Polysemous Abstract Nouns: Categorisation and Individuation

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Three types of context sensitivity

- Nominal domain restriction
- Variation in counting perspectives
- Individuation criteria for polysemous nouns

Nominal domain restriction

Restrictions on the extension of a common noun

(1) **Context.** Discussing a press conference.

a. Every statement was recorded.
b. Exactly three statements were recorded.

- (1-a) is true if every statement in the press conference was recorded, even if other statements that were not made at the press conference were not
- (1-b) is true in the same context if more than three statements were recorded, as long as exactly three were recorded at the press conference.

The contextually selected property that restricts the noun's domain can also be constrained by the QUD (Ginzburg 1996, 2012,Roberts 1996/2012)

- QUD: *What happened at the press conference?*
- provide the very property that contextually restricts *statement* in (1-a) and (1-b)

Variation in counting perspectives

Individuation criteria of CNs with respect to counting entities even of one type

(2) **Context.** *Alex:* "Taxes will be raised and spending increased".

a. Alex made one statement.
b. Alex made two statements.

- Strikingly, both can be true answers to the question *How many statements did Alex make?*
  - more commonly discussed for count nouns such as *fence* (e.g., Rothstein 2010; Filip and Sutton 2017)
- freedom, for some count nouns, in what counts as 'one'

Effects of the QUD:

- Question: *How many statements about tax or spending did Alex make?*
  - (2-b) would be the more appropriate answer

Individuation criteria for polysemous nouns

Relates to what type of thing is being individuated

- *statement* in English is at least three-ways polysemous
  - contents of what was stated, to the stating event, or to a written document

(3) **Context.** *Alex yesterday:* "Taxes will be raised".
Alex today: "Spending will be increased".

a. Alex made two statements.
b. Alex made two misleading statements.
c. Alex made two short statements.
d. Alex made two short, misleading statements.

- (3-a) is underspecified between referring to informational entities or to eventualities
- Modifiers can restrict these readings
  - to informational entities in (3-b)
  - to eventualities as in (3-c)
  - via a copredication construction to both as in (3-d)

Copredication, double-distinctness, and context

(4) Two informative books are heavy.

A semantically encoded double distinctness reading (Gotham, 2017)

- must be two physically distinct books that are informationally distinct as well

However, there are effects of context (Liebesman and Magidor, 2017)

(5) **Context.** Librarians sorting books into two piles, informative and uninformative books

- In the context in (5), the double distinctness interpretation seems to disappear
- modifiers such as *informative* can sometimes serve make salient a particular contextual nominal domain restriction without constraining individuation criteria (Liebesman and Magidor, 2017; Sutton, 2024)

The main conjectures of the NiCE project

(i) A contextualist semantics in which common nouns denote characters (functions from contexts to intensions).

(ii) The truth conditions and individuation conditions of common nouns can be distinguished from each other, and the semantics of common nouns track both (see, e.g., Landman 2016; Sutton and Filip 2024b)

(iii) Resolving individuation and counting criteria is, at least in part, pragmatic. A QUD-driven account of discourse. The QUD can constrain which properties in the context are most salient/plausible for deriving intensions from characters.

Main Questions of the NiCE project

- What are the semantic/pragmatic mechanisms governing the three types of context-sensitivity?
- What kind of lexical structure, compositional mechanisms and pragmatic processes can explain and predict interactions between them?

Main goals of the NiCE project

Corpus work

- Address the relatively limited class of data discussed
- Greatly expand on the variety of nouns that display variation in their counting perspectives and/or that are polysemous

Experimental work

- Explore the effect of context on variation in their counting perspectives and readings of quantified copredication constructions for polysemous nouns
- Up to now, only author intuitions reported

Theoretical work

- Develop a pragmatic-semantic account of context-sensitivity for common nouns, and how this interacts with the semantics of numerals and quantifiers as well as e.g., adjectival modifiers

Corpus work

Background: Limited data for variation in counting perspectives

Observed for some concrete count nouns

- *branch*, *fence*, *hedge*, *sequence*, *twig* (Zucchi and White 1996, 2001; Rothstein 2010 as well as Partee p.c. in Krifka 1989).

