

**Possessed bare superlatives make reference to individual concepts**  
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**1 Background.** What I term *possessive superlative modifiers* are possessed bare superlatives embedded under the locative preposition *at*. Very little has been written about this construction in English; only Corver and Matushansky (2006) present a descriptive or analytical account of the phenomenon. Some examples follow; naturally occurring examples are preceded with <sup>n</sup>.

- (1) a. <sup>n</sup> When the Church tirelessly listens, heals, reconciles, she is **at her most luminous**.
- b. <sup>n</sup> Cat with animated mouth, painted wood and burl handle is 5” high and 2” **at its widest**.
- c. <sup>n</sup> The number of members is impressive, especially considering that Soviet military men are now over forty years old **at their youngest**.
- d. <sup>n</sup> The best example to see Bruce **at his fastest** is in *Enter the Dragon*.

The primary theoretical problem this construction raises regards the domain of quantification (more commonly referred to as the *comparison class*) for the superlative. In (1a), it seems that temporal stages of the Church are compared to each other; in (1b), spatial parts of the cat are compared. There are two largely unexplored questions involved; first, how does the comparison class of a possessive superlative modifier get fixed? Second—and more generally—what is the compositional semantics of this construction? The present paper provides a fully compositional semantics for possessive superlative modifiers that accounts for the range of readings they give rise to.

**2 Problem.** Possessive superlative modifiers appear with no overt nominal complement to the superlative adjective; they appear ‘bare’. Corver and Matushansky (2006) propose a silent, relational nominal complement for superlatives in this construction. They assign it a semantics corresponding to the notion of a *stage* (Carlson 1977), i.e. a spatiotemporal ‘slice’ of what is denoted by the possessor argument. They propose the following denotation for *Bruce’s fastest*:

$$(2) \quad \llbracket \text{Bruce's fastest } \emptyset_{\text{stage}} \rrbracket = \iota h. h \text{ is a stage of } b \wedge \forall h' [h' \text{ is a stage of } b \wedge h \neq h' \rightarrow \mathbf{max}(\lambda d. \text{fast}(d)(h)) > \mathbf{max}(\lambda d. \text{fast}(d)(h'))]$$

This expression denotes the unique stage of Bruce that is faster than any other stage of his, using a relational semantics for gradable predicates. According to Corver and Matushansky, (2) ‘denotes a moment of time and can combine with the spatiotemporal preposition *at* to result in the right meaning’. But as their analysis is primarily concerned with the *syntac* of possessive superlative modifiers, Corver and Matushansky’s brief semantic proposal suffers from two problems.

The first problem is a lack of generality: it’s not always the case that possessive superlative modifiers make reference to points in *time*. They may also make reference to points in space, as in (1b), or even to members of a set, as in (1c). The second, and more crucial, problem is that this analysis conflates stages and times. Here, *h* is a variable over stages of the individual Bruce; *h* has some particular (maximal) degree of speed that surpasses the degree of speed of any other *h'*. But if *h* is a stage of Bruce with a degree of speed, then it clearly can not also denote a point in time.

If we assume that *Bruce’s fastest* denotes a stage of Bruce, then we make the unwelcome prediction that sentences like (3) are licit:

- (3) # Bruce’s fastest ran 12 miles per hour.

This should be a true sentence just in case the fastest stage of Bruce is such that it ran 12 miles per hour. But instead, it’s infelicitous. Intuitively, the problem with (3) is that *Bruce’s fastest* only denotes a point in time, and not a stage of Bruce. In fact, if we want to make reference to a stage of Bruce, we must *modify the name* with a possessive superlative modifier:

- (4) ✓ Bruce at his fastest ran 12 miles per hour.

Thus the challenge in accounting for possessive superlative modifiers is twofold: first, ensuring that they may refer to points in space or other dimensions, as well as times; and second, ensuring that they may not refer to stages of individuals, but instead to the corresponding point along a dimension of that stage.

**3 Proposal.** I assume following Deo et al (2013) that nominals denote *generalized individual concepts*. There it was argued that, in order to account for the full range of readings for degree-achievement verbs, nominals must be construed as denoting context-dependent functions whose domain is an ordered set of objects and whose range is entities. The only requirement on this domain is that it be an axis of measurement in the sense of Gawron (2006).

In our case, the meaning of the name *Bruce* is a function from time intervals (type  $\tau$ ) to the entity (type  $e$ ) corresponding to Bruce at that time:

- (5)  $\llbracket \text{Bruce} \rrbracket = \lambda i_{\tau} . \mathbf{bruce}(i)$

The domain of this function is determined by pragmatic and linguistic context. For example, a *when*-adjunct can force a temporal interpretation, as in (1a). In the case of (1b), a spatial interpretation for *at its widest* is preferred because of world knowledge: the width of a wooden cat does not change depending on the time at which you evaluate its width, but rather on the point in space.

The core of this proposal is that possessive superlative modifiers denote a point of evaluation for the function denoted by the possessor. *Bruce's fastest* denotes an interval in time referring to when Bruce was maximally fast; *the cat's widest* denotes an interval in space referring to where the cat is maximally wide. These intervals get plugged into the individual-concept function, yielding an entity.

On the present approach, the superlative morpheme *-est* is nominalizing; it takes a gradable predicate a an argument, and returns a relational noun. This relational noun denotes the interval in the domain of the possessor that maximally instantiates the property denoted by the gradable predicate. Crucially, I follow Deo et al (2013) in leaving the identity of this domain underspecified; it may be resolved as  $\tau$ , the type of time-intervals;  $\sigma$ , the type of spatial intervals; or something more abstract. Thus I propose a denotation for *fastest* as follows:

- (6)  $\llbracket \text{fastest}_{nom} \rrbracket : ie \rightarrow i \equiv \lambda f_{ie} . \lambda i . \forall i' . i' \not\subseteq i \rightarrow \mathbf{max}(\lambda d . \mathbf{fast}(d)(f(i))) > \mathbf{max}(\lambda d . \mathbf{fast}(d)(f(i')))$

This is a function that wants an individual-concept argument (type  $i \rightarrow e$  for the type of intervals  $i$  of some contextually given structuring dimension) and returns an interval in the domain of that individual concept. This interval is the largest one that maps to the fastest individual in the range of the individual concept argument. Since *fastest* is a relational noun, the possessive clitic on the possessor doesn't contribute any special relation; thus, *Bruce's fastest* in (1d) denotes the time-interval at which Bruce is fastest:

- (7)  $\llbracket \text{fastest} \rrbracket (\llbracket \text{Bruce's} \rrbracket) : i \equiv \lambda i . \forall i' . i' \not\subseteq i \rightarrow \mathbf{max}(\lambda d . \mathbf{fast}(d)(\mathbf{bruce}(i))) > \mathbf{max}(\lambda d . \mathbf{fast}(d)(\mathbf{bruce}(i')))$

This interval, then, genuinely denotes an interval in time, and not a stage of the possessor. It can then be plugged into the individual concept denoted by *Bruce* to yield *Bruce at his fastest*, which denotes an entity: the maximally fast stage of Bruce.

**4 Discussion.** On the present analysis, possessive superlative modifiers can be viewed as a special type of locative: they refer to an interval in the domain of an individual concept which is used to fix an entity in its range. In that sense, *Bruce at his fastest* is extensionally similar to an expression like *Bruce in Enter the Dragon*; it refers to a particular temporal stage of Bruce. This analysis makes welcome predictions in a variety of syntactic and semantic environments (e.g. when the modifier appears predicatively or modifying a sentence), which are explored in the paper.