On the Evolutionary Profile of *again* and Complex predicates: The Decomposition Corpus

Formal Diachronic Semantic—FoDS9

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Decomposing Decomposition in Time

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Outline

1. Introducing the Decomposition Corpus (DCC) as part of a larger ongoing enterprise
    - Introducing *again* and its main readings
    - Properties of the DCC
2. Evolutionary profile of *again*
    - *Again*, complex predicates and visibility
3. Conclusion and Outlook

1. Background

Larger enterprise: A corpus with designated annotations for multiple semantic phenomena: the **Structured Diachronic Semantics corpus (SDS)**

- i.e., **semantic annotations** on top of **syntactically parsed corpora**

York-Toronto-Helsinki Corpus of Old English Prose – **YCOE** (Taylor et al. 2003) and

Penn Parsed Corpora of Historical English – **PPCHE** (Kroch et al. 2000, 2004, 2016)

Currently under discussion: The **decomposition layer** of the SDS

1. The Saarland DeComposition Corpus—DCC

Objective:

- Stand-off **annotation layer** for **decompositional items**

  e.g., *again, eft* (OE ‘again’), *re*-verbs, *almost*

1. The Saarland DeComposition Corpus—DCC

Motivation:

- Explore how the **structural** and **meaning** components **interface diachronically**.
- Moreover, a **historical perspective can elucidate synchronic debates**; e.g., negotiate between competing theoretical (e.g. structuralist vs. lexicalist w.r.t. decompositional item *again*) accounts (Gergel & Beck, 2015; Degano & Aloni, 2021).
- **Reveal readings** that have not been systematically analyzed so far; e.g. redirectional/'send-it-some-where-else' uses (Gergel, 2023).
- Advance understanding of presuppositions and **presuppositional change**. (Gergel, forthc.)

1. The Saarland DeComposition Corpus—DCC

- **Semantic annotations on top-of syntactically annotated corpus data**——YCOE & PPCHE

  (Taylor et al. (2003); Kroch et al. (2000, 2004, 2016))

- Decompositional presupposition triggers–iterative items:
  - 4,378 uses of adverb *again* (mostly in PPCHE)
  - 3,389 uses of adverb *eft* (OE ‘again’; mostly in YCOE)
  - 2,236 *re*-verbs (in PPCHE; mostly where *re-* was productive during PPCHE)
- Exhaustive annotation for the above data, including:
  - Reading (repetitive, counterdirectional/restitutive, …)
  - Target and antecedent predicate (main verb)

} more details below

1. *again* in the DCC – Overview data in PPCHE

4,378 uses of *again*:

• PPCME2	1150–1500 CE	(Kroch et al. 2000)	Middle English (ME)	945 *again*s	0.079%
• PPCEME	1500–1720 CE	(Kroch et al. 2004)	Early Modern English (EME)	1,532 *again*s	0.088%
• PPCMBE2	1700–1910 CE	(Kroch et al. 2016)	Late Modern English (LME)	1,901 *again*s	0.068%

1. *again* in the DCC – Readings

Repetitive *again* (‘rep’)

(1) [A]ll the plants then must be **examined** , […] and those which are planted in pots, should in the following year’s bloom be **again examined** (FALLOWFIELD-1791-2,34.349, *‘Gardening Calendar’*)

- **repetitive** reading presupposes an event of the same kind — ‘**rep**’

1. *again* in the DCC – Readings

Counterdirectional/Restitutive *again* (‘cd/res’)

(2) [Mr. Knightley] sat really lost in thought for the first few minutes; […] He hesitated, **got up** . […] and he **sat down again**; (AUSTEN-1815-2,169.633, *‘Emma’*)

- **restitutive/counterdirectional** reading presupposes an event in the opposite direction; the result state of the again-event is the restoration of a previous state — ‘**cd/res**’

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(on a structural analysis, *again* shares semantics with repetitive uses)

1. *again* in the DCC – Readings

Counterdirectional *again* (‘cd’) — (counterdirectional proper)

(3) queen Gwynyvere _had_ hym in greet favoure […] and so he **loved** the queen agayne aboven all other ladyes (CMMALORY-M4,180.2394)

- ‘**counterdirectional (proper)’** reading presupposes an event in the opposite direction; no feasible result state available — ‘***ctd***’

Note: Some uses of again have a discourse organizing function (‘dm’); other smaller readings are subsumed as ‘other’.

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➡ **Disambiguation** depends on presupposition (PSP) satisfaction in the **context**.

1. *again* in the DCC – Context and disambiguation

(4) In two hours, I called Joseph to ***carry* him up again**; (Bronte-1848-2,2,287.311, Wuthering Heights)

(referents: *I*–Heathcliff, *him*–Linton)

Two options: Did Joseph carry Linton up before?

Or: Did Joseph carry Linton down before? —Or: Did Linton move himself?