Rothstein's fence example

- Fencing around a square field
- Can count as *one fence* or *four fences* depending on the context of use

Limited range of data

- Relatively few nouns identified with this property
- Questions as to how widespread this phenomena is

Background: Limited data on polysemous nouns

A restricted number of examples of polysemous nouns is typically addressed

- *book*, *glass*, *lunch*, *newspaper*, *school*
  (e.g., Pustejovsky 1995; Asher 2011; Gotham 2017; Chatzikyriakidis and Luo 2018; Ortega-Andrés and Vicente 2019)
- *belief*, *report*, *statement*
  (Sutton, 2022, 2024)

Informational nouns are a promising test ground for both variation in counting perspectives and variation in individuation criteria for polysemous nouns:

1. Informational nouns display variation in counting perspectives
2. Informational nouns are often polysemous

Goal: broaden the empirical landscape

Develop systematic means of identifying and categorising polysemous nouns and nouns which display variation in counting perspectives

- Corpus methods (diagnostic environments for one sense over another)
- Linguistic diagnostic tests

Demarcating Empirical scope

Group	Contextual domain restriction	Individuation criteria (polysemous nouns)	Counting Perspective variation	Examples
1	Yes	Yes	Yes	*allegation*, *book*, *statement*
2	Yes	No	Yes	*branch*, *fence*
3	Yes	Yes	No	*city*, *school*

Table: Three groups of nouns for analysis, based on the types of context sensitivity they display.

In the second half of this talk: Report on initial work

- using corpus-based methods to derive classes of nouns in groups 1 and 2

Experimental work

Main experimental questions of the NiCE Project

Q1a. Are there default counting perspectives for group 2 (*fence*-like) nouns?

- If so, how easily can these be overridden by context? If not, does context alone predict individuation schemas?

Q1b. What affects the available readings of polysemous expressions in quantified co-predication constructions?

- Are there differences between Group 1 nouns (polysemous that also display counting perspective variation) and Group 3 nouns (that are polysemous, but do not display counting perspective variation) in these regards?

Q1a. Default counting perspectives

- True/false judgement tasks
- There is one fence / There are two/three fences surrounding the garden of House B.
- Context: The owner of each house is responsible for the upkeep of the fencing on the left hand side and bottom of their garden.

Q1b. Readings of polysemous expressions in quantified co-predication constructions

(6) Context A: Two librarians are sorting novels into two piles adventure novels and romance novels. After nudging one pile, one says to the other:
Context B: After bumping into a bookshelf, someone remarks:

a. Three thick adventure novels fell on the floor.
b. Three slim romance novels fell on the floor.

True/False judgement test environments for (6-a)

- Two copies of Treasure Island and one copy of Gulliver's Travels
- One copy of Treasure Island, one copy of Gulliver's Travels, one copy of the Lord of the Rings

Theoretical work

Theoretical work: A convergence of ideas on lexical semantic structure, countability and polysemy

Background

- Polysemy and Copredication literature (e.g., Gotham 2017; Chatzikyriakidis and Luo 2018)
  - Lexical entries of nouns are structured: Regular intension + a field to record INDIVIDUATION CRITERIA
  - In *slim adventure novel*, *slim* forces physical book individuation and *adventure* forces informational book individuation
  - Sutton 2024 pursues a more pragmatic approach
- Countability Literature (e.g., Landman 2011, 2016; Sutton and Filip 2025, 2019)
  - Lexical entries of nouns are structured: Regular intension + COUNTING BASE, a field to record counting criteria
  - E.g., what counts as *one fence* varies with context

Main Theoretical Questions of the NiCE Project

Q2 Counting bases and individuation criteria are the structures evoked to account for the counting perspective variation and quantified copredication constructions. To what extent can a unified analysis of them be given?

Q3
a. How do sentential contexts (e.g., modifiers) restrict what readings are available for quantified noun phrases with respect to domain restriction, variation in counting perspectives?
b. When multiple readings are available, what is the most adequate pragmatic account to predict which are favoured?

