Degree Reduplication in Mandarin

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Puzzle While reduplication (of lexical words) is widely studied (MᴄCᴀʀᴛʜʏ & Pʀɪɴᴄᴇ 1995, Iɴᴋᴇʟᴀs & Zᴏʟʟ 2005), reduplication of degree words receives relatively less attention. This paper investigates Mandarin degree reduplication, start-ing with the interesting puzzle seen in (1). In Mandarin, bisyllabic degree words, like *fēicháng*, can be doubled; whilst monosyllabic ones like *hěn* cannot.

N.B. "Degree word" refers to elements that fulfil the degree-argument of gradable predicates in the sense of Kennedy (1999) but ex-cluding superlatives and composite degree-related expressions like 'a bit'.

(1) John {**fēicháng fēicháng**/ ***hěn hěn**} xǐhuān tā.
        very   very   very very like   it

    'John likes it very very much'

(2) a. ✓**Doubling**: *fēicháng*, *tèbié*, *chāojí*, *jíqí*, *etc.*
    b. ✗**Doubling**: *hěn*, *tè*, *chāo*, *jí*, *tài*, *etc.*

Although *hěn hěn* is ungrammatical in (1), it will sound natural once (part of) the predicate is reduplicated along, seen in (3). Example (3) also shows that the reduplicated part is not necessarily a constituent, i.e. *hěn xǐhuān*.

(3) John [hěn *(xǐhuān (tā))]$_\mathbb{R}$ [hěn xǐhuān tā]$_\mathbb{B}$.   ($\mathbb{B}$:=base, $\mathbb{R}$:=reduplicant)
        very like   it   very like it

An additional point is that while total reduplication of the whole predicate in (3) is natural, it gets deviant as the predicate becomes longer. But still, in a case like (4), even reduplicating the whole predicate along sounds better than just one *hěn*. A constraint must be in effect that limits the reduplicant's length, but it is not central to this paper.
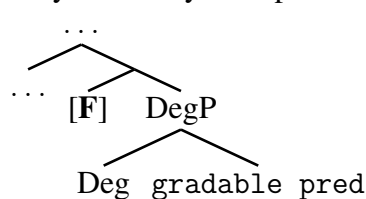
(4) John [{**hěn/ ??hěn ài hē   kāfēi}]$_\mathbb{R}$ [hěn ài hē   kāfēi]$_\mathbb{B}$.
        very   very love drink coffee   very love drink coffee

    'John loves drinking coffee very very much.'

Analysis Our proposal is shown in (5). The syntactic structure is along the line of Wang (2022). The degree word is enumerated only once in syntax, and the reduplication is due to a feature, **[F]**, that merges sister to the whole DegP. **[F]** maps to Rᴇᴅ in phonology, its interpretation subject to a highly-ranked constraint, Rᴇᴅ(phrase)≥Ft, that requires the reduplicant to be at least one foot. We show later that this constraint is independently motivated.

Predictions Our analysis makes correct predictions both syntactically and phonologically. The syntactic position of **[F]** suggests that only materials inside the DegP, but nothing higher, is subject to reduplication. This is in-deed the case. In Mandarin, the degree word *tài*, for some semantic reason, often cooccurs with the aspectual *-le*. In (6), even though the phonologically dependent *-le*, later in the derivation, right-cliticises into the base, it cannot appear in the reduplicant. Though we are yet to argue that (5a) is the correct syntac-tic structure crosslinguistically, the prediction on the possible range of reduplication readily carries over to other languages. For example, in Korean, a predicate is always phonologically dependent and needs to be agglutinated with syntactically higher elements. Our proposal pre-dicts that only the degree word can be reduplicated, independent of whether the theory states head movement happens in syntax or is purely phonological. This is borne out in (7).

(5) a. **Syn**:

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              . . .
           ┌────┴────┐
       . . .      ┌──┴──┐
              [F]     DegP
                   ┌───┴───┐
                  Deg  gradable pred
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b. **Phon**: **[F]** ↔ Rᴇᴅ
    Rᴇᴅ(phrase)≥Ft

    'Phrasal reduplicants are at least one foot'

(6) Wèntí **tài nán** (*-le) **tài nán**   -le
    problem too difficult -ASP too difficult -ASP

    'The problem is too too difficult'

(7) san-i **maywu** (*noph(-a)) **maywu** noph-a. [Korean]
　　　mountain-NOM very high-PRES.COLLOQ very high-PRES.COLLOQ

　　　'The mountain is very very tall.'

