Case-matching effects & fragments

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Introduction

- Case-based identity between fragments and their antecedents (Ross 1969)

  (1) A: We traced this transfer to **someone's** restricted account.
       B: Yes, **Harvey's**./Yes, *Harvey.

  (2) Er will   **jemandem**   schmeicheln, aber sie   wissen
       he wants someone.DAT flatter   but   they know
       nicht *wer/*wen/**wem**.
       not   *who.NOM/*who.ACC/who.DAT.
       'He wants to flatter someone but they don't know who.'

- Known as a connectivity effect (i.e., fragments appear to behave as if they were constituents of full clauses)

Terminological aside

- By 'fragments' we mean here constructions such as fragment answers (or Bare Argument Ellipsis, or stripping) and sluicing

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Theoretical accounts

- Fragments as constituents of full clauses, with PF-deletion of remaining sentential material (Minimalist approaches)
- A separate class of fragments, with no expectations for parallels between them and their counterparts in full clauses (HPSG, LFG, constructionist approaches)
- **Today's question: How is case licensed on fragments?**
- **Answer: Case is licensed outside of the ellipsis site; we'll use cue-based retrieval to explain how this happens**

Variation in case marking on arguments

- Fragments don't behave like constituents of full clauses (Jacobson 2016): Two cases available for verbal object in Hungarian

  (3) A: Ki-re   hasonlit   Péter? B: Péter hasonlit
       A: who.SUBL resembles Péter   B: Péter resembles
       János-ra/János-hoz.
       János.SUBL/János.ALL
       'A: Who does Peter resemble? B: Peter resembles Janos.'

- But only one case for fragments

  (4) A: Ki-re   hasonlit   Péter? B:
       A: who.SUBL resembles Péter   B:
       János-ra/*János-hoz.
       János.SUBL/*János.ALL
       'A: Who does Peter resemble? B: Janos.'

Variation in case marking on arguments

- Hungarian requires matching cases for fragments and correlates, but Bulgarian (Abels 2017) Icelandic (Wood et al. 2019) and Korean (Kim 2015) don't

  (5)   Ivan sreshtna njakoi   no ne znam kogo.
        Ivan met   **someone.G** but not I.know **who.NON-S**
        'John met someone but I don't know who.'

  (6)   A: Mimi-ka   mwues-ul   masy-ess-ni?   B: Cwusu.
        A: Mimi-NOM **what-ACC** drink-PST-QUE? B: **juice**
        'A: What did Mimi drink? B: Juice.'

- Case marking on a fragment may vary if it may vary on its correlate, suggesting an argument-structure condition on fragments (see Wood et al. 2019)

Case-marking preference

- Although cases on the fragment and correlate may be nonidentical, matching ones are preferred
- This preference, reported informally for Bulgarian, Icelandic & Korean, corresponds to mandatory case match in Hungarian

    (7)   A: Mimi-ka   mwues masy-ess-ni?   B: Cwusu.
            A: Mimi-NOM **what**   drink-PST-QUE? B: **juice**
            'A: What did Mimi drink? B: Juice.'

- It's not just a matter of performance that case match is preferred over case mismatch

Case-matching effects in fragments with no sentential sources

- Greek fragment matching the case of its correlate, with no sentential source to derive it from (Molimpakis 2018)

  (8)   Sto   proavlio I   neari mathitria krivotan   apo
        In-the yard   the young student   was-hiding from
        kapjous   alla kanis   den katalave
        someone.ACC but no-one.NOM neg realized
        pjous/*pji.
        who.ACC/*who.NOM
        'In the yard the young student was hiding from someone, but no one realized who.'

- The fragment must receive its case from the preposition present in the antecedent (= non-locally)

Summary so far

- Case marking on fragments is delimited by the argument structure of the lexical head that licenses case on their correlates

- If more that one case is licensed for correlates, matching cases on fragments & correlates are either preferred or required

- Evidence that case is licensed on fragments outside the ellipsis site (see Culicover & Jackendoff's 2005 indirect licensing mechanism)

- These are problems for PF-deletion approaches to fragments (Merchant 2001, 2004 and later work)

