There is no root-root merger: Revisiting Chinese non-endocentric compounds

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Outline

Introduction

In this talk, I will

- argue against a root-root merger approach to Chinese compounds
- explore the (il)legitimacy of root-root merger in minimalist syntax

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Conclusion

We can and should do without root-root merger.

Chinese non-endocentric compounds

Observe the following compound words in Mandarin Chinese:

(1) Compound noun

a. [dà$_A$-xiǎo$_A$]$_N$ “big-small; size”
[kāi$_V$-guān$_V$]$_N$ “open-close; switch”

b. [zhī$_V$-jǐ$_N$]$_N$ “know-self; confidant friend”
[sī$_V$-jī$_N$]$_N$ “control-machine; driver”

(2) Compound verb

a. [zuǒ$_N$-yòu$_N$]$_V$ “left-right; control”
[xiíng$_N$-róng$_N$]$_V$ “shape-appearance; describe”

b. [guān$_V$-xīn$_N$]$_V$ “attach-heart; care about”
[shēng$_V$-qì$_N$]$_V$ “produce-air; be angry”

(1a)(2a) exocentric, (1b)(2b) pseudo-endocentric.

Outline

Root-root merger

(3) Zhang (2007)

a. *[dà$_A$-xiǎo$_A$]$_N$ “big-small; size”

b. [$\sqrt{\text{DA}}$-$\sqrt{\text{XIAO}}$]$_N$

Zhang (2007) gives five main arguments for this approach.

Zhang's (2007) arguments

1. Exocentricity
2. Projectivity freedom
3. Disappearance of subcategorization requirement
4. Disappearance of Case/theta-requirement
5. Lexical integrity effects

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(1)(2)

Zhang's (2007) arguments

1. Exocentricity
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   [mǎi-mài]$_N$ "buy-sell; trade"
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4. Disappearance of Case/theta-requirement
   chū-bǎn yì-běn shū "produce-edition one-CL book"
5. Lexical integrity effects

Zhang's (2007) arguments

Lexical integrity effects

(4) **Movement island**

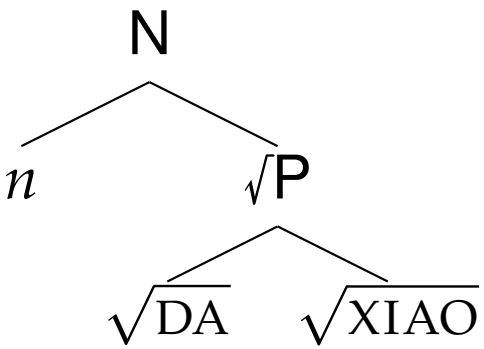
a. Tāmen yíxiàng fù-zé.
they always carry-duty
"They are always responsible."

b. *Tāmen yíxiàng lián zé dōu fù.
they always even duty also carry
"Intended: they are always even responsible."

(5) **No pronominalization**

*Tā xiān ná-le yì-bǎ chá$_i$-hú, ránhòu bǎ tā$_i$ dào-rù bēizi-lǐ.
he first take-PRF one-CL tea-pot then DISP it pour-in cup-in
"Intended: he first took a teapot, and then poured the tea into the cup."

Zhang's (2007) solution



- Compound labeled by categorizer...
- ...not by components ➙ ❶❷
- Properties that entail a category on the component N/A ➙ ❸❹❺

Outline

Root-root merger is not a corollary

❶Exocentricity
❷Projectivity freedom
→
✓ compound labeled by external categorizer
? the categorizer's complement is acategorial

If categorizers are functional heads, their projectivity is expected.

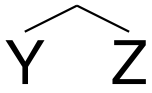
(6) a. $[_{N}\ n\ [_{X}$ dà-xiǎo$]]$

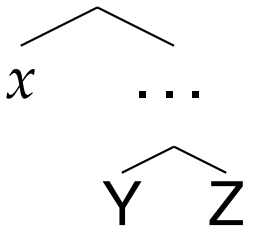
b. $[_{V}\ [_{V}$ take$]\ [_{D}$ the train$]]$

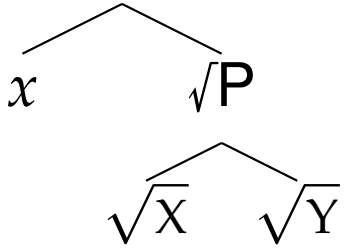
Take the train is labeled by *take* does not mean *the train* is acategorial.

Root-root merger is not a corollary

❶❷ only reveal the inadequacy of (7a) and the adequacy of (7b) but not the (in)adequacy of (7c).

(7) a. 

b. 

c. 

Root-root merger is not a corollary

❸ Subcategorization frames and root syntax have different theoretical assumptions and had better not be mixed.

- Subcategorization frames encode argument structure in the verb
- Root syntax encodes it in syntactic configuration

