Making a statement: eventuality denoting nominals

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1 Introduction

This paper has three principal aims. First, we address a question raised in Parsons 1990, §10.6, positively answered in Schwarzschild 2022: Do all common nouns (CNs) denote eventualities, namely only STATES? We argue that the answer to this question is *no*. To show this, we develop two novel diagnostic tests, and apply them to the data from Czech (Slavic) and English (Germanic), illustrating their cross-linguistic reach. One test is based on the light verb construction (LVC) and the other on genitive constructions. These tests determine if a CN has an eventuality-denoting sense, e.g., *belief*, *party* and *allegation*, and separate this class of CNs from those that do not (e.g., *boat*, *cat*).

Second, we apply well-known tests developed in event semantics for the classification of aspectual classes, fruitfully applied to multiple languages, to the class of eventuality-denoting CNs in order to identify if they have eventuality-denoting senses that are telic. To our knowledge, this is a novel extension of the use of these diagnostic tests to the nominal domain.

Third, for CNs that denote telic predicates, we motivate what counts as 'one CN-event' in their denotation, and so their telicity, by anchoring eventualities they denote to individuated entities (and times) via their thematic roles (see Grimm 2014 on anchoring for abstract CNs). By also controlling for polysemy, we thereby make successful predictions concerning the felicitous occurrence and interpretation of polysemous CNs in counting constructions. Take *allegation*, which is polysemous between an 'informational-entity' (propositional content) reading and an EVENT (telic) reading. In (1-a), we can directly count two informational entities denoted by *allegation*: *that Billie lied* and *that Dom swore*. In (1-b), the counting of two informational entities is ruled out, since there is only one thing alleged (*that Charlie lied*), however, the two Agents (Alex and Billie) allow *anchoring* to two discrete allegation-EVENTS, one performed by Alex, the other by Billie. In (1-c), neither counting of two informational entities nor counting of allegation-EVENTS is possible, and as a result (1-c) is uninterpretable.

(1)   a.   Alex's two allegations that Cal lied and Dom swore were true.
       b.   Alex and Billie's two allegations here at exactly 2:03pm that Cal lied upset Dom.
       c.   #Alex's two allegations here at exactly 2:03pm that Cal lied upset Dom.

2 Do all nouns denote eventualities?

Parsons (1990) asks whether regular CNs like *cat*, instead of denoting individuals, could denote STATES in which those individuals are participants (e.g., single cats as the Theme of cat states). He concludes that this view lacks evidential support, but Schwarzschild (2022) develops it explicitly. If such STATES are supposed to be part of the STATES, PROCESSES, EVENTS classification of eventuality types (see Mourelatos 1978), as also Parsons (1990) assumes, we think Schwarzschild (2022)'s move is wrong-footed, since it blurs two important distinctions: one between CNs that can denote EVENTS (e.g., *statement*, *party*), on the one hand, and (mental) STATES (e.g., *belief*, *fear*), on the other hand; and another between CNs that denote (mental) STATES (e.g., *belief*,

fear) and CNs like *boat* and *cat* whose STATE status is, at best, unintuitive. We devise two tests to demarcate eventuality-denoting CNs for Czech and English. The first test is based upon the light verb construction, and the second upon genitive constructions.

2.1 The Light Verb Construction (LVC) Test

If a CN can be felicitously used in a LVC, it has at least one sense in which it denotes (a set of) eventualities. In LVCs the verb is semantically bleached of its 'ordinary' meaning (see e.g., Pullum and Huddleston 2002, ch. 4, §7). This demarcates the CNs in (2) from those in (3) for English and likewise the CNs in (4) from those in (5) for Czech.

(2) a. Alex made that {allegation | claim | statement}.   +LVC
     b. Alex had that {belief | fear | hope | party}.   +LVC

(3) a. Alex {gave someone | had} that {fact | information}.   −LVC
     b. Alex {made | had | took | gave someone} that {boat | cat}.   −LVC

(4) a. Alex udělal   toto {prohlášení | tvrzení}.   +LVC
         Alex do.PAST this {statement | claim}.
         'Alex made this {statement | claim}.'
     b. Alex měl   {tento strach | tuto domněnku / pařbu / naději}.   +LVC
         Alex have.PAST {this   fear | this belief   / party / hope}
         'Alex had this {fear | belief | party | hope}.'

