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# Grammatically relevant aspects of meaning and verbal polysemy

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**Abstract:** The debate over the relation between grammatically relevant (specifically, what we term *event referential*) and idiosyncratic aspects of verb meaning has produced a considerable literature. Some authors, such as Levin and Rappaport Hovav, have appealed to figurative uses of verbs as a source of data when the analysis of their literal uses has been controversial, a move that has sometimes been criticized. However, the question of whether figurative uses of verbs preserve the event referential properties of their literal counterparts and are therefore a valid source of data has not, to our knowledge, been systematically explored. We offer two detailed cross-linguistic case studies of Spanish and English verbs to provide an argument that figurative verb uses indeed are a reliable source of evidence for identifying event referential components of meaning: In each case study we find clear evidence for the preservation of these components across uses, indicating that these aspects of meaning both constrain and facilitate figurative uses of verbs.

**Keywords:** English; figurative polysemy; lexical semantics; Spanish; verbs

## 1 Introduction

In a recent paper, Rappaport Hovav (2017) uses examples like (1b) (her (47)) to argue that *drown* lexically describes a state of submersion, rather than an event of dying in a particular manner. She specifically claims that the inchoative use of *drown* in (1a) (her (50b)) is derived from the stative use and that the inference of death is purely pragmatic; relatedly, she takes (1c) (her (21)) to describe at most metaphorical submersion, not a metaphorical process of dying.

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- (1) a. *John drowned in water.*  
 b. *The lettuce is drowning in oil.*  
 c. *She is drowning in fabric.*

This argument belongs to an ongoing debate over the viability of Levin and Rappaport Hovav's (1991: 147) Manner/Result Complementarity hypothesis, namely, that "there do not seem to be verbs in English that lexicalize both manner/means and result/direction components."<sup>1</sup> Since at least their 1998 paper "Building Verb Meanings," Levin and Rappaport Hovav have consistently characterized these components of meaning as "grammatically relevant" (as opposed to "idiosyncratic"). Although, as a reviewer notes, many kinds of meaning are arguably grammatically relevant, Levin and Rappaport Hovav's discussion is clearly circumscribed to certain event referential aspects of meaning, and our use of the term 'grammatically relevant' in what follows is similarly restricted.<sup>2</sup>

In order for (1b) to bear on (1a) or (1c), there must be reason to assume that the aspects of meaning relevant for Manner/Result Complementarity are preserved across these uses. However, we have not been able to find any explicit argument that this assumption is, in fact, justified. Rappaport Hovav and Levin (1998: fn. 5), commenting on the "semantic bleaching" of verbs (which they exemplify with the examples *the news broke* and *the baby fell asleep*), simply note without any citation or argument that bleaching only ever involves "the loss or weakening of the idiosyncratic aspect of verb meaning...and...never involves removal of grammatically relevant aspects of verb meaning." But the correctness of this claim cannot be considered self-evident, among other reasons because there has been disagreement about whether distinctly grammatically relevant aspects of meaning

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1 For different views on Manner/Result Complementarity, see, among others, Beavers and Koontz-Garboden (2012); Beavers and Koontz-Garboden (2017); Goldberg (2010); Levin and Rappaport Hovav (2013); Mateu and Acedo-Matellán (2012); Rappaport Hovav and Levin (2010).

2 We use 'event reference' rather than the more familiar 'event structure' because the former more precisely reflects the sort of meaning we consider the grammar to reflect. Referring to events involves individuating them in a particular way, including recognizing possibly heterogeneous internal parts (see e.g., Casati and Varzi [1999] and references cited there for relevant discussion). Although some self-described theories of event structure, such as Pustejovsky's (1991), are fundamentally concerned with (at least some aspects of) event reference, the term 'event structure' also covers a host of other ways of approaching the relation between grammar and event description that we do not necessarily endorse. For example, some approaches to event structure decompose verb meanings into semantic primitives considered to encode grammatically relevant entailments of event predicates, but nonetheless do not involve specific commitments regarding the internal part structure of the described events themselves; Parsons (1990) offers arguably just one example. Readers who are more familiar with the term 'event structure' can mentally substitute it for 'event reference,' with the caveat that we understand event structure in a very specific way. See also Section 2 for additional comments.

even exist (see, for example, Taylor 1996), and, if they do, how they are connected to the lexical entries for verbs (see, for example, references and comments in Rappaport Hovav [2017]).<sup>3</sup>

Our goal in this paper is to offer an explicit argument that grammatically relevant – specifically, event referential – aspects of verbal meaning *are* distinctly traceable in figurative polysemy.<sup>4</sup> Our evidence will come from two case studies comparing patterns of polysemy for pairs of verbs in English and Peninsular Spanish that we consider to be reliable translation equivalents, as explained in Section 3. The content associated with the members of these pairs is so similar that they overlap not only in uses that describe physical actions with concrete objects, but also significantly in their figurative uses. Crucially, however, the pairs also strikingly diverge in certain figurative uses. We will make the case that these latter differences reflect grammatically relevant, event referential aspects of meaning, including differences in entailments about participants such as whether they undergo change with a specific result, whether any change is incremental, and if so, how.

(2) and (3) offer one example of the sort of data that we will discuss. We observe that simple transitive *cut* and *cortar* ‘cut,’ can both describe not only changes in physical objects but also changes in flow-like activity, for example, traffic. However, *cut* quite generally describes reduction in these latter uses, rather than stopping (unless the particle *off* is added), while *cortar* entails stopping, as shown by the oddness of adding a modifier equivalent to *by n%*.<sup>5</sup>

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3 A similar controversy exists in the literature on idioms (see e.g. McGinnes [2002], Glasbey [2007], Espinal and Mateu [2010] for different positions). We comment briefly on the relation between idioms and the data discussed in this paper in Section 4.

4 We do not rule out that other sorts of grammatically relevant meaning might show this same traceability, but we do not have space to explore this possibility here. We thank an anonymous reviewer for emphasizing the complexity involved in delimiting what constitutes grammatically relevant meaning.

5 English examples are from a local installation of the Corpus of Contemporary American English (flagged ‘COCA,’ Davies [2008], random 5% of text removed by the provider for copyright reasons), the Corpus of Global Web-based English (GloWbE, Davies 2013), or internet searches, as indicated. Spanish examples are from a local installation of the Web/Dialects portion of the Corpus del Español (CdE, Davies 2016, again random 5% removed), a corpus consisting of 250 million tagged, lemmatized words of the Spanish newspaper *El País* between the years 1976 and 2007 (El País), or internet searches. The Appendix lists the URLs for the internet examples. We have used only examples that are identifiably written in Peninsular Spanish or are considered acceptable on the relevant interpretations by speakers of Peninsular Spanish. Unattributed examples have been constructed by us. For compactness we only informally gloss gender, person, number, and tense, except in null subject contexts, where person, number and tense morphology are indicated. We uniformly gloss the morpheme *se* as *se*, avoiding any commitments on the complex issue of its interpretation; other abbreviations follow the Leipzig glossing rules.

- (2) a. *They used a ceremonial sword to cut the cake.*  
(COCA)
- b. *Sergio Ruiz cortó la tarta nupcial*  
Sergio Ruiz cut the cake nuptial  
'Sergio Ruiz cut the wedding cake'  
(El País)
- (3) a. *it could cut traffic congestion (by as much as 90%).*  
(COCA)
- b. *una concentración que cortó el tráfico de la ciudad (??en un 15%)*  
a concentration that cut the traffic of the city in a 15%  
'a demonstration that cut off traffic in the city (??by 15%)'  
(El País)

To the extent that constraints on figurative polysemy such as the inability of *cortar* to express reduction can be attributed to event referential aspects of meaning, it should be possible to use figurative verb senses with confidence as a source of complementary data when disputes arise about those aspects of meaning for a given verb, as Rappaport Hovav did with *drown*.

In making our argument, we must emphasize that we are *not* making an argument for or against Manner/Result Complementarity, and we will not enter into this latter debate or the data in (1) in what follows. However, our findings should inform future debate on this hypothesis and have other theoretical implications as well. For example, we consider them challenging for theories that posit a radical separation of so-called “root” meaning (analogous to Levin and Rappaport Hovav’s “idiosyncratic” meaning) and grammatically relevant, event referential components of lexical meaning, as in Borer (2003) or Mateu and Acedo-Matellán (2012); see Section 4 for more on this point. We hope that tracing in some detail the source and role of event referential aspects of meaning in figurative polysemy will also contribute something that Gibbs (2009: 31) considers essential for Conceptual Metaphor Theory (Lakoff and Johnson 1980), and which is arguably useful for all current theories of figurative language: Data that will inform efforts to “better articulate what empirical hypotheses and experimental predictions arise from more linguistic analyses” of such language.

We proceed as follows. In Section 2 we provide some preliminary comments on how we will approach literal/figurative polysemy. We also describe more specifically how we understand the notion of “grammatically relevant, event referential” meaning and how we expect it to behave. In Section 3 we briefly motivate our comparative approach and present the case studies. Finally, Section 4 highlights some of the broader implications of this work.

## 2 Figurative language use and grammar: some preliminaries

The patterns of figurative language use that we discuss in Section 3 are fairly detailed and specific, and, as noted in the introduction, vary from language to language. As a result, we want to contextualize our approach to the data within a theory of figurative language that can speak to this detail of variation. Conceptual Metaphor Theory, because it focuses on identifying maximally general patterns of metaphorical mapping in human language, is not directly helpful in addressing this richness of detail and variation, although it certainly offers general insights into several of the shared aspects of the figurative language use that we observe (via mappings such as “Processes are movements,” or “Means are paths to destinations,” which fall under the strong version of Lakoff’s (1990) Invariance Hypothesis, on which abstract inferential patterns are claimed to be image-schematic). We therefore turn instead to Bowdle and Gentner’s (2005) “career of metaphor” theory, which offers a strategy for addressing highly specific figurative uses, with the added benefit of suggesting a model for how, over time, such uses lead to the conventionalization of new senses, i.e., figurative polysemy.

According to the career of metaphor theory, metaphor initially involves a comparison-based, analogical mapping from some features in the representation of a *source domain* (where a source domain might be, for example, the concept associated with an action producing a controlled separation in a physical object, which we might describe using *cut*), to that of a *target domain* (for example, the concept of a particular sort of disruption to a flowing movement). Bowdle and Gentner maintain that repeated figurative analogy from a given source to different target domains leads to the formation of a new, more abstract conceptual category shared by the source and targets, and along with this process, the conventionalization of a new, more abstract sense for the metaphorically-used expression.<sup>6</sup> This “career” – from creative figurative extension to the development of a more abstract, conventionalized sense that subsumes the original and extended uses – can be viewed as an account of how metaphorical categories of the sort postulated in categorization-based theories of metaphor (such as Conceptual Metaphor Theory) arise.

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<sup>6</sup> This theory is in principle compatible with different approaches to representing the polysemic expressions, as long as the different senses are somehow related to each other. See, e.g., Vicente and Lossius Falkum 2017 on approaches to polysemy, and Spalek (2014) specifically on verbal polysemy. We refer the reader to Bowdle and Gentner’s paper for a more detailed explanation of the career of metaphor.

