

# Emergent [V] flavors and minimized flexibility of lexical categories

Chenchen (Julio) Song, [cs791@cam.ac.uk](mailto:cs791@cam.ac.uk)

Department of Theoretical and Applied Linguistics  
Gonville & Caius College, University of Cambridge

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- 1 Introduction
- 2 v flavoring and alternative approaches
- 3 v flavoring in a feature-based system
- 4 Distinctness
- 5 Case study: Chinese V-V resultatives
- 6 Conclusion

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## Theme

“Flavoring” flexibility of lexical categories, with a focus on [V].

Conceptual questions:

- What is the conceptual essence of [V] flavoring?
- Does it fit well with the design of human language?
- What is its position in the Minimalist theory?

## Main arguments:

- [V] flavoring is essentially an issue of **event type encoding**.
- UG-allowed but not prioritized by 3rd factors.
- [V] flavors arise emergently.

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## Conclusion 1

Lexical categories only have minimal flavoring flexibility, though this minimality is not their natural design; their flexibility is **minimized** in the interaction of three factors instead.

Empirical case study: Chinese V-V resultative construction, e.g. *dǎ-pò* “hit-broken”, *rǎn-hóng* “dye-red”, etc.

- Establishment requires some formalization.
- Most effectively: a [V] flavor BE.
- Non-trivial grammatical consequences.

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## Conclusion 2

The emergence of a new category flavor is a significant incident for the grammar of a language, whose influence goes far beyond event structure organization.



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# Little v delimitation

[V] flavoring: usually presented as  $\Sigma$ -oriented **v flavoring**.

v flavors (D'Alessandro et al. 2017)

BE, BECOME, GO, HAVE, DO, CAUSE, PUT, PROVIDE

Examples:

- (1) a. *Llegaron*  $\sqrt{-v_{GO}-T}$  *dos cartas*. “Two letters arrived.” (Spanish, Cuervo 2003)  
b. *Faltan*  $\sqrt{-v_{BE}-T}$  *dos velitas*. “Two candles are missing.”
- (2) a. *ok-i-ru*  $\sqrt{-v_{BECOME}-T}$  “to get up” (Japanese, Harley 2008)  
b. *ok-os-u*  $\sqrt{-v_{CAUSE}-T}$  “to wake up (someone)”
- (3) *ni'i-Ø-tua*  $\sqrt{-v_{DO}-v_{CAUSE}}$  “to make fly” (Hiaki, Harley 2013)
- (4) a. *negar egin*  $\sqrt{-v_{DO}}$  “to cry” (Basque, D'Alessandro 2017)  
b. *eztul egin*  $\sqrt{-v_{DO}}$  “to cough”

The v flavoring technique is more complex than meets the eye:

- v = VP-Shell or verbalizer?
  - Folli & Harley (2005: 7):  $v_{\text{CAUSE/DO/BECOME}}$  = VP-Shell flavors
  - Cuervo (2003: 17):  $v_{\text{DO/GO/BE}}$  = verbalizer flavors
  - Schäfer (2012: 169): “Voice<sub>AGENT/CAUSE</sub>”
  - Ramchand (2017: 253): “Voice flavors” (reviewing Harley’s works)

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- flavors mainly proposed for event-structuring

v flavoring is not the only approach to event type encoding!

Knowledge about event types needs to be encoded somewhere in I-language. Three loci:

- 1 v flavors, i.e. grammaticalized FFs.
- 2 Structural configuration (Acedo-Matellán & Mateu 2014).
- 3 Root ontology (Alexiadou & Lohndal 2017).

# The configurational approach

Semantic flavors  $v$  may adopt arise structurally. For instance:

- DP EA + DP IA = DO (e.g. *drink*)
- DP EA + Adj Small Clause IA = CAUSE (e.g. *break*)
- No EA + Adj Small Clause IA = BECOME (e.g. *sink*)
- No EA + P Small Clause IA = GO (e.g. *leave*)
- DP EA + P Small Clause IA = PUT (e.g. *shelve*)

(D'Alessandro et al. 2017, AM&M 2014)

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Advantages:

- Event structure  $\rightarrow$  syntactic structure (no generative semantics).
- Simplifies theoretical machinery (no extra flavor FF).

Occam's Razor!

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# The configurational approach

## Problem 1

No configuration for BE (limited to dynamic events).

Some stative verbs fall in wrong slots, some cannot find a slot.

- (5) a. *John loves tea.* DP EA + DP IA = DO  
b. *Peter stands in the boat.* DP EA + P Small Clause IA = PUT
- (6) a. *I know.* ??  
b. *The sky stays blue.* ??

