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The polysemy of newly derived forms: An investigation of English *-ment* neologisms

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43. DGfS Jahrestagung, 23.-26. Februar 2021
AG 3 - The semantics of derivational morphology: Theory, methods, evidence

What is known?

- Many derivational affixes in English are able to produce more than one meaning (see e.g. Bauer et al. 2013, Lieber 2016)
  - E.g. suffix *-er*
    - AGENT (*shooter*)
    - INSTRUMENT (*opener*)
    - INHABITANT (*Londoner*)
    - ...
- Non-arbitrary relationship between base and derivative (see Bauer et al. 2013)

The problem

- Affix polysemy remains understudied, especially
  - Contribution of the base
  - ATK nominalizations ('*-ation* and kin,' Borer 2013)

Research questions

1. Which readings does English *-ment* productively produce?
2. Which readings are available for each individual *-ment* derivative?
3. What are the semantic contributions of the base, of the affix, and of the context?

The data set: Types

- Neologisms extracted from
  - Oxford English Dictionary (20th/21st century formations)
  - Corpus of Contemporary American Studies (hapax legomena)
- Restricted to four base verb classes (Levin 1993/VerbNet)
  1. Psych verbs
  2. Change-of-state verbs
  3. Putting verbs
  4. Force verbs

➢ 69 deverbal *-ment* neologisms

The data set: Tokens

- 727 attestations from various corpora (mainly BYU and Google)
- Semantic annotation with common labels, e.g. INSTRUMENT, EVENT

Exemplary attestations: Eventive

- EVENT

  (1) Hydrides then form and can limit the fuel lifetime due to their **embrittlement** of the cladding. (Google WEB imperial.ac.uk 2014)

- RESULT STATE

  (2) I know a lot of our compatriots also feel the same angst, consternation and **confoundment.** (GloWbE NEWS leadership.ng 2012)

Exemplary attestations: Participants

- PATIENT

  (3) I set down the scrap of doll's dress, a **bedragglement** of loose lace hem (COCA FIC Bk:MournersBench 1999)

- PRODUCT

  (4) There is an obvious **embrittlement** and cracking on the nonwoven fabric (Figure 6.5b). (GB ACAD CellBasComp 2014)

1. Which readings does English *-ment* productively produce?

Possible *-ment* readings: Literature

Gadde (1910), Marchand (1969), Bauer et al. (2013), Lieber (2016)[1]

- Eventive readings
  - EVENT
  - ACTION
  - STATE/CONDITION
- Participant readings
  - RESULT
  - PRODUCT
  - INSTRUMENT/MEANS
  - (inanimate) PATIENT/THEME
  - LOCATION

[1]Actual labels differ between authors

Possible *-ment* readings: Findings

- Eventive readings
  - EVENT
  - ACTION
  - STATE/CONDITION
  - TRANSPOSITION
  - Subevents:
    - CAUSING EVENT
    - CAUSED (CHANGE-OF-)STATE
- Participant readings
  - RESULT
  - PRODUCT
  - INSTRUMENT/MEANS
  - (inanimate) PATIENT/THEME
  - LOCATION

Event structure

Rappaport Hovav & Levin (1998)

- Simple change-of-state
  - Template: [BECOME [x <*STATE*>]]
  - *Decay*: [BECOME [x <*DECAYED*>]]
  - $Break_{intr}$: [BECOME [x <*BROKEN*>]]
- Complex causation event
  - Template: [[x ACT <*MANNER*>] CAUSE [BECOME [y <*STATE*>]]]
  - *Repair*: [[x ACT <*MANNER*>] CAUSE [BECOME [y <*REPAIRED*>]]]
  - $Break_{tr}$: [[x ACT <*MANNER*>] CAUSE [BECOME [y <*BROKEN*>]]]

- TRANSPOSITION
- CAUSING EVENT
- CHANGE-OF-STATE

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- TRANSPOSITION
- CAUSING EVENT
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- TRANSPOSITION
- **CAUSING EVENT**
- CHANGE-OF-STATE

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Rappaport Hovav & Levin (1998)