(5) a. Alex {dal   někomu | měl}   {tento fakt | tuto informaci}.   −LVC
         Alex {gave.PAST someone | have.PAST} {this   fact | this information}
         'Alex {gave someone | had} this {fact | information}.'
     b. Alex {dal   někomu | měl}   tuto {loď' | kočku}.   −LVC
         Alex {gave.PAST someone | have.PAST} this {boat | cat}
         'Alex {gave someone | had} this {boat | cat}.'

2.2 Genitive Construction (GC) Tests

For English, we use the Saxon genitive construction, and for Czech, the genitive case construction to test whether a CN has an eventuality-denoting sense.

The GC Test. In a GC, *A*.GEN *B*, if *B* denotes an eventuality, then *A* can be a participant (e.g., Agent, Theme, Experiencer, Instrument) in that eventuality.

In English, the GC test demarcates the CNs in (6) from those in (7) (furthermore in (7b), the relation between *A* and *B* is highly underspecified):

(6) a. Alex's allegation/claim/party ≈ the alleging/claiming/party EVENT to which Alex stands in the Agent relation
     b. Alex's belief/fear/hope ≈ the STATE of belief/fear/hope to which Alex stands in the Experiencer relation

(7) a. Alex's information ≉ the information STATE (or EVENT) in which Alex is the Experiencer/Agent/Theme. (If *information* denoted eventualities, and information were about Alex, then the Theme in that eventuality would be an INF(ormational) ENTITY, not Alex.)
     b. Alex's boat/cat ≉ the boat/cat STATE to which Alex (as the owner participant) stands in the Experiencer relation

In Czech, similarly to English, the GC test demarcates the CNs in (8), for which the same approximate equivalences can be given as in (6), from those in (9), which, like the English

constructions, fail to have the relevant equivalences.[1]

(8)   a.   Alexův   {argument | večírek}
             Alex.M.GEN {argument | party}
             Alex's {argument | party}

         b.   Alexova   {víra | naděje}
             Alex.F.GEN {belief | hope}
             Alex's {belief | hope}

(9)   a.   Alexova   informace
             Alex.F.GEN information
             Alex's information

         b.   Alexova   {loď | kočka}
             Alex.F.GEN {boat | cat}
             Alex's {boat | cat}

2.3   Summary

Our LVC and GC tests for both Czech and English clearly differentiate between CNs that intuitively have at least one sense that denotes eventualities (e.g., *allegation*, *belief*, *claim*, *fear*, *party*, *statement*), from those that do not (*boat*, *cat*, *fact*, *information*). Given the classification of aspectual classes into STATES-PROCESSES-EVENTS, this constitutes evidence against any theory that posits that all CNs, including e.g., *boat* and *cat*, denote STATES.

3   Telicity of eventuality-denoting CNs.

In this section, for CNs that have an eventuality-denoting sense, we motivate their aspectual class. (As is standard in event semantics, we assume a tripartite distinction into EVENTS, PROCESSES or STATES, originally set up by Mourelatos 1978.) This serves two purposes. First, it will strengthen our findings, summarized in section 2, that CNs like *boat* and *cat* are not eventuality-denoting, let alone STATE-denoting. Second, for CNs that are eventuality-denoting, it will allow us to investigate the effect of aspectual class on their countability property.