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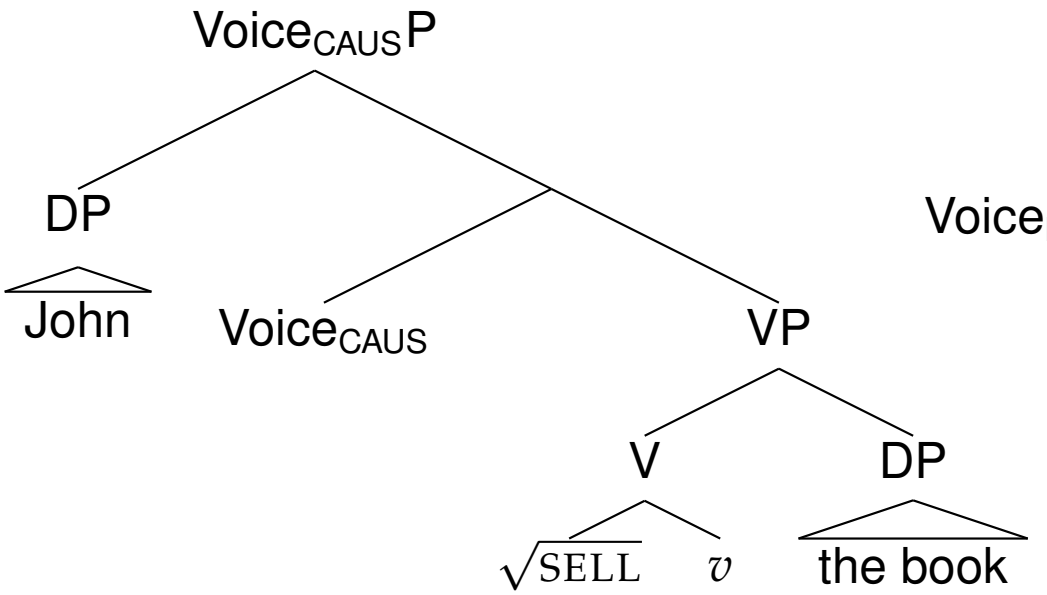
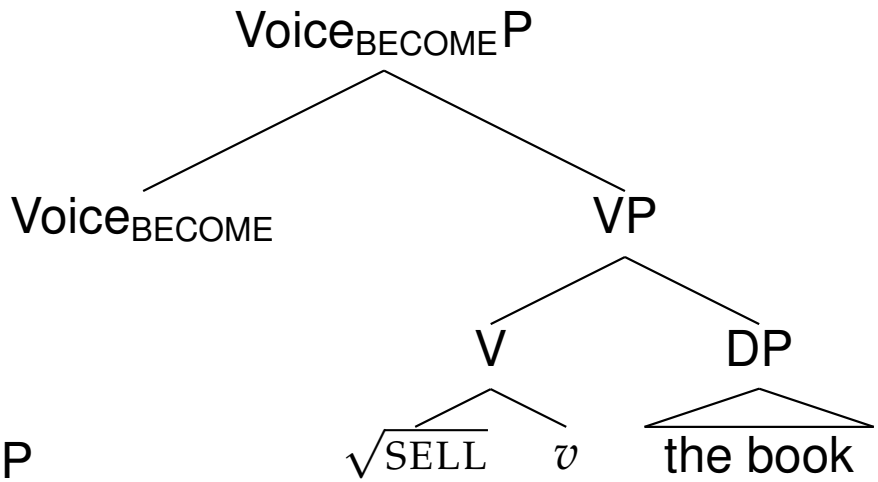
(8) a. John **sells** the book.



b. The book **sells** well.



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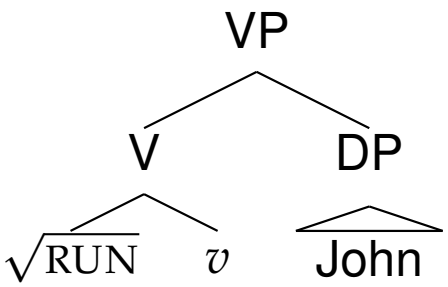
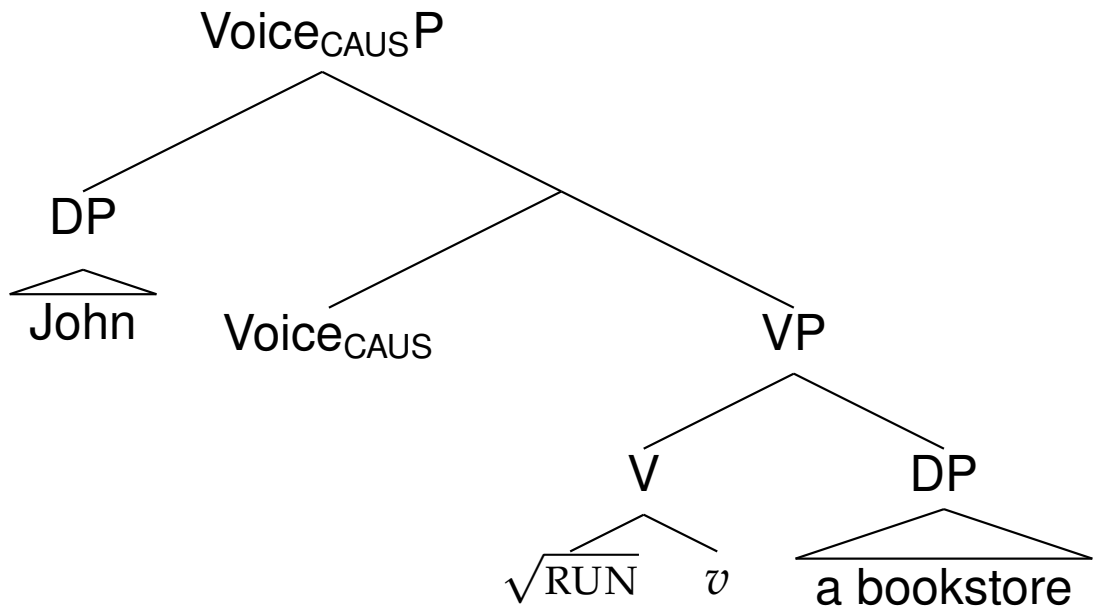
(9) a. John **runs**.



b. John **runs** a bookstore.