Some initial work on Q3a in the third part of this talk

How to identify variation in counting perspectives for concrete nouns

Group 2 nouns: Variation in counting perspectives, but not relevantly polysemous

- *branch*, *fence*, *hedge*, *sequence*

Recognition of the relevance of these nouns to count/mass theory

- E.g., Krifka 1989 (Partee p.c.), Rothstein 2010, Zucchi and White 1996, 2001, Filip and Sutton 2017

Non-canonical reflexes of countability (Filip and Sutton, 2017)

(7) a. 100m of fence/hedge
b. ?5kg of person/car

Hypothesis

- This non-canonical grammatical reflex can be used to identify a wider class of nouns from a corpus

Variation in counting perspectives and non-canonical reflexes of countability are connected

Initial exploration in Sutton and Filip 2025; Filip and Sutton 2017

- Non-quantization as constraint on monotonic/extensive measure expressions e.g., *three kilometres (of)* (Krifka, 1989)
  - *P* is not quantized if any two *P*s stand in a proper part relation
- *three kilometres of fence* is felicitous, because what counts as *one fence* in one context may be a proper part of what counts as *one fence* in another (non-quantized across contexts)
- In this sense, variation in counting perspectives explains why these nouns have a non-canonical reflex of countability

Corpus study (work in progress): *fence*-like nouns

Corpus information:

- UK Web Annotated Corpus (ukWaC Ferraresi et al., 2008)
  - Tokens: 1,547,594,305
  - POS tagged, but not dependency parsed

Search patterns, for common noun N:

- All instances of Num MeasN of (Adj) N_{SG}
- All instances of Num (Adj) N_{PL} with at least 10 hits for N

Cleaning procedure (in development):

- In progress: Dependency parsing and cleaning the data
- Intersecting noun lists

Initial results

beach, *bridge*, *canal*, *cave*, *channel*, *ditch*, *fence*, *floor*, *footpath*, *garden*, *hill*, *ladder*, *lane*, *mat*, *motorway*, *mountain*, *park*, *passage*, *pathway*, *piste*, *pole*, *rail*, *railway*, *river*, *road*, *roof*, *root*, *route*, *solar panel*, *stage*, *stem*, *street*, *terrace*, *trail*, *trench*, *tube*, *tunnel*, *wall*, *way*, *window*

Initial observations: There is a general split between

- Distance measures:

  (8) There are seven miles of wide sandy beach backed by an unbroken chain of hotels

- Area measures (less common/more restricted):

  (9) releasing another 4 or 5 square metres of garden that I want to turn into a shady arbour.

- Mixed cases:

  (10) a. we have rebuilt several hundred metres of wall.
  b. let's not leave one square inch of wall unfestooned with movie memorabilia.

Area measures, but not distance measures seem to be restricted to parts of single entities

Types of Abstract nouns, towards identifying polysemy

- Background: Concrete vs. Abstract nouns
- Classes of abstract nouns
- Identifying informational nouns from a corpus
- Identifying nouns that denote eventualities
- Towards building a database of polysemous abstract nouns

Concrete vs. Abstract nouns

Many ways of drawing the line

- denoting perceivable things vs. imageability vs. morphological definitions (*-ness*) (see Zamparelli 2020 for an overview)

Assumptions for today

- distinguish between abstract and concrete senses (Kiss et al., 2016)
- a sense is abstract, if it does not pick out physical objects or physical stuff
- a noun is abstract if it has at least one abstract sense

A random starting point

A random sample of 15 common nouns from the BNC[1] is given in (11):

(11) circumstance(s), country, crater, delivery, detail, hour, housing, member, page, pound, posture, problem, programme, speaker, war

Concrete nouns:

- *crater*, *housing*, *member*, *speaker*

[1] A random sample of 15 words tagged as common nouns (`NN|NNS`) was sampled using the Sketch Engine corpus tool (Kilgarriff et al., 2004), which allows, inter alia CQL searches and (repeatable) random sample generation from corpora including the British National Corpus (BNC, BNC Consortium 2007). In subsequent examples, three-character BNC reference codes are also provided.