     Most importantly, the above methodological assumptions lead to our novel proposal: namely, we propose the use of CNs (having an eventuality-denoting sense) in LVCs as a test for their aspectual class. To this goal, we show how we can capitalize on a battery of tests that are standardly used in event semantics to determine the aspectual class of expressions of various 'sizes' (verbs taken as lexical items, VPs or sentences) (see, e.g., Dowty 1979, p. 55ff, and Filip 2019 for an overview and a discussion). For reasons of space, here we only focus on English data, but these diagnostic tests have been applied extensively cross-linguistically. We also observe, as has also been cautioned by some (see Filip 2019, p. 282, and references therein), that these tests even in English do not converge on coherent and neatly separated categories, such as Vendler's (1957), but identify overlapping clusters which merely distinguish subsets of such categories or supersets. Moreover, not all these tests that were originally developed for English data are (directly) transferable to other languages, due to their language-specific properties. It may not be always entirely clear what the semantic properties of linguistic forms are that the intended analogous diagnostic tests (e.g., compatibility with temporal adverbials) used by various researchers identify in different languages, and some clarification is needed to determine whether they in fact access the same aspectually relevant properties in different languages.

     In (10) and (11), '(?)' indicates that the construction is not felicitous unless coerced into an iterative interpretation. The predicates of eventualities in the LVCs in (10) pattern as EVENTS and those in (11) as STATES (see Table 1 for a results summary):

(10)   a.   Alex made that {statement | claim | allegation} {in under 2 minutes | (?)for 2 minutes/hours}.

        b.   Alex made that {statement | claim | allegation} {three times | (?)a lot}.

(11)   a.   Alex had that {belief | hope} {?in 5 years | for 5 years (while in grad school)}.

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[1]We give fewer Czech examples, due to number and gender agreement between the head and genitive modifier.

Noun	boat	cat	fact	information	allegation	claim	party	statement	belief	hope	fear
LVC test	0	0	0	0	1	1	1	1	1	1	1
GCC test	0	0	0	0	1	1	1	1	1	1	1
Eventuality (if any)	–	–	–	–	EV	EV	EV	EV	ST	ST	ST

> b. Alex had that {belief | hope} {?three times | ?a lot}.

Interestingly, we have not found cases of LVCs that suggest that the relevant noun denotes a PROCESS (e.g., the PROCESS denoting *sleep* patterns differently to both EVENT and STATE denoting expressions: *slept for/?in 2 hours, slept a lot/(?)three times*). Indeed, we observe that LVC constructions with nouns related to prototypical PROCESS VPs are not PROCESS-, but EVENT-denoting: *Alex jogged* (PROCESS) vs. *Alex took/had a jog* (EVENT). In the following, we restrict ourselves to discussing EVENTS and STATES, setting PROCESSES aside.

This evidence, combined with that from section 2, allows us to strengthen our conclusions. We now have a set of CNs that can denote eventualities, and, of these, some that can denote STATES (i.e., *belief* and *fear*). Our diagnostics clearly differentiate these CNs from CNs like *boat* and *cat*, suggesting that if there is a sense in which the latter denote 'states', these do not seem to be the same as the STATES that are distinguished in semantics as a subtype of eventuality. Our tests do not rule out views in which all CNs denote *situations*, provided that different sorts of entities (e.g., physical, informational, and eventualities) can witness these situations. See e.g., Sutton's (2022) account of polysemy which uses Cooper's (2023) Type Theory with Records.

4 Counting eventualities in the denotations of CNs

Our account expands the empirical coverage of the informal analyses in Sutton and Filip 2019 and Sutton and Filip 2020, as well as that of Grimm (2014). We claim: (i) EVENT-denoting senses of CNs are typically countable (e.g., we can count *allegation* qua EVENTS); (ii) What counts as 'one' such EVENT depends on anchoring relations to e.g., Agents, spatio-temporal locations, or Themes (see Grimm 2014); (iii) STATE-denoting senses of CNs are not countable, but anchoring to Experiencers or Stimuli can coerce their inherent mass senses into count (e.g., *?three fears*, see 14-b); (iv) INF ENTITIES in the denotations of polysemous CNs such as *belief* are countable without anchoring, even if they also have a (mass) STATE-denoting sense.

Thematic role assumption. EVENTS may be defined for the full range of thematic roles, and are homomorphically mapped to their temporal traces. Following Parsons 1990, we assume STATES have, at most, *Experiencer*, *Instrument*, and *Theme*.