Non-local case licensing

- Cue-based retrieval (Caplan & Waters 2013, Lewis & Vasishth 2005, Lewis et al. 2006, McElree 2000, among others)
- Retrieval of previously stored representations from memory on encountering constituents that depend on them
- Engages a direct-access mechanism (i.e., all extant memory representations are simultaneously compared against the dependent constituent until a match is found)
- Successful retrieval relies on the diagnosticity of the retrieval cues supplied by the constituent that initiates the retrieval
- Retrieval is susceptible to interference from non-target memory representations (cue overload)

Non-local case licensing

- Case features serve as retrieval cues in the resolution of fragments
- Given that a fragment's correlate must be located and that it is an argument of some lexical head in the antecedent with certain morphosyntactic features licensed by that head, the fragment's task is to point to the correlate by providing maximally many features that match it so that its cue diagnosticity is maximized and potential interference effects minimized

Evidence for cue-based retrieval

- Experiment 1: Is case match is better than mismatch?
- Match conditions, with caseless fragment (9) and case-marked fragment (10)

  (9) A: Mimi-ka   mwues masy-ess-ni?   B: Cwusu.
       A: Mimi-NOM what   drink-PST-QUE? B: juice
       'A: What did Mimi drink? B: Juice.'

  (10) A: Mimi-ka   mwues-ul masy-ess-ni?   B: Cwusu-lul.
       A: Mimi-NOM what-ACC drink-PST-QUE? B: juice-ACC
       'A: What did Mimi drink? B: Juice.'

- Mismatch conditions, with caseless fragment (11) and case-marked fragment (12)

  (11) A: Mimi-ka   mwues-ul masy-ess-ni?   B: Cwusu.
       A: Mimi-NOM what-ACC drink-PST-QUE? B: juice
       'A: What did Mimi drink? B: Juice.'

  (12) A: Mimi-ka   mwues masy-ess-ni?   B: Cwusu-lul.
       A: Mimi-NOM what   drink-PST-QUE? B: juice-ACC
       'A: What did Mimi drink? B: Juice.'

Evidence for cue-based retrieval

- Experiment 1 results
- Main effect of Match, with mismatching cases worse than matching ones ($\beta = -0.4, SE = .17, tvalue = -2.27, p < .05$)
- Significant interaction between Match and Case, with cases of mismatch better when fragments were caseless than when they were case-marked ($\beta = .69, SE = .25, tvalue = 2.71, p < .01$)
- Support for case-matching preference & cue-based retrieval

More evidence for cue-based retrieval

- Significant Match × Case interaction in Exp. 1 shows that (13) is better than (14)

    (13)   A: Mimi-ka   mwues-ul   masy-ess-ni?   B: Cwusu.
            A: Mimi-NOM what-ACC drink-PST-QUE? B: juice
            'A: What did Mimi drink? B: Juice.'

    (14)   A: Mimi-ka   mwues masy-ess-ni?   B: Cwusu-lul.
            A: Mimi-NOM what   drink-PST-QUE?   B: juice-ACC
            'A: What did Mimi drink? B: Juice.'

- A case-marked fragment is a more explicit form than a caseless fragment, hence richer in retrieval cues

- Speakers use more explicit forms of fragments in difficult-to-process environments (Nykiel & Hawkins 2020)

More evidence for cue-based retrieval

- A difficult-to-process environment: no overt correlate for fragment

  (15)   A: Chelswu-ka   pat-ass-ney.   B: Ung,
           A: Chelswu-NOM receive-PST-DECL B: yes,
           sangkum-ul.
           prize-ACC
           '(int.) Chelswu received (something). B: Yes, a prize.'

- In 2 further experiments we manipulated the form of fragments and found that case-marked fragments were better than caseless fragments if they had no overt correlates

Discussion

- Our experimental results provide a motivation for licensing case on fragments non-locally and support Direct Interpretation approaches to fragments (Ginzburg & Sag 2000, Culicover & Jackendoff 2005)
- If the grammar permits fragments and correlates to bear identical or non-identical case features within the limits of the variation allowed for the correlates, then
  - The case-matching preference (in Korean, Bulgarian, and Icelandic) is predicted as the pattern strongly favored by cue-based retrieval
  - Mandatory case matching (in Hungarian) is predicted as conventionalization of that pattern as a grammatical constraint
  - Mandatory case matching elsewhere falls out straightforwardly from the lack of other case options for the correlates (also construable as conventionalization of the case-matching preference)

Takeaway message

- A processing preference rooted in cue-based retrieval that underlies the pattern of case marking on fragments
- It remains a preference in some languages but has been conventionalized as a grammatical constraint in most languages

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