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  - Template: **[BECOME [x <*STATE*>]]**
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  - $Break_{tr}$: [[x ACT <*MANNER*>] CAUSE [BECOME [y <*BROKEN*>]]]

- **TRANSPOSITION**
- CAUSING EVENT
- **CHANGE-OF-STATE**

Possible *-ment* readings: Findings

- Eventive readings
  - **EVENT**
  - **ACTION**
  - **STATE/CONDITION**
  - **TRANSPOSITION**
  - **Subevents:**
    - **CAUSING EVENT**
    - **CAUSED (CHANGE-OF-)STATE**
- Participant readings
  - RESULT
  - PRODUCT
  - INSTRUMENT/MEANS
  - (inanimate) PATIENT/THEME
  - LOCATION

Possible *-ment* readings: Findings

- Eventive readings
  - **Event**
  - **Action**
  - **State/condition**
  - **Transposition**
  - **Subevents:**
    - **Causing event**
    - **Caused (change-of-)state**
- Participant readings
  - **Result**
  - Implicit Product
  - Instrument/means
  - (inanimate) Patient/theme
  - Location

Possible *-ment* readings: Findings

- Eventive readings
  - EVENT
  - ACTION
  - STATE/CONDITION
  - TRANSPOSITION
  - **Subevents:**
    - CAUSING EVENT
    - CAUSED (CHANGE-OF-)STATE
- Participant readings
  - RESULT
  - IMPLICIT PRODUCT
  - INSTRUMENT/MEANS
  - (inanimate) PATIENT/THEME
  - LOCATION
  - CAUSER
  - STIMULUS

IMPLICIT PRODUCT

- A product that is inherently related to the patient
  - vs. EXPLICIT PRODUCT

(5) Interior is generally very well kept, just some **discolorment** on the steering wheel (Google COMM sfbay.craigslist.org 2017)

CAUSER

- Initiates the event, but does not act intentionally or consciously
  - vs. AGENT

(6) You see, almost directly after sipping the potion, I noticed the **befoulment** on Severus's otherwise orderly working area. Yes... the phial in which rested the forbidden love-potion. (Google FIC fanfiction.net 2006)

STIMULUS

- Evokes a psych event, i.e. an EXPERIENCER being in or attaining a psychological or emotional state

(7) [...] movies in which racial slurs towards Asians, Latinos, African-Americans (or anyone else) are used; and other `artistic' works which may be an **abashment** to a certain group of people (Google COMM revleft.space 2002)

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2. Which readings are available for each individual *-ment* derivative?

Range of readings

- EVENT

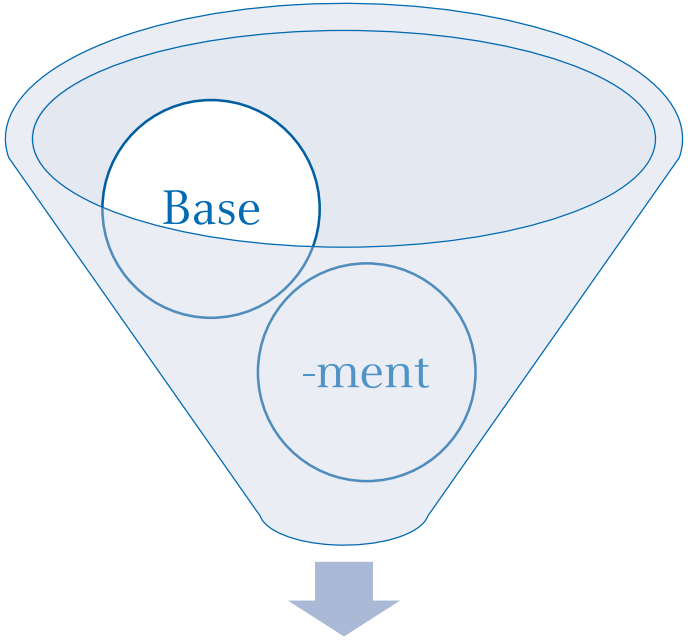
  (8) Hydrides then form and can limit the fuel lifetime due to their **embrittlement** of the cladding. (Google WEB imperial.ac.uk 2014)

- IMPLICIT PRODUCT

  (9) There is an obvious **embrittlement** and cracking on the nonwoven fabric (Figure 6.5b). (GB ACAD CellBasComp 2014)

- ...

