Reduplication of bi-morphemic words: Patterns in Chinese

BIANCA BASCIANO  FRANCESCA FORZA  CHIARA MELLONI
Outline of the talk

1. BACKGROUND: Full and partial reduplication
2. CASE STUDY: Full reduplication in Chinese
3. ANALYSIS
4. CONCLUSIONS
5. REFERENCES
Background
Reduplication is the iteration of a category in “morphology”. It can be the doubling of a stem or of a root: full reduplication. Units different from the morphological ones can be doubled, i.e. prosodic units: partial reduplication.
Iconicity

- Function-wise: reduplication displays a great amount of iconicity, but, crucially, it implies a formal encoding and thus is by all means grammatical.

- Iconicity emerges in the increasing function, cross-linguistically spread: for example in the augmentative modification:

1) **French Creole:** mango mango-mango
   ‘mango’ ‘many mangoes’

2) **Jamaican:** mata ‘matter’ mata-mata ‘a lot of matter’
   (Kouwenberg & LaCharité 2001: 66)
Counter-iconicity

- Reduplication has also counter-iconic functions, like the diminutive one:

3) Toba Batak  
   dolok 'mountain'  
   dolok-dolok 'hill'  
   (Kiyomi 1995: 1148)

4) Cebuano Caribbean Creole
   abhung ‘bad smelling’
   abhung-abhung ‘somewhat bad smelling’
   (Mattes 2006: 64)
Grammatical functions

- Reduplication also gives rise to categorial shifts, and other merely grammatical functions.

5) **Japanese**

   hore ‘fall in love’ → hore-bore ‘fondly’  
   (Forza 2011: 81)

6) **Italian**

   fuggi ‘escape’ → fuggi fuggi ‘stampede’  
   (Forza 2011: 82)
Case study: Mandarin Chinese

- Verbal and adjectival domains → two different patterns of reduplication, with different functions:

  - DIMINISHING function (verbs): 'tentative' or 'delimitative' aspect (see Chao 1968; Li and Thompson 1981, Tsao 2001):
    - The actor does something “a little bit” (Li and Thompson 1981:29);
    - an action goes on quickly, lightly, casually or just for a try → function of making a relaxed tone (Ding 2010)

  - INCREASING function (adjectives):
    - a higher degree of liveliness or intensity (e.g. Chao 1968, Li and Thompson 1981, Tang 1988)
Monosyllabic bases

- Segmental level: the two reduplication patterns are alike → AA
- Differences are suprasegmental and concern tone patterns:
  - **DIMINISHING** function (verbs): the reduplicant loses its original tone:
    7) 教 jiāo 'teach' → 教教 jiāo jiao 'teach teach = teach a little'
       (Li and Thompson 1981:29)
  - **INCREASING** function (adjectives): the reduplicant always bears the first tone (e.g. Abbiati 1998:90, Paul 2010:120).
    8) 小 xiǎo ‘small’ → 小小 xiǎo-xiāo 'small-small = (really/thoroughly) small'
Lexical integrity

- No morpheme can interrupt the **increasing** (adjectival) reduplication template...

**BUT**

- In the **diminishing** (verbal) reduplication of monosyllabic verbs:

  ₁  ṭī 'one' and ṯ le ‘perfective marker’ can be put in between base and reduplicant:

  \[
  A + ₁ ṭī 'one' + A  \quad \text{走 (一) 走}  \quad zǒu (yī) zou 'have a walk' \\
  A + ṯ le + A  \quad \text{走 (了) 走}  \quad zǒu (le) zou 'walked for a while'
  \]
Disyllabic bases

- The differences arise at the segmental level.

- In the DIMINISHING function, the base is reduplicated as a whole, \([AB] \_ \_ \_ [AB] \_ \_ \_ \_\) (see Paul 2010:119)

- In the INCREASING function, each syllable (morpheme) is independently reduplicated in pre- and post- base position \([A[AB]B]_{\_\_}\)
  - Feng (2003): While the prosodic pattern is \([\sigma \sigma][\sigma \sigma]\), tone sandhi rules show that the morphological structure cannot be \([AA][BB]\), but \([A[AB]B] \rightarrow\)
  - disalignement between the prosodic and morphological structure of the complex form.
### Summing up...