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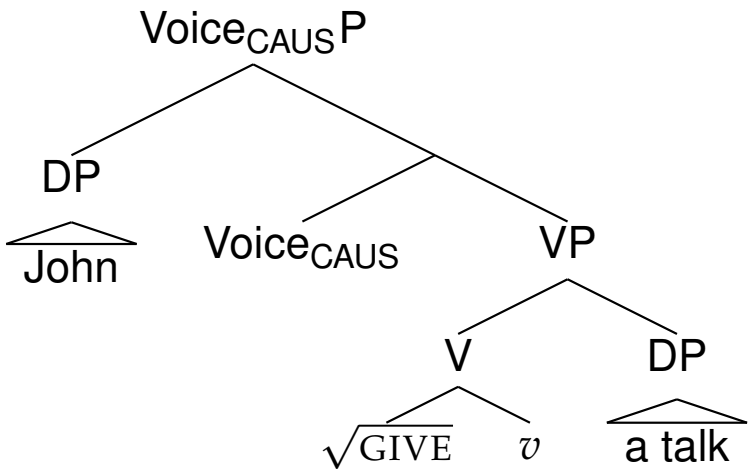
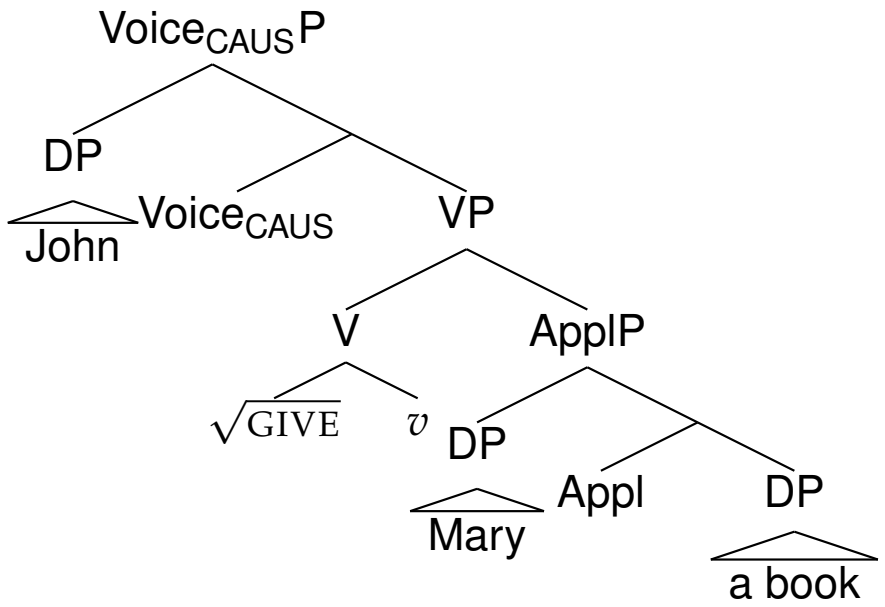
(10) a. John **gave** a talk.



b. John **gave** Mary a book.



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In fact, v in (8)-(10) is one and the same: v_{δ} (PROC in Ramchand 2008).

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No subcategorization frame ➙ ✓ no corresponding configuration
✗ no verbal category (i.e. v)

Root-root merger is not a corollary

❹ Case/theta-role assignment unbalance has two solutions.

(11) Compare:

a. *[$_V$ xiě] [$_N$ zì] [$_N$ yì-fēng xìn] "*write character a letter"

b. [$_V$ chū] [$_N$ bǎn] [$_N$ yì-běn shū] "produce edition/publish a book"

There are 2 nominals but only 1 Case/θ-role assigner.

Two solutions:

- "2" is illusory—only one nominal, the other is root (Zhang's choice)

  [$_V$ $\sqrt{\text{CHU}}$-$\sqrt{\text{BAN}}$] [$_N$ yì-běn shū]

- "1" is illusory—two assigners, i.e. two vs (alternative choice)

  [$_{V_2}$ [$_{V_1}$ chū] [$_{N_1}$ bǎn]] [$_{N_2}$ yì-běn shū]

Root-root merger is not a corollary

❺ Movement failure in (4b) may be due to semantic/pragmatic oddness. Below are examples with successful movement,

(12) a. Tāmen yíxiàng lián **zé** dōu bú fù.
They always even responsibility also not carry
"They are never even responsible."

b. Dà Zhūchéng dǔchē shéi-zhī guò? **Zé** shéi fù?
big Zhucheng traffic jam whose fault responsibility who carry
"Whose fault is it that the big Zhucheng has traffic jam? Who is responsible?"

Zhang (2007) herself recognizes that such {Pred, Arg} strings ("breakable compounds") may be either words or phrases.

Breakable compounds (*líhécí*)

Zhang (2007: 179–181)

> *"In Chinese, some expressions with the same phonological forms behave like compounds in one context and phrases in another. . . Typically, the string is composed of a transitive verb-like element and an object-like element. . . [but it may also be a] Subject-Predicate-like string."*

Breakable compounds (*líhécí*)

(13) a. Tā hěn dān-**xīn** zhè jiàn shì. (word)
he very carry-heart this CL matter
"He is very worried about this matter."

b. *__Xīn__, wǒ yì-diǎn dōu bù dān zhè jiàn shì.
heart, I one-bit all not carry this CL
"Intended: I don't worry about this matter at all."

(14) a. Tā dān **xīn**. (phrase)
he carry heart
"He was worried."

b. **Xīn**, wǒ yì-diǎn dōu bù dān.
heart, I one-bit all not carry
"I am not worried at all."

Breakable compounds (*líhécí*)

(15) a. Bǎoyù hěn **xīn**-fán zhè jiàn shì. (word)
Baoyu very heart-vexed this CL matter
"Baoyu is very vexed about this matter."

b. *Bǎoyù **xīn** hěn fán zhè jiàn shì.
Baoyu heart very vexed this CL matter
"Baoyu is very vexed about this matter."

(16) a. Bǎoyù **xīn** fán le hǎojǐ tiān. (phrase)
Baoyu heart vexed PRF several day
"Baoyu has been vexed for several days."

b. Bǎoyù **xīn** hěn fán.
Baoyu heart very vexed
"Speaking of Baoyu, he was very vexed."

Breakable compounds (*líhécí*)

However, such word/phrase-alternation merely reflects 2 possible structures:

(17) a. [$_V$ dān] [$_N$ xīn] (phrase)

b. [$_V$ [$_X$ dān-xīn]] (word)

but does not inform us of the nature of X.

Again, there are two possibilities for (17b), as in Zhang's argument ❹:

(18) a. [$_V$ $\sqrt{\text{DAN}}$-$\sqrt{\text{XIN}}$]

b. [$_{V_2}$ [$_{V_1}$ dān] [$_{N_1}$ xīn]]

So breakable compounds and island effect are not evidence for root-root merger.

