NEW APPROACHES TO INVESTIGATING CHANGE IN DERIVATIONAL PRODUCTIVITY

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Historical Sociolinguistics Meets Construction Grammar: The Case of Productivity in English

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Aim: extend CxG by drawing on historical sociolinguistics

- What do speakers have to know to be able to use a language? Social aspects largely missing so far
- Focus on productivity of constructions in historical text corpora
MORPHOLOGICAL PRODUCTIVITY

- The readiness with which an element enters into new combinations (Bolinger 1948)
- **Quantitative measures** (e.g. Baayen 1993; Cowie & Dalton-Puffer 2002):
  - Number of different words containing the morpheme in a corpus (**types**)
  - Number of types occurring only once in the corpus (**hapax legomena**)
  - Number of types not occurring in previous periods (**new types**)
- **Problem**: Difficult to compare across (sub)corpora
  - Different amounts of data from different periods & groups
  - Type-based measures grow nonlinearly with corpus size \(\rightarrow\) **normalization not justifiable**
• Compare each subcorpus with subcorpora of equal size, randomly sampled from the corpus as a whole

• Automatically provides a measure of statistical significance

• Problems:
  • Comparisons over time still difficult; x-axis = corpus size, not time period
  • Only measures variation within a morpheme, not between morphemes
-ITY AND -NESS

• **Nominal suffixes**, usually derive abstract nouns from adjectives
  • e.g. *productive* → *productivity* or *productiveness*
• -ness native, -ity borrowed from French (+ Latin) in Middle English
  • More sociolinguistic variation in the productivity of -ity (Säily 2014); prestige, learnedness
• Early Modern English: large-scale expansion of vocabulary
  • -ity gains ground on -ness in all registers, starting from written registers and spreading towards speech-related ones
    – Rodríguez-Puente (2020); Rodríguez-Puente et al. (submitted)
-ITY AND -NESS IN C17–18 PERSONAL LETTERS

• Säily (2014): **external** factors
  • Productivity of *-ity* increases, *-ness* remains stable (*Corpora of Early English Correspondence*, type frequencies)
  • Gender: women lag behind in the use of *-ity* in C17, difference disappears in C18
    – Exception: difference remains in letters to close friends (cf. Wolfson 1990)
• Now: analyse suffix competition (cf. Rodríguez-Puente et al. submitted), add **internal** factors
  • Hilpert (2013): a number of language-internal factors connected to change in the productivity of the *V-ment* construction (*Oxford English Dictionary*, 1250–2000)
    – We will analyse some of the same factors
SUFFIX COMPETITION
• **Problems with existing method:**
  • Comparisons over time difficult; x-axis = corpus size, not time period
  • Only measures variation within a morpheme, not between morphemes

• **Towards a solution:**
  • Force **time on the x-axis** and see what it requires from the method
  • Compare competing morphemes as if they formed a **linguistic variable**
    – Calculate proportion of *-ity* types out of all *-ity* and *-ness* types
• **Blue** = men, **orange** = women
• 80-year sliding window, 20-year intervals

**Problems:**
• Different amounts of data from genders → comparability?
• Statistical significance?
FOCUS ON A SPECIFIC PERIOD…

- 1600–1679
- Return corpus size to x-axis
  - Proportion of -ity grows nonlinearly with corpus size!
- Compare each gender with random subcorpora of the same size sampled from the entire corpus
  - Proportion of -ity statistically significantly low for women
DO THE SAME FOR ALL PERIODS...

- Women’s proportion of -ity statistically significantly low in the first two periods
• **Men’s** proportion of -ity not significantly different from the corpus as a whole in any time period
DO THE SAME FOR ALL PERIODS…

• **Men’s** proportion of *-ity* not significantly different from the corpus as a whole in any time period

• **Problem:**
  - Periods not comparable with each other, different amounts of data  
    → we cannot tell whether *-ity* gains ground on *-ness* over time
TAKE SAMPLES OF EQUAL SIZE FROM GENDER-BASED SUBCORPORA

- 3 corpus sizes: a total of 25/50/75 -ity/-ness types
- Proportion of -ity increases over time
  - **Men**: steady growth
  - **Women**: lag behind at first, then quickly catch up
    - Statistical significance of lag shown previously
INTERNAL FACTORS
• **Etymology** (borrowing / derivative); OED
  • e.g. *ability* borrowing, *oddity* derivative
• **Base POS** (usually adjective but others possible as well); OED
  • e.g. *ability*: *able* ADJ, *authorshipness*: *authorship* NOUN
• **Branching structure** (binary / left / right); Hilpert (2013)
  • e.g. [*odd–ity*] binary, [[*un–couth*]–*ness*] left, [non–[conform–ity]] right
• **Semantics** (state / thing / office / collectivity); Romaine (1985)
  • e.g. *punctuality, electricity, officiality, laity*
  • Coding slow, only done for a sample of *-ity* instances (derivative)
ETYMOLOGY

Change in derivational productivity / Säily et al.
BRANCHING STRUCTURE

-ity

-ness

(right)

(left?)

(left)
SEMANTICS (-ITY, SAMPLE OF INSTANCES)

-ity

-thing
-state
-office/person
-collectivity
APPLYING NEW METHODS: 
-*ITY, ETYMOLOGY + GENDER

- Proportion of derived *-ity types out of all *-ity types
- Sliding window of 80 years, 20-year increments
- 3 corpus sizes: 25/50/75 *-ity types
  - Blue = men, orange = women
- Women lag behind during C17
  - Then quickly catch up with men, and the proportion of derived types only really starts to grow when women join men in using them
RESULTS

• Etymology
  • -ity: share of types derived within English increases over time, women lag behind in C17; -ness: no change

• Base POS
  • -ity: share of adjectival bases increases over time; -ness: no clear change

• Branching structure
  • -ity: no clear change; -ness: share of right-branching, prefixed types increases over time

• Semantics
  • -ity: share of ‘state/attribute’ meaning increases over time
• Results support and refine earlier findings
  • **Male-led increase in the productivity of -ity** also in relation to -ness, more information on diachronic development
• Internal factors, too, point towards increasing productivity of -ity
  1. Increase in the share of types originally derived within English
  2. Increase in the share of adjectival bases (types with other bases tend to be borrowed)
  3. Increase in the share of ‘state/attribute’ meaning (others lexicalized)
• CxG: 2 and 3 surprising – increase in productivity expected to entail use in more contexts, not fewer
• Next step: combined analysis of internal + external factors (cf. 1); -ness?
REFERENCES


• Hilpert, M. 2013. Constructional Change in English: Developments in Allomorphy, Word Formation, and Syntax. CUP.