<table>
<thead>
<tr>
<th>Structure</th>
<th>Function</th>
<th>Input Cat.</th>
<th>Output Cat.</th>
<th>Base</th>
<th>Reduplication</th>
</tr>
</thead>
<tbody>
<tr>
<td>[AB][AB]</td>
<td>diminishing</td>
<td>V</td>
<td>V</td>
<td>介绍 jièshào 'introduce/present'</td>
<td>介绍-介绍 jièshào jièshào 'introduce (a little)'</td>
</tr>
<tr>
<td>[A[AB]B]</td>
<td>increasing</td>
<td>Adj and V</td>
<td>Adj and V</td>
<td>高兴 gāoxìng 'happy'</td>
<td>高高兴兴 gāo-gāo-xìng-xìng 'very happy'</td>
</tr>
</tbody>
</table>
The analysis 1

Diminishing function
Input constraints

- At the structural level:

- Only VERBS → \([AB]_V [AB]_V\)

  Disyllabic realization of the \([A]_V [A]_V\) pattern
At the semantic/aspectual level:

- [A] or [AB] is a dynamic and volitional verb (Li and Thompson 1981): [+controlled, +dynamic, +durative]
- Achievement verbs normally cannot be reduplicated.
- Resultative verb compounds cannot be reduplicated (see Tsao 2001).
  - Result State component excluded in the lexical semantic structure of the base.
  - Semantic incompatibility between the delimitative aspect conveyed by reduplication and the inherent aspectual properties of these verbs.
What about states?

Stative verbs generally cannot reduplicate (see Tsao 2001).

BUT some stative verbs expressing a state of mind that can have a dynamic interpretation can be reduplicated:

9) 关心 guānxīn 'be concerned about/be interested in'
10) 熟悉 shúxī 'know sth./sb. well'
11) 了解 liǎojiě 'understand'

(Ding 2010:283)
Some predicative disyllabic adjectives related to feelings and states of mind can be reduplicated as [AB] [AB] (see Li 1996, Yang 2003).

12) 高兴高兴 gāoxìng-gāoxìng 'happy-happy = have some fun',
13) 温暖温暖 wēnnuǎn-wēnnuǎn 'warm-warm = warm up'

Stage-level adjectives (often used as dynamic verbs, not only as stative verbs; e.g. Sybesma 1997, Liu 2010).
Output constraints

- At the formal/categorial level:

  $[A]_V [A]_V / [AB]_V [AB]_V$ diminishing function is found only in verbal reduplication and the output is always a Verb.
Output constraints

- At the semantic/aspectual level:

  Diminishing reduplication is incompatible with situations expressing actions in progress:

14) *她正在看看电视
   tā zhèngzài kàn-kan diànnǎi
   she PROGR watch-watch TV
   'She is watching TV a little'
   (Ding 2010:275)
Output constraints

- Incompatible with the durative aspect marker 着 zhe and the aspect marker 过 guo (experience made in the past).

15) *学生们很有兴趣地参观参观着展览。

   xuéshēng-men hěn yǒu-xìngqu-de cānguān-cānguān zhe zhǎnlǎn
   student-PL very have-interest-ADV visit-visit DUR exhibition

   'Students are visiting the exhibition with a great interest'

16) *这个问题，大家讨论讨论过了。

   zhè ge wèntí, dàjiā tǎolún-tǎolún guo le
   this CLF problem everybody discuss-discuss GUO PART

   'Everybody discussed this matter (before)'

   (Ding 2010:275)
Output constraints

- Compatible with the perfective aspect marker 了 le (action completed or terminated, see Smith 1991)

17) 打扫 了 打扫 dǎsǎo le dǎsǎo 'sweep PFV sweep'

18) 学习 了 学习 xuéxí le xuéxí 'study PFV study'

→ Note that the perfective aspect marker is between the base and the reduplicant.
Output constraints