　　The highly ranked constraint RED(phrase)≥Ft is corroborated by the existence of other strategies to realise the degree phrase reduplicant. Let's use the example *hěn xǐhuān tā* 'very (much) like it' again. In (8), besides reduplicating the predicate along, we can also reduplicate the degree word once more. Some speakers additionally accept adding a filler particle *ya* or even a syllabic pause. All these options conspire to avoid forming a monosyllabic reduplicant.

(8) John [{hěn hěn/ *?hěn ya/ hěn $\emptyset_\sigma$}]$_\mathbb{R}$ [$_\text{DegP}$hěn xǐhuān tā]$_\mathbb{B}$.
　　　　very very　very YA very　　　　　very like　it

　　　'John likes it very very much.'

Implications Our analysis has important implications on Mandarin reduplication in general. We analyse Mandarin degree reduplication as phrase-level, therefore subject to a phrasal reduplication constraint RED(phrase)≥Ft. This constraint, though, is not morpheme-specific; rather, no Mandarin phrasal reduplicants can be less than one foot.[1] Consider *v*P reduplication that yields an iterative meaning. In (10), it is grammatical to double the trisyllabic *dǎyóuxì* 'play video games' and the disyllabic *shuìjiào* 'sleep', but not the monosyllabic *chī* 'eat'. To get this iterative meaning on *chī*, one has to realise the reduplicant as more than one syllable, as showcased in (11).[2] Especially notice that in this case, even though the phrasal base itself is monosyllabic, the reduplicant still must be minimally foot-long.

(10) John zhěngtiān dou zài {dǎyóuxì dǎyóuxì/ shuìjiào shuìjiào/ *chī chī}.
　　　　day.long all PROG play.game play.game sleep sleep eat eat

　　　'John is {playing video games; sleeping; eating} all day long.'

(11) John zhěngtiān dou zài [{chī chī/ chī ya/ chī $\emptyset_\sigma$}]$_\mathbb{R}$ [$_{v\text{P}}$chī]$_\mathbb{B}$.
　　　　day.long all PROG eat eat eat YA eat　　　eat

　　While phrasal reduplicants must be minimally one foot, this is not the case for root/word-level ones. In fact, root level reduplications where both the base and the reduplicant are monosyllabic exist amply in Mandarin (see LEE-KIM 2016). This shows that reduplication in phonology must be sensitive to the syntactic status of the base: it is only when reduplication targets a whole XP that the reduplicant is subject to the minimality constraint RED(phrase)≥Ft.

Discussions So far, we have argued for a syntax-phonology interface approach to account for the asymmetry in (2). A purely syntactic approach is theoretically possible, but inevitably falls short in explaining the phonological coincidence that all items in (2b) happen to be monosyllabic.

Conclusions This paper investigates the construction of degree reduplication in Mandarin, which has received relatively less attention in the literature. It casts important implications on Mandarin reduplication in general, demonstrating that phonology makes a clear distinction between phrasal reduplications from root/word-level ones.

References

⬀ Huang, Xinjunrong. 2017. On the syntax-semantics interface and prosodic morphology of Chinese trisyllabic reduplication. In *Studies in prosodic grammar*, vol. 2, 81–103.

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[1]One may want to invoke the V-one-V construction, such as (9). This construction obviously is not a case of phrasal reduplication, since i. it is completely ungrammatical to reduplicate the whole *v*P under this construction; ii. between the two instances of V is an optional *yi* 'one' , which should also be present in syntax even when phonologically covert, suggesting that its syntax is totally different from (5a).

(9) John xiǎng kàn (yi) kàn zhè běn shū
　　　want read one read this CL$_\text{book}$ book

　　　'John wants to take a look at this book.'

[2]See Huang (2017) for a perspective on the VVV construction.

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