1. *again* in the DCC – Context and disambiguation

I _**brought**_ **him down** one evening, the day before yesterday, (306)

and just set him in a chair, (307)

and never touched him afterwards. (308)

I sent Hareton out, (309)

and we had the room to ourselves. (310)

(4) In two hours, I called Joseph to ***carry*** **him up again**; (Bronte-1848-2,2,287.311, Wuthering Heights)

(referents: *I*–Heathcliff, *him*–Linton)

Antecedent _*brought*_ *him down* in (.306) satisfies the cd/res presupposition.

1. *again* in the DCC – Annotations and labels

(1) [A]ll the plants then must be _**examined**_, […] and those which are planted in pots, should in the following year's bloom be **again *examined*** (FALLOWFIELD-1791-2,34.349, '*Gardening Calendar*')

- **repetitive** reading presupposes an event of the same kind — tag as **'rep'**

i. classify uses of again	'rep'(etitive)
ii. mark the main verb of the again-predicate	*examined*
iii. mark the main verb of the antecedent	_examined_

→ 2 independent annotations + 3rd (sometimes 4th) annotator/team review (for 4,378 *again*s)

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1. *again* in the DCC – Annotations and labels

- No verb present → substitute categories

  e.g. ***wet***$_{\textbf{ADJ}}$ (b.) & ***rain***$_{\textbf{N}}$ (d.):

(5) a. August 28th. Monday. Avallon. (273—275)

b. […] Quite grey and _**wet**_ again **to-day**, but not so cold. (282)

c. August 29th. Tuesday. Avallon. (283—285)

d. ***Rain*** **again**, and all black above. (RUSKIN-1882-2,3,1019.286)

1. Overt satisfaction vs. inferential satisfaction

- So far: Overt satisfaction (e.g. *examined—examined again*; *get up—sit down again*)
- However: Frequently a PSP has to be inferred from the context

(6) Linton has not been feeling well lately and has spent the days up in his room.
But today he _**had**_ **dinner** in the **downstairs** dining room. (INF → cd/res)
In two hours, I called Joseph to ***carry*** **him up again**;

(adapted from Bronte-1848-2,2,287.311, Wuthering Heights)

- DCC labels: 'INF' for inferential satisfaction of PSPs, 'GIV'—overt satisfaction, 'NOA'—no antecedent (e.g. inference via world/historical knowledge)

1. Overt satisfaction > inferential satisfaction

- Competition of **multiple putative antecedents** and target predicate(/event):

Overt satisfaction overrules inferential satisfaction.

(7) Linton has not been feeling well lately and has spent the days up in his room.

Last night, John had to _**carry**_ **Linton up to his room**. (GIV → rep)

Today he //**had dinner** in the **downstairs**// dining room. (INF → cd/res)

In two hours, I called Joseph to ***carry*** **him up again**;

(adapted from Bronte-1848-2,2,287.311, Wuthering Heights)

1. Proximity antecedent – target-predicate

- If there is **equal status** of putative antecedents in terms of **GIV/INF satisfaction**:

Relative proximity of antecedent to target predicate/event **disambiguates**

(Proximity overrules distance)

(8) Linton has not been feeling well lately and has spent the days up in his room.

Last night, John had //**carried Linton up to his room**//. (GIV → rep)

Today, Linton _**came**_ **downstairs** to have dinner with us in the dining room. (GIV → cd/res)

In two hours, I called Joseph to ***carry* him up again**;

(adapted from Bronte-1848-2,2,287.311, Wuthering Heights)

1. Twist for proximity

- **Discursive proximity is not always enough** to reliably disambiguate.
- Here, at first glance: //*uniting*// makes for a putative antecedent for the repetitive reading.
- A closer look reveals _parting_ as the correct antecedent:

(9) The filaments of a cortical vessel are to be looked on […] as so many little bundles placed near together, and at first growing parallel to each other; but soon quitting this direction, **the filaments of one fascicle _parting_ from that to which they originally belonged**, and inclining more or less obliquely towards another, **sometimes //uniting// with it**, at others bending backwards, and *__uniting__* **again with that from which it proceeded** […]

(ADAMS-1787-2,663.157)

1. Expert annotation – Final Product — A sample

(1) [A]ll the plants then must be **_examined_**, […] and those which are planted in pots, should in the following year's bloom be **again** ***examined*** (FALLOWFIELD-1791-2,34.349, '*Gardening Calendar*')