Quantization assumption. Grammatical counting turns on enumerating quantized sets of entities relative to a context (we suppress details regarding contexts below). Quantized sets have no two members in a proper part relation: $QUA(P) \leftrightarrow \forall x, y[(P(x) \land P(y)) \rightarrow \neg x \sqsubset y]$ (see Krifka 1989).

EVENT-Anchoring 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. Counting with (predicates of) EVENTS via 'anchoring' to their participants, temporal traces or locations has its origins in Davidson 1969's view that we can identify eventualities in terms of the objects to which they are related. This is implemented in mereological terms by Krifka 1989, and has its first application to abstract CNs with Grimm's (2014) (coining of the term) *participant anchoring*. We give a set of anchors relative to a CN predicate, $\mathcal{P}$, and an anchoring relation, f in (12) and the cardinality

of EVENTS relative to $\mathcal{P}$ and f in (13).

(12) $ANCH(e_v, \mathcal{P}_{\langle v,t\rangle}, f_{\langle v,e\rangle}) \overset{\text{def}}{=} \lambda x.\exists e'[e' \sqsubseteq e \wedge \mathcal{P}(e') \wedge f(e') = x]$,   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.

(13) $\mu_{ev}(e_v, \mathcal{P}_{\langle v,t\rangle}, f_{\langle v,e\rangle}) \overset{\text{def}}{=} |ANCH(e, \mathcal{P}, f)|$ 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.

Grimm (2014) claims that CNs like *despair* in *his despairs* (ex. 25a), are polysemous between a mass, STATE-denoting reading and "additional event-based readings, which are countable" (p.197). We disagree, there is only one mass STATE-denoting reading. If despair truly had a event-denoting countable sense, a numeral construction such as *??He had three despairs last year* should be straightforwardly felicitous (a signature property of count nouns), but it is not. Our analysis of Grimm's *his despairs* example is that it is STATE-denoting, but has a coerced count interpretation available via anchoring to discrete times (i.e. discrete periods of despair). This is analogous to a coerced *interruption reading* common for states denoted by individual-level predicates such as *Francis is occasionally blond* (Fernald 2000, p. 70).

Anchor blocking. We make the novel observation that 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 $S_{\langle v,t\rangle}$ and $S'_{\langle \sigma,t\rangle}$, then $S'_{\langle \sigma,t\rangle}$ cannot anchor $S_{\langle v,t\rangle}$. Take *allegation* which has two senses: (i) an INF ENTITY, that which is alleged (e.g., *A's two allegations (that B lied and that C swore)*; (ii) an EVENT of making an allegation (e.g., *A's allegation took a few seconds*). Understood as INF ENTITIES, *allegations* are counted directly. For instance, A's single utterance of *B and C both lied* (at one space-time location) can be described as *one allegation* or *two allegations* qua INF ENTITIES, depending on how *B and C both lied* is individuated in the context. However, A's single utterance of *B and C both lied* cannot be counted as *two allegations* qua EVENTS: #*A's two allegations each took a few seconds* is not felicitous in this context. Anchor blocking captures this. Understood as EVENTS, *allegation* must be counted relative to an anchor (see EVENT-anchoring, above). If INF ENTITIES could anchor *allegations*-qua-EVENTS, there should be a felicitous reading of *A's (two) allegations each took a few seconds* in the above context, contrary to fact. Furthermore, anchor blocking does not apply in the absence of polysemy. The EVENT-denoting sense of a CN such as *party* can be anchored via *Occasions* for a party (i.e., A' and B's PhD defences), or *Beneficiaries* (A and B qua their defences), because such CNs do not have a separate sense that denotes those Occasions, Beneficiaries etc.

5   Predictions

EVENT-denoting CNs. The cardinality of event-denoting senses of CNs supervene on cardinalities of quantized anchor sets. (1-b) and (1-c) are repeated below. In (1-b), the set of AGents {*alex*, *billie*} is the only anchor set with cardinality 2. The events are otherwise concurrent and co-located. *Allegations*-qua-INF ENTITIES cannot count as *two* due to the single INF ENTITY denoted by *Charlie lied*. This correctly predicts that if we mention only one Agent (Alex), as in (1-c), the construction is not interpretable.