The career of metaphor theory can also shed light on why the distinction between ‘literal’ and ‘figurative’ senses can become blurred over time, and sometimes can only be diachronically reconstructed. Fortunately, it is not crucial in what follows for there to be a sharp distinction between these two notions, insofar as we aim to identify aspects of meaning that are consistently traceable across verb senses. Nonetheless, we will continue to employ the terms ‘literal’ and ‘figurative’ for convenience, roughly to describe uses that involve, respectively, physical actions involving concrete participants versus events that involve abstract (e.g., eventive) participants or that intuitively or demonstrably reflect an analogical mapping from an established sense.

Bowdle and Gentner illustrate their theory using nominal predicates; however, it can be applied to verbs as well. In principle, one could expect any aspect of an eventuality described by a verb to potentially serve as the basis for an analogical mapping that will support a figurative use of that verb. This includes features that may be typical of the type of eventuality the verb describes but which are considered outside of the purview of formal – though not conceptual – semantic theories (for example, the pragmatic attention-calling effect of crying out is carried over to examples such as *this cries out for an explanation*). However, it also includes properties of event reference more familiar to formal semanticists, such as whether what is described is a state, an activity, or a change of state; whether a caused event involves a volitional action or not; whether any change is scalar or not, etc. These latter properties – which we refer to hereafter collectively as *event referential aspects (or components) of meaning* – are often, if not always, expressed not by the verb alone, but rather by the verb crucially in conjunction with a given syntax. For example, setting aside cases involving direct pointing at an event in progress, a hearer of a use of *cut* will not know whether it expresses an agentively caused change of state, as in (2), above, or an inchoative change of state involving no agent, as in (4), except by considering the syntactic configuration in which the verb appears.

- (4) *The rope cut on the rock below the ledge before Andrew loaded the belay bolt.*  
(Internet)

In this respect, event referential aspects of meaning are grammatically relevant: The grammar plays a key role in revealing to the hearer the sort of reference associated with any given use of a verb. Of course, grammar does not do this alone: it is the verb, and not the surface syntax, that tells us, for example, that (5a) entails a change of state while (5b) does not.

- (5) a. *It grew.*  
b. *It slept.*

This latter fact highlights a second respect in which event referential aspects of meaning can be considered grammatically relevant: languages vary, within limits but nonetheless somewhat arbitrarily, in how their verb systems impose an individuation on the same (real world) event, much in the same way that languages vary in whether the noun used to describe a given entity is countable or not (consider, for example, uncountable *furniture* in English vs. countable *mueble* in Spanish). Crucially, this variation typically has consequences for the broader behavior of the verb within the language (for example, the alternations in which it participates, or its compatibility with certain sorts of modifiers).

To give just one example of cross-linguistic variation in event reference, Marín and McNally (2011) argue that while in English, the onsets of psychological states tend to be described using verbal expressions whose event reference corresponds to the transition from one state to another (and which are therefore aspectually dynamic, e.g. *get bored*), in Spanish the same situations tend to be described using expressions whose event reference is stative, and which capture the implicit transition by conventionally carrying the added requirement of referring to the initial moment of the state in question (e.g. *aburrirse*). Such subtle differences are not necessarily obvious at first glance, because it may not matter to the hearer for the purposes of recognizing a situation of someone getting bored whether it is categorized as a dynamic transition or as state including its onset. However, cross-linguistic variation in event reference can be detected after careful examination of the behavior of verbs in the context of the entire grammar of a language: Levin and Rappaport Hovav (1995) discussion of English *blush* and Italian *arrossire* versus Dutch *blozen* (drawing on observations in McClure [1990]) offers just one example.

The view of verb meaning sketched here suggests two specific expectations for figurative extension. If the analogical basis for a figurative extension does *not* involve event referential aspects of meaning, but rather involves some other aspect(s) of meaning, such as the stereotypical intended purpose of an action, for example, there should be no reason to conclude anything about the event reference of the figurative use from the literal source. We hypothesize that some idiomatic expressions – particularly partially- or fully-frozen ones such as *to V one's butt off* – constitute relevant examples. Though figurative extensions of this sort lie outside the scope of our discussion, we make some connections to the literature on the behavior of these and other idioms in Section 4. In contrast, if the analogical basis for a figurative extension *does* involve event referential features of meaning, such as those that fall under theories of lexical aspect or scalar semantics, then we should be able to detect those features in the figurative use. Moreover, to the extent that event referential aspects of meaning condition the syntax in which a verb can appear, we expect these conditions on the syntax to carry over from the literal to the figurative uses. Any such differences should be detectable even when other

aspects of the figurative extensions are the same due to similarities in other components of the meanings of the verbs.

While, presented in this way, this expectation may seem obvious, it is not what certain approaches to the verb syntax/semantics interface lead one to expect. For example, consider a theory on which the concepts or frames lexically associated with a verb are treated as distinct from event referential aspects of meaning, as suggested in the early work of Borer (e.g., 2003), in approaches to the verb syntax/semantics interface such as that in Mateu and Acedo-Matellán (2012), or perhaps in certain approaches to Construction Grammar. On such a theory, one could imagine the possibility of a figurative use for a verb that, on the one hand, reflected the conceptual content associated with the literal use, and yet, on the other, ignored event referential aspects of that use, pairing the verb instead with some other plausible syntax and event referential properties independently attested in the language. It is therefore not a trivial expectation that novel figurative uses of a verb should respect the event reference that is conventionally associated with its literal uses, as manifest in interpretive facts and the family of syntactic configurations in which the verb appears.

In the next section we present two case studies that bear out these expectations. Our results, if still incipient insofar as the number of cases we consider is small, offer a clear, theoretically-grounded motivation to consider figurative data, including (1b), (1c), and (3), to be informative for debates over the event referential analysis of their literal counterparts.

### **3 Variation in event reference and its implications for figurative uses**

In order to test the extent to which specifically event referential properties of literal uses of verbs persist in figurative uses, we need to identify pairs (or sets) of verbs for whose literal uses event referential analyses have been independently established and which, in other respects, are as similar semantically as possible. While one might find such pairs within a single language, the natural tendency within any given language to divide linguistic labor among its expressions left us skeptical that good minimal pairs could be found. Examples such as those discussed in Marín and McNally (2011) as well as informal observation on our own part suggested to us that good candidates could be found in translation equivalents in distinct languages.

We began with a small set of candidate pairs of verbs from Spanish and English – languages that have been examined in some detail in the literature on



lexical aspect and the verb syntax/semantics interface, especially since Talmy (1985). Our initial goal was to compare a range of pairs of verbs representing different well-studied categories, particularly verbs of different types of change of state and manner of motion or action. The pairs of verbs were chosen after extensive exploration in both monolingual and bilingual dictionaries, as well as inspection of corpus data, to make sure that they were strongly and consistently associated with each other, both in established reference materials and in the domains of their observed uses. We additionally consulted the IDS database (Key and Comrie 2015), a typological lexical database designed for comparative studies. The pairs discussed here are counterparts in this database.

Eventually, due to space limitations, we have decided to present two case studies: *sweep/barrer* and *cut/cortar*, which are interesting for different reasons. The literal uses of *sweep* and *barrer* have received fairly consistent analyses in the literature, with the former classified as an activity verb and the latter as entailing a result.<sup>7</sup> As will become clear in Section 3.1, this is almost certainly due to the fact that *sweep* and *barrer* have different origins; however, given the potential of *sweep* to combine with resultative phrases, the overlap in the basic types of situations the two verbs are used to refer to is unquestionably substantial enough to support the expectation (confirmed in Section 3.1) that they should give rise to similar analogical extensions. Since language users are not necessarily aware of the history of the words they use, we did not see a strong reason to give more weight to the etymology of the words than to their demonstrated uses when choosing this pair. In sum, in the absence of a clear argument to the contrary, we consider *sweep* and *barrer* a valid pair for comparison.

In contrast, both *cut* and *cortar* have been analyzed as result verbs. However, while the semantics of *cut* has been the subject of some controversy due to the fact that it appears in a considerable variety of syntactic configurations, *cortar* has received little attention other than the accounts in Rodríguez Arrizabalaga (2003) and Spalek (2014), on both of which it is associated with aspectual (effectively, event referential) properties identical to those of *romper* ‘break.’ We show below that the differences between the figurative uses of this latter pair are naturally accounted for on the hypothesis that 1) typical transitive uses of *cut* entail only minimal scalar change, while *cortar* entails maximal scalar change; and 2) for independent reasons, a broader range of syntactic configurations is available to *cut*

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<sup>7</sup> An anonymous reviewer raises the question of why we compare *barrer* with *sweep*, rather than, e.g. *brush*. In response to this question, we note that in the IDS database, *barrer* is matched with *sweep* and no other verb. *Brush* (which is listed in the IDS database only as a noun) has a closer counterpart in *cepillar*, which (as in the case of English) is related to the noun for the instrument used in brushing (*cepillo* ‘brush’). We further note that *barrer*, like *sweep*, is not morphologically related to the prototypical instrument for sweeping: the Spanish word for *broom* is *escoba*.

than to *cortar*, affording the former greater potential to participate in different kinds of event reference. In both case studies we proceed by first discussing the verb's event referential properties when used literally and then illustrate in detail how differences in these properties correspond to contrasts in figurative use.

### 3.1 Activity and resulting change: *sweep* versus *barrer*

We begin with *sweep* and *barrer*. Rappaport Hovav and Levin (1998: 100) describe *sweep* as a verb of “surface contact through motion.” Their analysis focuses on the contact entailments rather than the motion ones, and in this and later work they group it with verbs like *wipe*. They analyze the verb as used in (6) as contributing only ‘manner’ or activity entailments, and not ‘result’ or change entailments, and this analysis, to our knowledge, is not controversial, among other reasons because both intransitively and simple transitively used *sweep*, such as (6a) and (6b), can be followed by a denial of change of state, such as (6c), without contradiction. Note, additionally, that *sweep* cannot occur with a locatum direct complement alone: in the absence of a resultative phrase or particle, (6d) can only be given the reading that the sand is the location over which the sweeping is carried out. However, the locatum *can* be expressed as the direct complement, whose removal is entailed, in the presence of a resultative, as in (6e).

- (6) a. *Patxi swept.*  
 b. *Patxi swept the floor (with a broom).*  
 c. *The floor remained exactly as it was.*  
 d. *#Patxi swept the sand.*  
 e. *Patxi swept the sand away/off the floor/into a pile.*

*Sweep* has an additional, less discussed, use as a verb of planar motion that allows inanimate subjects.<sup>8</sup> This use requires either a location direct complement or path prepositional phrase (contrast (7a)–(7b)); it does not entail any unexpressed agent controlling the movement, and (7b) contrasts with (6b) insofar as the latter does not entail that Patxi moves, although it does entail that something under Patxi's control does. Note, further, that (7a) neither entails nor even implies that any locatum is present. Nonetheless, this motion use parallels that in (6e) in allowing a locatum direct complement in the company of a resultative phrase or particle (7c).

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<sup>8</sup> Note that *sweep* is widely considered to be etymologically related to the motion verb *swoop* (e.g., Skeat 1888). We thank Beth Levin for insisting on the relevance of motion for the semantics of *sweep*.