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b. *The sky stays blue.* ??

NB not all subjects are real EAs (if EA = VoiceP-external), but

- such subtlety is not included in the literature,
- acquirers must know V's event type to decide subject  $\theta$ -role.
  - Which knowledge comes first, event type or configuration? **circularity**

# The configurational approach

## Problem 2

Works better for languages with salient P systems.

If P is not salient, some configurations lose distinction.

- (7) a. *Xuéshēng chī ròu.* (Mandarin Chinese)  
student eat meat  
“Students eat meat.”
- b. *Xuéshēng chī shítáng.*  
student eat canteen  
“Students eat (in the) canteen.”
- c. *Lǎoshī zhàn jiǎngtái.*  
teacher stand rostrum  
“(The) teacher stands (on the) rostrum.”

All are [DP Subj + DP Obj], but event type varies.

- Again, children need event type knowledge to figure out the configuration.
- Where is this knowledge encoded?

# The configurational approach

Null P? **NO!**

- Filling in P = ungrammaticality or different parsing.

- (8) a. \* *Xuéshēng chī zài shítáng.* (Mandarin)  
student eat be in canteen  
“Students eat in the canteen.”
- b. \* *Lǎoshī* [<sub>V</sub> *zhàn*] [<sub>PP</sub> *zài jiǎngtái*].  
teacher stand be on rostrum  
“(The) teacher stands on the rostrum.”
- c. ? *Lǎoshī* [<sub>V</sub> *zhàn-zài*] [<sub>DP</sub> *jiǎngtái*].  
teacher stand-be on rostrum  
“(The) teacher stands-on the rostrum.”
- d. *Lǎoshī* [<sub>V</sub> *zhàn-zài*] [<sub>DP</sub> *jiǎngtái-shàng*].  
teacher stand-be on rostrum-top  
“(The) teacher stands-on (on) the top of the rostrum.”

The direct objects are DPs, not PPs.

# The configurational approach: Summary

The above two problems, i.e.

- i) the lack of BE configuration
- ii) the dependence on salient P

potentially weaken the explanatory adequacy of a purely configurational approach (though non-configurational approaches do not necessarily have better solutions either).

# The root ontology approach

Roots have substantial meaning (i.e. ontological classification) independent of configuration.

Alexiadou & Lohndal (2017: 101):

*“Ramchand (2008, this volume) and Schäfer (2012c), among others, have shown that the grammar does not make reference to annotated v heads, or flavors of v. In line with their proposals, we maintain that all v heads are verbalizers. The semantics of the constructions result from the combination of v heads and different types of roots.”*

# The root ontology approach

## Root ontologies in the literature:

- Things (e.g.  $\sqrt{\text{FOAL}}$ ), Events (e.g.  $\sqrt{\text{HOP}}$ ), States (e.g.  $\sqrt{\text{FLAT}}$ )

(Harley 2005)

- Agentive (e.g.  $\sqrt{\text{MURDER}}$ ), Internally caused (e.g.  $\sqrt{\text{BLOSSOM}}$ ), Externally caused (e.g.  $\sqrt{\text{DESTROY}}$ ), Cause unspecified (e.g.  $\sqrt{\text{BREAK}}$ )

(Alexiadou et al. 2006, Harley & Noyer 2000)

$v$  in *murder* (agentive) =  $v$  in *flatten* (causative)

## Advantages:

- simplified syntactic vP domain (reduced event layers)
- simplified feature inventory (event types stay encyclopedic)

very parsimonious!

## Problem 1

Ramchand and Schäfer do not endorse the exact stance cited by A&L.

- Ramchand (2017: 242, 254):

*“DM-internal assumptions. . . don’t carry over to theories like my own, which have neither acategorical roots nor a lexicalization convention that restricts itself to terminal nodes ”*

*“I have. . . made no use of little v as a categorizing head. . . since it turns out to do no work whatsoever in my framework. Its positioning is essentially a meaningless question in. . . Ramchand (2008).”*

- Schäfer (2012: 171):

*“There are no semantically annotated little v-heads, and specifically no  $v_{CAUS}$ . . . v-heads and other heads building event structure express just different types of basic eventualities. v can express an unspecified and unbounded event (a Process in Ramchand’s 2008 terms) or a state.”*



## Problem 2

No direct access to Roots (they cannot reach interfaces on their own).

Sounds and meanings assigned at the interfaces and eventually perceived by us are a result of contextualization.