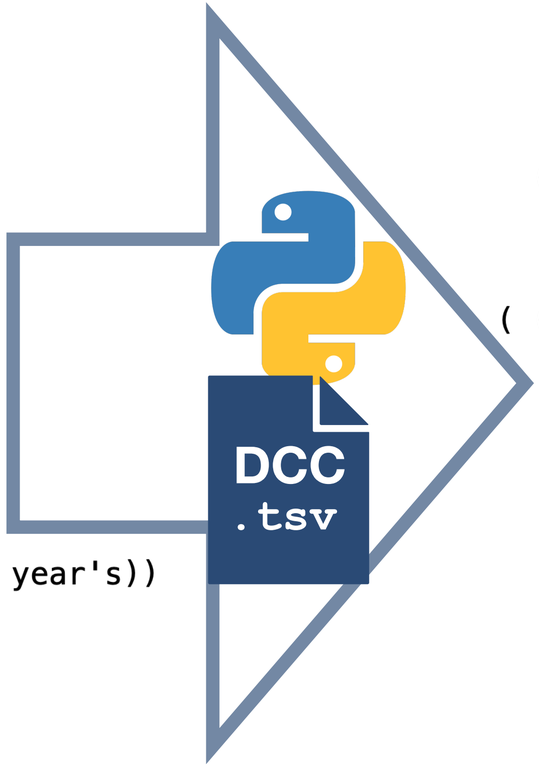
- **repetitive** reading presupposes an event of the same kind — tag as **rep**

i. classify uses of again	'rep'(etitive)	`@DC511:rep:GIV:TRG`
ii. mark the main verb of the again-predicate	*examined*	`@DC511:rep:GIV:PRD`
iii. mark the main verb of the antecedent	_examined_	`@DC511:rep:GIV:ANT`

→ 'DCC'-tags are aligned with the PPCHE as well as YCOE

1. Sample from fallowfield-1791-2.psd:

```
( (IP-MAT (NP-SBJ (Q all) (D the) (NS plants))
      (ADVP-TMP (ADV then))
      (MD must)
      (BE be)
      (VAN examined)
      (. .))
  (ID FALLOWFIELD-1791-2,33.345))

                          [...]

( (IP-MAT (CONJ and)
      (IP-MAT-1 (NP-SBJ (D those)

                          [...]

            (MD should)
            (PP (P in)
            (NP (NP-POS (D the) (VAG following) (N$ year's))
                (N bloom)))
            (BE be)
            (ADVP (ADV again))
            (VAN examined))

                          [...]

      (. .))
  (ID FALLOWFIELD-1791-2,34.349))
```




```
( (IP-MAT (NP-SBJ (Q all) (D the) (NS plants))
      (ADVP-TMP (ADV then))
      (MD must)
      (BE be)
      (VAN@DC511:rep:GIV:ANT:6 examined)
      (. .))
  (ID FALLOWFIELD-1791-2,33.345))

                          [...]

( (IP-MAT (CONJ and)
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                          [...]

            (MD should)
            (PP (P in)
            (NP (NP-POS (D the) (VAG following) (N$ year's))
                (N bloom)))
            (BE be)
            (ADVP (ADV@DC511:rep:GIV:TRG:14 again))
            (VAN@DC511:rep:GIV:PRD:15 examined))

                          [...]

      (. .))
  (ID FALLOWFIELD-1791-2,34.349))
```
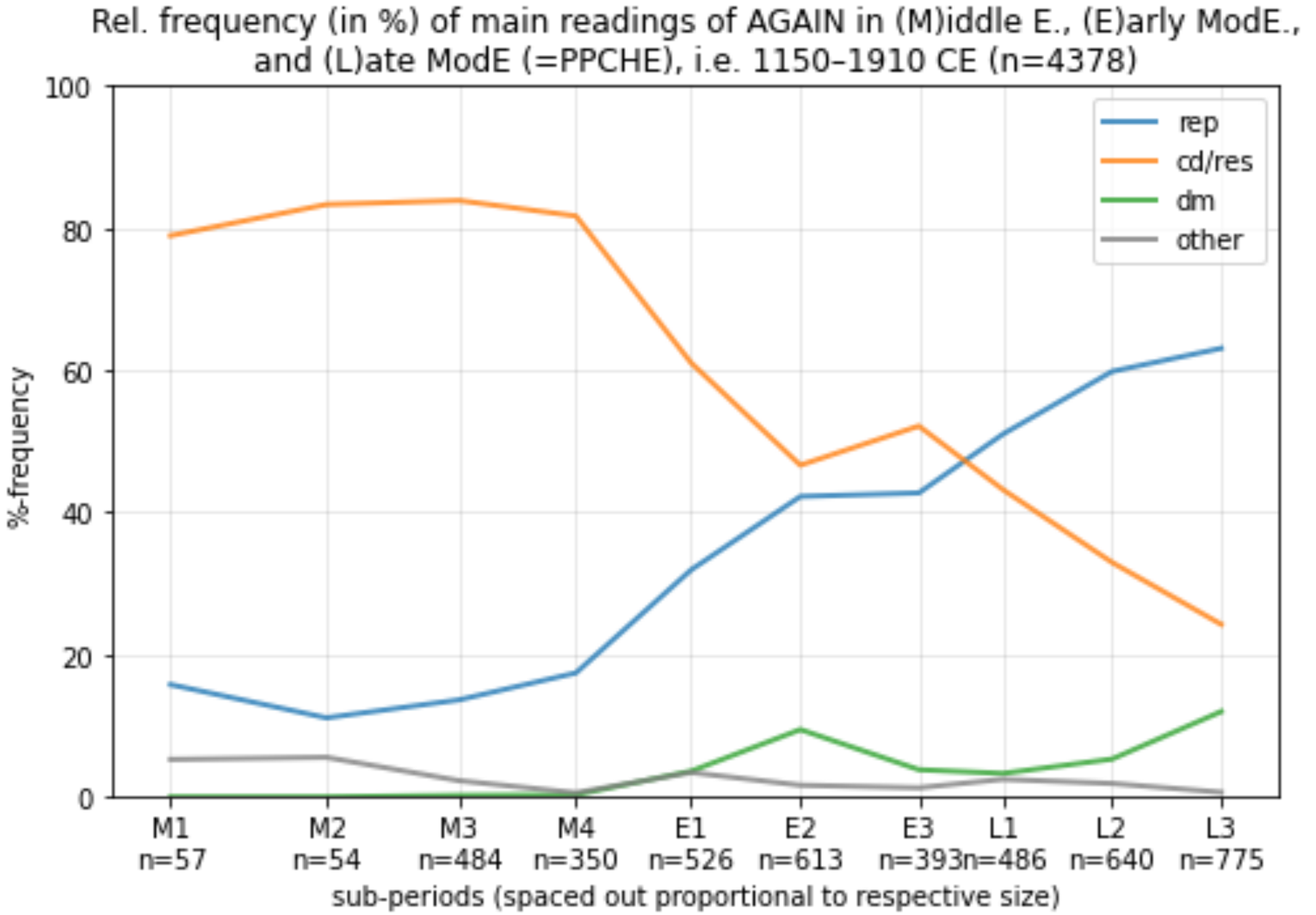