Categorising the abstract nouns

Information-related nouns have a sense that denotes facts, propositions, or, broadly speaking, informational content:

(12) Information-related: *detail, page, problem, programme*

Eventuality-related nouns have a sense that denotes eventualities (i.e., EVENTS, PROCESSES or STATES in the sense of Mourelatos 1978).

(13) Eventuality-related: *circumstance(s), delivery, posture, problem, programme, war*

Measure-related nouns express measures on scales such as time, monetary value and weight *etc.*. E.g., *hour* can express a function on eventualities that outputs a value in hours (the run-time of the event).

(14) Measure-related: *hour, pound*

Categorising the abstract nouns

Organisation/Institution-related nouns have a sense that denotes some body, entity or organisation to which we assign some kind of collective agency and that have some kind of status as an organisation. For instance, *Every country rejected the tyrant's demands.*

(15) Organisation/Institution-related: *country*

Not in the random sample: abstract property-related nouns: usually de-adjectival, that in some pre-theoretic sense express abstract properties

(16) Abstract property-related: *beauty, wisdom*

Strategy

- Identify a large class of informational nouns
- Develop a means of identifying eventuality-related nouns
- Combine these diagnostics to build a database of polysemous nouns

Nouns expressing properties of informational objects

A refinement of Sutton and Filip 2024a

Two diagnostics to identify informational nouns:

The *factual* diagnostic

(17) a. It has so many factual pages as well as helpful tips from parents to do with childcare etc, and the advice page for information. (ukWaC)

b. While, like "Moby Dick", it contains lots of factual details,... (ukWaC)

The *propositional complement clause* diagnostic

(18) a. There is also the problem that machines hate to take on risks. (BNC [EDT])

b. Mark gives the extra detail that Simon had two sons called Alexander and Rufus. (BNC [CEJ])

The tests applied to other nouns

These three tests exclude physical object denoting nouns (e.g., *cat*) and eventuality denoting nouns (e.g., *war*).

(19) a. ?a factual cat/war
b. ?a cat that Felix sleeps upstairs
c. ?the war that the USA invaded Canada in 1812

Corpus study: Searching for informational nouns

Corpus information:

- UK Web Annotated Corpus (ukWaC Ferraresi et al., 2008)
  - Tokens: 1,547,594,305
  - POS tagged, but not dependency parsed

Search patters, for common noun N:

- Random sample (max 10k): sentence containing *N that*
- Random sample (max 10k): sentence containing *factual N*

Cleaning procedure:

- POS tagging and dependency parsing all sentences (spaCy Python package, `en_core_web_trf` pipeline)
- Initial cleaning: Semi-automatically via constraints on the dependency parse
- Final cleaning: Manually

Output:

- List of CN lemmas that occur in both environments at least 3 times

Informational nouns: initial findings

41 common nouns:

advice, *allegation*, *argument*, *assertion*, *assumption*, *basis*, *belief*, *case*, *circumstance*, *claim*, *comment*, *conclusion*, *criticism*, *decision*, *evidence*, *finding*, *ground*, *information*, *issue*, *knowledge*, *news*, *note*, *observation*, *outcome*, *part*, *point*, *position*, *premise*, *problem*, *proof*, *proposition*, *reality*, *reason*, *report*, *result*, *situation*, *statement*, *truth*, *understanding*, *view*, *way*

Initial observations

- Almost all have a count sense (exceptions: *advice*, *evidence*, *information*,*knowledge*, *reality* and *understanding*; *news* is non-countable, rigidly plural, but with singular agreement)
- Most (but not all) have a related verb (exceptions include *circumstance*, *news*, *truth*)
  - This suggests an avenue to identify polysemy: informational nouns that also have an eventuality-denoting sense

Nouns expressing properties of eventualities

Two tests for whether a noun has an eventuality-denoting sense

- Genitive constructions
- Light Verbs

Tentative extension to abstract property nouns

Genitive construction test (Sutton and Filip, 2024a)

Genitive constructions (A's B) have reasonable paraphrases in terms of eventualities where A is a participant in a B eventuality

