Towards a new typology of meaning alternations at the lexicon-discourse interface

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1. types of meaning alternations
2. evidence
   a) electrophysiology
   b) coordination/copredication
3. dynamic meaning construction at the lexicon-discourse interface
   a) concept retrieval
   b) referent shift
Towards a typology of meaning alternations

(1) The espresso wants to pay.
(2) My grandmother read Goethe.
(3) Tim puts down the beer.
(4) The baby drinks the bottle.
(5) Paul is a hyena.
(6) Fred began the book.
Towards a typology of meaning alternations

*Tim puts down the beer.*

*My grandmother read Goethe.*

*The baby drinks the bottle.*

*The espresso wants to pay.*

*Paul is a hyena.*

*Fred began the book.*
EVIDENCE I: ELECTROPHYSIOLOGICAL DATA
EVENT-RELATED BRAIN POTENTIAL (ERP)

Which mechanisms contribute to meaning construction? (e.g., Burkhardt 2006, 2007; Brouwer et al. 2012; Schumacher & Hung 2012)

★ Contextual expectation & N400
★ Accommodation & Late Positivity

Schematic illustration
CASE 1:
THE ESPRESSO WANTS TO PAY

★ creative, non-routinized meaning alternation: the espresso, the ham sandwich, the hepatitis, ...

★ contextual support (restaurant, hospital, ...) as a prerequisite (cf. Nunberg 1995 - but see Schumacher 2014 for counterevidence)

★ type conflict: \( \text{pay}(e,x), \text{person}(x) \leftrightarrow \text{espresso}(x), \text{liquid}(x) \)
1. **Meaning alternation:**

Die Kellnerin fragt den Barkeeper | wer gerne bezahlen möchte. | Der Barkeeper | antwortet | dass | der Espresso | gerne | bezahlen | möchte.

_The waitress asks the barkeeper who wanted to pay. The barkeeper answers that the espresso wanted to pay._

2. **Literal Control:**

Die Kellnerin fragt den Barkeeper | was heute ausgegangen ist. | Der Barkeeper | antwortet | dass | der Espresso | heute | ausgegangen | ist.

_The waitress asks the barkeeper what was short in supply today. The barkeeper answers that the espresso was short in supply today._
I. Meaning alternation:
The waitress asks the barkeeper | who wanted to pay. | The barkeeper | answers | that | the espresso | wanted | to | pay.

2. Literal Control:
The waitress asks the barkeeper | what was short in supply today. | The barkeeper | answers | that | the espresso | was | short in supply | today.

- Late Positivity (650-800 ms) for meaning alternation: type presupposition has to be accommodated.
meaning alternation is computationally demanding
★★ Late Positivity suggests that meaning shift exerts costs
★★ updating of discourse representation
  ‣ predicate requires animate argument \((\text{pay}(e, x))\) \(\rightarrow\) telic role of espresso:
  \(\text{drink}(e, x, y)\) (Pustejovsky 1995)
CASE 2: 
READING GOETHE

★ routinized metonymy: producer-for-product expressions (*reading Goethe, listening to Chopin, ...*)

★ Does cognitive routine impact the processing of metonymy?
Producer-for-Product  
With Contextual Support

1. Metonymy:
   What | did | the student | read | during a meeting? | He | read | Goethe | during a meeting.

2. Control:
   Who | did | the ancestor | meet | during a meeting? | He | met | Goethe | during a meeting.

- no significant differences
- type presupposition is met by lexical relation (producer-for-product rule or qualia)
Interim Conclusion

- meaning alternations are not always computationally demanding (cf. producer-for-product)
- less routinized alternations engender costs (cf. property-for-person)
  - require referential shift
  - discourse based operation associated with type accommodation & discourse updating (Late Positivity)
EVIDENCE 2:

COPREDICATION & COORDINATION TESTS
Interim Conclusion

★ Copredication and coordination tests (e.g., Cruse 1986; Copestake & Briscoe 1995)

(1) a. The ham sandwich at table 2 paid and was stale.
   b. The ham sandwich at table 2 paid and went home.

(2) a. Tim’s grandma had read Dickens before she met him at a party.
   b. Tim’s grandma had read Dickens before she placed it on the shelf.

- discourse-pragmatic consequences of alternations
- referential shift only in (1) ➔ discourse updating
- both meanings maintained in (2) ➔ no discourse-internal modification
Further cases

Content-for-Container (*beer*)
Producer-for-Product (*Goethe*)

Container-for-Content (*bottle*)
Property-for-Person (*espresso*)
Metaphor (*hyena*)

No cost
Late Positivity

Schumacher 2013; Weiland et al. 2014
Accounting for the differences

- Discourse-dynamic consequences → copredication indicates that both meanings are accessible in lexical selection in (3); in (4) only the shifted meaning is accessible

(3) a. Peter put down the beer and drank it a few minutes later.
   b. Peter put down the beer and accidentally knocked it over a few minutes later.

(4) a.#Johnny drank the bottle and dropped it.
   b. Johnny drank the bottle and chocked on it.

(5) a.#Paul is a hyena; it really is aggressive.
   b. Paul is a hyena; he really is aggressive.
Further cases

Content-for-Container (*beer*)
Producer-for-Product (*Goethe*)

Container-for-Content (*bottle*)
Property-for-Person (*espresso*)
Metaphor (*hyena*)

No cost

⇒ Meaning alternation qua lexical information / underspecification?

Late Positivity

⇒ Referential shift & discourse updating
Dynamic meaning construction

- meaning alternation
  - engages distinct operations
  - is situated at lexicon - discourse interface

→ meaning selection relies on rich lexical representation
  - type A (producer-for-product, ...): no processing demands for type selection
  - type B (complement coercion; cf. Kuperberg et al., 2010: N400): event retrieval

→ referential shift / discourse updating
  - type C: discourse updating demands
  - referential shift (property-for-person, ...)
  - referent deletion (nominal metaphor)
References