- (7) a. *The hammock swept (across) the floor.*  
 b. *??The hammock swept.*  
 c. *The hammock swept the dust ??(away).*

Summarizing, evidence in the prior literature indicates that in simple transitive form, *sweep* describes an activity; in this form, only the location participant can be the direct complement. The participant represented as the subject either moves or controls something that moves in planar fashion over the location. When *sweep* combines with a resultative particle or prepositional phrase, the combination describes a change of state; relevantly, this combination allows the locatum to appear as the direct complement argument, change in which is entailed.<sup>9</sup>

In contrast, analyses of simple transitive *barrer*, illustrated in (8), below, quite consistently associate it with change entailments, often simultaneously positing a manner or activity component as well.<sup>10</sup> For example, Auza and Maldonado (2005) classify *barrer* as an *actividad-resultado* ‘activity-result’ verb. They define an activity-result as “un evento homogéneo demarcado por un resultado final” (‘a homogeneous event delimited by an end result,’ p. 255). They contrast *barrer* with verbs like *arreglar* ‘fix,’ which entail a result but not any specific sort of homogeneous activity leading to the result.

Other authors who classify transitive *barrer* as entailing change include Mateu (2005), Agenjo Recuero (2019), Conde Noguero (2013), and París (2015). Agenjo Recuero, in a discussion of the locative alternation in Spanish, places *barrer* among the *verbos alternantes de desplazamiento* (‘alternating verbs of displacement’), which she contrasts with *verbos alternantes de manera de movimiento* (‘alternating verbs of manner of movement’). She characterizes the verb as entailing simultaneous affectation of the location and the locatum, adding that it involves a particular type of contact (Agenjo Recuero 2019: Chapter 6, fn. 14); this latter feature, she hypothesizes, is linked to a more pronounced manner component in its meaning. The simultaneous affectation perhaps explains why *barrer*, unlike *sweep*, has a simple transitive use in which the locatum appears as the direct complement (8b), in addition to the location complement variant in (8a).

- (8) a. *Patxi barrió el suelo (con una escoba).*  
 Patxi swept the floor with a broom  
 ‘Patxi swept the floor with a broom’

<sup>9</sup> Resultatives can also be added when the location is the direct complement (e.g. *Patxi swept the floor clean*). However, these will not play a role in the discussion that follows, so we do not comment further on them here.

<sup>10</sup> The references on Spanish cited here do not address any potential challenges these data might raise for the debate over Manner/Result Complementarity.

- b. *Patxi barrió la arena.*  
 Patxi swept the sand  
 ‘Patxi swept up the sand’

*Barrer* further differs from *sweep* in lacking a use equivalent to that in (7). (9a) is distinctly odd, and the few examples that we have found with e.g. *escoba* ‘broom’ as subject imply some sort of autonomous control (see (9b)).

- (9) a. ??*La hamaca barrió el suelo.*  
 the hammock swept the floor  
 b. *Si usted ve en un sueño que una escoba barre*  
 if you see in a dream that a broom sweeps  
*el suelo por sí mismo...*  
 the floor by itself  
 ‘If you see in a dream that a broom sweeps the floor by itself...’  
 (Internet)

We return below to this contrast with *sweep*, which indicates, in line with Agenjo Recuero’s characterization, that *barrer* lacks a use as a simple verb of manner of movement.

With respect to change of state entailments, *barrer* shows mixed behavior. The verb has a simple intransitive use (10a) which seems difficult to distinguish from its intransitive English counterpart, and native speakers tell us that sentences like (10b), with the location as direct complement, are not contradictory.

- (10) a. *Patxi barrió.*  
 Patxi swept  
 ‘Patxi swept’  
 b. *Patxi barrió el suelo, pero quedó igual*  
 Patxi swept the floor but stay.3SG.PST same  
 ‘Patxi swept the floor, but it remained in the same condition’

We return to the intransitive (10a) when we discuss the figurative uses. With respect to transitive uses, Agenjo Recuero emphasizes that *barrer* patterns with change of state verbs like *limpiar* ‘clean’ and contrasts with activity verbs of contact that are pragmatically associated with removal, such as *frotar* ‘rub,’ in allowing a *de* prepositional phrase describing the result.<sup>11</sup>

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<sup>11</sup> We reproduce the asterisk marking from Agenjo Recuero but assume that the example is anomalous, rather than strictly speaking ungrammatical. The glosses and translations of her examples are provided by us.

- (11) a. *Juan limpió la bola de cristal de huellas.*  
 Juan cleaned the ball of crystal of fingerprints  
 ‘Juan cleaned the crystal ball of fingerprints’  
 (Agenjo Recuero 2019: 252)
- b. \**Juan frotó la bola de cristal de huellas.*  
 Juan rubbed the ball of crystal of fingerprints  
 Intended: Juan rubbed the crystal ball of fingerprints  
 (Agenjo Recuero 2019: 252)
- c. *Patxi barrió el suelo de migas.*  
 Patxi swept the floor of crumbs  
 ‘Patxi swept the floor of crumbs’

Thus, we can conclude that, at the very least, *barrer* has to have a genuine use for reference to entailed changes of state. If change were only implied, but not entailed, we would have no explanation for why (11b) is anomalous, given that *frotar* often implies change. Moreover, when the locatum is the object, change is entailed, as the oddness of (12) shows.

- (12) ??*Patxi barrió la arena, pero la arena quedó allí.*  
 Patxi swept the sand but the sand stayed there  
 ?? ‘Patxi swept up the sand, but it remained there’

We could conceivably conclude that *barrer* is genuinely ambiguous between referring to a change of state and referring to a simple activity. However, we would have to stipulate that this ambiguity holds only when the location is the direct complement, which seems arbitrary. Moreover, the absence of a result entailment in (10b) has an alternative explanation that we consider more plausible, inspired in Martin and Schäfer (2017) analysis of so-called ‘zero-change’ readings of causative verbs.

Martin and Schäfer (2017), among others, have observed that certain ostensibly causative verbs, including English *teach* and a variety of verbs in French, have a reading that does not entail change: (13) (their (2a)) is not a contradiction.

- (13) *Ivan taught me Russian, but I did not learn anything.*

On their analysis, the result state of such verbs appears in the scope of a sublexical necessity modal (see Koenig and Davis [2001] for the notion of *sublexical modality*), whose modal base is restricted to causally successful worlds. Informally put, in all worlds that are causally successful, teaching entails learning, but the possibility of causally unsuccessful worlds is not excluded, in which teaching takes place but learning does not. We will adapt this idea to account for the asymmetry in result

entailment between (10b) and (12), as we spell out below, effectively grouping the behavior of *barrer* with that of other verbs discussed by Martin and Schäfer.

Summarizing, the literature on *barrer* strongly supports analyzing its simple transitive use as describing a change of state specifically focused on the locatum or the location, resulting from a homogeneous activity, although the change is arguably sublexically modalized in the case of the location complement. The verb further contrasts with *sweep* in lacking a use describing a simple movement of the sort illustrated in (7). With this initial description of the two verbs in hand, we quickly present some working referential semantic representations for them, which we will take to our discussion of their figurative uses. These representations are directly inspired in Williams (2015), although he does not analyze these specific verbs.<sup>12</sup>

Williams' analysis of the syntax/semantics for verbs has two distinguishing characteristics. First, he posits highly underspecified Agent and Patient thematic role types, close in spirit, if not identical, to Dowty's (1991) Proto-roles, or the Actor and Undergoer macroroles of Role and Reference Grammar (Van Valin 1999). The Agent role type associated with subject position in English, understood in this sense, subsumes role types attributed to subject position that are distinguished in other literature, such as Instrument or Cause.<sup>13</sup> Williams appeals to pragmatic reasoning to capture many of the observations captured by positing explicit role types in other approaches; for example, world knowledge tells us that a human Agent is likely to have self-control properties that participants assigned the Instrument or Cause role on other analyses do not have, weakening the need to make a hard-coded distinction between Agent and Instrument or Cause associated with subject position (see Williams [2015] for detailed argumentation).

Second, Williams follows Pietroski (2000, 2005) in rejecting "Cause" (however defined more precisely) not only as a thematic role type but also as an event predicate in the analysis of certain English transitive expressions of change of state, *contra* much of the literature on verb syntax/semantics. Rather, such verbs are argued to describe what he calls *processes* that consist of two subevents: a Means and an End.<sup>14</sup> The subject and object arguments are assigned the thematic

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**12** Our choice of Williams' approach is not crucial; however, we found that it facilitates a compact and novel perspective on polysemy and complex event reference, especially in the case of unselected object resultatives, as shown in Section 3.2.

**13** This does not exclude the possibility of morphemes expressing specifically instrumental or causation roles or relations; we take subsumption by the Agent role to apply specifically to subject position.

**14** A similar, essentially mereotopological approach to change of state predicates can also be found in e.g., Pustejovsky (1991). Note that, despite the fact that the term *process* is sometimes used as synonymous with *activity* to describe atelic event types, this is clearly *not* how Williams uses the term.

role types Agent and Patient, respectively, with respect to this process. The characteristics of these arguments that have led some researchers to posit distinct Cause and Theme role types alongside Agent and Patient (e.g., Folli and Harley [2008] via  $v_{DO}$  and  $v_{CAUSE}$ , or Alexiadou et al. [2015] via  $Voice_{AGENT}$  and  $Voice_{CAUSE}$  heads) are claimed to be underspecified and to follow from the specific entailments associated with participating in a process consisting of a Means component and an End component. Williams develops this analysis specifically with resultative constructions in mind; he supports it by observing that there are empirical arguments against positing a distinct causing event, and that the relation between the initial subevent of a process – the Means – and the state that constitutes its End is not always intuitively describable as causing. We refer the reader to his work for additional discussion.

Against this background, our treatment of transitive *sweep* works as follows. Like Levin and Rappaport Hovav (1991), we assign it a simple (activity) event reference, as shown in (14).

$$(14) \quad \lambda y \lambda x \lambda e [\mathbf{Sweep}(e) \wedge \mathbf{Agent}(e, x) \wedge \mathbf{Patient}(e, y)]$$

The detailed lexical entailments of *sweep* must further ensure that the Agent (or something controlled by the Agent) enters into planar contact with the Patient. This will exclude the anomalous reading of *sweep the sand*, as the contact with the locatum in a sweeping event is not necessarily oriented in a planar fashion – for example, when one sweeps away a (standing) bottle, the sweeping instrument is not necessarily oriented in a planar fashion with respect to the locatum.

Since Williams does not distinguish between animate agents and inanimate causes, the entry in (14) can also be extended to account for the sentences in (7a) and (7c). Intransitive *sweep* can be analyzed by simply existentially binding off the **Patient** argument.

$$(15) \quad \lambda x \lambda e \exists y [\mathbf{Sweep}(e) \wedge \mathbf{Agent}(e, x) \wedge \mathbf{Patient}(e, y)]$$

This will not immediately account for why (7b) is infelicitous in contrast to (6a), as there is no reason in principle it should be incompatible with this translation. We tentatively suggest (15) is conventionally restricted to describing the stereotypical sort of sweeping associated with intended cleaning: Fillmore (1986) observed similar sorts of idiosyncratic restrictions on possible senses in other cases of missing complements (e.g., *give* is restricted to describing charitable contribution when one or both of its complements are missing).

(15) is an appropriate candidate to serve as a Means in a description of a complex process like resultative *sweep away*; the resultative predicate contributes

the description of the End subevent.<sup>15</sup> Williams composes Means and End in resultatives with the composition rule **Komp** shown in (16a). This is a conjunction rule that guarantees that the Means described by a predicate whose logical translation is mnemonically represented by **M** in (16a) brings about the change that results in the End described by a predicate whose logical translation is mnemonically represented by **R**, via the introduction of the relation *K*, whose entailments are spelled out in (16b) (see Williams [2015: 315], where he comments that “*K* relates a process  $e_1$  to its end  $e_3$ , and also to an event  $e_2$  by means of which it is achieved”; **Means** and **End** are semantic primitives encoding specific relations between processes and their parts).

