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# Degree Reduplication in Mandarin

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## Overview

### Contrast between mono-/di-syllabic degree words.<sup>a</sup>

- empirically observed (ZHAO 2008) but left unexplained.

- (1) John {**fēicháng fēicháng** / **\*hěn hěn**} xǐhuān tā. Mandarin  
very very very very like it  
'John likes it very very much.'
- (2) a. ✓ **Doubling**: *fēicháng, tèbié, chāojí, jíqí, ...*  
b. ✗ **Doubling**: *hěn, tè, chāo, jí, tài, ...*

## More Data

### More empirical data. The reduplicant:

- has a minimal length requirement (3-4);
- need not correspond to a syntactic constituent (3);
- excludes elements external to the degree construction (5).<sup>b</sup>

- (3) John [hěn \*(xǐhuān (tā))] <sub>ℝ</sub> [hěn xǐhuān tā] <sub>ℬ</sub>.  
very like it very like it  
*i.e.* ✗ [hěn] <sub>ℝ</sub> but ✓ [hěn xǐhuān] <sub>ℝ</sub> or ✓ [hěn xǐhuān tā] <sub>ℝ</sub>
- (4) some other ways to realise the reduplicant  
John [{hěn hěn (hěn × *n*) / ?hěn ya}] <sub>ℝ</sub> [hěn xǐhuān tā] <sub>ℬ</sub>.  
very very very very PRT very like it
- (5) Certain degree words co-occur with particular sentence final particles (see SOH 2009, XIONG & HSIEH 2021).  
These SFP's cliticise into the base, but never into the reduplicant.  
a Zhè dào wèntí [tài nán -le] <sub>ω</sub>!  
this CLF problem too difficult -PFV  
'This problem is too difficult.'  
b Zhè dào wèntí [tài nán (\*-le)] <sub>ω</sub> [tài nán -le] <sub>ω</sub>!  
this CLF problem too difficult -PFV too difficult -PFV  
'The problem is too too difficult!'

- so long as the requirements above are met, the asymmetry between monosyllabic and disyllabic degree words disappears (6).

- (6) John [fēicháng (xǐhuān (tā))] <sub>ℝ</sub> [fēicháng xǐhuān tā] <sub>ℬ</sub>.  
John [hěn \*(xǐhuān (tā))] <sub>ℝ</sub> [hěn xǐhuān tā] <sub>ℬ</sub>.  
very like it very like it

### Other (minor) points:

- orthogonal to whether the gradable predicate is AP or *v*P;
- no categorical limit on the reduplicant's length, though total reduplication gets deviant as the base becomes longer (7);
- semantically, degree reduplication yields a truth conditional difference.

- (7)<sup>?</sup> John [hěn xǐhuān hē hēi kāfēi] <sub>ℝ</sub> [hěn xǐhuān hē hēi kāfēi] <sub>ℬ</sub>.  
very like drink black coffee very like drink black coffee  
'John likes drinking black coffee very very much.'

Abbreviations: CLF = classifier, PFV = perfective, PRT = particle. Notations: ℬ = base, ℝ = reduplicant.

<sup>a</sup>Degree words refer to elements that fulfil the degree-argument of gradable predicates (KENNEDY 1999), but excluding superlatives and composite expressions like 'a bit'.

<sup>b</sup>The form (5b) may be a felicitous instance of repetition *i.e.* 'too difficult! too difficult!', which is NOT degree reduplication under our discussion.

## Analysis

### We adopt the syntactic structure in (8).

- the gradable predicate (AP or *v*P) is headed by Deg° (see ABNEY 1987, KENNEDY 1999);
- Intens° (same as F<sub>RE</sub>° in WANG 2023) merges with DegP;
- Intens° carries a feature [F] phonologically interpreted RED (9).

- (8) ...  
... IntensP  
Intens DegP  
[F] Deg gradable pred
- (9) [F] ↔ RED
- (10) The critical constraint:  
**RED<sub>XP</sub> ≥ F<sub>T</sub>**  
Phrasal reduplicants must be minimally one foot.

### The degree reduplicant must meet a syntax-phonology interface condition.

- [F] ↔ RED is subject to a minimality constraint (10);
- the constraint is not morpheme-specific: no phrasal reduplicants can underlength a foot (11);
- notice that the phrasal base in (12) is itself monosyllabic.
- morpheme- (or word-) level reduplicants (see LEE-KIM 2016 for examples) are exempt from this constraint.

- (11) reduplication of *v*P ⇔ iterative reading  
Zhěngtiān dòu zài {**dǎyóuxì** dǎyóuxì / **xīxì** xīxì / **\*wánwán**}.  
day.long all PROG play.game play.game play play play play  
'He is {playing video games/ playing/ playing} all day long.'
- (12) Zhěngtiān dòu zài [{wánwán / wányá}] <sub>ℝ</sub> [<sub>v</sub>wán] <sub>ℬ</sub>.  
day.long all PROG play play play PRT play
- (13) **RED<sub>XP</sub> ≥ F<sub>T</sub>** >> {**DEP(B-R)**, **\*σ**}

## Implications

### Several implications *beyond* degree reduplication:

- Mandarin-internally, phrasal reduplicants behave similarly under the same minimality requirement, no matter whether it is a DegP or not;
- in reduplication, phonology must be sensitive to the syntactic status (*i.e.* whether it is an XP) of the base;
- calling for further crosslinguistic observations.

## Conclusion

We provide a syntax-phonology interface analysis to account for the asymmetry between monosyllabic and disyllabic degree words. Phrasal reduplicants are minimally a foot.

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