- Panagiotidis et al. (2017: 48):

*“The underspecification of . . . roots makes sense if roots acquire content only when categorized.”*

- Acquaviva (2008: 4):

*“Meaning presupposes at least a categorization in semantic types, which in turn presupposes a syntactic category.”*

When we think we understand  $\sqrt{\text{HAMMER}}$ , is it really  $\sqrt{\text{HAMMER}}$  or  $[\text{x } \sqrt{\text{HAMMER-x}}]$ ?

# The root ontology approach: Summary

The tenability of the root ontology approach to event type encoding is weakened by

- i) The dispute about the eliminability of semantic specification on v,
- ii) the unreliability of the correspondence between Roots and perceivable interpretations.

# Loci of event type encoding: Summary

- Both alternative approaches to v flavoring are conceptually flawed.
- Neither is fundamentally wrong.
  - Configurational approach: advantageous in non-atomic event types.
  - Root ontology approach: flaw cancelable if changed to “verb ontology”.

All the three loci (v flavoring, structural configuration, and encyclopedic ontology) are in principle plausible.

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# v flavoring in a feature-based system: Legitimacy

I do not object to the v flavoring technique per se, because

- it violates no known UG principle (essentially extra FFs),
- it is not so different from T/C flavoring (e.g.  $T_{INF}$ ,  $C_{TOP}$ ),
- most objections target a subset of event types even when they do not say so.
  - Objection to some v flavors in some languages  $\neq$  objection to any v flavor in any language.
  - Banning semantic annotation on v = identifying it as a different kind from all other annotatable categories—such a formal distinction should not be made unless there is virtual-conceptual necessity.

However, I do acknowledge that v flavors as morphosyntactic primitives should not be taken for granted and will justify this next.

ReCoS conceives parametric variation as an **emergent** property of the interaction of an underspecified UG, the PLD and third-factor computational conservativity on the part of the acquirer (3rd factor).

(Biberauer & Roberts 2015)

Two principal 3rd factors:

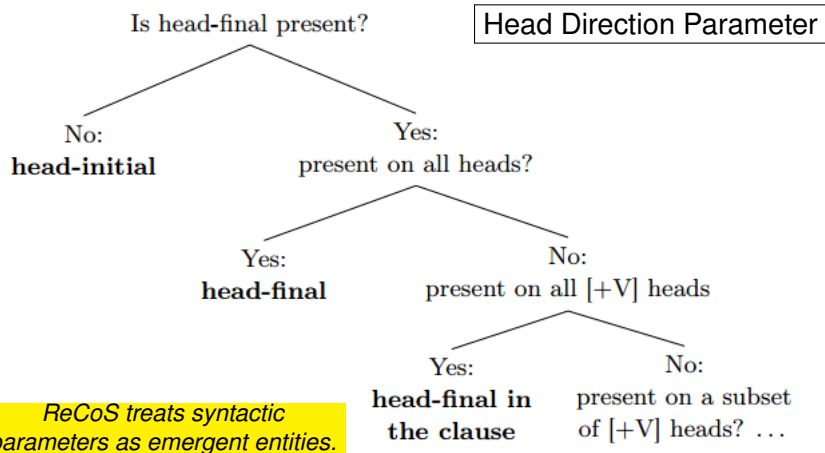
- **Feature Economy (FE)**: postulate as few formal features as possible to account for the input.
- **Input Generalization (IG)**: if a functional head  $F$  sets parameter  $P_j$  to value  $v_j$  then there is a preference for all functional heads to set  $P_j$  to value  $v_j$ .

A superordinate 3rd factor unifying FE and IG:

**Maximize Minimal Means (MMM)**: a minimax search algorithm which minimizes feature postulation but makes maximal use of available features. (Biberauer 2016: 8, Roberts *to appear*: 95)

3rd factors are **domain-general** learning biases leading towards optimal use of cognitive resources.

# Emergent parameter: An example



(Biberauer & Roberts 2015: 8)



# Neo-emergentism: From parameters to categories

The (full) inventory of substantive FFs is not UG-given but emergent.