- (16) a. **Komp** ( $\lambda x \lambda e [\mathbf{M}(e) \wedge \mathbf{Agent}(e, x)], \lambda y \lambda e' [\mathbf{R}(e') \wedge \mathbf{Patient}(e', y)]$ )  
 $\equiv \lambda y \lambda x \lambda e_1 \exists e_2 \exists e_3 [\mathbf{M}(e_2) \wedge \mathbf{R}(e_3) \wedge K(e_1, e_2, e_3) \wedge \mathbf{Agent}(e_1, x) \wedge \mathbf{Patient}(e_1, y)]$
- b.  $K(e_1, e_2, e_3) \equiv \mathbf{Means}(e_1, e_2) \wedge \mathbf{End}(e_1, e_3)$

Williams’ account of resultatives further assumes two postulates designed to guarantee that the Agent of the process is the Agent of the Means (17a), and the Patient of the process is the Patient of the End (17b).

- (17) a.  $\mathbf{Means}(e_1, e_2) \wedge \mathbf{Agent}(e_1, x) \models \mathbf{Agent}(e_2, x)$   
 b.  $\mathbf{End}(e_1, e_2) \wedge \mathbf{Patient}(e_1, x) \models \mathbf{Patient}(e_2, x)$

(18) provides the representation for *sweep away*, where  $T(\alpha)$  gives the logical representation of  $\alpha$ . Other resultative structures involving *sweep* (e.g. *sweep off*, *sweep out*, *sweep clean*) can be composed in an analogous fashion.

- (18) **Komp** ( $T(\text{sweep}), T(\text{away})$ )  $\equiv \lambda y \lambda x \lambda e_1 \exists e_2 \exists e_3 [\exists z [\mathbf{Sweep}(e_2) \wedge \mathbf{Patient}(e_2, z)] \wedge \mathbf{Away}(e_3) \wedge K(e_1, e_2, e_3) \wedge \mathbf{Agent}(e_1, x) \wedge \mathbf{Patient}(e_1, y)]$

We now turn to *barrer*. We treat transitive *barrer* as encoding lexically the same event reference produced by **Komp** in (18). This representation is the basis for both the locatum- and location-object variants; however, these will have to be minimally differentiated, as the patient of the process is not identical in the two cases. Our proposal appears in (19). We represent the End state using the binary predicate **Barrido**, a subtype of state of removal entailing thoroughness and resembling an effect of friction, which we specify with **Locatum** and **Location** participants.<sup>16</sup> Crucially, distinct variants of **Barrido** can be predicated of the location and the

<sup>15</sup> Alternatively, we could posit an *ad hoc*, undecomposable resultative construction with which verbs like *sweep* could be combined; this aspect of the implementation is not crucial.

<sup>16</sup> Although the specific result state need not actually have been produced by friction, the relevant result entailments are arguably due to the fact that *barrer* derives from Latin *verrere*, which is related to the Proto-Indo-European root \*wers- ‘to drag on the ground.’



locatum, respectively. In addition, the End in the location-object variant is sublexically modalized under  $\Box_\rho$ , where  $\rho$  represents a stereotypical modal base.<sup>17</sup>

- (19) a.  $\lambda y \lambda x \lambda e_1 \exists e_2 \exists e_3 [ [\mathbf{Means}(e_1, e_2) \wedge \mathbf{End}(e_1, e_3) \wedge \exists z [\mathbf{Barrido}(e_3) \wedge \mathbf{Locatum}(e_3, y) \wedge \mathbf{Location}(e_3, z)] \wedge \mathbf{Agent}(e_1, x) \wedge \mathbf{Patient}(e_1, y)] ]$   
 b.  $\lambda y \lambda x \lambda e_1 \exists e_2 [ \mathbf{Means}(e_1, e_2) \wedge \Box_\rho \exists e_3, z [ \mathbf{End}(e_1, e_3) \wedge \mathbf{Barrido}(e_3) \wedge \mathbf{Locatum}(e_3, z) \wedge \mathbf{Location}(e_3, y) ] \wedge \mathbf{Agent}(e_1, x) \wedge \mathbf{Patient}(e_1, y) ]$

Despite the intuition in the literature cited above that *barrer* describes a homogeneous activity ending in the result state, we do not propose to specify the details of the Means because we are not convinced that there is any specific Means involved. It is possible to *barrer* not only with a broom, but also with objects such as one's hand, a mop, a pool cleaner, or a small brush.<sup>18</sup>

- (20) a. *En el caso de los suelos, bastará con barrer con un cepillo o una mopa.*  
 in the case of the floors suffice.3SG.FUT with sweep with a brush or a mop  
 'In the case of floors, it's enough to clean with a brush or a mop' (Internet)
- b. *las partículas en suspensión se juntan y decantan al fondo de la piscina, donde posteriormente las podremos barrer con un limpiafondos.*  
 the particles in suspension SE join and precipitate to.the bottom of the pool where after them can.1PL.FUT sweep with a pool.cleaner  
 'the suspended particles come together and precipitate to the bottom of the pool, where we can then eliminate them with a pool cleaner' (Internet)
- c. *las etiquetas de cartón [...] están cubiertas de un moho negro. Se puede barrer con una simple brocha porque las salas se can.3 SG.PRS sweep with a simple brush because the rooms SE*

<sup>17</sup> In earlier work, Martin and Florian (2012) propose a stereotypical modal base, rather than the causally-effective one they later defend. We consider the former more suitable for the verbs under consideration here, especially given our Cause-free analysis of the verbs, but this is a question that perhaps merits further research.

<sup>18</sup> This said, *barrer* is apparently not compatible with all kinds of contact. Contact in a broadly linear fashion seems to be involved; (20c) cannot describe circular brushing, for example. This could be explained by etymology of the verb mentioned in footnote 16.

*han ido secando y con ellas todo lo que contenían.*  
 have been drying and with them all that that contained  
 ‘the cardboard labels [...] are covered with a black mold. It can be  
 removed with a simple brush because the rooms have dried out over  
 time and with them everything inside’  
 (Internet)

We propose instead to derive implications about the Means from the specification of the End state as a subtype of removal. Further details concerning the incremental nature of the changes involved could be specified, but as these will not be crucial in this section, we will not do so.

Summarizing, the resultative construction affords English speakers the possibility of using *sweep* to express the same sort of process that *barrer* can express on its own. However, the fact that the process is constructed syntactically in English has the consequence that complex process predicates involving *sweep* can be both more specific than their counterparts with *barrer*, due to the fact that different resultative predicates add different End entailments, as well flexible in different ways, since *sweep* by itself does not entail (intended) removal but rather only a (Means of) movement that is compatible with a variety of Ends.<sup>19</sup>

With this basic analysis in hand, we now turn to the figurative uses. We first observe that there are striking parallels in the figurative domains in which the two verbs are used. These parallels point to important similarities in the conceptual information associated with the verbs, which form the basis for analogical extensions in use. However, we expect that, if these extensions also involve event referential aspects of meaning, any differences in event reference between the two verbs should be traceable in the figurative uses. This is indeed what we find.

Consider first the contrast between Spanish and English in the use of these verbs to describe removal in a general way. Since the locatum is what is removed in the literal use (compare (8b)), such examples are possible, as expected, with simple transitive *barrer*. In contrast, in the case of *sweep*, a resultative is required in order to entail removal, as also happens with the literal use (recall (6d)):

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<sup>19</sup> The fact that Spanish does not have the same flexibility in encoding results has been connected to Talmy’s (1985) proposal that Spanish is a “verb-framed” (rather than “satellite-framed”) language. While at a coarse level, this typological classification has some validity, we do not appeal directly to Talmy’s classification here because we need more precise analyses of the syntax/semantics of event reference than he proposed. See, *inter alia*, Beavers et al. 2010; Gehrke 2008; Martínez Vazquez 2015 for specific suggestions for approaching some of the differences between English and Spanish identified by Talmy.

- (21) a. *la coalición rojiverde, formada por los antiguos rebeldes del 68, que barrió la era Kohl.*  
 the coalition red-green, formed by the former rebels of.the 68, that swept the era Kohl  
 ‘the red-green coalition, consisting of the former rebels of 68, which swept ??(away) the Kohl era’  
 (Internet)
- b. *Vendrás a trabajar con vuestros hermanos para preparar esa revolución que barrerá todo vestigio de esclavitud.*  
 come.2PL.FUT to work with your brothers for prepare that revolution that sweep.3SG.FUT all vestige of slavery  
 ‘You’ll come to work with your brothers to prepare that revolution that will sweep ??(away) all vestiges of slavery’  
 (CdE)
- c. *Tools that enable communication do not sweep ??(away) distrust, hatred and prejudice.*  
 (COCA)
- d. *What we really need is a constitutional amendment to sweep ??(away) what the Supreme Court has done.*  
 (COCA)

Note that, although the *sweep* examples in (21) all involve the resultative *away*, other resultatives appear in sentences that entail removal, such as in (22).

- (22) a. *He came into power in 2004 and swept out a lot of old timers.*  
 (COCA)
- b. *He swept off his hat.*  
 (COCA)

While some of the events described by sentences like these could perhaps also be described using *barrer* (e.g., (22a)), others, such as (22b), cannot. *Barrer* is excluded from uses like (22b) because of the differences in the way reference to the removal event is constructed in the two languages. We have argued that *barrer* encodes change resulting from surface contact, while *sweep* merely encodes activity in the form of planar motion (recall (7a)), with any removal entailment resulting from combining the verb with a result state predicate. The fact that *barrer* does not express simple movement over a location (without contact) and that it lexically specifies that its result state should resemble the effect of removal by frictional contact conflicts with the features

of the event described by (22b). *Barrer* is therefore unsuitable for reference to such events.<sup>20</sup>

Interestingly, we have also found cases where the reverse holds, namely that *barrer* can describe removal events that *sweep* cannot, again due to predictable differences in the event reference of the two verbs. Specifically, if the sort of planar motion required by *sweep* is pragmatically excluded, while the sort of result produced via frictional contact implied by *barrer* is not, removal is naturally expressed by *barrer* only. (23) offers an example.

- (23) *Me puse la mano en el bolsillo y barrí*  
 1SG.DAT put.1SG.PST the hand in the pocket and sweep.1SG.PST  
*algunas monedas.*  
 some coins  
 ‘I put my hand in my pocket and ??swept/took out some coins.’  
 (Internet)

*Sweep* is a poor choice to describe the action in (23) because pockets in most cases do not afford room for planar motion; alternative verbs such as *scoop* better describe the pragmatically most likely movement. A related example is found in the absence of counterparts with *swept* (*away/off/etc.*) for certain uses of the participle *barrido*, such as *un tornillo barrido* ‘a stripped/??swept (off) screw’ – one from which the grooves on the head or the threads have been removed.