The morpheme — yi 'one' cannot show up between the base [AB] and its reduplicant (vs. monosyllabic reduplication, ex b.):

* [AB + — yi 'one' + AB]

19)  a. *讨论—讨论 'discuss-one-discuss'

tǎolùn-yi-taolun

b. 看 (一) 看 'look (one) look 'have a look'

kàn (yi) kan

→ in the monosyllabic pattern A+yi+A :

[yi+A] can be analysed as a verbal classifier (Xiao and McEnery 2004).
Diminishing function: V-O compounds

- **AB separable Verb-Object compounds:**
  A = Verbal head;
  B = Object (including cognate or dummy objects)

- **Reduplication pattern:** \[ AA \rightarrow \text{what reduplicates is the verbal head.} \]

20) a. 睡觉 shuí-jìào 'sleep-sleep (N; bound form)'
   → 睡睡觉 shuí-shuí-jìào

   b. 跳舞 tiào-wǔ 'dance-dance (N)'
   → 跳跳舞 tiào-tiao-wǔ

   c. 散步 sàn-bù 'distribute-step,'
      'take a walk'
   → 散散步 sàn-san-bù
Diminishing function: V-O compounds

VN compounds ambiguous w.r.t. their lexical / syntactic status and the object behaves in many respects as a standard syntactic object, rather than a lexical object.

⇒ The diminishing reduplication only concerns the monosyllabic V constituent (head) of the V-O construction.
With—yi 'one'

As in the case of monosyllabic verbs, the morpheme — yi 'one' can appear between the base verb and the reduplicant.

21) 散一散步 sàn-yi-san-bù 'distribute-one-distribute-step' (cf. 20c)

22) 聊天儿 → 聊聊天儿 or 聊一聊天儿
   liáo-tiānér liáo-liao-tiānér liáo-yi-liao-tiānér
   chat-sky/heaven/day chat-chat-sky chat-one-chat-sky
   'chat'
   'chat a little/have a chat'

As in the case of monosyllabic verbs, both — yi and the reduplicant are in the neutral tone (see Li and Thompson 1981).
V-O compound units

- Completely lexicalized / non-separable VO compounds do not reduplicate as [A][A]B, but as [AB][AB]:

Even though it is still possible to detect the verb-object relation, nevertheless they constitute non-separable units:

23) 关心 guān-xīn 'close/concern-heart = be concerned about'
   →关心关心 guānxīn-guānxīn (ABAB) vs.

24) 散心 sàn-xīn 'distribute-heart = seek distraction/relaxation'
   →散散心 sàn-sān-xīn (AAB)
Reduplicant as a PATH

- DIMINISHING reduplication as syntactic phenomenon (see aspectual constraints + separability).

  → Reduplicant occupies a dedicated syntactic position in the complex structure of vP.

Bounded (temporal) path of the base verb (see incompatibility with the progressive and the durative aspect marker).
Ramchand’s framework

- Analysis based on the constructionist framework put forth by Ramchand (2008) → syntactic decomposition of the event structure (‘first phase syntax’).
- Maximum of three subevents.
- Each sub-event is represented with its own projection, ordered in a hierarchical (causal) embedding relation. Causal embedding: the only primitive in the combinatorial system which can create complex events of the same logical type.
ANALYSIS

- **initP**  → causation event → licenses the external argument
  ('subject of cause' = INITIATOR, doesn’t entail agentivity)

- **procP**  → nature of the change or process → licenses the entity undergoing change or process ('subject' of process = UNDERGOER)

- **resP**   → telos or result state ('subject' of result = RESULTEE).
Each lexical item specifies the syntactic relevant information (cat. label or ‘tag’) which permits its insertion in the eventive structure.

Eng.: push [init, proc], throw [init, proc, res]

→ Chinese verbs that can undergo diminishing reduplication: [init, proc]

→ Reduplicant = bounded path, base-generated in the complement position of procP.