- UG provides FF template
- PLD skews FF postulation based on language-specific salience
- 3rd factors govern the process

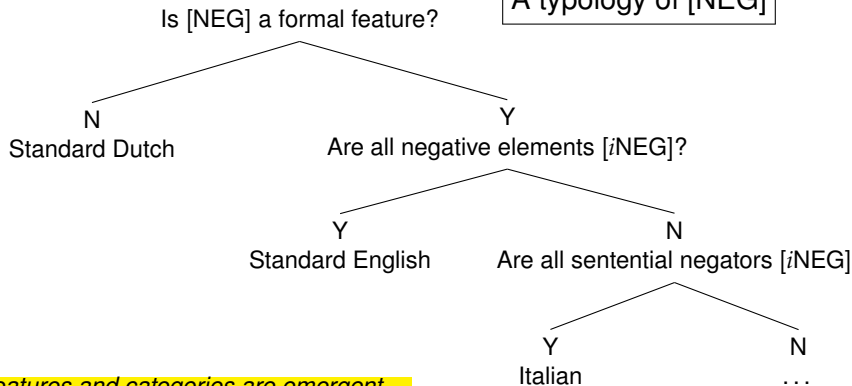
Crucially

- FFs regulate systematic contrasts that cannot be explained by solely semantic or phonological considerations.
- Since contrasts vary across languages, FF inventory and category contents also vary.

(Biberauer 2016)

# Emergent category: An example

## A typology of [NEG]



*Features and categories are emergent.*

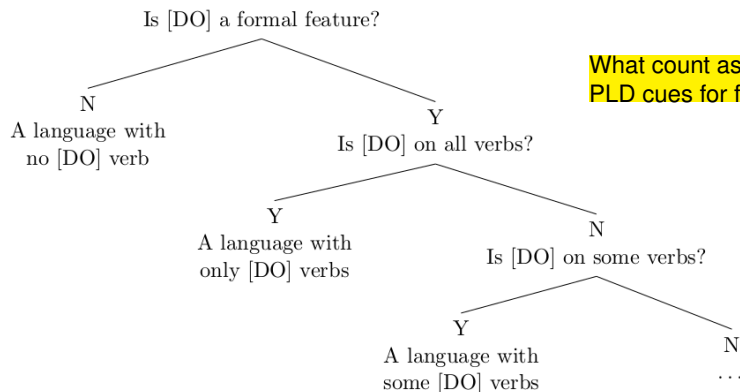
(adapted from Biberauer 2016: 25)

v flavoring = FF postulation

- Simplistically the bundling of [V] and a flavor feature.
- Regardless of the bundling technique, the flavor FF is necessary.

# Emergent v flavor: An example

## A typology of [DO]



*NB This is a typology of the FF [DO]!  
A language without [DO] can still have  
verbs denoting DO-y meanings.*

Biberauer (2016) lists five types of PLD cue for FF.

- 1 Doubling and agreement: [+form, –meaning]
- 2 Systematic silence: [–form, +meaning]
- 3 Multifunctionality: [+form, ++meaning]
- 4 Movement: duality of semantics
- 5 Recursion: i) structural, ii) categorial

*Let's apply these to v flavoring!*

## PLD cue 1: [+form, –meaning]

If the DO verbs in a language show systematic doubling, agreement, or dummy morphology, [DO] is grammaticalized as FF, e.g.

- (9) a. Lily **eats** cookies **eat**. (doubling)  
b. Lily(-**X**) eats(-**X**) cookies(-**X**). (agreement)  
c. Lily eats **X** cookies. (dummy)
- eat/X position may vary

cf. Afrikaans (Biberauer 2016: 23)

- (10) *Hulle is **nie** laat **nie**.*  
they is not late POL  
“They are not late.”

Do these patterns occur in natural languages?

- **9a** I'm not aware of such a language.
- **9b** Partly resembles an ergative system, e.g.

(11) *Lili-k gailetak jaten ditu.* (Basque)  
Lily-ERG cookies eat AUX  
“Lily eats cookies.”

- **9c** reminiscent of pronominal clitics (dummy spec) and light verbs (dummy head), e.g.

(12) a. *comer-se* “to eat-oneself; to eat up”, *caer-se* “to fall-oneself; to fall down” (Spanish)  
b. *benkyoo-suru* “study-to do; to study”, *shyokuji-suru* “eating-to do; to eat” (Japanese)

Are these cues for  $v_{DO}$ ?

- Basque *-k*: systematic, likely to cue [DO] (but not necessarily on *v*).
- Spanish *se*: i) not productive, ii) not necessarily Spec-vP.
- Japanese *su*: i) not consistent, ii) not limited to DO-verbs.

- (13) a. *miru* “to see”, *taberu* “to eat”, *nomu* “to drink” (Japanese)  
b. *kakoo-suru* “fall-to do; to fall”, *shiboo-suru* “die-to do; to die”



Null exponence signal the existence of FF, e.g.

- (14) a. *Chomsky*  $\emptyset_T$  *wrote a new paper* (**did/didn't** he?) (English)  
b. **Did** *Chomsky* *write a new paper?*  
c. *Chomsky* **didn't** *write a new paper.* (Biberauer 2016: 5)

However, this is not as effective for v, because

- there is no such systematic overt-null contrast in v flavoring,
- [−form, +meaning] is actually expected in a root ontology approach.