The contrasts in the event referential characteristics of *sweep* and *barrer* can also explain a nuance of difference in figurative uses of the two verbs in the domain of the passage/effect of meteorological forces. As we have shown (recall (6), (7), and (14)), *sweep* simply entails movement over a location, while *barrer* carries a sublexically modalized entailment of change of state in the location (recall (19b)) – in other words, while exceptions are possible, the process described by *barrer* should produce a change in all stereotypical circumstances. Now consider the

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**20** Unsurprisingly, given these differences in event reference and the considerable productivity of path/result constructions in English, *sweep* has still other figurative uses as an intransitive motion verb that are completely inconceivable with *barrer*, as in (i):

- (i) a. *Forest Service officers swept in to end the stand-off.*  
 (COCA)  
 b. *Finally, I could see and relief swept over me.*  
 (COCA)  
 c. *A polite round of applause swept through the room.*  
 (COCA)

However, we will not discuss these for reasons of space.

following contrast, where the direct complement corresponds to the location in both languages:

- (24) a. *A concert stage collapsed Saturday night as a powerful storm packing severe winds swept the fairgrounds.*  
(COCA)
- b. *The fire erupted Monday about 45 miles southeast of Los Angeles as warm, dry Santa Ana winds swept the region.*  
(COCA)
- c. *La tormenta del año pasado barrió un área de aguas abiertas*  
the storm of.the year past swept an area of waters open  
'Last year's storm swept through an area of open water'  
(CdE)
- d. *Instantes después se desplomó sobre nosotros un furioso mar de espuma que, pasando por sobre el puente, barrió la cubierta*  
foam which, passing over the bridge, swept the covering  
*de proa a popa.*  
from bow to stern  
'Moments later a furious sea of foam descended on us which, passing over the bridge, swept the deck from bow to stern'  
(CdE)

Despite the shared figurative extension of both verbs to describe similar meteorological phenomena in (24), on our account the details of the event reference in these examples are nonetheless fundamentally different: only movement is entailed in English, while removal is entailed in Spanish. We therefore predict that it should be possible to find *sweep* in descriptions of meteorological phenomena where no implication of change in the location is even suggested – for example, when the force behind the movement is weak. In contrast, *barrer* should be odd in contexts where the meteorological force is not pragmatically compatible with potentially producing a removal-like change in the location. This prediction is borne out by contrasts such as the following: (25a) cannot be translated using *barrer* (25b):

- (25) a. *a gentle breeze swept my face.*  
(Internet)
- b. *??una ligera brisa barrió la cara de la chica.*  
a light breeze swept the face of the girl

Another domain of figurative use for *sweep* and *barrer* where some examples look strikingly similar, but where event referential differences also emerge, involves the description of victory (often in sports, elections, or awards):

- (26) a. *estaba dispuesta a barrer los oros.*  
 be.3SG.IPFV prepared to sweep the golds  
 ‘she was prepared to pick up (i.e. win) all the gold medals’  
 (El País)
- b. *When [The Silence of the Lambs] swept the Oscars, the only other movies to win all five major awards were the screwball rom-com It Happened One Night and mental-ward drama One Flew Over the Cuckoo’s Nest.*  
 (COCA)

Note, crucially, the contrasts in (27) and (28).

- (27) a. *[El Madrid] barrió al Maccabi en el Palacio (79–53) y se adelanta 1–0 en la serie.*  
 the Madrid swept to.the Maccabi in the Palace (79–53) and SE advance 1–0 in the series  
 ‘[Madrid] beat Maccabi in the Palace (79–53) and takes a 1-0 lead in the series’  
 (CdE)
- b. *??Madrid swept Maccabi 79–53...*
- c. *To sweep a series at this time of year [...] feels pretty good.*  
 (COCA)
- (28) a. *Indiana, un estado en el que Trump barrió a Clinton por 20 puntos.*  
 Indiana, **a state in the that Trump swept to Clinton by 20 points.**  
 points  
 ‘Indiana, a state in which Trump defeated Clinton by 20 points’  
 (CdE)
- b. *??Trump swept Clinton by 20 points.*
- c. *Bernie Sanders sweeps the weekend’s primaries by huge margins in Alaska, Washington, and Hawaii.*  
 (COCA)

The difference between the acceptability of the (a) examples in (27) and (28) versus the counterpart (b) examples follows given that the defeated opponent in the Spanish examples can be assigned the locatum role, analogous to the direct complement in (8b), and thus corresponds to that which is figuratively removed. This role is not available to this participant with *sweep*, which does not allow locatum direct complements in simple transitive uses. In the (c) examples (as in (26)), the direct complement must be mapped to the location role, which must be a two-dimensional surface, as with its literal counterpart in (6b). The distribution of

a plurality of individual contests (sometimes represented metonymically by the opponent) can be conceived of as determining this surface. The victories themselves then correspond to the understood locatum that is ‘picked up.’ This option is available to *barrer* as well (as is plausibly the case in (26a)), but, as noted, it is not required.

The trace of contrasting event referential features is further visible in an additional contrast in (29): While *barrer* can be used intransitively to describe victory, *sweep* cannot, and indeed, we found no examples of active intransitive *sweep* with this use in COCA.

- (29) a. *Los socialistas barrieron en dos provincias.*  
 the socialists swept in two provinces  
 ‘The Socialists won overwhelmingly in two provinces’  
 (El País)
- b. ??*The Socialists swept.*

We hypothesize that the literal intransitive use on which these examples are based involve suppressing the expression of the direct complement, but that they do not diverge from the transitive uses in the general type of their event reference. If this is correct, intransitive *sweep* only describes a Means with no entailed change – without a resultative phrase it lacks result (End) entailments; in contrast, *barrer* always carries End entailments, if sublexically modalized. (29a) therefore can describe a change while (29b) does not.

We close this section with a final set of event referential contrasts in figurative uses, this time in the domain of looking or searching:

- (30) a. *Now that you know the Hubble classification scheme [...], you can sweep the skies for galaxies and scrutinize them.*  
 (COCA)
- b. *Intenté pillar la cometa [...] pero no tuve éxito*  
 try.1SG.PST catch the comet but not have.1SG.PST success  
*a pesar de barrer el horizonte oeste una y otra vez.*  
 despite sweep the horizon west one and another time  
 ‘I tried to catch the comet [...] but I wasn’t successful despite sweeping the western horizon for it over and over again’  
 (CdE)

These uses of *sweep* and *barrer* always involve the searched location, rather than any searched-for entity, as the direct complement. The obvious analogy involves mapping the searched area to the location and any searched-for object to the locatum. Recall from the literal use that with a location direct complement, neither verb ultimately requires a change in the searched location (cf. (6c) for English and

(10b) for Spanish), if not for the same reason. In this respect, the verbs resemble *search* and its Spanish counterpart *buscar* in allowing for, but not entailing, finding something.

However, we also expect a difference between the two verbs. The event reference we propose for *barrer* always involves a locatum (cf. (19)), even if it is not explicitly mentioned. If the figurative use preserves event referential features, we expect there to always be a counterpart of the locatum in the use of *barrer* to describe searching – namely, a searched-for object – even if any change in it (e.g., being found) is sublexically modalized. In contrast, the event reference of simple transitive *sweep* does not involve a locatum, even if one might be pragmatically inferred (cf. (14)). It should thus be possible for visual sweeping to lack any object of search, while in the case of *barrer*, an object of search should be required, even if it turns out not to be present. This prediction seems to be correct. In English we find examples such as (31), which suggests that the Agent is not looking for anything in particular.

- (31) *His red, unfocused eyes swept the bar and settled on me.*  
(COCA)

Spanish speakers we have consulted tell us that it is odd to describe such events using *barrer*. On the contrary, examples with this verb consistently imply an intended object of search. The examples in (32) are representative.

- (32) a. *barri el lugar con la mirada, buscando a nuestros*  
sweep.1SG.PST the place with the look, searching to our  
*enemigos.*  
enemies  
'I swept the place with my eyes in search of our enemies'  
(Internet)
- b. *cuando escaneamos o hacemos scan de un fragmento, los*  
when scan.1PL.PRS or make.1PL.PRS scan of a fragment the  
*ojos barren el texto de modo sistemático, escrutando*  
eyes sweep.3PL.PRS the text of mode systematic scrutinizing  
*cualquier detalle que responda al propósito.*  
any detail that respond.3SG.SUBJ to the purpose  
'When we scan or make a scan of a fragment, our eyes sweep the text  
systematically, scrutinizing for any detail that could serve our purpose.'  
(Internet)

Summarizing, this case study of *sweep* and *barrer* shows very clearly how two verbs associated with extremely similar conceptual content, as manifest in the similarities in their literal and figurative uses, can nonetheless diverge in ways that can be directly traced to a difference in grammatically relevant, event referential aspects of meaning.



### 3.2 Incremental change: *cut* versus *cortar*

We now turn to *cut* and *cortar*. We begin with the latter, as its analysis is less controversial. Spalek (2014), in line with Rodríguez Arrizabalaga (2003), argues that *cortar* describes a simple change of state without any specification of the activity or manner (or Means, as we call it here) in which it is produced. Though often an agent is pragmatically required (contrast (33a)–(33b)), examples like (33c) show that one is not essential.<sup>21</sup>

- (33) a. *Sergio Ruiz cortó la tarta nupcial.*  
 Sergio Ruiz cut the cake nuptial  
 ‘Sergio Ruiz cut the wedding cake’  
 (El País)
- b. *??La tarta nupcial se cortó.*  
 the cake nuptial SE cut
- c. *nunca el aire es más aire que cuando insufla la piel luminosa*  
 never the air is more aire than when inflates the skin luminous  
*de un cometa. !‘Qué importa si se cortó el hilo!*  
 of a kite what matters if SE cut the string  
 ‘never is the air more itself than when it inflates the luminous skin of a  
 kite. What does it matter if the string snaps?’  
 (CdE)

Simple transitive *cortar* entails complete transection. Neither of the following examples would therefore be true if only an incision was made in the tree, ears or tail.<sup>22</sup>

<sup>21</sup> Both Rodríguez Arrizabalaga and Spalek emphasize the similarities between *cortar* and *romper* ‘break,’ both in syntactic distribution and in the possibility of incremental Patients as in (35), below. We can explain the frequent pragmatic requirement of an Agent with *cortar* under the assumption that, in contrast to *romper*, events described by *cortar* involve a predictable locus of separation (see Majid et al. 2008): An Agent will be required when the predictability of this locus depends on controlled action.

<sup>22</sup> *Cortar* does not entail transection when used with a so-called dative of interest. This is common when the direct complement is a body part, as in (i).

- (i) *¿Por qué te cortó la cara?*  
 Why 2sg.dat cut.3sg.pst the face  
 ‘Why did (s)he cut your face?’  
 (CdE)

If the dative is missing, transection is entailed, as in (34b); to express incision, the alternative *hacer un corte* is available, as in (ii), which describes a step in a technique for making a fake open wound.

- (34) a. *cortó un árbol [...] y en su lugar plantó un pino.*  
 cut.3SG.PST a tree [...] and in its place plant.3SG.PST a pine  
 ‘he cut down a tree [...] and in its place planted a pine’  
 (Internet)
- b. *indultó un toro y cortó cinco orejas y un rabo.*  
 pardon.3SG.PST a bull and cut five ears and a tail  
 ‘he pardoned a bull and cut off five ears and a tail’  
 (CdE)

The transection entailment can be defeated only by an explicit modifier such as *parcialmente*, as in (35); note that in English, the modifier is not only unnecessary, but would even be odd.