(20) a. Witt's delivery became more consistent and appropriately he clinched a place in the quarter-finals with his 11th ace. (BNC [A8F])
Paraphrase: Witt is the agent in a (ball) delivery event.

b. Franco's war of attrition
Paraphrase: The war event in which Franco was the instigating agent

c. Alex's circumstances
Paraphrase: The state or situation in which Alex is the Theme

d. It was the price of maintaining Britain's posture as a supposedly independent nuclear power (BNC [A66])
Paraphrase: The state of being an independent nuclear power in which Britain is the theme

Light verb test (Sutton and Filip, 2024a)

Nouns with an eventuality-denoting sense can be used with light verbs

(21) a. make a delivery
b. make war (against)
c. have a problem
d. People [...] who have circumstances which make it hard to get work. (ukWaC)
e. Home Secretary Jack Straw had taken a similar posture in addressing the General Assembly. (ukWaC)

The tests applied to other nouns

These tests demarcate nouns that have an eventuality denoting sense from those that do not.

Informational nouns *page* and *detail* in genitive constructions do not have eventuality paraphrases

(22) a. Alex's page ≠ The page ?event/state/process in which Alex is a participant
b. Alex's detail(s) ≠ The detail ?event/state/process in which Alex is a participant

These nouns can't be used in light verb constructions

(23) a. have/make/take/give a page
b. have/give/take details

Combining the diagnostics to categorise polysemous nouns

The diagnostics can be combined to categorise nouns from our random sample

- Nb. skipped today, diagnostics for physical entity denoting senses

	Physical	Eventuality	Informational
delivery	Yes	Yes	No
detail, *page*	Yes	No	Yes
problem	No	Yes	Yes
programme	Yes	Yes	Yes

Work in progress

- Identify all informational nouns that have an eventuality denoting sense
- Subcategorise these in terms of aspectual class

Nouns expressing abstract properties

Examples:

- *beauty*, *bravery*, *courage*, *wisdom*
- Typically deadjectival, but not always! (*courage*)

Predominant analysis Moltmann (2004, 2013); Nicolas (2002, 2004, 2010)

- These nouns denote *tropes*.

> *"[they denote] manifestations of the property expressed by the predicate from which the nominalization is derived, that is, they are particularized properties–or to employ the now most commonly used term, they are tropes." (Moltmann, 2004, p.10).*

Briefly look at an alternative view: eventualities

- Hinted at by e.g. Grimm (2014) for abstract nouns
  - the property `kindness` is instantiated by *acts of kindness*
- Deadjectival nominalizations as imperfective states (Zato, 2020)
- Proposals for related gradable adjectives: Wellwood 2016 (see also Baglini 2019)

Applying the eventuality tests

The genitive construction test:

- Genitive constructions with nouns such as *beauty* and *wisdom* have viable paraphrases in terms of eventualities and participants:

(24) Alex's beauty
Paraphrase: The state of beauty in which Alex is the theme

(25) Alex's wisdom
Paraphrase: The state of wisdom (i.e., the disposition to act in a wise way) in which Alex is the theme (or perhaps, experiencer)

Applying the eventuality tests

The light verb test.

- For nouns with related verbs, the light verb construction has a paraphrase in terms of that verb
  - *make a delivery of this parcel* $\approx$ *deliver this parcel*
- For nouns with related adjectives, if they denote eventualities, we should find light verb constructions which can be paraphrased in terms of the related adjective

(26) The animal concerned has a breathtaking beauty (BNC [G33])

- *has a breathtaking beauty* can be paraphrased as *is breathtakingly beautiful*

(27) Mum possessed all the charisma. She had great wisdom. (BNC [BN3])

- *had great wisdom* can be paraphrased as *was wise to a great extent*.