25) 走（一）走 zǒu (yi) zou ‘have a walk/walk a little’ (走 zǒu ‘walk’ [init, proc])
walk (one) walk

```
initP
  我 wǒ ‘I’
  init
  走 zǒu ‘walk’
  procP
  proc
  <我 wǒ ‘I’> XP
  <走 zǒu walk’> (一 yi) 走 zou ‘walk’
```
Analysis 2

The increasing function
AABB: Input Constraints

At the morphotactic level:

- It requires a disyllabic bimorphemic AB base.
- Ban of monomorphemic bases, both native words (a) and phonetic borrowings (b):

26) a. 窨_ROT1729; yâotiǎo 'graceful, gentle' → *窈窈窕窕 yǎo-yǎo-tiāo-tiāo

b. 摩登 módēng ‘modern’ → *摩摩登登 mó-mó-dēng-dēng

(Paul 2010:137)

- Instantiation of full reduplication: units are handled on a morphemic and not on a prosodic base.
AABB: Input Constraints

- The two morphemes must be **lexical**. Adjectives formed with a prefix-like element cannot reduplicate:

27) a. 不安 ｂｕ'ｘān 'not-peaceful = troubled/restless'
   → *不不安安 ｂｕ-ｂｕ-ān-ān

  b. 好看 ｈǎokàn 'good-look = good-looking'
   → *好好看看 ｈǎo-ｈǎo-kàn-kàn

  c. 可爱 ｋě'ài 'can-love = lovable'
   → *可可爱爱 ｋě-ｋě-ài-ài

(see Zhu 2003)
AABB: Input Constraints

At the semantic level:

- Only scalar adjectives can reduplicate (Paris 1979 and Paul 2010: 139, fn.19). Absolute adjectives cannot reduplicate:
  28) 方 fāng ‘square’ → not *方方 fāngfāng

- The increasing function can only apply to a base that incorporates a degree/scalar value (see also Zhu 2003).
AABB: Input Constraints

The bases of increasing [A[AB]B] reduplication are

- Lexicalized, non-transparent bases (a);
- adjectives formed by two morphemes with similar meaning (b);
- or in a logical coordination (c).

29) a. 马虎 mǎhu 'horse-tiger = be careful/casual; confused' →
    马马虎虎 mǎ-mǎ-hu-hu

b. 快乐 kuàilè 'fast/pleased-happy = happy' → 快快乐乐 kuài-kuài-lè-lè

c. 高大 gāodà 'tall-big = tall and big/great' → 高高大大 gāo-gāo-dà-dà
**AABB: Input Constraints**

- **Claim**: the [A[AB]B] template applies to complex bases which are STRUCTURALLY and SEMANTICALLY SYMMETRICAL, i.e. exocentric or coordinative structures, without a clearly identifiable head.

→ **Structure of the base**:

```
  C
 / \   /
A   B  A
```

→ **Reduplication**:

```
A  [A  B]  B
```

\[
[[AB][AB]]_A \\
[ABAB]_A \neq [AB]_V [AB]_V
\]
Adjectives: the \([\text{ABAB}]_A\) pattern

- 'Modifier-adjectival head' compounds (AB) with a clearly identifiable adjectival head (B) modified by the first constituent (A), reduplicate as ABAB.

30) 雪白 xuě-bái 'snow-white' → 雪白雪雪 xuě-bái-xuě-bái
冰凉 bīng-liáng 'ice-cold' → 冰凉冰凉 bīng-liáng-bīng-liáng
滚热 gǔn-rè ‘roll/boil-hot = burning hot’
   → 滚热滚热 gǔn-rè-gǔn-rè

(Ding 2010, Paul 2010)
Verbs: [AABB]_v pattern

The [A[AB]B] increasing function can apply to some Vs too: coordinate Vs, either verbs in relation of logical coordination, or synonyms or antonyms.

31) a. 来去 lái-wǎng ‘come and go’ → 来来往往 lái-lái-wǎng-wǎng ‘go back and forth/come and go in great numbers’

   b. 说笑 shuō-xiào ‘chat and laugh’ → 说说笑笑 shuō-shuō-xiào-xiào ‘chat and laugh together’

   c. 叫嚷 jiào-rǎng 'call/cry out-shout = shout'  
      → 叫叫嚷嚷 jiào-jìào-rǎng-rǎng  
      (Hu 2006)
What is an increasing meaning in the verbal domain?

