# THE SCALAR SOURCE OF STATIVE PASSIVES

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# **1** Introduction

It's well known that sentences like (1) are ambiguous between a state reading and an event reading.

- (1) The lawn was mowed.
  - a. The lawn was the object of an event of mowing. (eventive)
  - b. The lawn was in the state of having been mowed. (*stative*)

The standard explanation for the ambiguity in (1) is that there are two distinct passive participles in English. The first is semantically eventive and syntactically verbal, the latter semantically stative and syntactically adjectival. Although the verbal passive is fully productive among transitive verbs in English, stative passive formation appears to be restricted by lexical semantic factors, as evidenced by the unavailability of a stative reading for (2).

- (2) The football was kicked.
  - a. The football was the object of an event of kicking. (eventive)
  - b. ??The football was in the state of having been kicked. (stative)

Despite the surface morphologically ambiguity between stative and eventive participles, there are several syntactic and morphological diagnostics which pick out stative passives based on their shared distribution with adjectives (Wasow, 1977, Levin and Rappaport, 1986). First, a number of copular verbs in English—including *seem, remain, appear*, and *become*—select for adjectival complements. Second, only adjectives occur as pre-nominal modifiers, not verbs. By applying the following diagnostics, we find that only some English verbs form acceptable stative passives without contextual coercion.<sup>1</sup> Consider, for example, the following contrasts:

- (3) a. The roadway looks obstructed.
  - b. The soup seems cooled.
  - c. The metal became polished with use.

<sup>&</sup>lt;sup>1</sup>Coercion effects will be explained in more detail in section 4.2.

- (4) a. ??The car looks followed in the police video.
  - b. ??The diplomat seems killed.
  - c. ??The issue remains considered by the committee.
- (5) a. The obstructed roadway
  - b. The cooled soup
  - c. The polished metal
- (6) a. ??The followed car
  - b. ??The killed diplomat
  - c. ??The considered issue

While the above syntactic diagnostics are not perfect, they do provide evidence of several important generalizations about the relative acceptability of verbs in the stative passives. While deadjectival verbs do indeed always allow stative passive formation, predicates like *obstructed* and *polished* show that this is not the whole story. What do the predicates which readily form stative passives have in common? What distinguishes them from the predicates, like *kick, follow,* and *consider*, which resist stativization?

Kennedy and McNally (2005) observe that deverbal stative participles function like gradable adjectives. First of all, they co-occur with degree modifiers.<sup>2</sup>

- (7) slightly trimmed hair, partly read book, completely dried clothes...
- (8) ??slightly struck metal, ??partly noticed issue, ??a mostly seen movie...

Stative passives also occur in comparative constructions, a property of gradable adjectives.

- (9) My lawn looks more mowed than yours.
- (10) The lake seems more frozen than the pond.

If stative passives are always gradable and the source of this gradability is provided by the scalar structure of the source verb or its incremental theme argument (as argued by Kennedy and McNally 2005), then the absence of implicit scalar structure in the verbs in (4) and (6) explains their unacceptability in the stative passive. In this paper, I draw on more recent literature on the semantics of scalar verbs to argue that the predicates which feed stative passive formation are *verbs of scalar change* (Kennedy and Levin, 2008), which describe a change in an individual as the result of participating in an event. This includes the change of state verbs like *open, close,* and *melt,* which describe changes in a lexicalized property scale over the course of an event. However, the class of verbs of scalar change is crucially broader, also including incremental theme predicates like *mow, wipe,* and *prune,* which measure a change in the affected quantity of their theme argument over the course of an event.

Thus, stative passive formation is argued to be a unified semantic process which applies to verbs of scalar change to derive a deverbal gradable adjective. No prior analysis of stative passive formation has identified scalarity as the crucial condition on well-formedness, and I show that this

<sup>&</sup>lt;sup>2</sup>In the next section, I'll demonstrate that stative passives vary with respect to the structure of this encoded scale, and that acceptability with various degree modifiers varies accordingly.

approach more successfully accounts for observed restrictions on stative passive formation (and the coercion effects which sometimes overcome these restrictions).

The paper is structured as follows: in section 2, I summarize the literature on scalar change verbs which provides the background for my own analysis. The formal machinery of my own analysis is presented in section 3. Section 4 reviews prior approaches to stative passives and highlights the empirical advantages of the present analysis, and section 5 concludes.