## PLD cue 3: [+form, ++meaning]

If a single  $\Pi$  is associated with multiple  $\Sigma$ s (esp. when non-substantial), the multiple  $\Sigma$ s may be due to FFs, e.g.

- (15) a. *Ông Quang được mua cái nhà.* (Vietnamese)  
PRN Quang can buy CL house  
“Quang was allowed to buy a house.” (Deontic)
- b. *Ông Quang mua được cái nhà.*  
PRN Quang buy can CL house  
“Quang was able to buy a house.” (Aspectual)
- c. *Ông Quang mua cái nhà được.*  
PRN Quang buy CL house can  
“Quang may possibly/is able to buy a house.” (Epistemic)
- (Biberauer 2016: 5)

This cue does not help us much, either.

- A language like this need to have **overt, non-affixal** v. (I will show this is impossible)

# Interim: How to merge a Root?

## Assumptions:

- the Bare Root View (categoryless Root)
- Root is syntactically invisible
- Set Merge vs. Pair Merge
  - Set Merge: plane-internal, c-selection, complementation.
  - Pair Merge: separate plane, no c-selection, adjunction.

Claim: Root cannot set-merge with anything, but can pair-merge with everything (except another Root), i.e. the only way to merge a Root is via adjunction.

Consequence: categorizers are necessarily affixal (null or overt).

→ PLD Cue 3 is not suitable for v flavoring.

Movement creates duality of semantics and cues FF.

Cannot be applied to v flavoring. In  $[_X \sqrt{-}x]$  neither  $\sqrt{-}$  nor  $x$  can move. We can only move  $X$  as a whole.

- So there is **verb** movement but no Root/verbalizer movement.

## Type I: recursive structure.

- (16) a. [ *frog man* ] (English compound noun)  
b. [ [ *frog man* ] *team* ]

## Type II: recursive category.

- (17) ... *dat sy die boek sal moet koop.* (Afrikaans stacked modals)  
that she the book shall must buy  
“...that she will have to buy the book.”

(Biberauer 2016: 6–7)

## PLD cue 5: Recursion

In the case of  $v$ :

**Type I:** recursive verbalization or “re-verbalization”, i.e.

$$(18) [v_2 [v_1 \sqrt{-v_1}] -v_2]$$

**Type II:** plane-internal adjacent verbalizers, i.e.

$$(19) [v_{2P} v_2 [v_{1P} v_1 \dots]]$$

Since  $v$  is either null or affixal, the only way to give rise to (19) is:

$$(20) [v_{2P} [v_2 \sqrt{-v_2}] [v_{1P} [v_1 \sqrt{-v_1}] \dots]]$$

i.e. lexical verb serialization.

*Can these cue  $v$  flavor FF?  
Type I No, Type II Yes.*

Type I is quite conceivable a scenario, e.g.

(21) English *be-* prefixation:

*bedeafen, bekiss, bemock, besmile, bewaste...*

(Nagano 2013)

(22) Hungarian deverbal verbs:

a. *zavar* “vt. disturb” > *zavarodik* “vi. become turbid”

b. *csuk* “vt. close” > *csukódik* “vi. close”

c. *fő* “vi. cook” > *főz* “vt. cook”

d. *dob* “vt. throw” > *dobál* “vt. keep throwing” > *dobálódik* “vi. keep throwing”

(Kiefer 1982)

However, recategorization is also common in the nominal domain, e.g.

- English: *villager*, *friendship*
- Hungarian: *hal-ász* “fish-N; fisherman”, *homlok-zat* “forehead-N; façade”

i.e. no categorial contrast like that in English compounding → no need to postulate FF.

Type II requires the stacking of two **full-fledged lexical** verbs.

- Clearly cues a formal distinction (Richards 2010).
- Both verbs must be lexical.
  - Or the distinction would be [V] vs. [F] rather two flavors of [V].



Among the **five** PLD cues in Biberauer (2016), only **two**, i.e.

- i) a subtype of Cue 1 (agreement),
- ii) a subtype of Cue 5 (recursive category),

are applicable to the case of *v* flavoring.

Each cue can signal at most **one** flavor (FE).

- Basque ergative agreement:  $?v_{DO}$ .
- Chinese V-V resultative:  $v_{BE}$ .

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# Distinctness Condition

## Distinctness Condition (DC) (Richards 2010: 5)

If a linearization statement  $\langle \alpha, \alpha \rangle$  is generated, the derivation crashes.