Root-root merger is not a corollary

Further evidence for the semantic/pragmatic nature of the acceptability contrast in (4b) and (12a): the *lián. . . dōu* construction is generally odd in affirmative contexts.

(19) a. ??Tāmen yíxiàng lián **zì** dōu xiě.
They always even character also write
"They always even write characters."

b. Tāmen yíxiàng lián **zì** dōu bù xiě.
They always even character also not write
"They never even write characters."

These minimal pairs show the oddness of (19a)(20a) is not due to lexical integrity.

(20) a. ??Tāmen yíxiàng lián **diànshì** dōu kàn.
They always even TV also watch
"They always even watch TV."

b. Tāmen yíxiàng lián **diànshì** dōu bù kàn.
They always even TV also not watch
"They never even watch TV."

Root-root merger is not a corollary

. . . and words are not the only type of island!

(21) a. *Which book$_i$ did John ask [$_{CP}$ why$_j$ Mary liked t$_i$ t$_j$]? (wh-island)

b. *Who$_i$ was [$_{DP}$ a movie about t$_i$] directed by Toby? (subject island)

So, even if we could identify V-O constructions as islands (which we can't!), we still cannot conclude from (4b) that they involve root-root merger.

Root-root merger is not a corollary

The pronominalization argument (5) has the same problems

- Word-internal elements cannot be pronominalized, but this does not guarantee they are roots.

  $[_N \sqrt{\text{CHA}}\text{-}\sqrt{\text{HU}}]$ vs. $[_{N_2}\ [_X$ chá$]\ [_{N_1}$ hú$]]$

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  $[_N \sqrt{\text{CHA}}\text{-}\sqrt{\text{HU}}]$ vs. $[_{N_2}\ [_X$ chá$]\ [_{N_1}$ hú$]]$
- Not only word-internal elements cannot be referred to by the pronoun, all we need is a non-binder.

(23) a. Tā xiān huà le yì-fú **xiào**$_i$ túshūguǎn$_j$, ránhòu bǎ tā$_{*i/j}$ guà-zài
he first draw PFV the school library then DISP it hang-at
le qiáng-shàng.
PFV wall-on."

"He first drew the school$_i$ library$_j$ and then hang it$_{*i/j}$ onto the wall."

b. **Yǔyánxué**$_i$ kèběn$_j$ hěn yǒuqù, xuéshēng dōu hěn xǐhuān tā$_{*i/j}$.
linguistics textbook very interesting students all very like it
"The linguistics$_i$ textbook$_j$ is very interesting; students all like it$_{*i/j}$ a lot."

We needn't analyze these as root-root merger to account for the binding failure.

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- Not only word-internal elements cannot be referred to by the pronoun, all we need is a non-binder.

Lexical Integrity Hypothesis has no real place in root syntax where words are derived in the same way as phrases and should not enjoy a separate hypothesis to account for their islandhood. There is no known hypothesis/assumption stating that things inside an island must be roots.

"He first drew the school$_i$ library$_j$ and then hang it$_{*i/j}$ onto the wall."

b. **Yǔyánxué**$_i$ kèběn$_j$ hěn yǒuqù, xuéshēng dōu hěn xǐhuān tā$_{*i/j}$.
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Root-root merger is not a corollary

In sum, none of Zhang's (2007) five arguments

1. exocentricity
2. projectivity freedom
3. disapperance of subcategorization
4. Case/θ-role assignment unbalance
5. lexical integrity effect

is a sufficient condition for a root-root merger analysis for Chinese non-endocentric compounds.

Compounding components' categories matter

In this section, I present further evidence showing that compounding in Chinese does reference component categories.

- Structural/distributional evidence
  - Root-root merger overpredicts.
  - Coordination compounding is constrained
- Interpretational evidence
  - Semantic
  - Phonological

Structural/distributional evidence

1. Root-root merger overpredicts.

Under a root-root merger view, we expect

- the absence of inter-component relations that rely on asymmetry, i.e. exocentric compounds can only be “coordination”;
- no categorial combination pattern preference, i.e. all of NN, VV, NV, VN, NA, AN, VA, AV, AA should be available and not too disparate in frequency.

Neither is borne out in Zhang’s (2007) data.

Structural/distributional evidence

Zhang (2007) cites 30 compounds: ca 21 exocentric

- 8 coordination, 13 {Pred, Arg} or mod-head

(25) a. **V-O:** *guān-xīn* “attach-heart; care about”, *zhī-jǐ* “know-self; confidant friend”, *fù-zé* “carry-responsibility”

b. **Subj-pred:** *yǎn-hóng* “eye-red; envy”, *yǎn-chán* “eye-greedy; greedy”, *xīn-fán* “heart-vexed; vexed”

c. **Mod-head:** *wài-yù* “outside-meet; marital affair”, *dà-dǎn* “big-gall; brave”

Importantly

- these are never completely idiosyncratic, but always based on the components’ composition
- speakers are conscious about the inter-component relations

Structural/distributional evidence

. . . and people also constantly coin new compounds following these asymmetric inter-component relations.

(26) a. **V-O:** *gěi-lì* “give-power; cool”, *kēng-diē* “entrap-dad; cheating, disappointing”

b. **Subj-pred:** *yǒu-jìn* “friend-end; stop being friends”, *dàn-téng* “ball-hurt; embarrassing”

c. **Mod-head:** *shān-zhài* “mountain-village; fake”, *sān-sú* “three-vulgarity; very vulgar”’

Such systematic knowledge misses an explanation if the compounding components are acategorial roots.

Structural/distributional evidence

Categorial combinations in Zhang's (2007) 21 exocentric compounds

(27) $VN_6 > VV_4 > AA_3 = AN_3 = NA_3 > NN_1 = AV_1 > NV_0 = VA_0$

Structural/distributional evidence

Categorial combinations in Zhang's (2007) 21 exocentric compounds

(27) $VN_6 > VV_4 > AA_3 = AN_3 = NA_3 > NN_1 = AV_1 > NV_0 = VA_0$

This tiny sample reflects some general situations in the language, e.g.