- (35) a. *El piloto [...] cortó parcialmente la mano del viandante [...] El*  
 the driver [...] cut partially the hand of.the pedestrian [...] the  
*corte [...] alcanzó el nervio y el hueso de su mano izquierda.*  
 cut [...] reached the nerve and the bone of his hand left  
 ‘The driver cut the pedestrian’s hand [...] The cut [...] reached the nerve  
 and bone of his left hand’  
 (Internet)
- b. *Es tan simple como cortar parcialmente la masa con*  
 be.3SG.PRS so simple as cut partially the dough with  
*unas tijeras y desplazar alternativamente el trozo de masa a*  
 some scissors and displace alternatively the piece of dough to  
*un lado y al otro.*  
 one side and to.the other  
 ‘It’s as simple as cutting the dough with a scissors and bending the  
 pieces of dough to alternating sides’  
 (Internet)

- 
- (ii) *Cuando las capas estén secas, podrás [...] hacer un corte en el papel y*  
 when the layers are dry can.2SG.FUT [...] make a cut in the paper and  
*el látex.*  
 the latex  
 ‘When the layers are dry, you can make a cut in the paper and the latex’  
 (Internet)

As examples with the dative of interest will not figure in our subsequent discussion, we set them aside here.

These examples indicate that if there is incremental progress in the cutting event described by *cortar*, it is measured as a function of the proportion of the patient that is transected.

The analysis of *cut* has a longer and more controversial history. Early studies claimed that the basic syntactic structure for *cut* is transitive (e.g., (36a), Guerssel et al. 1985; Haspelmath 1993). Guerssel et al. (1985) and Levin (1993), among others, supported this claim based on apparent agent-oriented entailments that are incompatible with the inchoative variant (see (36b)).

- (36) a. *They used a ceremonial sword to cut the cake.*  
(COCA)  
b. *??The cake cut.*  
(Levin and Rappaport Hovav 2013: (10))

In contrast, Bohnemeyer (2007), Rappaport Hovav and Levin (2010), and Levin and Rappaport Hovav (2013) have argued, based on examples like (37), that *cut*, like *cortar*, entails a change of state without necessarily specifying the means by which it is produced.

- (37) *Suddenly, the rope cut and he fell down the well.*  
(Levin and Rappaport Hovav 2013: (12d))

Nonetheless, as the contrasts between the Spanish examples and the English renderings in (34)–(35) indicate, *cut*, unlike *cortar*, does not entail full transection, although it is compatible with it (as implied in (36a)), and it is the default interpretation when the cut object is extremely thin or narrow, as with hair, rope, or ribbon.

More important differences between *cortar* and *cut* emerge at the syntactic level, due to the fact that English has a highly productive resultative construction, including what we will refer to as unselected object resultatives, whereas Spanish has a very limited resultative construction, with no unselected object variant (see, e.g., Mateu [2012] for recent discussion; see also Napoli [1992] on Italian, which is very similar to Spanish). Descriptively speaking, both languages allow resultatives to further specify the result state of the cut object, as in (38)–(39).

- (38) *Prep your carrots by cutting them in halves.*  
(COCA)
- (39) *Cortó el arrollado de pollo en finas rodajas.*  
cut.3SG.PST the roll of chicken in fine slices  
'(S)he cut the stuffed chicken roll in thin slices'  
(CdE)

However, only English also has resultatives such as those in (40a)–(40b) (cp. (40c)), where the result phrase describes a state of directionally-oriented detachment from an entity to which the cut participant is originally connected.<sup>23</sup>

- (40) a. *You can always cut off the parts with ‘freezer burn’.*  
(COCA)
- b. *Cut out the child’s adenoids and the trouble will cease.*  
(COCA)
- c. *??cortar las adenoides fuera.*  
cut.INF the adenoids out  
Intended reading: ≡ (40b)

Martínez Vazquez (2015) argues that resultative constructions conveying directional movement are possible in Spanish only when either the verb or the result phrase entails or strongly implies directed motion. She notes that Spanish lacks inherently directional prepositions like *off* or *out*: *fuera* is purely locative. Since we have no evidence of implied directional movement with *cortar*, a resultative interpretation of (40c) is anomalous. Recall from (34b) that simple transitive *cortar* describes this sort of cutting without need for the particle: Transection entails detachment, and any directionality is presumably pragmatically inferred.<sup>24</sup>

In unselected object resultatives, as in (41), the direct complement participant does not suffer the cut at all – in this sense, it is “unselected.” Rather, some contextually understood entity is cut, with the result that the direct complement participant ends up in the state described by the resultative phrase. *Cortar* cannot be used in this way (see (42)).<sup>25</sup>

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**23** Without the particle, sentences like (40a)–(40b) entail mere incision into the cut participant; complete transection, although conceivable, is strongly dispreferred.

- (i) a. *You can always cut the parts with ‘freezer burn’.*  
b. *Cut the child’s adenoids.*

We hypothesize that complete transection is more difficult to infer in these cases than in (36) because the variants with the particles have specialized and compete with particleless variants; note that there is no directly competing alternative to (36a). See also the discussion of the examples in (48), below.

**24** See, e.g., Gehrke (2008), Beavers et al. (2010) for further discussion of the role of lexical inventory in facilitating resultatives with prepositions.

**25** To express (41c) the related verb *recortar* is used.

- (i). *Dibuja una recta, un ángulo, recorta un triángulo.*  
draw.3SG.IMP a line an angle cut.3SG.IMP a triangle  
Draw a line, an angle, cut out a triangle  
(CdE)

- (41) a. *She and two others are accused of taking the dog [...] after cutting it loose from a tree.*  
(COCA)
- b. *one can cut a path into a hollow area in the middle of a [bamboo] grove, creating a peaceful sanctuary.*  
(Internet)
- c. *I cut a hole in the loaf and put the money in.*  
(Internet)
- (42) a. ??*cortaron el perro suelto/libre/del arbol.*  
cut.3PL.PST the dog loose/free/of.the tree
- b. ??*cortar un agujero en el pan.*  
cut.INF a hole in the bread

Our analysis of simple transitive *cortar* and *cut* builds on Williams' (2015: 227) analysis of *melt*, reproduced in (43) with non-crucial details changed. (43) differs from the analyses of *sweep* and *barrer* in introducing no Means subevent entailment:  $e_1$  is the larger event that has an End as a subpart; the postulate in (17b) guarantees that the Patient of  $e_1$  is also the Patient of the End.

- (43)  $\lambda y \lambda x \lambda e_1 [\mathbf{Agent}(e_1, x) \wedge \exists e_2 [\mathbf{End}(e_1, e_2) \wedge \mathbf{Patient}(e_1, y) \wedge \mathbf{Melted}(e_2)]]$

The absence of a Means subevent entailment will be connected to the conclusion of earlier authors that *cut* and *cortar* are simple change of state verbs. Recall that on Williams' analysis the **Agent** role encompasses both nonvolitional and volitional contributors to change; controlled activity will thus be compatible with this sort of event reference when pragmatically appropriate.

The characterization of the result state will be crucial to capturing the similarities and differences between the two verbs. The data we have seen so far, especially in the contrasts in (34), (35), and (40), suggest that incrementality plays a key role. We therefore specify that the relation between the events  $e_1$  denoted by *cut* and *cortar* and the End  $e_2$  is incremental, as defined in (44), from Rothstein (2004: 107–108), with minor edits.<sup>26</sup>

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Morphological derivation can modify event reference just as the addition of a resultative *can*, and the account presented here will make predictions for the patterns of polysemy found with derived verbs, once an analysis of their components is established. However, due to space limitations, we will not discuss examples with these verbs here.

<sup>26</sup> An alternative would be to use a scalar semantics like that proposed in Spalek (2014) for *cortar*, which built on Kennedy and Levin's (2008) analysis of degree achievement verbs; for our purposes the choice is not crucial.

- (44) a. **INCR** ( $e_1, e_2, C(e_2)$ ) (“ $e_1$  is **incrementally related** to  $e_2$  with respect to the incremental chain  $C(e_2)$ ”) iff there is a contextually available one-one function  $\mu$  from  $C(e_2)$  onto the set of parts of  $e_1$  such that for every  $e \in C(e_2)$ ,  $\tau(e) = \tau(\mu(e))$ , where  $\tau(e)$  is the run time of  $e$ .
- b. An **incremental chain**  $C(e)$  is a set of parts of  $e$  such that:
1. the smallest event in  $C(e)$  is the initial bound of  $e$ ;
  2. for every  $e_1, e_2$  in  $C(e)$ ,  $e_1 \sqsubseteq e_2$  or  $e_2 \sqsubseteq e_1$ ;
  3.  $e \in C(e)$

We incorporate the incremental relation into the translations of the verbs in (45). We differentiate *cut* and *cortar* via a scalar difference in their result states: While both entail separation at a predictable locus as a result, which we represent using the English-mnemonic constant **Separated**, the amount of entailed separation will be minimal in the case of *cut*, and maximal in the case of *cortar*, as indicated by the subscripts *min* and *max*, respectively.

- (45) a. *cut*:  $\lambda y \lambda x \lambda e_1 [\mathbf{Agent}(e_1, x) \wedge \exists e_2 [\mathbf{End}(e_1, e_2) \wedge \mathbf{Patient}(e_1, y) \wedge \mathbf{Separated}_{min}(e_2) \wedge \mathbf{INCR}(e_1, e_2, C(e_2))]]]$
- b. *cortar*:  $\lambda y \lambda x \lambda e_1 [\mathbf{Agent}(e_1, x) \wedge \exists e_2 [\mathbf{End}(e_1, e_2) \wedge \mathbf{Patient}(e_1, y) \wedge \mathbf{Separated}_{max}(e_2) \wedge \mathbf{INCR}(e_1, e_2, C(e_2))]]]$

Note that the minimal separation entailment for *cut* is compatible with higher degrees of separation, including complete transection. Similarly, the amount of partial completion of events described by *cortar* will be measured by the amount of incremental change in the state of separation.

To compose resultative phrases that modify the result state, we propose a second **Komp**(osition) rule, **Komp**<sub>End</sub>, related to that in (16a), which can apply to a verb that already entails an End, allowing the resultative phrase to further specify that End, as in (46a).<sup>27</sup> By way of illustration, the representation for *cut out* is shown in (46b).

- (46) a. **Komp**<sub>End</sub> ( $\lambda y \lambda x \lambda e_1 [\mathbf{Agent}(e_1, x) \wedge \exists e_2 [\mathbf{End}(e_1, e_2) \wedge \mathbf{Patient}(e_1, y) \wedge \mathbf{R}_1(e_2)]]$ ),  $\lambda z \lambda e [\mathbf{R}_2(e) \wedge \mathbf{Patient}(e, z)] \equiv$

<sup>27</sup> This rule can thus be viewed as producing what Rapoport (1999) and references cited there call a ‘modified result’ construction. We leave unresolved the issue of how to capture any additional constraints that might be needed on the licensing of specific result phrases, such as the more limited availability of adjectival resultatives in Spanish versus English. We also leave open whether (46a) amounts to a semantics for so-called “weak” resultatives, and (16a), a semantics for “strong” resultatives (see Mateu [2012] for recent discussion and relevant data). For further discussion and analysis of syntactically complex change of state/location constructions, including in a comparative Germanic/Romance perspective, see also Napoli (1992), Gehrke (2008), Beavers (2012, 2012), and references cited in these works.