“...rejects trees in which two nodes that are **both of type  $\alpha$**  are to be linearized in the **same Spell-Out domain**, and are in an **asymmetric c-command** relation.” (ibid.)

(23) Multiple ellipsis:

\**Every man admired every woman, except [ John ] [ Mary ].*  $\langle D, D \rangle$  (English)

(24) Multiple DP-internal arguments:

a. \**the singing [ of songs ] [ of the children ]*  $\langle \text{GEN}, \text{GEN} \rangle$  (English)

b. \**i silipsi [ tu Jani ] [ tis astinomias ]*  
the capture of John of the police  
“(intended) the capture of John by the police” (Greek)

(25) Causee in causatives:

a. *Jean a fait manger [ la tarte ] [ \* (à) Paul ].*  
Jean has made eat the pie to Paul  
“Jean made Paul eat the pie.”  $\langle \text{DAT}, \text{ACC} \rangle$  (French)

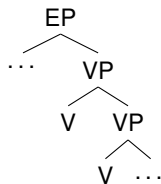
b. *Hasan [ kasab-a ] [ et-i ] kes-tir-di.*  
Hasan butcher-DAT meat-ACC eat-CAUS-PST  
“Hasan had the butcher cut the meat.” (Turkish)

# Distinctness Condition

In the case of v flavoring:

- $\alpha = \langle V \rangle$
- same Spell-Out domain = the event domain (EP)
- asymmetric c-command = Set Merge

→ lexical verb serialization!



Two revisions to Richards' theory:

- 1  $\langle \alpha, \alpha \rangle$  crashes **earlier** than linearization
- 2 a **fifth** strategy to avoid DC violation (in addition to Richards' **four**)

## Assumptions:

- syntax only sees FF
- FF enters syntax from Lexical Array (LA)
- LA is set
- set members are distinct

Claim: for any phase  $\Phi$ , its LA cannot contain non-distinct elements.

A compatible view in Biberauer (2016: 7, fn. 6):

“Distinctness (in the sense of Richards 2010) is expected to be required in a system where distribution is governed by categorial ‘sameness’, i.e. formally identical elements **compete** for the same positions, meaning that co-occurring elements must be formally distinct in some way. ”

So, even if an LA like  $\{ \dots \alpha \dots \alpha \dots \}$  could exist somehow (e.g. as a derivational byproduct), syntax would not know which  $\alpha$  to merge first.

Conclusion:  $\langle \alpha, \alpha \rangle$  crashes either at **LA construction** or at **Merge**.

# DC revision 2: a fifth strategy

Richards (2010) provides four strategies to avoid DC violation:

- 1 Add extra structure (phase boundary).

(26) [<sub>D</sub> *the destruction*] [<sub>P</sub> \*(*of*) [<sub>D</sub> *the city*]] (English)

- 2 Remove offending structure.

(27) a. [<sub>K</sub> *Mari-nak*] [<sub>D</sub> *a kalap-jai*] (Hungarian)  
Mary-DAT the hat-POSS  
“Mary’s hats”

b. [<sub>D</sub> *a* [<sub>\*K-D</sub> [<sub>N</sub> *Mari*](*\*-nak*)] *kalap-jai*]  
the Mary-DAT hat-POSS  
“Mary’s hats”



## DC revision 2: a fifth strategy

### 3 Block “bad” movement.

- (28) [<sub>D</sub> *Quién*] [<sub>+D</sub> (\**Juan*)] *quiere Juan que le escriba?* (Spanish)  
who Juan wants Juan that him write.SUBJ  
“Who does Juan want writing him?”

### 4 Move non-distinct nodes apart.

- (29) a. \* *Hanako-ga Taroo-ni* [<sub>D</sub> *toti-o*] [<sub>D</sub> *zyooto-o*] *sita.* (Japanese)  
Hanako-NOM Taroo-DAT land-ACC giving-ACC did  
“Hanako gave Taroo a piece of land.”
- b. [<sub>Top</sub> *Hanako-ga Taroo-ni* [<sub>D</sub> *zyooto-o*] *sita no wa*] [<sub>D</sub> *toti-o*] *da.*  
Hanako-NOM Taroo-DAT giving-ACC did C TOP land-ACC is  
“What Hanako gave to Taroo is a piece of land.”

The four strategies are all **operational**. To apply them to *v* flavoring, we need the following conditions:

- 1 [V [X V]] ( $X = \Phi$ , e.g. Voice, C)
- 2 move one *v* from [V V]  $\rightarrow$  [V  $\checkmark$ ] or [ $\checkmark$ V]
- 3 [V V] is result of movement
- 4 one of the Vs in [V V] can move above E.