- VN compounds are very common
- NV compounds are rare (though attested, e.g. *dì-zhèn* "earth-quake")

Structural/distributional evidence

Categorial combinations in Zhang's (2007) 21 exocentric compounds

(27) $VN_6 > VV_4 > AA_3 = AN_3 = NA_3 > NN_1 = AV_1 > NV_0 = VA_0$

There is a reason why VA compounds are absent in Zhang's data

- VA strings are anything but rare in Chinese
  dǎ-pò "hit-broken", *cā-gān* "wipe-dry", *rǎn-hóng* "dye-red", etc.
- but they are usually treated separately, as resultative constructions

Structural/distributional evidence

Categorial combinations in Zhang's (2007) 21 exocentric compounds

(27) $VN_6 > VV_4 > AA_3 = AN_3 = NA_3 > NN_1 = AV_1 > NV_0 = VA_0$

. . . in fact AV strings face a similar situation

- they are very common

  màn-pǎo "slow-run; jog", *kuài-pǎo* "quick-run", *shàng-shēng* "up-rise", *xià-huá* "down-slide", etc.
- but usually quite transparent in meaning and too productive to be a lexical phenomenon

Structural/distributional evidence

Categorial combinations in Zhang's (2007) 21 exocentric compounds

(27) $VN_6 > VV_4 > AA_3 = AN_3 = NA_3 > NN_1 = AV_1 > NV_0 = VA_0$

Even VN compounds face the problem to some degree

- idiomatic ones are a handful, the majority are totally transparent *chī-fàn* "eat-meal", *hē-shuǐ* "drink-water", *xǐ-liǎn* "wash-face", *liù-gǒu* "walk-dog", etc.
- is it really fair to call these compounds?

Conventionally these are all called "compounds". Even the totally productive resultative constructions are called "resultative compounds", but "compound" really is a misnomer.

Structural/distributional evidence ▸

So, structurally

- many exocentric compounds have asymmetric internal relation
- there is frequency disparity and pattern gap in the categorial combination of exocentric compounds

If the compounding components are acategorial, these observations are mysterious.

Structural/distributional evidence

2. Coordination compounding is constrained.

Root-root merger predicts that apart from NN, VV and AA coordination, there should also be (apparent) NV/VN, NA/AN, AV/VA coordination, i.e. the roots that can participate in coordination compounding should not be categorially limited (they are acategorial after all).

However, we do not find these other combinations; the only attested (apparent) combinations are NN, VV, and AA.

Structural/distributional evidence

Cross-categorial coordination compounds are not only unattested, but cannot be coined either, as is evidenced by polysemous morphemes.

(28) *shū* “n. book” “v. write”

a. *shū-běn* “book-copy$_N$; book$_N$” but not “*write-copy”

b. *shū-xiě* “write-write$_V$; handwrite$_V$/handwriting$_N$” but not “*book-write”

It is unambiguous that *shū* in *shū-běn* means “book” rather than “write”, and such a meaning choice requires a categorial decision.

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(29) *láo* “v. work” “n. service”

a. *láo-dòng* “work-move; $\text{labor}_{\text{V/N}}$”

b. *gōng-láo* “merit-service; $\text{contribution}_{\text{N}}$”

Structural/distributional evidence

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(30) *xī* "v. rest" "n. message"

a. *xiū-xī* "rest-rest; $\text{rest}_{\text{V/N}}$"

b. *xìn-xī* "letter-message; $\text{information}_{\text{N}}$"

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(31) *ān* “a. peaceful” “v. install”

a. *ān-jìng* “peaceful-quiet; $\text{quiet}_{\text{A/N}}$”

b. *ān-zhuāng* “install-install; $\text{install}_{\text{V/N}}$”

Structural/distributional evidence

When a morpheme has more than one possible category, its interpretation in coordination compound goes with the category that is most likely to be shared between the two components, whether that is the same as the compound category (28a)(29b)(30b) or not (1a); sometimes the compound may also be associated with more than one category.

Overall, it seems the components' categories and the compound category are taken care of independently from each other.

Structural/distributional evidence

NB this does not guarantee the compounding components must have a category. There are three ways to put two roots in a parallel relation.

- [$_{x}$ $\sqrt{}$ $\sqrt{}$] (root-root merger)
- [$_{\sqrt{}}$ $\sqrt{}$ [$_{\text{Co}}$ Co $\sqrt{}$]] (root-root coordination)
- [x [x x $\sqrt{}$] [$_{\text{Co}}$ Co [x x $\sqrt{}$]]] (word-word coordination)

Our discussion so far does not favor one or another, but root-root merger is not the sole solution (again!).

Interpretational evidence

1. Semantic interpretation depends on component category.

We have assumed this all the time, e.g. *fù-zé* "carry$_V$-responsibility$_N$". More clearly:

(32) a. *lā$_V$-jù$_N$* "pull-saw; seesaw battle$_N$" (V-N)

b. *lā$_A$-jù$_N$* "pull-saw; dragsaw (i.e. not chain saw)$_N$" (A-N)

(33) a. *píng$_A$-fāng$_N$* "flat-square; square (e.g. x^2)$_N$" (A-N)

b. *píng$_A$-fāng$_A$* "flat-square; flat and sqaure$_A$" (A-A)

Identical form/pronunciation, minimally different in one component's category ➙ distinct structuring and meaning composition.

