Modelling Reduplicative Verb Semantics

Using Lexical-Conceptual Structure

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Outline of the talk

- Event structure analysis of verb reduplication
- Modelling productive derivations using LCS

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- Verb reduplication abundant in Australian languages, hugely frequent derivation (Fabricius, 1990)
- Theoretical work mostly tackles phonology, not semantics (e.g., Inkelas, 2008; McCarthy & Prince, 1995)
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- Jackendoff (1991) adopted here, provides streamlined analysis
- LCS also successful in modelling verb semantics in other studies (Baker & Harvey, 2010; Wilson, 1999)

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LCS basics

- Verbs: events and states
- Events have macro-level features, [±b(ounded)] and [±i(nternal structure)]
- Four basic event types (Jackendoff, 1991)
  - [+b, −i] delimited single events: *Cosmo jumped*
  - [−b, −i] nondelimited continuous events: *Cosmo ran*
  - [−b, +i] nondelimited iterative events: *Cosmo jumped repeatedly*
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Example lexical entry and event structure

$$\left[\begin{array}{l} /\text{jump}/ \\ \text{V} \\ \left[\begin{array}{ll} & [+\text{b}, -\text{i}] \\ & \text{CAUSE}\ ([_{\text{Thing}}\ x]_i, [_{\text{Event}}\ \text{GO}\ ([_{\text{Thing}}\ x]_i, \\ \text{Event} & \qquad [_{\text{Path}}\ \text{AWAY-FROM}\ ([_{\text{Place}}\ \text{ON TOP}\ ([_{\text{Thing}}\ \text{SURFACE}]_j)])])]) \end{array}\right] \end{array}\right]$$

$$\left[\begin{array}{l} /\text{jump}/ \\ \text{V} \\ \left[\begin{array}{ll} & [+\text{b}, -\text{i}] \\ \text{Event} & \text{JUMP} \end{array}\right] \end{array}\right] \longleftarrow \text{event structures given capitalised placeholders}$$

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- Non-Pama–Nyungan, West Barkly language of northern Australia (Nordlinger, 1998)
- Event verb reduplication with two aspectual alternations: durative and pluractional
- Also reduplication of stative verbs, but not in this talk

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Durative reduplication

(1) a. gajbi ng-a jigama
eat 1SG.A-PST yam.III(ACC)
'I ate some bush yams.' (Nordlinger, 1998, p. 72)

b. gajbi~gajbi ngiy-a girrinyi warrimbilanga-ni
RDP~eat 3SG.NM.A-PST ant echidna-ERG
'The echidna kept eating all the ants.' [RN1-001003-B/01:29]

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Pluractional reduplication

(2) a. daguma ng-u janji dawu gini-ng-a
hit 1SG.A-FUT dog.I(ACC) bite 3SG.M.A-10-NF
'I'm going to hit the dog that bit me.'

(Nordlinger, 1998, p. 220)

b. alangi-ni gini-ng-a dagu~raguma banduma
boy.I-ERG 3SG.M.A-10-NF RDP~hit back.III(ACC)
'The boy kept hitting my back.' (Nordlinger, 1998, p. 166)

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Pluractional reduplication, contd.

(3) a. daguma gini-ngg-a, ngujari jarlu
hit 3SG.M.A-RR-NF break arm.IV(NOM)
'He hit himself and broke his arm.' (Nordlinger, 1998, p. 237)

b. gula~gula nguja~ngujari gajbi~gaj-bi
RDP~head RDP~break RDP~eat-NF
'(We) break (open) all the heads and eat them.'
[RN1-001003-B/07:41]

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Pattern in other languages (Rembarrnga)

(4) a. Durative

yara-yappa?-niyi: yara-yappa?-ɲawk~ɲawk-mi:ɲ

1AUG.S-UAUGM-sit+PP 1AUG.S-UAUGM-RDP~talk-PP

taŋuɲ-Ø yar-yappa?-ŋeti~ŋeti-ya:

story-NOM 3O+1AUG.A-UAUGM-RDP~tell-PP

'We sat there (all evening) talking and telling stories.'