Tentative conclusions

An eventuality-based analysis of abstract property nouns is prima facie viable

But still lots to do

- Still need to collect large samples of these nouns and check the tests more throughly
- Investigate Thematic roles in genitive constructions
  - *Alex's statement/claim* (Agent)
  - *Alex's belief/fear* (Experiencer)
  - *Alex's beauty/wisdom* (Theme)
- Investigate aspectual classes
  - Are acts of bravery EVENTS? Or is bravery dispositional (stative)
- Link the semantics of abstract property nouns to that of the related adjectives

Summary: Types of Abstract Nouns

Three types of abstract nouns

- Informational, Eventuality, Abstract Property

Two types of denotations, based on diagnostic tests

- Informational entities
- Eventualities

A path to identifying polysemy

- Combining the results of the tests to derive large classes of polysemous nouns

Counting constructions with abstract, polysemous nouns

To finish up, a brief look at the following questions (Sutton and Filip, 2024a):

- What are the individuation criteria for eventualities in the denotations of nominals?
- If a nouns also has an informational sense, how does this affect counting?

Data

In general, more readings available for eventive informational nouns (*allegation*) than stative ones (*belief*):

(28) Alex's two allegations about Billie

a. two informational entities, underspecified counting criteria
b. two events (possibly same informational contents)
c. two separate events, each with distinct informational contents

(29) Alex's two beliefs about Billie

a. two informational entities, underspecified counting criteria
b. ?two (mental) states, possibly same informational contents
c. two distinct mental states, each with distinct informational contents

However, even eventive informational nouns have some restrictions in richer contexts:

(30) a. Alex and Charlie's two simultaneous allegations that Billie lied.
b. ?Alex's two simultaneous allegations that Billie lied.

Outline

- Assumptions:
  - informational entities as objects
  - STATES vs. EVENTS wrt thematic roles
- Main claims:
  - Counting EVENTS requires anchoring to participants (developing work from Grimm 2014)
  - STATES are inherently non-countable (Mourelatos, 1978)
- Results: accounting for the data in terms of the STATE/EVENT distinction and EVENT-anchoring

Informational entities as objects

- (At least simple) physical objects are bounded, with inherent counting criteria
- Informational objects are more like fences/hedges/walls
  - Given sufficient complexity, they can count as one or many
- Informational entities are, in some sense, treated like objects in natural language grammars
  - They can be counted directly, albeit mediated by context
  - For why some informational nouns are mass, see Sutton and Filip 2019, 2020

Assumptions: STATES vs EVENTS

STATES more restricted than EVENTS in possible Thematic Roles

- EVENTS may be defined for the full range of thematic roles; and are homomorphically mapped to their temporal traces (Krifka, 1989)
- STATES may be defined only with respect to *Experiencer* and *Theme* (Parsons 1990)

Grammatical Counting based on Quantization (relative to a context)

- Grammatical counting turns on enumerating quantized sets of entities relative to a context (details regarding contexts suppressed below).
- Quantized sets have no two members in a proper part relation

Anchoring EVENTS

Event anchoring coined by Grimm 2014, origins in Davidson 1980 and Krifka 1989

The cardinality of a set of EVENTS in the denotation of a CN supervenes on the cardinality of a set of anchors

- *two allegations* denotes two EVENTS only if there is a quantized set of two Agents, two temporal traces, or two locations.
- Formal details in the appendix

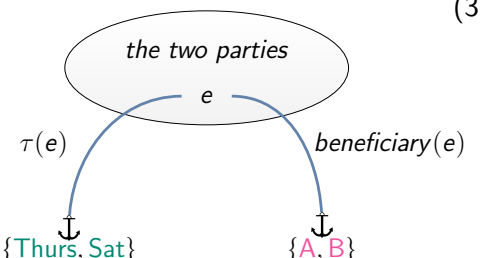
STATES are inherently uncountable (Mourelatos, 1978)

- *two beliefs* can be coerced to denote two STATES only if there is a quantized set of two Experiencers AND no other reading is available

Anchoring EVENTS Example: *party*

Cardinality of *party*-EVENTS supervenes on cardinalities of participants via anchoring:

- *party*-qua-celebration has an EVENT-denoting sense, per our diagnostic tests



(31) a. I attended the two parties on Thursday and Saturday.

b. The two simultaneous parties for Alex and Billie's defences here at 2pm were attended by the same people.