## 2 Scalar change

#### 2.1 Background: change of state verbs

Before turning to the semantics of stativization, it's first necessary to discuss the meanings of the verbs from which these statives are derived: verbs of scalar change. The background for my own analysis is provided by Kennedy and Levin (2008)'s influential theory of deadjectival change of state verbs.

The crux of Kennedy and Levin's proposal is that change of state verbs like *cool, warm, widen, open, dry,* and *lengthen* encode gradable meanings directly; specifically, they involve the same sorts of functions that are lexicalized by gradable adjectives. According to Kennedy (1999), gradable adjectives encode measure functions: functions from times to functions from individuals to a degree on a scale defined by the lexical content of the adjective. This illustrated with the denotation for the adjective *open*, given in (11).

(11)  $\llbracket open \rrbracket = \lambda d\lambda x \lambda s.open(s)(x) = d$ 

The semantics of change of state verbs has measure functions like that in (11) above as its starting point, combining it with the semantics of change. The change component requires two additional functions: difference functions and measure functions. Difference functions (also involved in the analysis of comparatives) are just like measure functions except that they return a degree representing the difference between an object's projection on the relevant scale and an arbitrary degree *d*, which represents the comparative standard. (E.g. in a comparative construction such as *bigger than Bill*, this arbitrary degree *d* is set at the size of Bill.)

- (12) *Difference functions*: For any measure function **m** from objects and times to degrees on a scale *S*, and for any  $d \in S$ ,  $\mathbf{m}_d^{\uparrow}$  is a function just like **m** except that:
  - a. [i.] its range is  $\{d' \in S | d \succeq d'\}$ , and
  - b. [ii.] for any *x*, *t* in the domain of **m**, if  $\mathbf{m}(x)(t) \succeq d$  then  $\mathbf{m}_d^{\uparrow}(x)(t) = d$  (KL 2008:172)

Finally, based on this definition of difference functions, we can derive the required semantics of change of state verbs via *measure of change functions*, which return the difference in some property from the beginning of an event to its culmination.

(13) *Measure of change*: a measure of change function  $\mathbf{m}_{\triangle}$  takes an object *x* and an event *e* and returns the degree that represents the amount that *x* changes in the property measured by m as a result of participating in *e*.

For any measure function  $\mathbf{m}, \mathbf{m}_{\triangle} = \lambda x \lambda e. \mathbf{m}_{\mathbf{m}}^{\uparrow}(\mathbf{x})(\operatorname{init}(e))(x) fin(e))$ 

To illustrate how this works, consider the denotation for the change of state verb *open* in (14). First, note that this measure of change function is built transparently on the meaning of the gradable adjective in (11), which specifies the relevant gradable property.

(14) 
$$\llbracket open_{\triangle} \rrbracket = \lambda d\lambda x \lambda e.open_{open}^{\uparrow}(x)(init(e))(x) fin(e)) = d$$

In (14), init(e) is a function which measures the degree of openness holding of in individual x and the beginning of an event, and fin(e) likewise provides the degree of openness holding of x at the conclusion of e. Thus, the output for the entire measure of change function is a degree d which represents the difference in degree of openness of x from the event's beginning to its culmination.

It's important to note that none of the measure functions above are themselves predicates. On Kennedy and Levin's approach, composition with degree morphology is necessary to saturate the open degree argument of a change of state verb to make it a predicate of individuals. In the absence of overt degree morphology, this is accomplished by composition with a null degree head *pos*, which introduces the standard of comparison. *pos* (Kennedy, 1999) introduces a function (**stnd**) from gradable meanings to degrees that returns a contextually determined standard of comparison for the predicate.

(15) 
$$\llbracket pos \rrbracket = \lambda g \in D_{m \triangle} \lambda x \lambda e.g(x)(e) \succeq \operatorname{stnd}(g)$$

Thus, the derivation in (16) shows how upon composition with the positive degree, the denotation of darken yields a function from ordinary individuals to events to truth values.

(16) 
$$\llbracket pos \rrbracket \llbracket open_{\Delta} \rrbracket) = \lambda x \lambda e.open_{open}^{\uparrow}(x)(init(e))(x) fin(e)) \succeq \operatorname{stnd}(\llbracket open_{\Delta} \rrbracket)$$

However, it is well known that there is variation in the relative contributions of lexical and contextual information in terms of determining the standard of comparison. Specifically, it has been shown that, while adjectives and COS verbs which lexicalize open scales (scales lacking maximal elements) involve a contextually determined standard, for those which lexicalize a closed scale (scales with maximal elements) the standard invariably corresponds to the endpoint of the scale. In order to explain this asymmetry, Kennedy (2007) proposes the Principle of Interpretive Economy, which captures the preference to align the standard associated with a closed scale adjectives to the bounds of the scale.