2. Development of main readings of *again* in PPCHE

- Main take-away: Decrease of *cd/res* readings clarifies and certifies previous accounts (Beck et al., 2009; Gergel and Beck, 2015).



2. Complex predicates, Visibility & Decompositionality

- **Diachrony** of morphosyntax of **complex predicates** (cps) is under-investigated.
- Fundamental **typological change can occur**, e.g. Persian has been developing from a simplex-verb language to a complex-verb language; complex verbs are dominant in PD Persian. (Karimi 2013, 2023, a.o.)
- **English** has **not generalized** such a **development** for verbs/verbal clusters

  (*pace* grammaticalization paths of *do* and auxiliaries; cf Garrett 1998 for confounding potential of infinitives/nominal during reduction of English inflections)
- Following Snyder (2001)—plus insight that acquisitionally relevant data show in diachronic developments (Cournane 2017, Kidney 2019)—cps include **goal PPs, particles, resultatives, double objects**, and possibly others.

2. Complex predicates, Visibility & Decompositionality

- Cps here—based on structural features in PPCHE:

  (no V+Adj resultatives as e.g. *hammer flat, wipe clean*, etc. (Snyder, 2001; Beck, 2005))

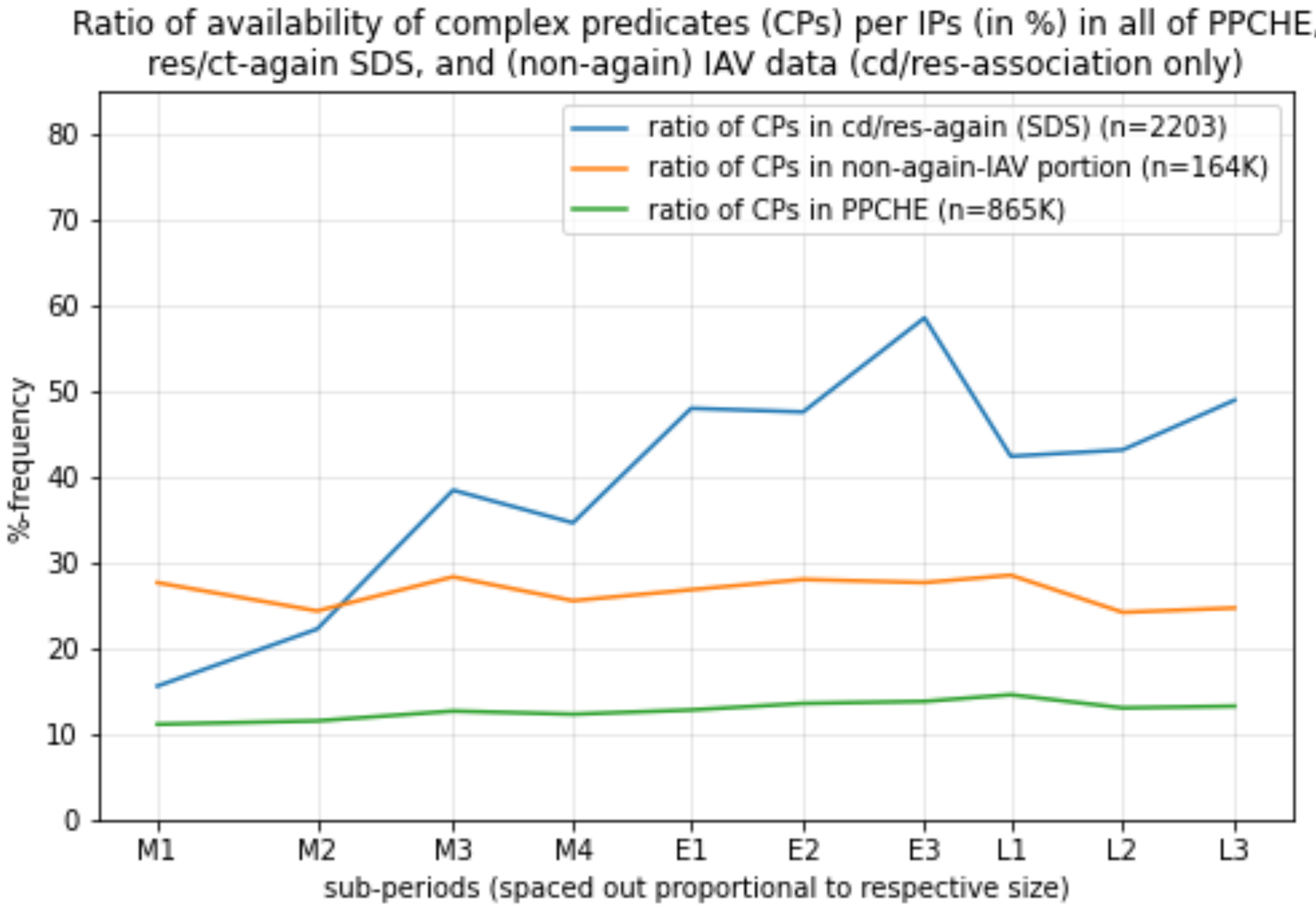
  - **Adverbial particles 'RP'** — *carry up, pull out, close in* …
  - **Directional phrases 'XP-DIR'** — *send* (NP-DIR *home*), *carry* (ADV-DIR *forth*), …
  - **Double-object structures '2OB'** — *give* (NP-OB2 *John*) (NP-OB1 *the book*)
  - **goal PPs** — PPs headed by P *to*/+*to*