2 is technically impossible.

134 are possible but subject to language-specific availability.

- 5 Distinguish  $\langle \alpha, \alpha \rangle$  by an FF.

Condition: FF should be able to label  $[\sqrt{-v}]$ .

Difficulty: e.g.

$D_{\{[iD][ACC][Prn][Num][Gen][uN] \dots\}} = \langle D \rangle$ , not  $\langle Prn \rangle$  etc.

Claim: **lexically selected interpretable** categorial features always label.

*What FF could overwrite  $[iV]$ 's labeling privilege?  
**Itself!***

## DC revision 2: a fifth strategy

Only **one** way to meet condition ⑤:

- let the new FF be part of [V] rather than having an equal status with it.

→ Let FF be the **value** of [V]!

$\langle V, V \rangle$  becomes  $\langle V_{VAL}, V \rangle$  or  $\langle V, V_{VAL} \rangle$

$[VAL] = [V]$  flavor = v flavor

## FE

Strategy ⑤ should be the **last** resort, when none of ①③④ works.

## Conclusion

While [V]/v flavoring is conceptually and technically possible, this possibility is **minimized** in the interaction of the three factors.

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- 1 Introduction
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- 3 v flavoring in a feature-based system
- 4 Distinctness
- 5 Case study: Chinese V-V resultatives**
- 6 Conclusion

# Case study: Chinese V-V resultatives

Examples:

*dǎ-pò* “hit-broken”, *rǎn-hóng* “dye-red”, *tīng-dǒng* “listen-understand”...

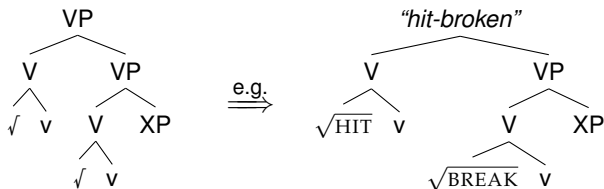
Cause	Result
“hit”	“be broken”
“dye”	“be red”
“listen”	“understand”

NB the category of the result element is [V], not [A]!

- the primitive status of [A]/a is dubious (cf. Panagiotidis 2015)
- English adjectives are stative verbs in Chinese (cf. Chao 1968 et seq.)

# Case study: Chinese V-V resultatives

Structure: [VP [V  $\sqrt{V}$ ] ] [VP [V  $\sqrt{V}$ ] XP ] ]



As mentioned, this structure as such violates DC.



# Case study: Chinese V-V resultatives

*Let's try out the four possible strategies!*

- 1 Add extra structure.

This is attested, e.g.

- (30) a. *dǎ de pò* “hit CAN broken; can hit-broken” (Mandarin)  
b. *tīng bù dǒng* “listen not understand; cannot listen-understand”

Problems:

- The extra structure is not necessarily  $\Phi$ .
- Extra structure = extra meaning  $\rightarrow$  no longer PLD of V-V resultative!

# Case study: Chinese V-V resultatives

## 3 Block bad movement.

This does not help, as V-V resultatives are not the result of movement.

- Even if they were, the movement is not blocked (otherwise V-V would not exist).

## 4 Move non-distinct nodes apart.

Doesn't work either, as V-V resultatives do assume adjacency.

*The problem with Richards' strategies is: they can only explain why certain constructions are **not** attested.*

# Case study: Chinese V-V resultatives

We are only left with

*last resort*

- 4 postulating flavor FF.

This works, as it is not an operational strategy, but a **lexical** one.

*What FF to grammaticalize?*

Since

- ( $\Sigma$ -oriented) FF piggybacks on  $\Sigma$
- the most consistent  $\Sigma$  in V-V resultatives is the stativity of the result V

→[BE] is the simplest FF that can cancel the DC violation.

$[VP [V \sqrt{-V}] [V_{BE}P [V_{BE} \sqrt{-V}_{BE}] XP]]$

# Chinese V-V resultatives: Three factors

Chinese  $v_{BE}$  emerges in the interaction of three factors:

UG [F: VAL] template

PLD systematic V-V strings violate DC  $\rightarrow$  Type II recursion cues FF

3rd postulate only one FF (FE) when there is no existing solution (MMM)