Interpretational evidence

2. Phonological interpretation depends on component category.

(34) a. *bō*$_V$*-zhǒng*$_N$ “spread-seed; sow$_V$” (V-O)

b. *bō*$_V$*-zhòng*$_V$ “spread-plant; plant$_V$” (parallel)

tone change

(35) a. *hòu*$_A$*-bēi*$_V$ “back-shoulder; carry on one’s back” (A-V)

b. *hòu*$_A$*-bèi*$_N$ “back-back; back (body part)” (A-A)

Interpretational evidence

2. Phonological interpretation depends on component category.

(36) a. *dà*$_A$*-yì*$_N$ “big-meaning; gist” (A-N)

b. [*dà-yi*]$_A$ “careless” (mono-root) *neutral tone*

(37) a. *xiǎo*$_A$*-rén*$_N$ “small-person; villain” (A-N)

b. *xiǎo*$_A$*-rénr*$_{N.DIMI}$ “small-person; puppet” (A-N.DIMI) *retroflex*

Interpretational evidence

2. Phonological interpretation depends on component category.

- *zhǒng* “n. seed” vs. *zhòng* “v. sow”
- *bēi* “v. carry on back” vs. *bèi* “n. back”
- *yì* “n. meaning” vs. *yi* “ - ”
- *rén* “n. person” vs. *rénr* “n. person (diminutive)”

One needs to know the category of these morphemes to pronounce them correctly in compounds.

Interim summary

So far, we have seen

- Zhang's (2007) 5 arguments do not entail root-root merger
- Most compounds reference component categories for structural/interpretational purposes
- The only type of compound that may indeed combine acategorial roots is coordination compound (though how the roots are combined is uncertain)

Outline

Root and Edge Feature

Zhang (2007) is not the only one adopting a root-root merger approach to compound word formation. Bauke (2014, 2016) distinguishes two types of nominal primary compound in German:

(38) a. Word-word compound
Betten-burg “bed.PL-castle; big ugly hotel”
Länder-spiel “country.PL-game; match between two national teams”
Wörter-buch “word.PL-book; dictionary”
Gläser-tuch “glass.PL-towel; dish towel”

b. Root-root compound
Bett-laken “bed-sheet”
Land-karte “land-card; map”
Wort-witz “word-wit; pun”
Glas-dach “glass-roof”

I abstract away from Bauke’s concrete arguments for such a distinction and focus on the (il)legitimacy of root-root merger.

Root and Edge Feature

First, root, being categoryless, is syntactically inert.

Acquaviva (2008: 14):

> *"[I]f one assumes that roots lack not just syntactic category, but all syntactic features, then they are invisible for syntactic operations. Lacking syntactically legible information, they cannot project: there can be, then, no 'RootP', and no argument may therefore appear in the specifier or complement position of a root. . . taking this hypothesis seriously leads to a position that is in contrast with most current work in Distributed Morphology. But the logic is inescapable."*

Chomsky (2013: 47):

> *". . . root, like conjunction, does not qualify as a label."*

Borer (2014: 356):

> *"Roots. . . have no syntactic properties—they have no category, they do not take complements, and there is no evidence that they project. Further, they never have Content. It goes without saying that they have no formal semantic properties of any kind."*

Root and Edge Feature

Whether or not a root can merge with another root is a separate issue. If all Merge requires is the Edge Feature (EF), then root-root merger can happen as long as root has EF. This is the position taken by Bauke (2016: 217):

> *"[R]oots, which are listed in the lexicon, bear EFs because this is what allows them to be introduced into the derivation via Merge. . . EFs are the only syntactic features that roots are characterized for."*

That roots are related with EF is also expressed in Boeckx (2011: 53):

> *"[W]e can think of the process of lexicalization as endowing a concept with a certain inertia, a property that makes the lexical item active (i.e. allows it to engage in Merge relations). We can represent a lexicalized concept C endowed with an edge feature as: {C} (a concept with a lexical envelope). . . [L]exicalization [is] the combination of a 'root' (concept) with a lexical categorizer (Marantz's 'little x"); that is to say, {C} = {x, $\sqrt{C}$}."*

Root and Edge Feature

There is a crucial distinction in Bauke's and Boeckx' conceptions:

- for Bauke (2016), EF is inside the root (this is explicitly stated)
- for Boeckx (2011), EF is outside the root (this can be deduced)
  - root = concept without inertia, EF = inertia endowed to concept
  - concept + EF = {C} = $\{x, \sqrt{C}\}$
  - → root + EF = $\{x, \sqrt{C}\}$
  - → EF = x

So, for Boeckx (2011), EF is a property of the lexical item but does not lie in the root; it lies in the categorizer instead.

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So, for Boeckx (2011), EF is a property of the lexical item but does not lie in the root; it lies in the categorizer instead.

What is the relation between lexical item and root?

Root and Edge Feature

Lexical Item (LI) plays a crucial role in the definition of EF.

Chomsky (2008: 139):

> *"For an LI to be able to enter into a computation, merging with some SO, it must have some property permitting this operation. A property of an LI is called a feature, so an LI has a feature that permits it to be merged. Call this the edge-feature (EF) of the LI. If an LI lacks EF, it can only be a full expression in itself; an interjection. When merged with a syntactic object SO, LI forms {LI, SO}; SO is its complement. The fact that Merge iterates without limit is a property at least of LIs—and optimally, only of LIs, as I will assume."*

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(39) Narita's (2014: 196) recapitulation:

a. The EF is the feature that permits its bearer to be merged with some SO.

b. The EF is a property only of LIs.

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I should add: LI labels {LI, SO} and thus heads the phrase.

Such an LI

- is a theory-internal notion of standard (lexicalist) minimalism
- cannot be readily equated with lexicon listemes in other (esp. non-lexicalist) theories

Root and Edge Feature

Acquaviva (2014: 279) also notices this problem:

> *"What appears problematic. . . is. . . the characterization of such syntactic primes [i.e. roots] as feature bundles, and their identification with the items which make up the Numeration in the sense of Chomsky (1995). Firstly, it is not at all clear that the content of roots, as opposed to that of grammatical formatives, consists of syntactically legible features. Secondly, Chomsky (1995) held that the initial elements making up the Numeration are fully equipped with semantic and inflectional content (cf. page 231: 'Choices of lexical item LI with different optional features are distinct members of the Numeration'). These may look as superficial matters of detail, but they point to a deeper ambiguity."*

Root and Edge Feature

Apparently Chomsky's lexical item $\neq$ the narrow lexicon listemes (f-morphemes and roots) in DM.