  For all, result states are represented overtly; setting ii on visibility/accessibility parameter

  (Rapp & Stechow, 1999; Beck, 2005; Beck & Gergel 2015)

2. Cps in cd/res DCC vs. PPC and IAV-PPC

- cps increase with cd/res uses;
- cps remain stable in PPCHE (green) and ‘iterative-associating verbs’ (non-*again* cd/res IAVs; orange).



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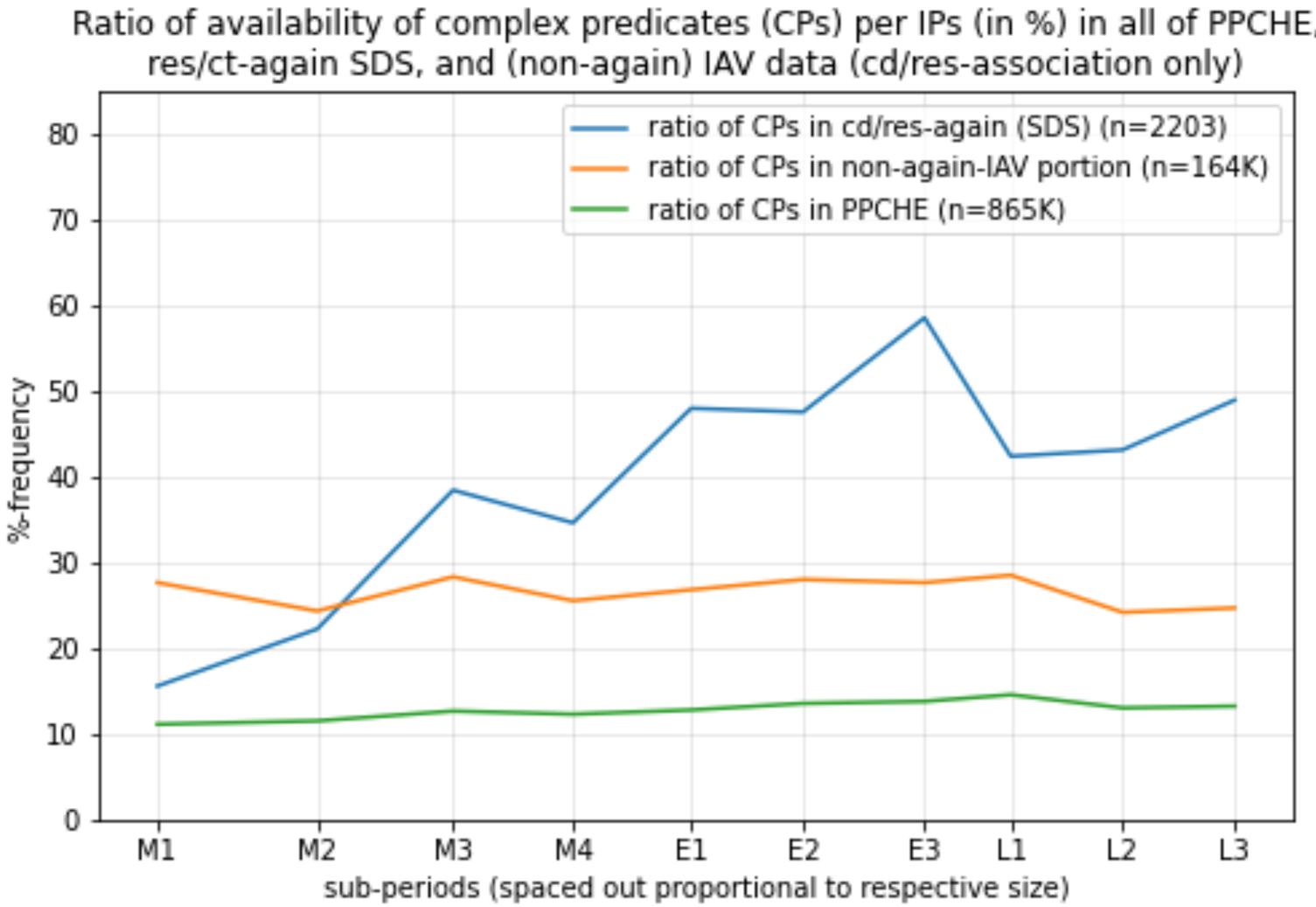
- cps increase with cd/res uses;
- cps remain stable in PPCHE (green) and ‘iterative-associating verbs’ (non-*again* cd/res IAVs; orange).
- Key finding: **Ratio of cps does not seem to be tied to a particular reanalysis point**;