#### (17) Interpretive Economy

Maximize the contribution of the conventional meanings of the elements of a sentence to the computation of its truth conditions.

In section 4, The Principle of Interpretive Economy will be shown to be important in capturing meaning differences between stative passives depending on the structure of their deverbal scales.

#### 2.2 Extending the analysis: incremental theme verbs

It has long been noted that incremental theme verbs pattern with change of state verbs in relevant ways (Dowty, 1991, Krifka, 1989, 1992, Tenny, 1994), and have been similarly classified as verbs of scalar change (Kennedy and Levin, 2008, Bochnak, 2010, Kennedy, 2010).

However, there are also important differences between change of state and incremental theme verbs. Unlike change of state verbs, incremental theme verbs are not deadjectival and do not appear to lexically entail a result state of their affected argument. Moreover, there is ample evidence that incremental theme verbs don't encode measure of change functions directly as part of their meaning (Rappaport-Hovav, 2008). For example, they can appear with an array of secondary resultative predicates.

- (18) Resultatives
  - a. Pete steamed the clothes dry/clean/stiff.
  - b. Cinderella scrubbed her knees sore/the dirt off the table/the table clean.

Given the widely-assume constraint against two scales within the same VP (Levin and Rappaport-Hovav, 1995), and the function of resultative predicates as introducing scales, the fact that the sentences in 19 are grammatical suggests that these verbs do not themselves lexicalize a scale.

Additionally, while COS verbs with a lexicalized scale require that their patient argument, the entity which undergoes a scalar change, always be realized syntactically. But incremental theme verbs seem to lack this requirement.

- (19) Argument realization properties
  - a. \*Sam broke/cleared all night long.
  - b. Pat scrubbed/mowed all night long.

Rappaport-Hovav takes these facts as evidence that incremental theme verbs denote simple activity predicates that do not directly select for their theme argument. Instead, the scalar component of an incremental theme verb's meaning is introduced externally, by the nominal argument. Kennedy and Levin (2008) and Kennedy (2010) suggest that, in the case of incremental theme verbs, the crucial measure of change function is introduced compositionally by the verb's nominal argument, and that the referential properties of the argument determines the scalar properties of the measure of change function. This requires adopting the influential analysis of quantized nominal reference formalized by Krifka (1989, 1998), in which a homomorphism obtains between the internal structure of event e and the part structure of quantized event participant x provided they stand in a certain thematic relation with each other.

A syntactic approach to formalizing this relation has been proposed by Bochnak (2010) and Kennedy (2010): the theme argument is introduced syntactically by a functional head, analogous to the introduction of the external agent argument via little v (Kratzer, 1996). Under this approach, incremental theme verbs like *mow* look underlyingly no different from non-incremental activity verbs like *dance*.

(20)  $\lambda e.mow(e)$ 

Under Kennedy (2010)'s approach, a verb like *mow* comes to be associated with a degree argument by way of a covert partitive head which provides a measure of x relative to an individual y (its part structure).

#### (21) $\llbracket part_{\Delta} \rrbracket = \lambda x \lambda d\lambda y \lambda e. part_{\Delta}(x)(y)(e) = d$

This partitive head combines with the theme and returns a gradable event description which is true of an event whose theme is the parts of the nominal argument equal to a degree d.



In (22), first the partitive head combines with the theme argument resulting in a function from individuals to events to degrees, the degree argument of which is then valued by *pos*. The verb is conjoined with node (b) via Event Identification (Kratzer, 1996).

Thus, degree achievements and incremental theme verbs can both be shown to involve measure of change functions—the defining characteristic of verbs of scalar change. But while COS verbs lexicalize a measure of change function associated with a gradable property, incremental theme verbs involve a quantity scale associated with the cardinality or part structure of their nominal argument. In the next section, I will present an analysis of stative passive formation which builds on the semantics of scalar change.

## **3** Analysis: stativizing verbs of scalar change

Now that we've seen that both COS verbs and verbs with incremental themes denote gradable event descriptions, I will present a semantic analysis of the stativizing operator *-ed* which selects for these verbs of scalar change.