Aspectual modification: two interrelated actions are performed alternately, repeatedly → pluriactionality or action in process (Hu 2006 and Ding 2010).

32) 打打杀杀 dǎ-dǎ-shā-shā 'hit-hit-kill-kill = in a continuous state of fighting and killing'


- AB is a non-attested verb: coordination of two independently reduplicated V (also expressing semantically opposite situations).

33) a. 打打杀杀 dǎ-dǎ-shā-shā 'hit-hit-kill-kill'
    b. 走走停停 zǒu-zǒu-tíng-tíng 'walk-walk-stop-stop'
    c. 写写画画 xiě-xiě-huà-huà 'write-write-paint-paint'
    d. 睡睡醒醒 shuì-shuì-xǐng-xǐng 'sleep-sleep-wake-up-wake-up' (Hu 2006, Ding 2010)
Verbs: \([\text{AABB}]_v\) pattern

However,

- **semantically**: the coordination of two reduplicated verbs: diminishing value / tentative aspect?

- **formally**: there are cases where AA and BB alone do not exist:

34) 进进进进 jìn-jìn-chū-chū 'enter-enter-exit-exit' BUT

*进进 jìn-jìn 'enter-enter'

*出出 chū-chū 'exit-exit'
Lexical integrity

→ The $[\text{AABB}]_V$ pattern cannot be interrupted by intervening morphemes:

→ $\neq [\text{AB}]_V [\text{AB}]_V$

No aspectual markers appear between the two $[\text{AB}]$. 
Category change

- from Noun to Adjective:
  35) 鬼鬼祟祟 guǐ-guǐ-suì-suì
      'ghost-ghost-evil.spirit-evil.spirit = furtive, stealthy'

- from Noun to Verb:
  36) 口口声声 kǒu-kǒu-shēng-shēng
      'mouth-mouth-sound-sound = repeat over and over again/keep on saying'
Claims

- Increasing reduplication is a strictly morphological phenomenon, i.e. it applies below the X° level ➔ see lexical integrity of the reduplication template (also in the verbal domain)

- As a word formation rule/template:
  - it can apply to non-existent verbs with intensive/increasing semantics.
  - It can be category changing
Claims

- Sensitivity to the structural/semantic relations between the constituent morphemes in the base:

  - [A[AB]B] pattern: only bimorphemic bases related in a symmetrical fashion, i.e. units separable at the phonological, structural and semantic levels. A and B morphemes: strictly coordinate or lacking a structural and semantic head.

  - When the base encodes a strictly subordinative modifier-head structure: \([[[AB] [AB]]_A]\) pattern
AABB pattern: analogy effects?

How to explain the case of non-existent (V) bases?

- AABB is a very productive pattern and, as such, has extended by analogy to bases which enter the pattern with the increasing semantics and verbal output.

- The analogical explanation is pursued for the cases where the base is non-existent. A derivational analysis is kept for the rest of the spectrum.
Conclusions

- **Diminishing pattern** as a *syntactic* process: it modifies the aspectual structure of the verb $\rightarrow$ reduplicant as a path that modifies the aspectual properties of the dynamic verb $\rightarrow$ inner aspect? $[AB]_{V} [AB]_{V}$

- **Increasing pattern** as a *morphological* process. Structural and semantic constraints:
  - $[A[AB]B]_{A}$: A and B morphemes are not in a modifier-head relation
  - $[[AB][AB]]_{A}$: A and B morphemes are in a modifier-head relation
Thank you!

谢谢 xièxiè!


FORZA, Francesca (2011). Regarding Reduplication and Repetition. A separate Treatment in a Unified approach, ms, University of Verona.


References


References


References


Dictionaries and corpora


Center For Chinese Linguistics PKU (Peking University) corpus of Modern Chinese: http://ccl.pku.edu.cn:8080/ccl_corpus/index.jsp?dir=xiandai