Predictable for each derivative



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3. What are the semantic contributions of the base, of the affix, and of the context?

Base and affix

- Recall: Non-arbitrary relationship between base and derivative (Bauer et al. 2013)
- Base provides an array of semantic elements
  - Participants
  - Event structure
- *-ment* selects from this array

Contribution of the base

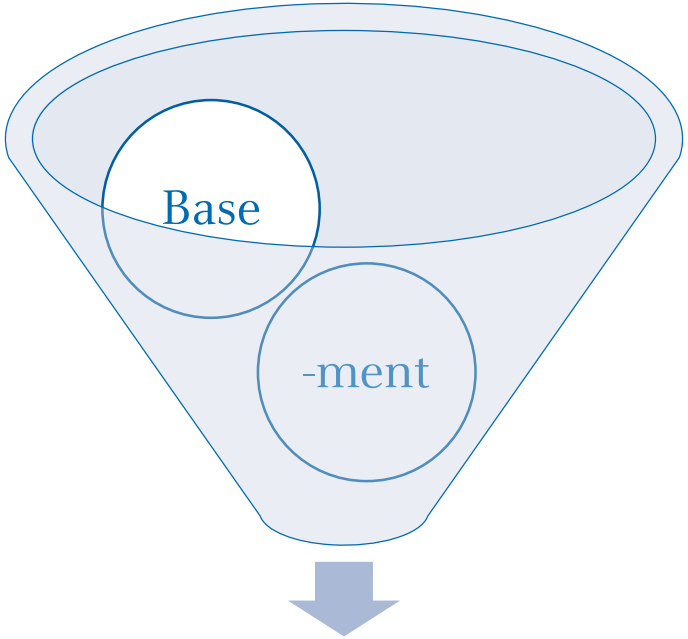
- Base verb
  - Creation of an IMPLICIT PRODUCT
    - *embrittle*
    - *discolor*
  - LOCATION is a central element (verbs of putting)
    - *emplace*
    - *trap*

- Derivative
  - IMPLICIT PRODUCT reading
    - *embrittlement*
    - *discolorment*
  - LOCATION reading
    - *emplacement*
    - *trapment*

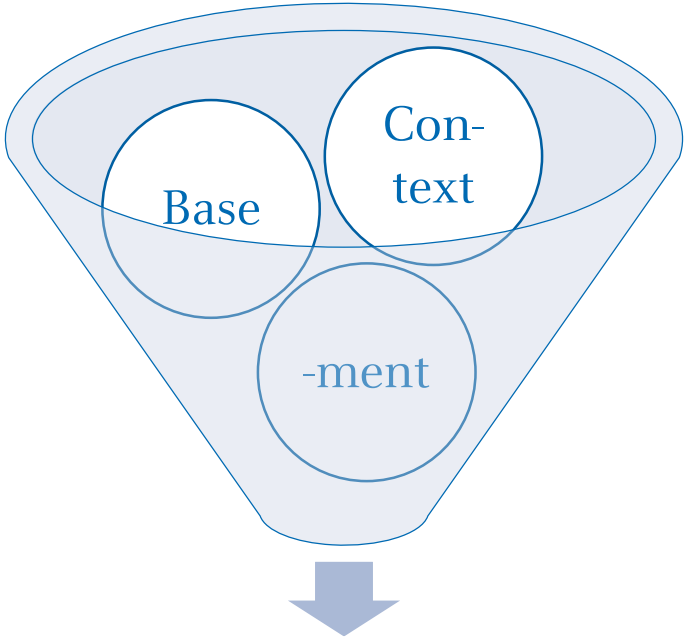
Contribution of the affix

- Heeds constraints
  - Animacy constraint (see also Kawaletz & Plag 2015)
    - INANIMATE PATIENT
    - ~~AGENT~~
    - ~~EXPERIENCER~~
- Has preferences (i.e. is partly blocked by competing affixes)
  - Subject-oriented readings readings harder to find in the corpora
    - INSTRUMENT, CAUSER, STIMULUS
    - Speakers prefer other suffixes, such as *-er*