Therefore, what are properties of a Chomskyan LI are not necessarily properties of a certain type of DM listeme (hence the distribution).

- this idea has been pursued for a long time, such as the severing of grammatical information out of lexical categories
- but not much has been said about EF...

Where does EF go in DM listemes (i.e. f-morphemes and roots)?

Root and Edge Feature

I attribute EF to f-morphemes instead of roots because:

- EF as a formal feature should go to the functional side for the sake of theoretical coherence
- items with EF can head and label, whereas roots cannot

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Two relevant points:

- not all lexical items must have EF (even for Chomsky, e.g. interjection) *so it's okay for root to lack EF*
- for Merge to precede it suffices to have (and usually has) one EF-bearing item (i.e. the head) *double-okay for root to lack EF*

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This is formulated in Narita (2014: 198) as the H-α schema:

- Merge must take at least one LI as its input.

This means that **root does not need EF to merge**, as long as its merging partner has EF.

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This is formulated in Narita (2014: 198) as the H-α schema:

- Mer*So, a root cannot merge with another root.*

This means that **root does not need EF to merge**, as long as its merging partner has EF.

Relative vs. absolute root

That roots have no EF is not a surprising conclusion

- it fulfills the agenda of lexical decomposition
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This said, positions on the nature of root are far from unanimous, as is summarized in Ramchand (2008) and Gallego (2014).

Relative vs. absolute root

Ramchand (2008: 11):

> *"[W]e can distinguish two extremes.*
>
> (i) *The naked roots view: The root contains no syntactically relevant information, not even category features.*
>
> (ii) *The well-dressed roots view: The root may contain some syntactic information, ranging from category information to syntactic selectional information and degrees of argument-structure information, depending on the particular theory. This information is mapped in a systematic way onto the syntactic representation which directly encodes it.*
>
> *The latter position is virtually indistinguishable in practice from the static lexicon view. . . In practice, the majority of researchers in the 'decompositional' or 'constructivist' camp actually fall between the two extremes described above."*

Relative vs. absolute root

Gallego (2014: 192):

"[T]wo main views can be distinguished, depending on how empty (or bare) roots are:

√ROOT typology

√ROOT	CATEGORY	ARGUMENT STRUCTURE	SEMANTIC TYPE	CONCEPTUAL CONTENT
PARTIALLY BARE	NO	YES	YES	YES
	NO	NO	YES	YES
TOTALLY BARE	NO	NO	NO	YES

Some authors assume that roots still preserve some argument-taking properties [and] a semantic type. . . According to other authors, roots are totally argument-free elements. . . but still preserve an inherent semantic denotation. . . some authors have also argued that roots are totally bare, having no grammatically relevant information whatsoever, just encyclopedic content."

Relative vs. absolute root

The different views of root represent two fundamental opposite beliefs:

- root is what to have left (from word decomposition)—compromise between theory and data (what's sufficient for the data?) *relative root*
- root is what to begin with (from nothing)—seek theoretical minimum (what's the ultimate atom?) *absolute root*

- Absolute root is completely bare (no phonological/semantic/grammatical feature); any non-bare move would place the root on a relative spectrum.
- The non-bare extreme is a full-fledged word; any slight move from it could define a relative root. How far to move often depends on the data.
- When data imply non-bare root, relativists are fine with it, while absolutists look for alternative account.

They are all called "roots"!

Relative vs. absolute root

Does the opposition affect the root-root merger (il)legitimacy?

Relative vs. absolute root

Does the opposition affect the root-root merger (il)legitimacy?

No! Even a 99% relative root, as long as it is a root, does not qualify as "LI" (and so does not have EF).

The watershed: the categorial feature.

But a root with categorial feature is no longer a root. . .

Neither absolute nor relative roots may have root-root merger.

What you see isn't what you get!

Roots are confined to a level that we cannot directly perceive. So we cannot be sure if what we believe to be a root really is a root.

For most of the time, it probably isn't, because

- the successful retrieval of interface information hinges on categorization
- we have seen examples of retrieval failure, e.g. *yi* in *dàyi* "careless" (no tone, no meaning)

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- where the sound (incl. tone) and meaning of each component are clear and fixed

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- where the sound (incl. tone) and meaning of each component are clear and fixed
- therefore they should not be acategorial

Interim summary

In sum

- there is no root-root merger because neither root has an Edge Feature to enable Merge
- this holds for both absolute and relative roots
- due to our perceptual limitation, we may often use “root-root merger” as a misnomer

Outline

Deriving exocentric compounds

Remember we discussed some alternative solutions for Chinese exocentric compounds

- [$_{V_2}$ [$_{V_1}$ chū] [$_{N_1}$ bǎn]] “produce-edition; publish”
- [$_{V_2}$ [$_{V_1}$ dān] [$_{N_1}$ xīn]] “carry-heart; be worried”
- [$_{N_2}$ [$_{X}$ chá] [$_{N_1}$ hú]] “tea-pot”
- [$_{\sqrt{}}$ $\sqrt{}$ [$_{Co}$ Co $\sqrt{}$]]
- [$_{X}$ [$_{X}$ x $\sqrt{}$] [$_{Co}$ Co [$_{X}$ x $\sqrt{}$]]]