- $$\lambda y \lambda x \lambda e_1 [\mathbf{Agent}(e_1, x) \wedge \exists e_2 [\mathbf{End}(e_1, e_2) \wedge \mathbf{Patient}(e_1, y) \wedge \mathbf{R}_1(e_2) \wedge \mathbf{R}_2(e_2)]]$$
- b.  $\mathbf{Komp}_{End}(T(cut), T(out)) \equiv \lambda y \lambda x \lambda e_1 [\mathbf{Agent}(e_1, x) \wedge \exists e_2 [\mathbf{End}(e_1, e_2) \wedge \mathbf{Patient}(e_1, y) \wedge \mathbf{Separated}_{min}(e_2) \wedge \mathbf{INCR}(e_1, e_2, C(e_2)) \wedge \mathbf{Out}(e_2)]]]$

This rule yields a description of a change with a complex End state that involves, in this case, the Patient being both separated and out of wherever it was located prior to the onset of the process. The resultative entailment will guarantee that the separation must effectively be maximal.

For unselected object resultatives, we assume that *cut* can also appear in the representation illustrated in (47) for *cut loose*, via the **Komp** rule we used for resultatives with *sweep*. That is, the cutting constitutes the Means by which an End is achieved. Note that just as with *sweep away*, the Patient of the Means is distinct from the Patient of the process as a whole; the latter is entailed by (17b) to be the Patient of the result state **Loose**.

- (47)  $\mathbf{Komp}(T(cut), T(loose)) \equiv \lambda y \lambda x \lambda e_1 \exists e_2 \exists e_3 [\exists z [\mathbf{Agent}(e_2, x) \wedge \exists e_4 [\mathbf{End}(e_2, e_4) \wedge \mathbf{Patient}(e_2, z) \wedge \mathbf{Separated}_{min}(e_4) \wedge \mathbf{INCR}(e_2, e_4, C(e_4))]]] \wedge \mathbf{Loose}(e_3) \wedge K(e_1, e_2, e_3) \wedge \mathbf{Agent}(e_1, x) \wedge \mathbf{Patient}(e_1, y)]$

It is simply a fact about Spanish that the operation in (47), unlike (17b), is unavailable to *cortar*. Whatever the ultimate explanation for this fact, which has been widely debated in the literature growing out of Talmy (1985), the important point for this discussion is that the interaction of the lexicon and syntax affects the range of event reference that verbs can participate in, and a proper characterization of this range should shed light on patterns of variation in event-reference-related figurative uses of those verbs.

With this background, we now consider the figurative uses. As with *sweep* and *barrer*, there are important similarities between the figurative uses of *cut* and *cortar*. Both verbs entail only predictable separation, without any entailment of Means. As there are relatively few restrictions on the nature of entities that can be separated, figurative controlled separation is found with a wide range of entities, including eventualities, information, and amounts. The nature of these entities, in turn, affords little in the way of figurative interpretations beyond interruption, elimination, or reduction. Nonetheless, we also observe consistent differences between the interpretations found with *cut* and *cortar* which are fully expected given the difference in the degree of change they respectively entail.

One figurative use that illustrates the contrast between minimal versus maximal separation in the complement involves events involving the reduction or

stopping of the (possibly metaphorical) flow, supply or movement of homogeneous substances, such as water, electricity, air, traffic, money, or words, as in (48). In these examples, the flow is transected, and since the verbs differ in entailed degree of transection (recall (45)), we find differences in the degree of change in the flow. Specifically, *cortar* entails stopping (i.e., complete transection of the flow), while *cut* entails only reduction (i.e., partial transection of the flow), unless accompanied by *off*.

- (48) a. *Low traffic neighbourhoods are a simple and effective way to cut traffic flow through an area's streets.*  
(Internet)
- b. *Retiran un árbol que cortó el tráfico en el Camiño da Renda.*  
remove a tree that cut the traffic in the Camiño da Renda  
'[The police] remove a tree that cut off traffic on Camiño da Renda'  
(Internet)
- c. *wrapping the hair elastic around her fingers...cutting (off) her circulation.*  
(COCA)
- d. *Estos materiales pueden [...] cortar la circulación de las*  
those materials can [...] cut the circulation of the  
*extremidades originando la muerte de los tejidos.*  
extremities originating the death of the tissues  
'Those materials can [...] cut off circulation in the extremities, causing  
the death of the tissues'  
(CdE)

That said, as with literal cutting, this use of *cut* often implies complete stopping when the figurative distance to be transected is very small, as in (49a), which is most saliently understood as equivalent to *cut off*) and analogous to the examples in (49b).

- (49) a. *the power company cut the electricity at the poles.*  
(COCA)
- b. *Cortaron la electricidad, telefonía e Internet.*  
cut.3PL.PST the electricity telephone and internet  
'They cut off the electricity, telephone and internet service'  
(CdE)

A related figurative domain where the difference in entailed degree of change becomes evident involves complements that denote eventualities; with these, the



progress or continuity of the eventuality can be assimilated to flow.<sup>28</sup> As expected, given the examples in (48), *cut* typically describes reduction of activity unless accompanied by a particle like *off*, while *cortar* describes interruption or cessation, as seen in the contrasts in (50) and (51).<sup>29</sup>

- (50) a. *Carrizo Oil and Gas is cutting activity and deferring some completions.*  
(COCA)
- b. *Francia corta la entrega de etarras.*  
France cuts the delivery of ETA members  
'France cuts ??(off) the extradition of ETA members'  
(El País)
- (51) a. *cut ??(off) [=stop] the conversation/negotiations/activity.*
- b. *cortar la conversación/las negociaciones/la actividad*  
cut the conversation/the negotiations/the activity

Other differences in figurative uses of these verbs are attributable to the event referential potential of *cut* as specifically facilitated by syntactic resources unavailable to *cortar*. We illustrate with two examples. The first involves uses of *cut* to describe reduction in physical volume, which has been extended to reduction in amount more generally. (52) illustrates with information-related objects, such as works of art or literature. *Cut* clearly can describe reduction in amount and, in some cases, is compatible with describing elimination, as in (52a) (which is ambiguous). In contrast, *cortar* describes only elimination.

- (52) a. *we're over budget. We have to cut the scene.*  
(COCA)
- b. *cortaron la escena compartida con Chris Evans.*  
cut.3PL.PST the scene shared with Chris Evans  
'they cut the scene with Chris Evans'  
(CdE)

For the elimination entailment to be unambiguous with *cut*, *out* or similar is required:

<sup>28</sup> The general association of events with the action of flowing is a well-documented metaphor in the Cognitive Linguistics literature (cf. "Flow of Events is Flow of Water" in Lakoff et al. 1991).

<sup>29</sup> To describe reduction in activity, more often than *cut* alone (which can sound odd and is in fact extremely rare in COCA), one finds instead *cut back* or *cut down*. Further research is needed to determine why this is the case; a first hypothesis is that cases where *cut* fails to express reduction are cases where the clearest metaphorical mapping to flow involves time (as opposed to a volume of homogeneous activity by multiple agents), which lacks the appropriate internal structure to support reduction as partial cutting.

- (53) *At least one broadcast version of this movie cut out the scene where Spicoli and his friends open the door to their van and tons of smoke comes out.*  
(Internet)

The use of *cut* to describe a general reduction in amount is illustrated in (54).

- (54) a. *it could cut traffic congestion by as much as 90%.*  
(COCA) (=3a)  
 b. *cutting our deficits by almost three-quarters*  
(COCA)  
 c. *cutting taxes massively for both the middle class and for companies*  
(COCA)  
 d. *We could cut the price by about \$500 per ticket.*  
(COCA)

*Cortar*, at least in Peninsular Spanish, lacks this use. We have already seen that *cortar* rejects amount modifiers equivalent to *by n%* ((55), repeated from (3b)), and in the CdE, no examples of *deficit(s)*, *precio(s)*, or *impuesto(s)* appeared in a collocation search with a four-word window to the right of the verb.<sup>30</sup>

- (55) *una concentración que cortó el tráfico de la ciudad (??en un 15%)*  
 a concentration that cut the traffic of the city in a 15%  
 ‘a demonstration that cut off traffic in the city (??by 15%)’  
(El País)

The elimination entailment with *cortar* is a small pragmatic step from the complete separation of the piece in question, analogous to example (34b). Perhaps less obvious is how *cut* comes to describe reduction in volume or amount in these examples, since partial transection or separation of the objects in question does not obviously lead to this result.

The *Oxford English Dictionary* relates this use of *cut* to the resultative forms *to cut short* and *to cut down* (presumably in the sense of making lower in height) – the use arguably illustrated in (52a). It seems that the association of this sense with simple transitive *cut* came later, and the extension specifically to amounts not

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**30** Only a handful of examples with *precio(s)* appear in other dialects, and in some cases we cannot exclude that the examples are translations from English, indicating that this use is not well-established in other varieties of Spanish, either. In contrast, we did find about 50 examples of *cortar* with *presupuesto(s)* ‘budget(s),’ again almost entirely from non-Peninsular sources. This could be due to the possibility of conceiving of a reduction in budget as arising from the removal (i. e., cutting off) of one or more items from a list, an independently attested use of *cortar* that is consistent with our analysis.

directly related to removal of physical parts dates from the second half of the 19th century. Thus, the reduction sense of *cut* has arisen due to the availability of a resultative construction that specifically describes the result of cutting as making something smaller, a construction not available in Spanish. The hypothesis that the problem with (55) involves the expression of event reference, rather than a deep conceptual difference between *cut* and *cortar*, is supported by the fact that reduction is habitually expressed in Spanish with the morphologically related verbs *recortar* ‘cut back, cut out’ or *acortar* ‘shorten.’

- (56) a. *su coste nos recortaba gran parte del presupuesto.*  
 its costs 1PL.DAT cut.back.3SG.IPVV big part of.the budget  
 ‘its cost was taking away a big part of the budget’  
 (El País)
- b. *El Rey ha decidido recortar en un 7,1% sus ingresos brutos.*  
 the king has decided cut.back in a 7.1% his income gross  
 ‘The King has decided to cut his gross salary by 7.1%’  
 (CdE)
- c. *El Málaga acortó distancias en el minuto 55 con un tanto [de]*  
 The Malaga cut.short distances in the minute 55 with a point of  
*Stadsgaard.*  
 Stadsgaard  
 ‘Malaga cut [the opponent’s] lead in minute 55 with a score [by]  
 Stadsgaard’  
 (CdE)

The second example of a difference in figurative use due to differences in event reference afforded by syntax involves the unselected object construction, shown above in (41). The specific figurative interpretations are analogically related to the literal uses: For example, those with *loose* describe freeing from control or restraint, as in (57).

- (57) *by cutting the banks loose [...] one could expect them to fully return to the markets.*  
 (Internet)

In other cases, the unselected object is the same as on the literal use and the figurative interpretation arises via the result phrase; in such cases (e.g. with *hole*, *niche*, or similar), the sentence entails making a metaphorical version of the unselected object referent.

- (58) *serpents that had long ago cut a niche for themselves in the island’s deranged ecology*  
 (COCA)

Since such resultatives do not exist in Spanish, as illustrated in (42), it is unsurprising that we get nothing like these examples with *cortar*.

- (59) a. ??*cortar la banca suelta*  
           cut. INF the bank loose  
       b. ??*cortar(se) un hueco en el entorno*  
           cut. INF(SE) a hole in the surroundings

*Cut* and *cortar* are extremely frequent verbs, and we have had space to consider only some of the domains of figurative extension. Nonetheless, the data discussed clearly illustrate how the event referential properties of the verbs – whether in simple or more complex syntactic structures – are traceable in these figurative uses.

This concludes our pair of case studies of illustrating how event referential aspects of meaning intervene in the licensing of figurative uses. The patterns of similarity and difference support the claim that figurative uses of verbs are an informative source of data to consider when there is doubt about event referential aspects of verb (and verb phrase) meaning.