The denotation for *-ed* proposed here draws on aspects of several prior accounts. As discussed in Kratzer (2000), the primary function of stativization is existential quantification over the Davidsonian event argument. Following Koontz-Garboden (2009)'s analysis of statives derived from extent verbs, we want to ensure that *-ed* takes a measure of change function as the input to stativization. The denotation for *-ed* given in (23) does just these things.

(23) 
$$\lambda P \in D_{\mathrm{m}} \land \lambda d \lambda x \exists e. P(e)(x) = d$$

This operator takes a measure of change function (of type  $\langle d, \langle e, st \rangle \rangle$ ) and existentially quantifies over the Davidsonian event argument. The output of this operation is a stative passive participle of type  $\langle d, \langle et \rangle \rangle$ . Just like regular gradable adjectives, this derived gradable stative must have its degree argument saturated to become a property of individuals (Kennedy, 1997, Kennedy and Levin, 2008).

There is just one more piece of theoretical groundwork to be laid. Notice that, in the case of incremental theme verbs, we want composition of the verb with its incremental argument to occur before stativization. How does the event argument of *mow* become identified with the event argument introduced by the partitive head? This requires adopting an extension of Kratzer's Event Identification (Kratzer, 1996), called Variable Identification (Husband, 2007, McClure, 1999), which allows the degree argument to be 'passed up' to the verb.

- (24) Event Identification:  $\langle e, \langle s, t \rangle > \langle s, t \rangle \rightarrow \langle e, \langle s, t \rangle >$
- (25) Variable Identification: "Two elements may conjoin as long as the variables of one element are a subset of the other." (McClure, 1999:p.120).

Variable Identification applies more broadly than Event Identification because it is not restricted to elements of type  $\langle s,t \rangle$  and  $\langle e, \langle s,t \rangle \rangle$ .

This allows us to combine the meaning of the the incremental theme verb with the partitive theme, and come out with something of the right type for the stativizing operator, as shown in (26).



The final step in the derivation is existential closure of the individual argument. Thus, *the lawn* (*is*) *mowed* is true just incase there is an event e of mowing and an individual x representing the subparts of the lawn, such that the amount of x which participates in the mowing event exceeds the standard of comparison.

# 4 Comparison with prior approaches

In the last section, I presented the formal machinery of the scalar change analysis of stative passive formation. To underscore the utility and empirical adequacy of this analysis, I will now compare it to prior approaches in the literature. In particular, I will look at how my analysis handle two longstanding problems: the target state versus resultant state ambiguity of stative passives, and the contextual coercion which is required to form stative passives with many verbs.

Much of the recent literature on stative passives has focused on deriving an ambiguity between two different types of stative entailments. Kratzer (2000) demonstrates that stative passives in English and German differ in terms of their felicity with the adverbial modifier *immer noch*/'still'. Following Parsons (1990), Kratzer calls the participles which are compatible with 'still' *target state* passives; those which are not *resultant state* passives.

- (27) a. The little goats are (still) hidden.
  - b. The lifeboat is (still) inflated.
  - c. The door is (still) closed.
- (28) a. The guests are (??still) greeted.
  - b. The dishes are (??still) washed.
  - c. The room is (??still) painted.

Although both passives describe a state resulting from an event, the target state cases entail a lexically specified end state brought about by the event—a state which is typically in principle reversible. The resultant state cases instead denote the state corresponding to an event's being over.

Kratzer proposes that the target state passives in (27) describe states that are in principle reversible, the property required for felicitous modification by the adverbial *still*. The resultant state passives in (28) convey a state resulting from the conclusion of the kind of event described by the participle. Kratzer suggests (following Parsons 1990) that there is a state corresponding to an event's being over, and that states of this type are irreversible, since a completed event can't be un-completed. She concludes that this is why resultant state passives like those in (28) are incompatible with the adverb *still*.

To account for this contrast, Kratzer (2000) first requires positing an underlying type difference between the verbs in (27) and (28). Verbs which form target state passives are those which have both a Davidsonian event argument and a state argument (type  $\langle e \langle s \langle st \rangle \rangle \rangle$ ). Verbs which form only resultant state passives lack a state argument in addition to their event argument (type  $\langle e \langle st \rangle \rangle$ ). This in turn necessitates positing two distinct stativizing *-ed* heads, which apply to these different types of verbs. While the observed differences among stative passives are real, I argue that there are two fundamental problems with Kratzer's approach. First, echoing criticisms bought up by Maienborn (2009), Kratzer analyzes the adjectival passive ambiguity as a case of lexical homonymy: her two stativizers represent entirely distinct semantic operators. Yet these two operators involve identical morphology and derive closely related meanings, which makes a non-unified account of their derivation unsatisfying.