Anchoring EVENTS Example: *party*

Cardinality of *party*-EVENTS supervenes on cardinalities of participants via anchoring:

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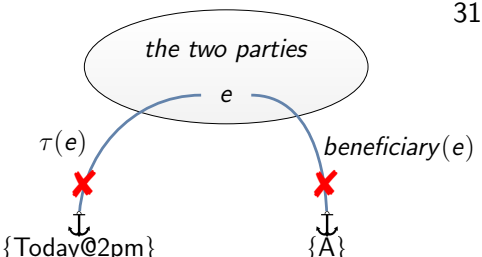


31 a. I attended the two parties on and Thursday and Saturday.

b. The two simultaneous parties for Alex and Billie's defences here at 2pm were attended by the same people.

c. #The two simultaneous parties for Alex's defence here at 2pm were attended by the same people.

Anchor Blocking

Polysemy blocks the use of an anchor: We cannot anchor a given sense of a CN via the lexical material of another sense of that CN.

- If N is polysemous between senses S1 (EVENTS) and S2 (e.g., INF-ENTITIES), then *S2* cannot anchor *S1*.

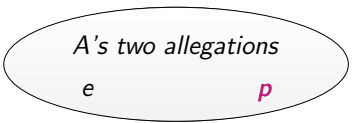
allegation is EVENT/INF-ENTITY polysemous

- INF-ENTITY sense of *allegation* can be counted directly
- EVENT sense of *allegation* needs anchoring
- *allegation* INF-ENTITIES are the Themes of *allegation* EVENTS
- Anchor blocking means that we cannot count *allegation*-EVENTS in terms of what is alleged (INF-ENTITIES)

Anchor Blocking: *allegation*

Cardinality of *allegation*-INF-ENTITIES can be counted directly

(32) [Context: A stated] '*B and C both lied*'.



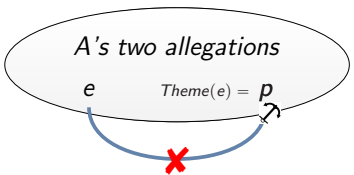
(33) a. A's (one) allegation was true.
$|p| = |\{lie(b) \wedge lie(c)\}| = 1$

b. A's two allegations were true.
$|p| = |\{lie(b), lie(c)\}| = 2$

Anchor Blocking: *allegation*

Cardinality of *allegation*-INF-ENTITIES can be counted directly

32 [Context: A stated] '*B and C both lied*'.



33 a. A's (one) allegation was true.
$|p| = |\{lie(b) \wedge lie(c)\}| = 1$

b. A's two allegations were true.
$|p| = |\{lie(b), lie(c)\}| = 2$

c.#A's two allegations each took a few seconds.

Cardinality of *allegation*-EVENTS supervenes on cardinalities of anchors

- e and p part of the meaning of *A's two allegations*. p is Theme of e.
- Anchor blocking prevents using the INF-ENTITY (p) as an anchor for e
- Casting the anchor inside of the boat (CN's meaning) cannot anchor the boat

Interactions with polysemy: *belief*

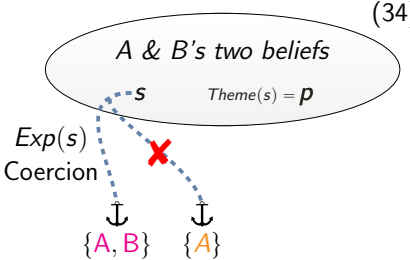
belief is INF-ENTITY/STATE polysemous

- The INF-ENTITY sense (the Theme of the STATE) is countable without anchoring
- E.g., *three beliefs* = 'three informational entities/propositions', that which is (or could be) believed

A more nuanced take on ATELIC:MASS-TELIC:COUNT

- Mourelatos (1978) did not account for polysemy
- Some STATE-denoting nouns can be count nouns if they are polysemous and the other sense is countable

Polysemous STATE-denoting CNs: *belief*



(34) a. Alex's two beliefs that Cal's birthday is tomorrow and Dom's is on Friday are why they went shopping.
$|p| = |\{bday(c, t_1) \wedge bday(d, t_2)\}| = 2$

b. ?Alex and Billie's two beliefs that Cal's birthday is tomorrow are why they went shopping.

c. #Alex's two beliefs that Cal's birthday is tomorrow are why they went shopping.