(McKay, 1975, p. 207)

Pattern in other languages (Rembarrnga)

b. Pluractional (iterative)

ŋa-kur?war-miɲ lit-yi? waŋkiɲ
3MIN.O+1MIN.A-shoot-PP lead-INST one

Ø-kuwan-yuṭ-miɲ. ŋa-kur?war~kur?war-yumaɲ
3MIN.S-afraid-run-PP 3MIN.O+1MIN.A-RDP~shoot-PROG+PP

'I shot (the buffalo) once with a lead and it ran away. I shot it several more times as it went.' (McKay, 1975, p. 208)

Pattern in other languages (Rembarrnga)

c. Pluractional (multiple participant)

ŋattu-Ø yar-miya~mi-ya

cycad.nut-NOM 3O+1AUG.A-RDP~get-PP

'We collected cycad nuts.' (McKay, 1975, p. 208)

Pattern found in other languages

- This pattern is commonly found in Australian languages
  - Kuuk Thaayorre (Gaby, 2018)
  - Garrwa (Mushin, 2012)
  - Kunbarlang (Kapitonov, 2021)
  - Ngalakgan (Baker, 2008)
  - Marri Ngarr (Bicevskis, 2023)
- And many others (see Fabricius, 1990)

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- Can the alternations be represented as a single function?

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Two basic event types in Wambaya

- Nondelimited [−b, −i] verbs like *gajbi* ‘eat’, *gulugbi* ‘sleep’
- These correspond to durative [−b, −i] reduplications
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- Both have broadly ‘distributive’ semantics (Baker, 2008)
- Reduplication distributes events in space, time, or participants
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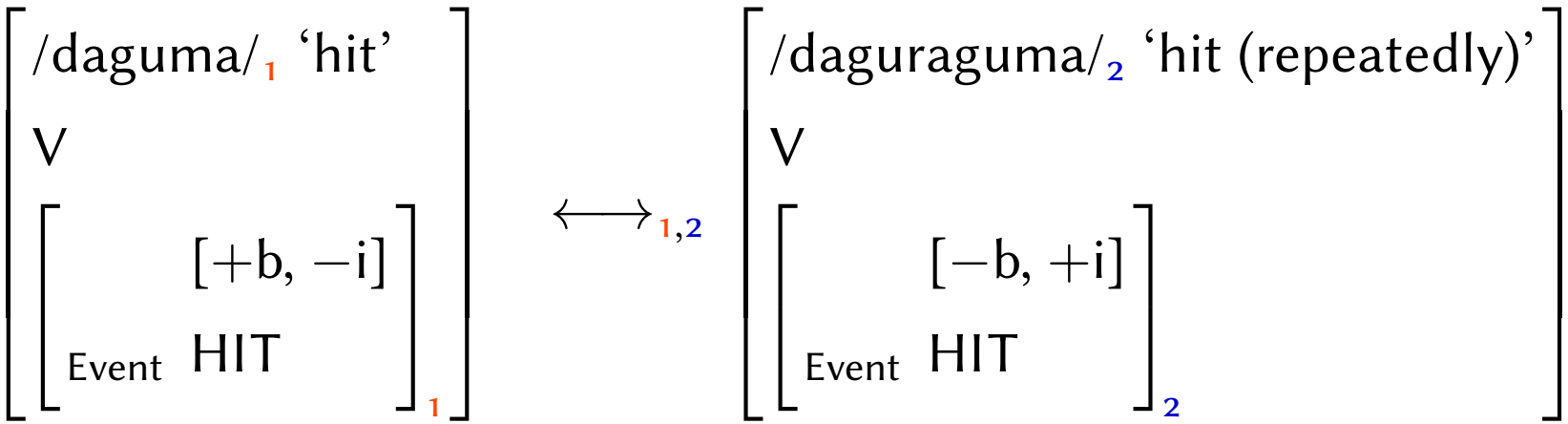
- 

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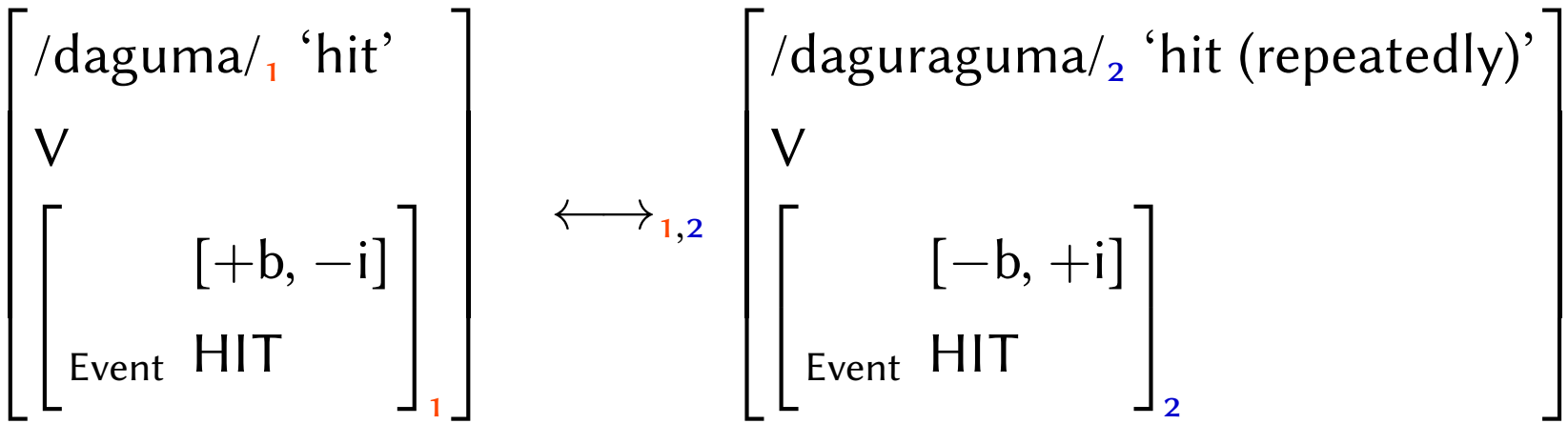
- 