A second problem with Kratzer's analysis (as well as subsequent analyses by Anagnostopoulou 2003, Embick 2004, and Maienborn 2009) is that it fails to capture important generalizations about the relative acceptability of certain verbs as stative passives. Kratzer predicts that the resultant state passive is fully productive, as it can apply to any verb with an event argument. But as we've seen, the resultant state passive is far from fully productive: many verbs are infelicitous in the stative passive without special contextual coercion. An empirically adequate analysis of stative passive formation should have an explanation for these lexical semantic restrictions.

### 4.1 Explaining the target state - resultant state contrast

One of the positive consequences of the analysis presented in this paper is that it derives the observed contrast between target state and resultant state readings (Kratzer, 2000) without positing two different stativizing operators. Rather, the contrast falls out from the nature of scales encoded by different verbal predicates.

Recall Kratzer (2000)'s crucial observation: only some stative passives are compatible with the adverb 'still'. She argues that the verbs which are compatible with *still* are those which encode a

state argument as well as a neo-Davisonian event argument. The scalar change analysis accounts for the differences between stative passive with respect to 'still', without having to posit state arguments in the lexical decomposition of certain verbs. As we've seen, under ?'s approach, even deadjectival change of state verbs don't have a special state argument; rather, they have a degree argument associated with a property scale—the scale which measures the degree of change in that property in an individual which results from participating in an event. To illustrate this, let's revisit another measure of change function for a change of state verb.

- (29)  $\llbracket close_{\Delta} \rrbracket = \lambda d\lambda x \lambda e.close_{close}^{\uparrow}(x)(init(e))(x) fin(e)) = d$
- (30) "The output is a degree that represents the positive difference between the degree to which x measures **closed** at the beginning of an event and the degree to which x measures **closed** at the end of that event."

Given the definition in (30), the degree which is the output of a measure of change function associated with a COS verb is compatible with the adverb *still*. This is because the value of this degree need not hold forever after: something could happen such that this positive value subsequently changes. E.g. if "the door is closed" is true, we understand the degree output from this function to be 1: the degree of openness of the door at the beginning of the event is assumed to be 0, and the degree at the end of the event is taken to be 1 (given the Principle of Interpretive Economy). Thus, the positive value returned by the function in (29) is also 1. We can felicitously say "The door is still closed" because we know that this value of 1 might not hold forever after, e.g. if someone comes along and reopens the door. What sentence (31) asserts is that the difference in the degree of closeness of the door at the beginning of some event and the degree of closedness at the end of that event is 1; *and that degree of closedness* still *holds now*.

(31) The door is still closed.

Let's now compare the use of *still* with the other main type of scalar change verb: incremental theme. As Kratzer observed, *still* is typically not felicitous with incremental theme verbs in the stative passive:

- (32) ??The dishes are still washed.
- (33) ??The lawn is still mowed.

I propose that this fact follows naturally from the fact that the relevant scale involved here is a quantity scale, not a property scale (Rappaport-Hovav, 2008, Kennedy, 2010). As described in the last section, an incremental theme verb does not itself lexically encode a scale, but is rather mapped onto the scale encoded by its quantized nominal argument. The resulting measure of change function give back the amount of change in the part structure of this argument as a result of participating in the event.

- (34)  $\llbracket part_{\Delta} \rrbracket = \lambda y \lambda d\lambda x \lambda e. part_{part}^{\uparrow}(x)(y)(init(e))(x)(y) fin(e)) = d$
- (35) "The output of  $[[part_{\triangle}]]$  is a degree that represents the positive difference between the degree to which y measures **part**(x) at the beginning of an event and the degree to which y measures **part**(x) at the end of that event" (Kennedy, 2010)

In other words, then, y measures the amount of x that has undergone an event e; d represents the difference in the value of y from the beginning of e to the end of e. With this in mind, consider a sentence like (36).

(36) The car is washed.

In the absence of a degree modifier specifying a specific value for y, a sentence like (36), after composition with *pos*, yields a default maximum value (given the Principle of Interpretive Economy): thus, the entire car is understood to have undergone a washing event. Hearkening back to Kratzer's original observation about the nature of resultant state passives, the value output by the measure of change function in (36) is *not* reversible. At no time in the future will this value change, since no subpart can un-participate in the event. This explains the infelicity with *still* in (37). Yet notice that *still* is licensed with verbs like *wash* when an overt degree modifier specifies a degree less than the maximal value:<sup>3</sup>

- (37) ??The car is still washed.
- (38) The car is still half washed.