(1)   b.   Alex and Billie's two allegations here at exactly 2:03pm that Cal lied upset Dom.
        c. #Alex's two allegations here at exactly 2:03pm that Cal lied upset Dom.

STATE-denoting CNs. CNs that only denote STATES are (typically) mass (see Mourelatos 1978). E.g., *fear* denotes STATES (of being in fear) and is mass. Mass nouns have cumulative

reference Quine [1960], and singular mass nouns e.g., *fear* can denote sums of states with both distinct Stimuli and Experiencers (14-a). Attempting to anchor STATES to Experiencers or Stimuli results in coercion: (14-b) and (15-b) are marked, but interpretable.

(14)   a.   Alex and Billie's fear of spiders and long flights are why they won't travel to Australia.
       b.   ?Alex's two fears of spiders and long flights are why she won't travel to Australia.

Interactions with polysemy. Mourelatos ([1978]) did not account for polysemy: *belief* is INF ENTITY/STATE polysemous, and the INF ENTITY sense (the Theme of the STATE) is countable without anchoring. Our *anchor blocking* blocks counting *belief* STATES via their Themes. One cannot select the mass (STATE) denoting sense of *belief* in counting constructions, because *belief* has a count INF ENTITY-denoting sense (*two beliefs* ≠ two *belief*-STATES). This explains the judgements in (15). (15-a) directly counts beliefs-qua-INF ENTITIES (*that Cal's birthday is tomorrow* and *that Dom's birthday is on Friday*). In (15-b), however, counting of two informational entities is ruled out, since there is only one thing believed (*that Cal's birthday is tomorrow*). The only recourse is try to anchor to Experiencers (Alex and Billie). This in turn just might make available a coerced count interpretation of what is inherently a mass STATE sense of *belief*. In (15-c), for *two beliefs* neither counting of two informational entities nor counting of (coerced) individuated STATES is available, and as a result (15-c) is uninterpretable.

(15)   a.   Alex's two beliefs that Cal's birthday is tomorrow and Dom's is on Friday are why they went shopping.
       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.

EVENT-denoting CNs that are not relevantly polysemous (e.g., *party*) are not affected by anchor blocking. In (16-a), *party*-EVENTS are anchored to *Occasions* (the two defences of Alex and Bill) This is blocked in (16-b) resulting in uninterpretability.

(16)   a.   The two simultaneous parties for Alex and Billie's defences here at 2pm were attended by the same people.
       b.   #The two simultaneous parties for Alex's defence here at 2pm were attended by the same people.

6   Conclusion

Our novel and crosslinguistically applicable LVC and GC tests classify CNs that have an eventuality-denoting sense, for which we show that tests adapted from event semantics categorise their aspectual class. We argued, building on Grimm [2014], that counting with the eventuality-denoting senses of CNs requires *anchoring* to thematic roles, but also that aspectual class constrains what anchors are available. Given a contextually available anchor, we can motivate why the EVENT-denoting senses of *allegation* and *party* are easily countable, but also, in contrast to Grimm [2014], why this prompts coercion for STATE-denoting senses of *belief* and *fear*. We also identified that the polysemy of abstract CNs, e.g. *allegation*-qua-EVENT vs. *allegation*-qua-INF-ENTITY, is crucial to understanding their countability: (i) in contrast to Mourelatos [1978], we motivated why not all STATE-denoting CNs are uncountable; e.g., *belief* is countable when its INF-ENTITY-denoting sense is selected; (ii) we identified via *anchor blocking*, why an INF-ENTITY sense of a CN cannot anchor its EVENT-denoting sense; e.g., *allegation*-EVENTS cannot be anchored to *allegation*-INF-ENTITIES, because *allegation* is EVENT/INF-ENTITY polysemous.

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