# Chinese V-V resultatives: Q & A

- *Why [BE]?* Because it is the salient  $\Sigma$  in the PLD.
- *Why can't the resultative reading be configurational?*  
It can and should be! [BE]  $\neq$  [RES] and isn't postulated to get the resultativity.
- *If v is phase head, aren't the two v-s in different phases?*  
No. Each v has its own categorization phase, but the same phase they share is one level above (the spine EP), i.e. what's merged on the spine is V instead of v.
- *Why isn't it v?* Because we're dealing with lexical serial verbs, where neither v alone defines the clausal spine.
- *Isn't this Chinese-specific?*  
Yes. [Lexical verb serialization + little inflection] isn't a common combination.
- *Does this mean  $v_{BE}$  is cross-linguistically rare?* Yes, this is a prediction of FE. The Chinese case illustrates how intricate the conditions need to be for it to emerge.
- *But English does have stative verbs and even be!* Yes, but stativity can stay in encyclopedic ontology, and *be* is not a verbalizer (it's a stative VP-Shell).
- *Finally, how many [V] flavors may be out there?* I take the conservative stance that only truly basic event types can become flavors, so perhaps only Process and State as in Schäfer (2012).

The rise of  $v_{BE}$  in Chinese has non-trivial consequences.

- ① It makes the construction truly productive (the V-V adjacency used to be an accident in history, cf. Shi 2002).
- Speakers can actively verbalize Roots into statives, e.g.

<i>hē-tù</i>	“drink-vomit (vomiting)”
<i>xùn-kū</i>	“scold-cry (in tears)”
<i>gǎn-pǎo</i>	“chase-run (away)”
<i>hǒng-shuì</i>	“coax-sleep (asleep)”
<i>xiào-chōu</i>	“laugh-twitch (twitching)”

# Consequences of $v_{BE}$

- 2 It forced the originally productive V-V coordination out of compositional syntax (cf. Song *to appear*).
  - Some got idiomatized, e.g. *gōng-kè* “attack-conquer; attack and conquer→overcome”, *gào-sù* “tell-complain; tell and complain→tell”
  - Some got reanalyzed (as resultatives), e.g. *yā-sǐ* “crush-die; be crushed and die→crush dead”, *shè-zhòng* “shoot-hit; shoot and hit→shoot (and the target is) hit”

i.e.  $v_{BE}$  became the default for the second V in a (fully) lexical V-V string. IG

③ It fostered a series of further grammatical changes (Shi 2002).

- The originally accidental V-V adjacency became systematic, with the intervening constituents being “squeezed out” to new positions, e.g.

- (31) a. *Tā **bǎ** wǎn zhuàng-fān le.* (BA construction)  
he BA bowl bump-be turned over PFV  
“He bumped the bowl over.”
- b. *Wǒ zuóri **lěng-jiǔ** hē-duō le.* (Low Top)  
I yesterday cold-alcohol drink-be much PFV  
“I drank too much cold alcohol yesterday.”
- c. *Zhōu Zhòngzhì **hē** jiǔ **hē-zuì** le.* (verb reduplication)  
Zhou Zhongzhi drink alcohol drink-be drunk PFV  
“Zhou Zhongzhi drank alcohol and got drunk.”



# Consequences of $v_{BE}$

- ④ Some  $v_{BE}$  elements got further grammaticalized, e.g. to Asp, Mod, etc.

- (32) a. *Lǎoshī dǎ le xuéshēng.* (le “end”>PFV)  
teacher beat PFV student  
“The teacher beat up the student.”
- b. *Chī dé kǔ zhōng kǔ.* (dé “get”>CAN)  
eat CAN bitter middle bitter  
“(If you) can suffer the bitterest of the bitter.”

This is significant for Chinese grammar:

- the postulation of one FF led to that of many others;
- there formed a consistent way to express new categories (reusing Roots).

Conclusion: the influence of  $v$  flavoring goes far beyond merely event structure organization (lexical categories are the cornerstone of syntactic derivation).

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# Conclusion

In this study, I have

- reviewed and evaluated three loci of event type encoding (FF, configuration, ontology),
- justified the v flavoring technique but also demonstrated its minimality in human language,
- argued the v flavoring flexibility to be resulted from three factors (UG, PLD, 3rd),
- revised the Distinctness Condition and incorporated it into the interaction of three factors,
- revisited the Chinese V-V resultative construction in the above approach.

# Conclusion

My main conclusions are:

## Conclusion 1

Lexical categories only have minimal flavoring flexibility, though this minimality is not their natural design; their flexibility is **minimized** in the interaction of three factors instead.

## Conclusion 2

The emergence of a new category flavor is a significant incident for the grammar of a language, whose influence goes far beyond event structure organization.

Future research: i) more case studies, ii) other lexical categories (e.g. n flavoring), iii) non-categorizing syntactic categories (e.g. T, C)...

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