## 4 Implications

We now comment briefly on the implications of this work for more general questions concerning verb meaning and grammar.

We begin by returning to idiomatic expressions. We noted in Section 2 that, as we understand the career of metaphor theory, figurative extensions can selectively target specific components of meaning. Thus, our claims concerning the traceability of event reference across literal and figurative uses apply only in cases where the source of figurative analogy includes event referential aspects of meaning. If a figurative extension does *not* involve event reference, we have no reason to expect the event reference in the source to be respected in the same way. This, we suggest, is what happens in partially- or fully-frozen idioms.

Idiomatic uses of verbs are an example of figurative language *par excellence*. However, in contrast to what we have seen in Section 3 (and despite what has been claimed by e.g., McGinnes [2002]), verb-based idioms do not always respect the event reference of the source use. For example, (60), despite involving the resultative particle *off*, describes an atelic event, as incompatibility with the *in X time* modifier shows; the idiom *to V one's butt off* is paraphrasable as 'to V very hard' (see e.g., Espinal and Mateu [2010], Jackendoff [1997], and references cited there).

- (60) *John laughed his butt off all day long/??in ten minutes.*  
 (Espinal and Mateu 2010: (19a))

Interestingly, however, precisely in this sort of case, the relevant parts of the syntax of the idiomatic expression are frozen: (60) cannot be passivized, nor can the direct object be topicalized or otherwise displaced. Gehrke and McNally (2019) note that there seems to be a correlation between the source of the analogy for the idiomatic use and the grammatical flexibility of the idiom: When the analogy has its origins in event referential (including participant role-related) properties of the source description, grammatical flexibility is preserved in the idiomatic use. In contrast, when the analogy underlying the idiom has no relation to any grammatically relevant aspect of meaning, grammatical flexibility seems to be correspondingly reduced, and the part of the construction associated with the idiomatic meaning functions for practical purposes as an undecomposable lexical item. In the case of (60), the idiom presumably originates in an analogy involving the intensity required of an action in order for a body part fall off; however, intense action in general in no way crucially depends on there being a participant corresponding to a body part, nor, therefore, on it experiencing any result. Recognizing a status for grammatically relevant, event referential meaning as distinct from the rest of verb meaning thus can lead to predictions not only for the sorts of figurative uses discussed in Section 3 but also for when we should expect fully or partially frozen idioms. These predictions should be investigated in detail in future research.

Partially- or fully-frozen idioms offer an example of how a verb's surrounding morphosyntax may fail to preserve its typical event reference under certain sorts of figurative uses. We should also note that language offers ample examples in which a verb is used in novel morphosyntax with the goal of associating a type of action, change or state that the verb already describes with a new event reference. To give just one example, the verb *disappear* originally described a spontaneous change of state but eventually was extended to describe a caused version of that change of state. However, what we have *not* found is for a verb to undergo an arbitrary change in morphosyntax and event reference *at the same time* as its use is extended from an existing source domain to a novel domain. For example, even though English has transitive verbs with an event reference ostensibly identical to that of *barr* (consider, for example, *vacuum the dust*), a figurative use of *sweep* involving an analogical extension to a new domain does not seem to be possible by freely associating the verb with an event reference that it was not already associated with. It is all the more striking that this might be the case given that English does afford alternative syntactic structures independently available to the verb on its literal use (e.g. the resultative *sweep away*) to express the same meanings as are expressed by the simple transitive form in Spanish, and that could in principle be

expressed by combining *sweep* with the argument structure associated with *vacuum the dust*. Whether this empirical observation has any counterexamples, and if so, how they have arisen, should be further tested.

This latter observation has implications for the ongoing debate in syntactic theory over how the “root” content associated with verbs should be related to the non-root (also variously referred to as “templatic,” “argument structural,” or “event structural”) content that is manifest in morphosyntax, assuming that these are distinguished (and distinguishable). As recently discussed in Rappaport Hovav (2017), analyses that posit these two kinds of components to verb meaning disagree as to whether they are fully independent of each other, as maintained by e.g., Mateu and Acedo-Matellán (2012), or whether each verb carries some specification constraining its distribution in argument structures (e.g., Alexiadou et al. 2015) or event structures (Rappaport Hovav and Levin 1998). Although our goal has not been to directly address this question, our data are difficult to explain on accounts that treat these two aspects of a verb as fully independent. On such accounts, it is not obvious why the morphosyntactically encoded event referential aspects of meaning associated with the literal use of a verb would have to be preserved when the relevant sort of novel, figurative uses are created.

In addition, our examination of the interaction of grammatically relevant event referential content with content that is not specifically linked to grammar strongly suggests that the former is less malleable than the latter. Whether this asymmetry is due to a fundamental difference in the nature of the meaning contributions of grammar versus a grammar-free root, as suggested by e.g., Borer (2003, 2013) and Carston (2019); or whether grammatically relevant content is simply less specific than the rest of verb content, as suggested by e.g., Goldberg (2010) and Beavers and Koontz-Garboden (2020), and thus perhaps affords fewer possibilities for analogical meaning extension, is another question for future research.

Finally, our study took as its rhetorical starting point a reflection on the sort of argumentation used by Levin and Rappaport Hovav to defend the Manner/Result Complementarity hypothesis. While, as we noted in the introduction, we cannot enter into the debate over this hypothesis here, we can make a few observations. First, our analysis of *sweep* and *barrer* shows clear differences in the respective preservation of Means versus End entailments from literal to figurative uses. *Sweep* consistently places constraints on the manner of figurative movement,<sup>31</sup> while any entailments regarding the result vary according to other lexical material, notably resultative phrases. *Barrer*, in contrast, consistently entails a result across uses,

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<sup>31</sup> This finding seems to conflict with what is reported in Martin et al. (2019) for figurative uses of verbs in German, but we must leave a close comparison of our work and theirs for the future.

even if it is sometimes sublexically modalized, while virtually nothing is entailed concerning the Means subevent, other than that there is one and that it be of the sort that could produce the result. Even though we associated *barrer* lexically with complex event reference, which could be seen as contravening Manner/Result Complementarity, we did not place any specific restrictions on the Means subevent. We take this to be compatible with Rappaport Hovav and Levin's (1998) claim that idiosyncratic material can fill in only one slot in their templatic representations for verbs (e.g., as a modifier of an abstract ACT predicate or as a complement to an abstract BECOME predicate; see their paper for details). In other words, our analysis highlights the fact that there are potentially different ways to concretize Manner/Result Complementarity. It can be viewed as a hypothesis concerning the complexity of the event referents described by a verb, or it can be viewed as a hypothesis about constraints on the lexically-specified association of idiosyncratic descriptive content with those event referents or their parts (which might be complex). Our reading of the recent literature is that Manner/Result Complementarity has been interpreted implicitly or explicitly in both ways. Future debate concerning the hypothesis should be careful to control for the two ways of understanding it.

Second, the case study in Section 3.2 showed that *cut* and *cortar* consistently entail a result in both literal and figurative uses, while no Means or manner component was posited for either verb, even for *cut* as used in the unselected object resultative in English. This is interesting for two reasons. First, we were able to analyze the unselected object use of *cut* without positing a second, "manner" sense for the verb (cp. the suggestion in Levin and Rappaport Hovav [2013: fn. 7]). This analysis was possible because nothing under the assumptions made by Williams (2015) prevents a change of state involving one Patient from constituting the Means component of a process by which another change of state is produced in another Patient. That is, Means is not identical to "manner." We consider this a benefit of Williams' approach to resultatives, and we conjecture that it might be fruitfully applied to certain other unselected object and related constructions. Second, our analysis has highlighted the potential for figurative uses to help distinguish manner and result *entailments* from pragmatic manner and result *inferences*, the latter of which may come and go depending on the specific eventualities described by the verb.

## 5 Conclusions

In spite of all that has been written on the semantics of verbs in the formal linguistics literature, literal/figurative polysemy has received comparatively little

attention. We have shown how deeply diving into the figurative uses of counterpart verbs in different languages can uncover regularities in grammatically relevant aspects of event reference across literal and figurative uses and yields new and, in some cases, quite nuanced, insights into verb meaning. In addition, by showing how event referential characteristics are preserved across figurative polysemy, our study has also opened the door to a more principled way of accounting for figurative data that are not currently explained by theories that focus exclusively on highly general conceptual metaphors or similar notions.

Our study reveals that a grammatically relevant component of meaning – specifically, event reference – both constrains and facilitates figurative uses of verbs, and that cross-linguistic comparison can shed light on the articulation between grammar and conceptual content. We hope that the results not only contribute to informing theories of the syntax/semantics interface but also encourage further approximation between approaches to meaning that focus on reference and those that are cognitively- or conceptually-oriented.

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## Appendix

Sources of examples from internet searches:

(4): [https://www.ukclimbing.com/forums/rock\\_talk/tragic\\_bolt\\_failures\\_in\\_australia-340474](https://www.ukclimbing.com/forums/rock_talk/tragic_bolt_failures_in_australia-340474)



- (9b): <https://enciclopediadesueños.com/escoba/>
- (20a): [https://elpais.com/elpais/2020/03/19/icon\\_design/1584623301\\_517766.html](https://elpais.com/elpais/2020/03/19/icon_design/1584623301_517766.html)
- (20b): <http://www.tuverano.com/blog/2018/08/mantenimiento-de-una-piscina-pequena-sin-depuradora.html>
- (20c): <https://proyectodosceronueve.weebly.com/11-a-12-de-enero-de-2018.html>
- (21a): <https://www.elmundo.es/elmundo/2005/11/22/internacional/1132637579.html>
- (23): <http://www.elsentidodelavida.com/2012/09/tras-el-decorado.html>
- (25a): <https://imglade.com/media/2041490648197277828>
- (32a): Sergio López Juncos, *La otra cara de la moneda*, Editorial Altera, 2015
- (32b): Daniel Cassany, *Laboratorio lector: Para entender la lectura*, Editorial Anagrama, 2019
- Footnote 22, (ii): <https://es.wikihow.com/hacer-una-herida-de-mentira>
- (34a): <http://www.arbolesymedioambiente.es/abeto.html>
- (35a): [https://www.lavozdeg Galicia.es/noticia/galicia/2004/06/03/juzgan-hombre-ataco-catana-pelea-trafico/0003\\_2737932.htm](https://www.lavozdeg Galicia.es/noticia/galicia/2004/06/03/juzgan-hombre-ataco-catana-pelea-trafico/0003_2737932.htm)
- (35b): <http://enharinate.blogspot.com/2012/01/trenza-de-pan.html>
- (41b): <http://bamboogarden.com/Grove%20thinning.htm>
- (41c): [http://www.emmitsburgchronicles.com/wp-content/uploads/2018/09/CR\\_19410131.pdf](http://www.emmitsburgchronicles.com/wp-content/uploads/2018/09/CR_19410131.pdf)
- (48a): <https://www.bcpcouncil.gov.uk/news-article.aspx?title=new-cycling-and-walking-measures-to-be-introduced-at-victoria-park-road>
- (48b): <https://www.farodevigo.es/pontevedra/2019/09/23/retiran-arbol-corto-trafico-camino-15553260.html>
- (53): <https://www.imdb.com/title/tt0083929/alternateversions>
- (57): <https://www.thisismoney.co.uk/money/article-2007352/ALEX-BRUMMER-Free-bank-shares-plan-bright-idea-wrong.html>

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