($again_{cd}$ –> $again_{res}$ –> $again_{rep}$)



2. Conclusions: Overall modeling of entire development

- **Rather than discrete shifts** in cp-ratios—corresponding to respective processes of reanalysis (cd→res and res→rep)—**continuous development**
- Proposed modeling: **Grammar competition** (Kroch 1989) between a decompositional and non-decompositional version of *again*;
- Both available from the very beginning of $again_{adv}$

2. Conclusions: Overall modeling of entire development

- Driving forces:
  - A **single entry** is prima facie **most economical**; decompositional/Stechowian *again*; with setting iii of visibility/accessibility parameter; (‘*Jon picked up a rock and* ***dropped it again***’)
  - However, (proper) **decompositionality flies in the face of markedness**/visibility; Beck (2005) re. visibility:
    - **Result state modification** is **more likely in cps than in untransparent, lexical predicates**
- As a consequence, **cd/res-*again* requires** incrementally **more cps**; i.e. phonetically overt res.-state phrases; i.e. more setting-ii predicates, fewer setting-iii predicates (‘covert res.-state’)

2. Conclusions: Overall modeling of entire development

- Finally: Visibility strikes back!
- DCC data shows development **parallel to increase of cps** in cd/res uses:
    - **incidence of cd/res-*again* is decreasing**—next to increasing repetitive uses.
- Visibility strikes back: As cps increase—among overall decreasing cd/res uses, *again* is **increasingly hard to be used as a decompositional** in absence of cps, i.e. as truly decompositional.