Contribution of the context

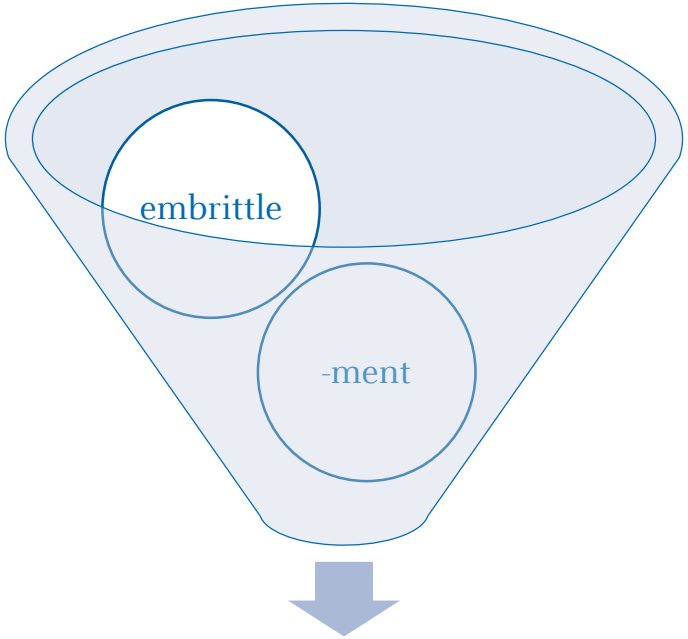


Contribution of the context

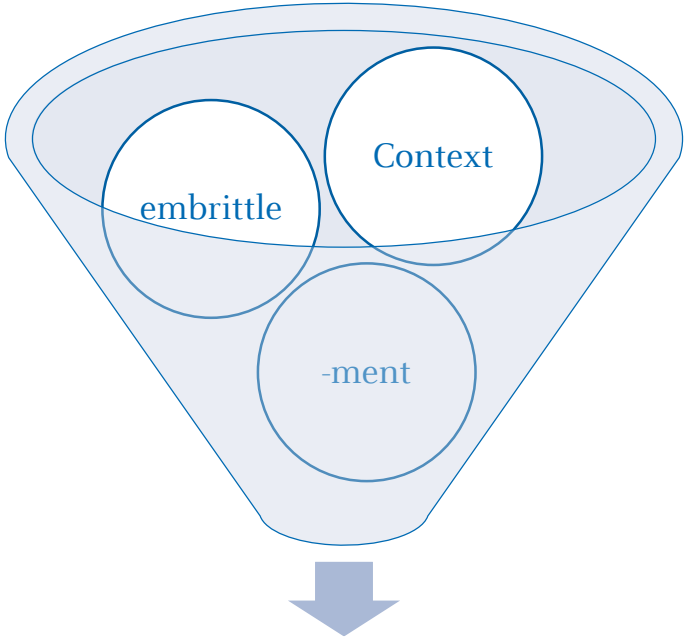


Disambiguated reading

Example: *Embrittlement*



Example: *Embrittlement*



But: 327 (45%) of my attestations are ambiguous

Conclusions

1. -ment produces a wide range of readings
2. Wide range also for each individual derivative
3. Interplay of base, affix, and context
   - Base: Provides array of semantic elements
   - Affix: Selects from array in a systematic way
   - Context: Disambiguates

Where do we go from here?

- Formally model the process
- Identify elements in the base verbs‘ semantics
  - Decompositional approach
  - Recursive structures
- Kawaletz (in prep.)

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Thank you!

We gratefully acknowledge financial support by Deutsche Forschungsgemeinschaft (Grants SFB 991/2-C08 and PL 151/11-1 'Semantics of derivational morphology' to Ingo Plag)