Corpus evidence for a lexical account of the English conative construction

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Overview

- Overview
  - The conative construction: introduction and review
  - A quantitative analysis of the conative construction
    - Collexeme analysis
    - Verb-class-based strategy
  - Conclusion and theoretical implications

The conative construction

- The conative construction
  - One variant of the conative alternation
    - A case of preposition insertion
    - Concerns transitive verbs
    - Direct object realized as an *at*-PP, e.g.:

      John kicked the ball vs. *John kicked **at** the ball*

      Mary cut the bread vs. *Mary cut **at** the bread*

      Bill wiped the counter vs. *Bill wiped **at** the counter*
  - A great variety of verbs: striking, ingestion, seizing, holding, cutting, rubbing, pulling, pushing, ...
  - What does the conative construction mark?

The conative construction

- The meaning of the conative construction
  - Prevalent analysis: non-effective action; can describe attempts
    - Pinker's (1989:104): “the subject is trying to affect the oblique object but may or may not be succeeding”
    - cf. Broccias (2001) allative schema: translational motion towards a target, contact and affectedness are possible but not necessary
  - Broccias (2001) adds the ablative schema: contact is made but does not bring the intended effect and is open to repetition
    - e.g., with verbs of ingestion: *He sipped at a tumbler of water*
      - Does entail (some) affectedness
      - Triggers a bit-by-bit interpretation; no full consumption
  - Sometimes no striking difference between transitive and conative
    - *He rubbed at his forehead*
    - *He held at the post*

The conative construction

- Summary: a variety of semantic features
  - Lower degree of affectedness: no effect or non-significant effect
    - *He pushed at the door but it wouldn't budge*
    - *He kicked at the wall*
  - Missed contact
    - *He punched at the man but missed*
    - *He shot at the duck*
  - Repetition / unboundedness
    - *He cut at the salami*
    - *He tugged at the chain until it broke*
  - Increased energy
    - *He brushed at the counter*
    - *He clutched at his wallet*

The conative construction

- What level of generalization?
  - Generalizable to a broad abstract meaning (?)
    - Focus on the agent and its activity; the patient is not a focal participant but rather part of the setting
    - cf. Dixon's (1991:280): “the emphasis is not on the effect of the activity on some specific object (the normal situation) but rather on the subject's engaging in the activity”
    - **But**: maybe too broad and over-productive
  - A polysemous construction?
    - The various “meanings” share family resemblances
    - But no all meanings are available to every verb class
    - Hypothesis: local generalizations over verb classes (as suggested by Croft (2003) on the ditransitive construction)

A quantitative analysis

- A collostructional analysis of the conative construction
  - No wide-range corpus-based analysis of the construction to date
  - Collexeme analysis: method to profile constructional meaning
    - “strong collexemes of a construction provide a good indicator of its meaning” (Stefanowitsch & Gries 2003:227)
    - For each verb occurring in the construction, compute the following contingency table

	construction C	others constructions
verb V	F(V and C)	F(V and ¬C)
others verbs	F(¬V and C)	F(¬V and ¬C)

    - Fisher exact test => how (un)typical the verb is for the construction given their frequency of co-occurrence and of “not-co-occurrence”
    - Significant collexemes (p-value>1.3101) = less than 5% that the co-occurrence is due to chance
    - Provide indication of the construction’s meaning

A quantitative analysis

- The corpus
  - Written fiction (novels) part of the BNC (16 MW)
  - All instances of a verb followed by *at*
  - Only transitive verbs were kept
  - 2563 instances, 159 verb types

A quantitative analysis

- The thirty top collexemes of the conative construction

	verb	f(conative:all)	coll.strength		verb	f(conative:all)	coll.strength
1	*tug*	(226:661)	209.92	16	*hammer*	(29:263)	12.87
2	*clutch*	(179:823)	127.13	17	*snatch*	(43:567)	12.86
3	*dab*	(72:166)	75.74	18	*jab*	(24:180)	12.58
4	*claw*	(53:156)	49.14	19	*scrabble*	(18:112)	11
5	*gnaw*	(43:97)	46.02	20	*paw*	(13:56)	10.23
6	*sniff*	(73:643)	32.05	21	*scratch*	(35:524)	9.13
7	*nibble*	(36:121)	31.26	22	*slash*	(17:149)	8.07
8	*sip*	(71:689)	28.56	23	*swipe*	(9:32)	8.07
9	*peck*	(29:87)	26.95	24	*niggle*	(8:26)	7.58
10	*nag*	(31:107)	26.62	25	*poke*	(26:364)	7.55
11	*pluck*	(44:300)	24.13	26	*suck*	(35:656)	6.7
12	*tear*	(91:1363)	22.51	27	*prod*	(17:190)	6.52
13	*stab*	(36:291)	17.41	28	*kick*	(51:1186)	6.44
14	*grab*	(76:1217)	17.29	29	*lap*	(11:112)	4.82
15	*hack*	(22:140)	13.08	30	*strain*	(23:466)	4.13