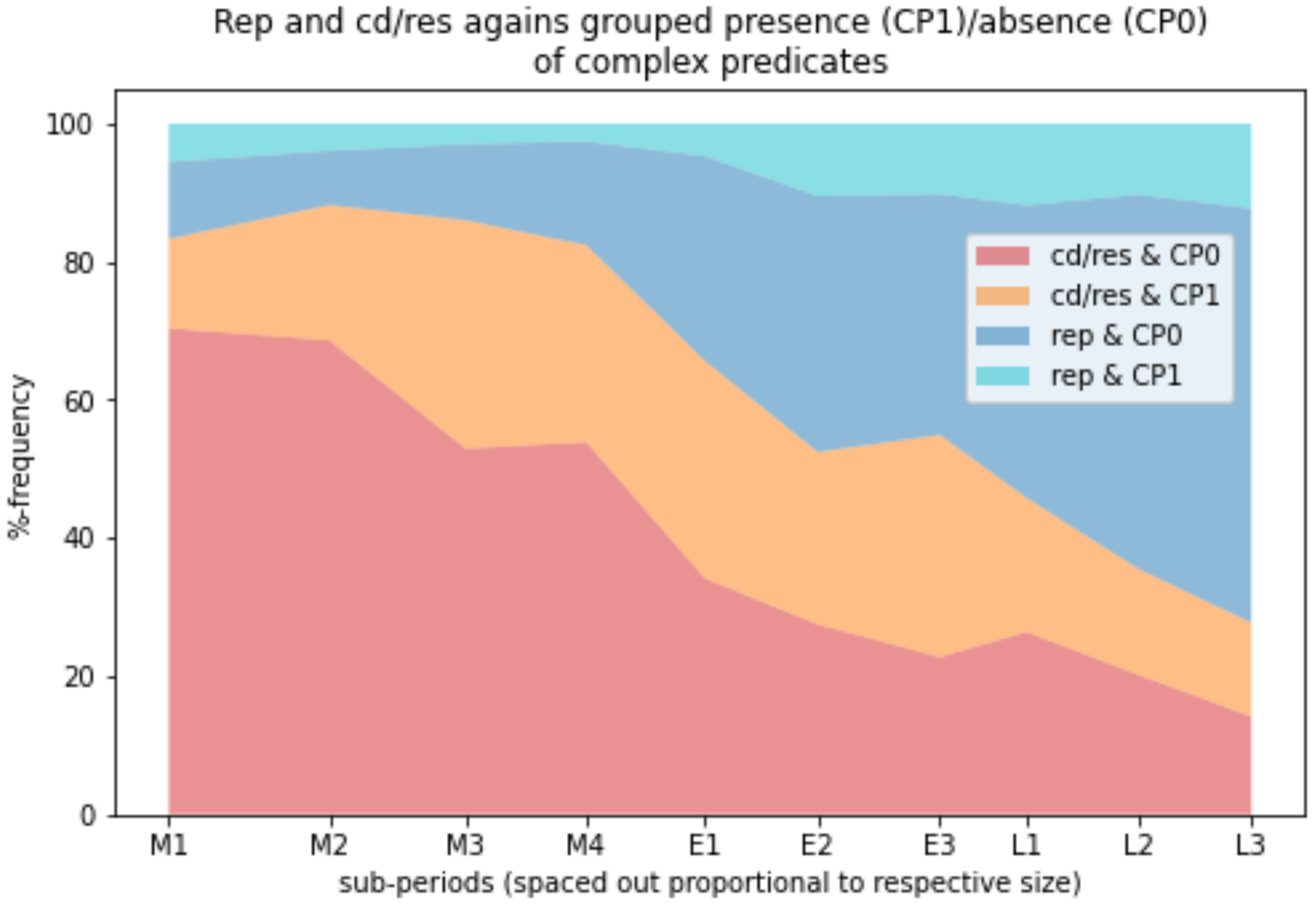
2. Conclusions: Overall modeling of entire development

Crucially:

From over ⅔ of *again*s occurring without cps in around 1150

↓

Towards the end of the LModE, less than 20% of all uses of *again* are decompositional (i.e. by approximation with our cp notion)



Outlook

- Complete the map of iterative PSP triggers:

  (graft annotations for *eft* and *re*-verbs onto YCOE and PPCHE)

- Closer look at **lemmas/semantic class** of verbs/predicates;

- Expand to other types of complex predicates, i.e. **resultatives**; cf. Snyder (2001), Beck (2005)

- Explore **cyclicity** and **presuppositional change** in iteratives and cps (*eft* and cps in OE data).

- Expand semantic annotations **beyond iteratives and decompositionality** to e.g. additives/scalar additive particles (*even*, *furdon*, *also*, *too*, …)

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Thank you!