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- $$\left[\begin{array}{l} \text{/daguma/}_{1}\ \text{`hit'} \\ \text{V} \\ \left[\begin{array}{ll} & [+\text{b}, -\text{i}] \\ \text{Event} & \text{HIT} \end{array}\right]_{1} \end{array}\right] \longleftrightarrow_{1,2} \left[\begin{array}{l} \text{/daguraguma/}_{2}\ \text{`hit (repeatedly)'} \\ \text{V} \\ \left[\begin{array}{ll} & [-\text{b}, +\text{i}] \\ \text{Event} & \text{HIT} \end{array}\right]_{2} \end{array}\right]$$
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Defining a conditional mapping function

- A function DIST(α) that changes an event's [±b, i] values
- A schema ensures that nondelimited events → durative; delimited events → pluractional

$$\left[\begin{array}{l} /[\textsc{rdp}+[\ldots]_{\alpha}]_{\beta}/ \\ \mathrm{V} \\ \left[\begin{array}{l} [-\mathrm{b}, \{+\mathrm{i}_x, -\mathrm{i}_y\}] \\ \mathrm{DIST}\left(\left[\begin{array}{ll} & [\{+\mathrm{b}_x, -\mathrm{b}_y\}, -\mathrm{i}] \\ \mathrm{Event} & \textsc{event} \end{array}\right]_{\alpha}\right) \\ \mathrm{Event} \end{array}\right]_{\beta} \end{array}\right]$$

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Concrete examples

- Derives pluractional events from delimited ones

$$\left[\begin{array}{l} /[\text{dagu}[\text{raguma}]_1]_2/ \\ \text{V} \\ \left[\begin{array}{l} [-\text{b}, \{+\text{i}_x, \not{+}\text{i}\}] \\ \text{DIST}\left(\left[\begin{array}{l} [\{+\text{b}_x, \not{+}\text{b}\}, -\text{i}] \\ \text{Event}\ \ \text{HIT} \end{array}\right]_1\right) \\ \text{Event} \end{array}\right]_2 \end{array}\right]$$

Concrete examples

- Derives durative events from nondelimited ones

$$\left[\begin{array}{l} /[\text{gajbi}[\text{gajbi}]_1]_2/ \\ \text{V} \\ \left[\begin{array}{l} [-\text{b}, \{\not{+}\text{i}, -\text{i}_y\}] \\ \text{DIST}\left(\left[\begin{array}{ll} & [\{\not{+}\text{b}, -\text{b}_y\}, -\text{i}] \\ \text{Event} & \text{EAT} \end{array}\right]_1\right) \\ \text{Event} \end{array}\right]_2 \end{array}\right]$$

Examples in Rembarrnga

- Schema also applicable in other languages, such as Rembarrnga (pluractional):

$$\left[\begin{array}{l} /\ldots_a[\text{kur?war}[\text{kur?war}]_1]_2\ldots_b/ \\ \text{V, Pro}_a\text{, TAM}_b \\ \left[\begin{array}{l} [-\text{b}, \{+\text{i}_x, \cancel{-\text{i}}\}] \\ \text{DIST}\left(\left[\begin{array}{ll} & [\{+\text{b}_x, \cancel{-\text{b}}\}, -\text{i}] \\ \text{Event} & \text{SHOOT} \end{array}\right]_1\right) \\ \text{Event} \end{array}\right]_2 \end{array}\right]$$

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Advantages

- Feature-based analysis provides simple explanation of aspectual alternations
- Schema represents reduplication as a single, conditional derivation, capturing licit meanings and ruling out illicit ones
- Accounts for all productive event reduplication in Wambaya, and by extension all other languages with same pattern

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- Analysis elegantly represents relationship between reduplication and semantics in the lexicon, and more broadly between conceptual structure and grammar

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Thank you![*]

[*]Special thanks to Brett Baker and Rachel Nordlinger for comments and advice on the ideas presented here.

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