- Great variety of verbs, no clear trend

A quantitative analysis

- Zoom on one semantic class: verbs of ingestion

verb	f(conative:all)	coll.strength
nibble	(36:121)	31.26
sip	(71:689)	28.56
peck	(29:87)	26.95
suck	(35:656)	6.7
lap	(11:112)	4.82
lick	(20:488)	2.68
swig	(3:28)	1.76
gulp	(9:267)	1.07
gobble	(1:60)	-0.18
munch	(1:84)	-0.3
pick	(79:4678)	-1.1
eat	(12:4089)	-21.53

partial consumption, repetition

total consumption

A quantitative analysis

- A semantic class approach
  - Collexeme analysis of several semantic verb classes independently
  - Verbs from different classes are assumed to instantiate different constructions (cf. Croft's (2003) verb-class-based constructions): conative-eat, conative-pull, conative-strike, …
  - Expectation:
    - The semantic characterization of the conative construction should appear more clearly by focusing on what semantic features it contributes to the verbs of each class

A quantitative analysis

- Semantic grouping
  - Verb sense annotation based on the WordNet database
  - Grouping based on hyperonymy: each sense is associated to the closest hyperonym (or to itself if it is an hyperonym for others)
  - The problem of polysemy
    - Some verbs are split over several classes, e.g., *claw*
      - scratching/striking: *She fought him, desperately, clawing and pummelling at him* (JY4 3908)
      - seizing/holding: *She held on to her mother, clawing at the lapels of her coat* (A73 560)
    - Problem: no access to the frequency of senses => polysemous verbs were removed or other sense were overlooked if infrequent
  - 3 verb classes in this study: cutting, striking, pulling

Verbs of striking

verb	f(conative:all)	coll.strength	WordNet gloss
dab	(71:166)	66.44	hit lightly
hammer	(29:263)	9.56	beat with or as if with a hammer
swipe	(9:32)	6.81	strike with a swiping motion
buffet	(2:2)	3.1	strike against forcefully
kick	(51:1186)	2.89	strike with the foot
pummel	(4:31)	1.98	strike, usually with the fist
swat	(3:27)	1.41	hit swiftly with a violent blow
batter	(7:161)	0.78	strike against forcefully
slap	(16:510)	0.44	hit with something flat, like a paddle or the open hand
tap	(24:802)	0.4	strike lightly
lash	(8:265)	0.33	strike as if by whipping
whack	(1:37)	-0.14	hit hard
scuff	(1:44)	-0.19	poke at with the foot or toe
whip	(9:350)	-0.32	strike as if by whipping
bat	(1:71)	-0.39	strike with, or as if with a baseball bat
bash	(1:85)	-0.51	hit hard
punch	(5:278)	-0.69	deliver a quick blow to
pound	(4:245)	-0.75	hit hard with the hand, fist, or some heavy instrument
thump	(4:322)	-1.31	hit hard with the hand, fist, or some heavy instrument
hook	(2:228)	-1.37	hit with a hook
beat	(27:1372)	-1.62	hit repeatedly
bang	(8:602)	-1.96	strike violently
smash	(4:421)	-2.14	hit hard
pat	(6:545)	-2.3	hit lightly
strike	(34:1990)	-3.39	deliver a sharp blow, as with the hand, fist, or weapon
hit	(7:2007)	-17.96	deal a blow to, either with the hand or with an instrument

Verbs of striking

- *dab*: lower affectedness
- *hammer*: inherently repetitive (also *pummel*, cf. OALD)
- *swipe*, *kick*: focus on the shape of the motion rather than on its effects
- *buffet*, *swat*: forceful contact, increased energy

Verbs of cutting

verb	f(conative:all)	coll.strength	WordNet gloss
hack	(22:140)	19.76	cut with a hacking tool
saw	(6:74)	3.69	cut with a saw
chip	(4:93)	1.63	break a small piece off from
chisel	(2:39)	1.11	carve with a chisel
snip	(2:54)	0.87	sever or remove by pinching or snipping
chop	(3:174)	0.47	cut into pieces
slice	(3:237)	0.27	make a clean cut through
nick	(2:163)	0.23	cut a nick into
cut	(4:3075)	-22.71	separate with or as if with an instrument

- *hack*, *saw*: inherently repetitive
- *chip*: small change of state, in line with lower affectedness

Verbs of pulling

verb	f(conative:all)	coll.strength	WordNet gloss
tug	(226:661)	153.73	pull hard
pluck	(42:300)	10.31	pull or pull out sharply
wrench	(12:314)	-0.49	twist or pull violently or suddenly
yank	(1:122)	-1.64	pull, or move with a sudden movement
haul	(5:411)	-3.9	draw slowly or heavily
jerk	(8:717)	-7.02	pull, or move with a sudden movement
drag	(25:1528)	-10.49	draw slowly or heavily
pull	(138:6024)	-38.41	apply force so as to cause motion towards the source of the motion

- *tug*, *pluck*: increased energy
- In repelled collexemes: *drag*, *pull* => strongly imply movement

Conclusion

- Results of the verb-class-based collexeme analysis
  - The strongest collexemes are verbs that inherently bear semantic features commonly attributed to the constructions
  - Conversely, more “basic” verbs are always repelled
- Methodological limits and prospects
  - The problem of polysemy
    - Some verbs had to be discarded
    - Collexeme analysis on word meanings vs. word forms: would we get a different picture?
  - How does the results relate to the actual frequency of semantic features in the construction and with speakers’ intuitions?

Conclusion

- Conclusion
  - The relation between constructional meaning and verbal distribution is tenuous at the most abstract level
  - But it becomes clearer at the level of semantic classes
  - Evidence that the conative construction can be largely accounted for by looking at the lexical level
- Implications
  - Argument for the importance of local generalizations ...
  - ... though it does not preclude cross-classifications and broader generalizations, especially to account for “orphans”

Thanks for your attention!

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