The degree modifier *half* changes the acceptability of modification with *still*. This is because when only half of the subparts of the car have participated in the washing event, it is possible that this amount will change in the future if more of the car is washed—thus, it is not trivial in this case to say that the car is *still* half-washed.

The preceding discussion suggests that target state and resultant state contrast observed by Kratzer (2000) does not require positing a difference in the semantic type of verbs like *close* and *wash*, nor two different stativizing operators to derive the resultant state and target meanings. Instead, these meaning differences can be shown to fall out naturally from differences in the scalar structure COS and incremental theme verbs.

### 4.2 Coercion and the resultant state passive

An additional claim made by Kratzer (2000) is that while only some verbs have a target state reading, the resultant state passive is fully productive although sometimes contextual coercion is required to license this reading.<sup>4</sup> Specifically, the required context is one of accomplishing a task or completing a job, but Kratzer does not discuss in detail *why* such coercion licenses stative passive formation. In this section, I'll show how the stative approach to stative passives explains this.

Consider a transitive verb like *pet*, an atelic verb (39) which is does not describe a scalar change and therefore is not an input for stative passive formation (40).

- (39) John pet the cats for five minutes/\*in five minutes.
- (40) ??The cats are pet.

Now, following Kratzer, imagine a context where it's John's job to come to the neighbors house while they're away and pet their cats. In this context, both the "in five minutes" adverbial and the stative passive are felicitous. I argue that this context allows the durative event description *pet* to

(ii) The car remains half washed.

<sup>4</sup>Kratzer suggests that the only verbs which never forma resultant state passive are verbs like *know* or *own*, which she argues lack a Davidsonian event argument.

<sup>&</sup>lt;sup>3</sup>This also predicts the contrast in acceptability between the following sentences:

<sup>(</sup>i) ??The car remains washed.

stand in a homomorphic mapping relation to the quantized theme. This gives us an incremental event description with a degree argument, which can therefore be targeted by the *-ed* stativizer. And indeed, as long as the aforementioned context is assumed, we find that *pet* behaves like an incremental theme verb, a telic event description which measures out a change in its theme argument:

- (41) John went to the neighbors' house to pet cats for five minutes/\*in five minutes.
- (42) John went to the neighbors' house and pet (all) the cats for five minutes/in five minutes.
- (43) John half pet the neighbors' cats. (=Half the cats have been pet.)
- (44) The neighbors' cats are half petted. (=Half the cats have been pet.)

Since these 'derived' incremental predicates also involve change along a quantity scale, they're also predicted to license only the resultant state passive reading and to be infelicitous with *still*. This appears to be the case, as illustrated in (45).

(45) ??The neighbors' cats are still petted.

A final piece of evidence for the incremental theme analysis of coercion is the fact that no amount of contextual background can make sentences like (46) and (47) acceptable, since they lack a quantized theme (Krifka, 1989).

(46) \*Applesauce is stirred.

(47) \*Sand is completely raked.

The unacceptability of (46) and (47) is not predicted by Kratzer's analysis, which is expected to derive a resultant state passive out of any verb with an event argument.

Thus, the scalar analysis of stative passives accounts for the licensing of resultant state passives via contextual coercion. I've shown that, while only a small class of verbs lexically encode a property scale, many transitive verbs can be coerced to combine with a quantized theme nominal and form a gradable event description. This also explains why the resultant state passive is so much more productive than the target state passive, and why the former reading is never available through coercion.

## 5 Concluding remarks

An empirical problem that has long remained unaccounted for in the literature is the fact that the stative passive, unlike the eventive passive, is restricted by lexical semantic factors. Although the data appears at first idiosyncratic, a unified subclass of verbal predicates has emerged which consistently form stative passives: verbs of scalar change. The advantages of this approach over prior analyses are twofold: first, this analysis provides a unified approach to stative passive formation, and requires positing only a single stativizing morpheme (contra Kratzer 2000), while still capturing distinct readings of the stative passive (target versus resultant state). Second, this analysis explains the vast differences in acceptability between scalar change and non-scalar change verbs, and provides the first formal account of contextual coercion effects.

More broadly, by further refining our understanding of verbs of scalar change, this work contributes to the ongoing investigation of the interaction of degrees and measure phrases with verbal semantics, and offers further insight into the role of scalarity across grammatical categories.

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