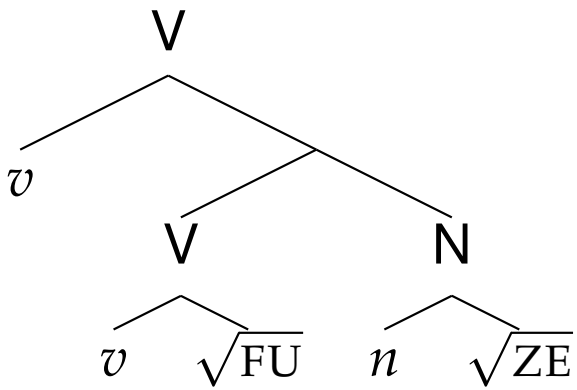
Deriving exocentric compounds

These amount to three structures

- [z z [x/y [x x $\sqrt{}$] [y y $\sqrt{}$]]]
- [$_{\sqrt{}}$ $\sqrt{}$ [$_{\text{Co}}$ Co $\sqrt{}$]]
- [x [x x $\sqrt{}$] [$_{\text{Co}}$ Co [x x $\sqrt{}$]]]

Deriving exocentric compounds

Example 1: *fù-zé* “carry-responsibility; be responsible”

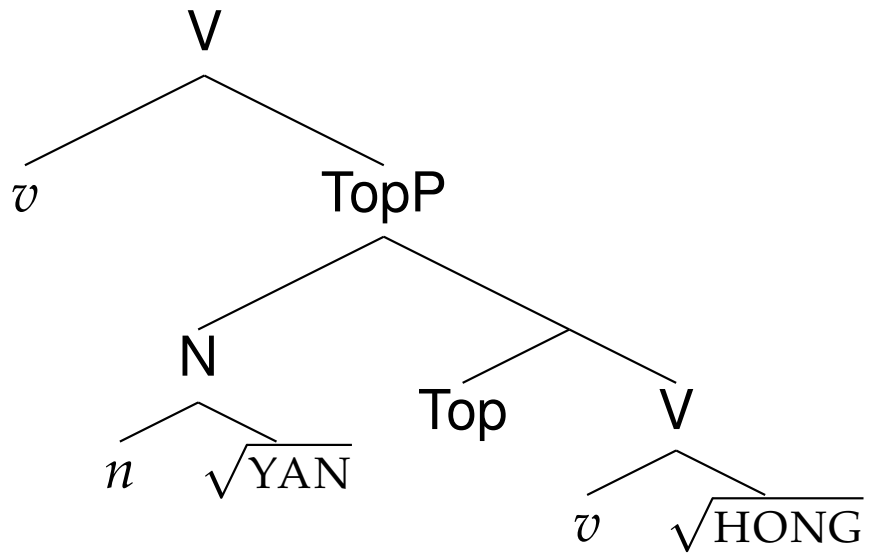


NB

- there are 3 spell-out cycles, each retrieving some lexical information
- the {V N} stage cannot be labeled but is later labeled by v

Deriving exocentric compounds

Example 2: *yǎn-hóng* “eye-red; envy”

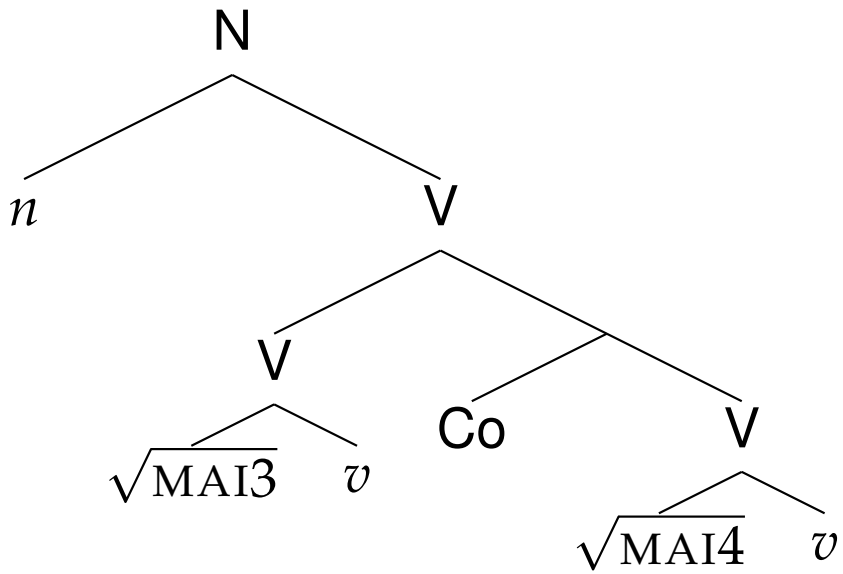


NB

- the domain to be (re)categorized can be simple or complex
- the {Top V} Merge is driven by EF on Top (that on v already used)

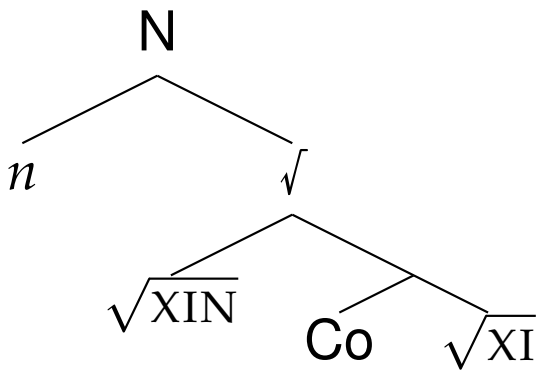
Deriving exocentric compounds

Example 3: *măi-mài* “buy-sell; trade”



Deriving exocentric compounds

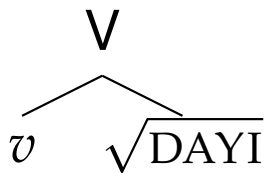
Example 4: *xìn-xī* “letter-message; information”



Currently I have no strong preference between 3 and 4.

Deriving exocentric compounds

Compare: *dàyi* “careless”



disyllabic mono-root

Deriving exocentric compounds

We can already derive V-O, Subj-Pred, and coordination compounds.
We can not yet derive: mod-head compounds

- e.g. *wài-yù* “outside-meet; marital affair”, *màn-pǎo* “slow-run; jog”, etc.
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Crucially, we can derive all the Chinese compounds without resorting to root-root merger.

Unless convincing data show otherwise, we can (and should, Occam’s Razor!) eliminate this operation from our theory.


Thank
you!!

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