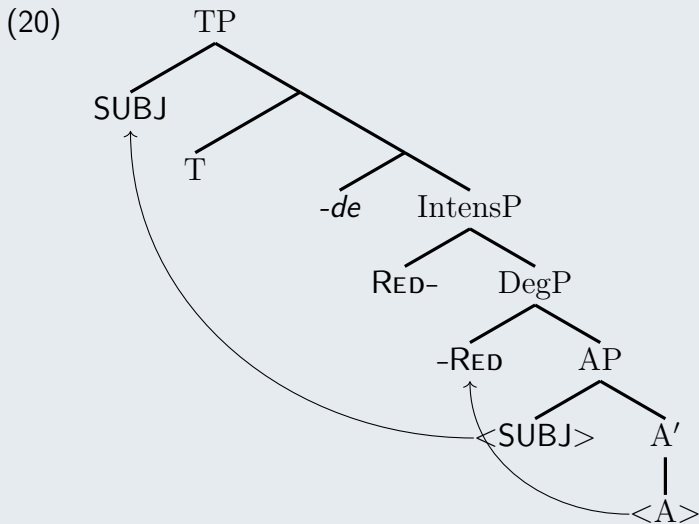
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- Intens^o can be used together with (18).

- (19) a. měi~měi- měi~měi-de
beautiful~DEG- beautiful~DEG-DE
- b. piào<~piào>liàng<~liàng>- piào<~piào>liàng<~liàng>-de
beautiful<~DEG>- beautiful<~DEG>-DE

An Example of Both Head & Phrasal Redup



THANK YOU

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