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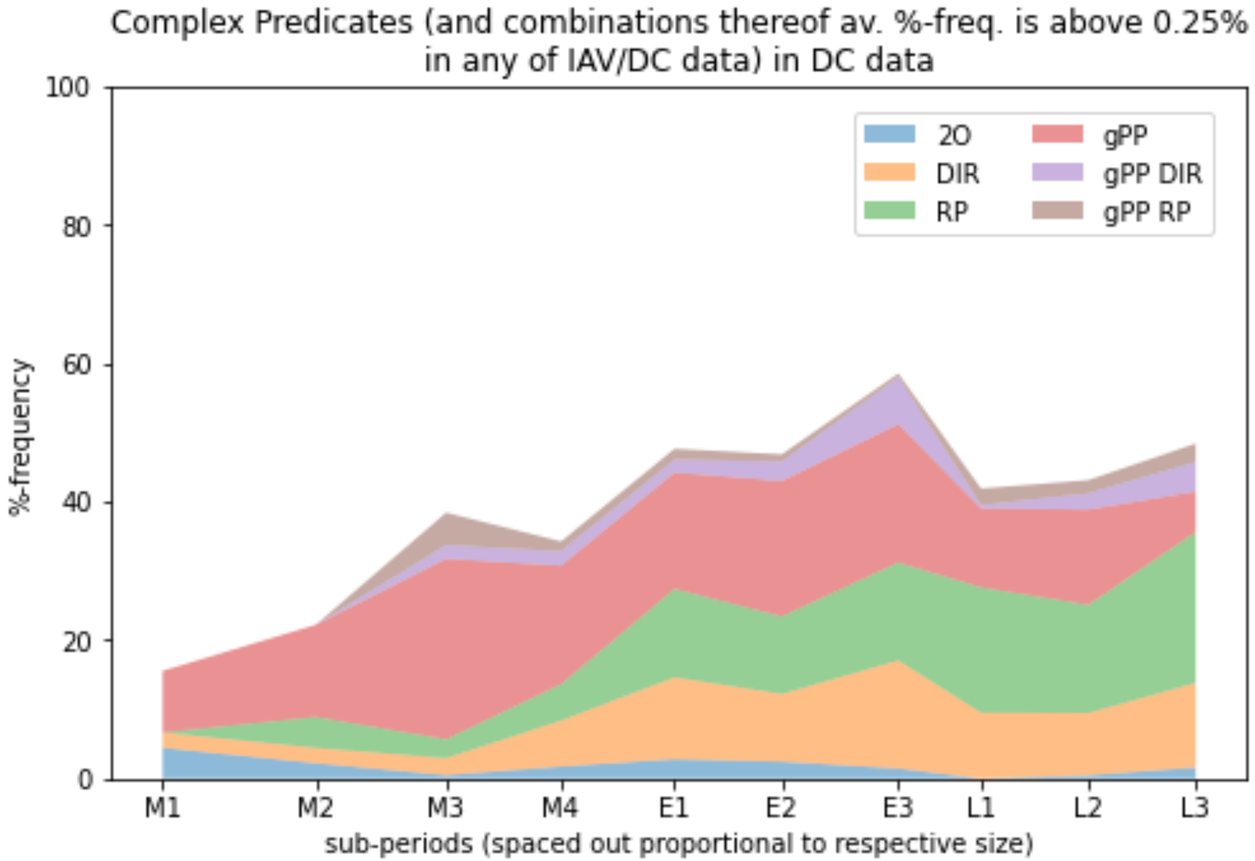
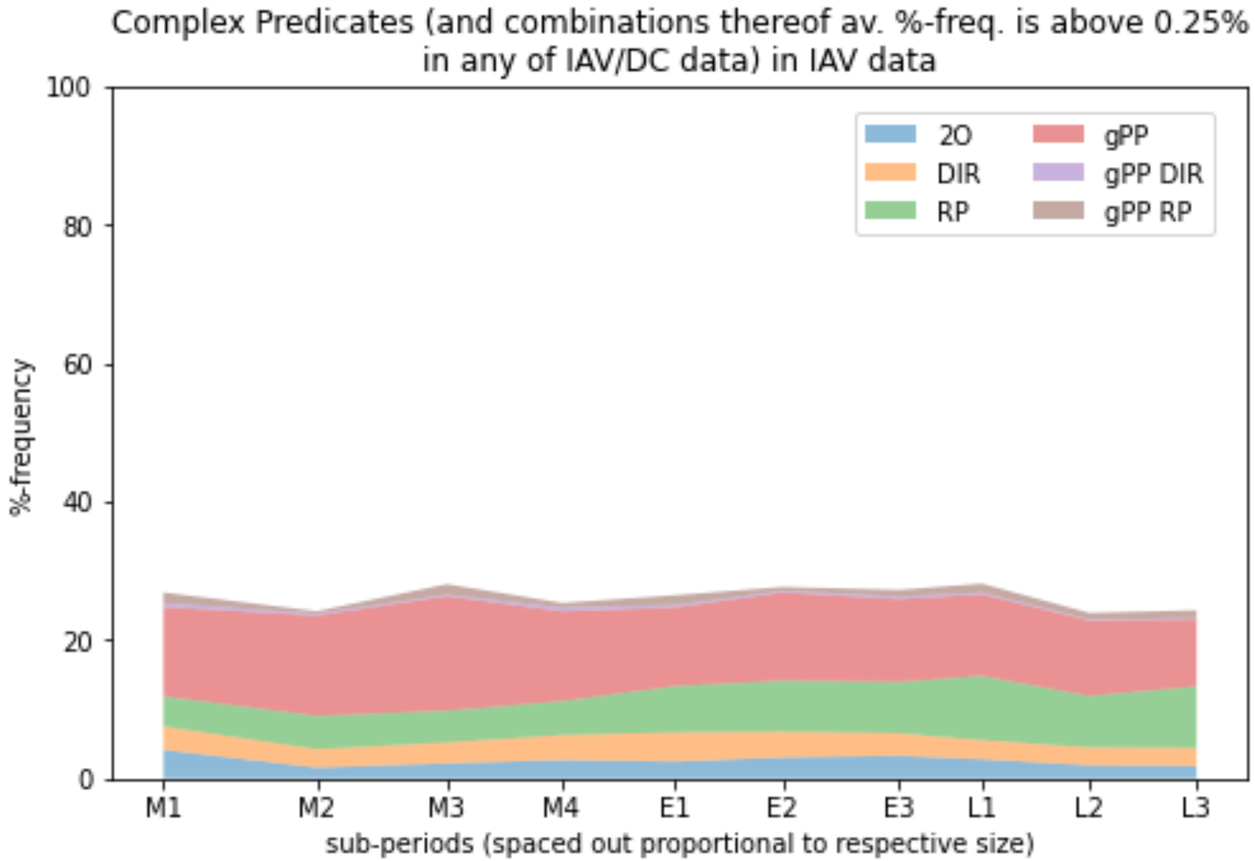
Appendix

Sup-types of complex predicates





Word counts PPCHE and %-frequency *again*