Summary & Conclusions

Main goal

- Further understanding of the interactions between context, counting and polysemous sense resolution

Tools to be pursued, and progress so far

- Corpus-driven work and diagnostic tests (some)
- Experimental testing (still to do)
- Integrating semantic/pragmatic accounts of context, countability, and polysemy (early days)

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Loci of Contextual Update Hypothesis

The lexical entries of common nouns can be updated in two ways: restrictions on truth conditions, and restrictions on *counting criteria*

- There are two loci in the lexical entry of a noun that can interact with contextual and lexically provided restrictions on noun interpretations
- Nominal Domain Restriction affects truth conditions.
- Counting Perspectives for context-sensitive count nouns AND Individuation Criteria for polysemous nouns, affect *counting criteria*

Lexically introduced QUDs hypothesis

The use of a noun *N* that is underspecified with respect to individuation or counting criteria introduces a question under discussion relevant to this underspecification, i.e., *How are we individuating Ns?*

Many common nouns are in some sense *inquisitive*

- cf. *potential questions* (Onea, 2016)

The Contribution of Modification Hypothesis

Modifiers can semantically modify truth conditions (e.g., intersectively), but they can also constrain contexts, which in turn, can generate *pragmatic* inferences about constraints on truth conditions or on counting criteria.

Example: *informative* in *informative book*

- Requires the book is informative, and
  - Either, contributes to contextual domain restriction
  - Or, restricts counting/individuation conditions

Ordering Hypothesis

At least as a default, there is an ordering on which form of context-sensitivity, should be resolved first, namely: contextual domain restriction > polysemous sense selection > counting perspective selection.

Example: *adventure* in *adventure novel*

- If there is a salient set of adventure novels, in the context, restrict to this set
- Failing that, contribute INFORMATIONAL ENTITY to the counting criteria
- If polysemy already resolved, constrain what counts as *one informational unit*

QUD Stack Hypothesis

(Roberts, 1996/2012)

The order in which different types of underspecification for common nouns is resolved is determined by an ordering on QUDs (a stack) in the discourse situation. Conversational moves can move QUDs up or down the stack.

From the previous hypothesis, a standard ordering on questions introduced by *book*

- What books are we talking about? > How are we individuating books? > What counts as one physical/informational book?

This ordering can be changed:

- E.g., *How many books did Tolkien write?* moves 'What counts as one informational book?' to the top of the stack

The *about/regarding* diagnostic for informational nouns

(35) a. 'Last month you were given access to highly confidential details regarding our plans for designs for 1956–7. (BNC [C8S])

b. 'But the problem about heroin is that the money is so good that even the good people do it'. (BNC [A89])

c. I've been reading the pages regarding training and revenue and capital expenditure. (ukWaC)

d. it seemed perfectly sensible to do a programme about women's history (BNC [A89])

e. He watched some television, then sat back to read a book about oriental carpets (BNC [H85])

EVENT-anchoring, formal details

(36) $ANCH(e_v, \mathcal{P}_{\langle v,t\rangle}, f_{\langle v,e\rangle}) \stackrel{\text{def}}{=} \lambda x.\exists e'[e' \sqsubseteq e \wedge \mathcal{P}(e') \wedge f(e') = x]$, where $f \in \{\text{AG}, \text{TH}, \tau, \text{LOC}\}$

The set of anchors of a sum eventuality e relative to an anchoring relation f and an eventuality-denoting predicate $\mathcal{P}$ is the set of f-participants of the $\mathcal{P}$-parts of e.

(37) $\mu_{ev}(e_v, \mathcal{P}_{\langle v,t\rangle}, f_{\langle v,e\rangle}) \stackrel{\text{def}}{=} |ANCH(e, \mathcal{P}, f)|$ if $QUA(ANCH(e, \mathcal{P}, f)), \perp$ otherwise.

A sum eventuality e counts as n $\mathcal{P}$s relative to anchoring relation f iff the cardinality of the set of f anchors of e for $\mathcal{P}$ is n, presupposing that this set is quantized.