Completed Cakes

Experimental evidence for a property-sensitive conceptual-semantic analysis of [complete] & [finish] in the "coercion" configuration

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A B S T R A C T

Agentive aspectual verb constructions — like *Sam finished the book* — and psychological verb constructions — like *Sam enjoyed the book* — have a non-alignment between their syntactic and conceptual/semantic structure: some event is encoded in the semantics, yet none appears to be morphosyntactically encoded. Recent evidence (Katsika, Argyro, Braze, Deo & Piñango (2012), Lai, Lacadie, Constable, Deo & Piñango (in press)) show a separation in processing cost between aspectual and psychological verb constructions — aspectual verbs exhibit a processing cost (they are more time-consuming to process) while psychological verbs do not. Piñango & Deo (2015) expound on these findings and offer a semantic analysis of aspectual verbs that separates them from psychological verbs, using two core notions: 1) a axis, namely a one-dimension, directed path structure; and 2) a structured individual complement. Their semantics, however, describe the truth conditions for agentive aspectual verb constructions with regards to only whether a sub-event (performed by the agent on a part of the complement) has occurred at a particular position along an eventive axis established by a contextually salient macroscopic event occurring to the complement. Therefore, all aspectual verbs denoting the same point along the eventive axis (say, end-point-denoting) structure are described as having the same truth conditions. As a result, one would expect the all end-point-denoting aspectual verbs to be equally acceptable in all end-point-supporting contexts. However the following phenomenon, which contradicts this conclusion, is investigated using a Likert scale survey testing acceptability ratings of sentences differing minimally in their use of *complete/finish* and *context* in agentive aspectual verb constructions:

1.		Sam *finished* the cake.	Contextually salient event occurring to the cake: eating
2.	#	Sam *completed* the cake.	Contextually salient event occurring to the cake: eating
3.		Sam *finished* the cake.	Contextually salient event occurring to the cake: baking
4.		Sam *completed* the cake.	Contextually salient event occurring to the cake: baking

The paper will present an experimental procedure and its results that support an analysis which delineates a semantic and conceptual difference between *complete* and *finish,* namely that *complete* additionally presupposes that an event be performed on the complement that continually increases its degree of wholeness and that the complement be whole upon the agent performing the final sub-event. This analysis makes the following experimental predictions, which are supported by the data:

P1) [finish] will be acceptable in all end-point supporting contexts;
P2) [complete] will be acceptable a subset of those contexts where:
      i. the contextually salient event is increasing the "wholeness" of the object, and
      ii. the object is "whole" at the end-point.

1. Introduction

1.1   Overview of the phenomenon

Consider sentences (1)–(4):

     (1)   Sam *finished* the cake.

     (2)   Sam *began* the cake.

     (3)   Sam *started* the cake.

     (4)   Sam *completed* the cake.

The verbs in italics are called, in the literature, *aspectual verbs* (Lai, Lacadie, Constable, Deo & Piñango (in press), Piñango & Deo (2015)). Aspectual verbs (AspV), when they take an entity denoting complement — as opposed to an event-denoting complement like *eating* in "*Sam finished eating*" — can be interpreted as entailing information about an event where the subject (Sam) is taken to be an *agent* performing some activity on the complement — such as below:

     (1)   Sam *finished* the cake.

               Sam *finished* eating/baking/… the cake.

This interpretation is called the *agentive reading* of AspV constructions (Lai et al. (in press), Piñango & Deo (2015)). It is crucial to note that the activity (*eating, baking, …)* is not morphosyntactically present within the sentence.

     There is an additional reading of AspV constructions, where the subject is not interpreted as an *agent* performing some activity on the complement. Instead, when the subject is taken to be a constituent of the complement, such as in 6 — paraphrased from Lai et al. (in press) — we get the *constitutive reading* of AspV constructions:

     (6)   The chapter *began* the book.

               The chapter was the initial subpart of the book.

     Therefore, the interpreted role of the subject, either as an agent acting on, or as a constituent of the complement determines whether an agentive or constitutive reading is obtained.[1]

     This paper will focus only on the *agentive reading* of AspV constructions. Therefore, any theory discussed involving AspV constructions will primarily focus mainly on how that theory pertains to the agentive reading.

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[1] It is important to note that sentences like (1) can also be interpreted as constitutive, given sufficient context. For example, if "Sam" were some figurine of the groom for a wedding cake, and "Sam" was the final (and quite necessary part) of the cake, then a constitutive reading of (1) can be obtained. In this way, there is an ambiguity between the agentive and constitutive reading of AspV constructions, which is discussed more in detail in Lai et al. (in press) and Piñango & Deo (2015).

1.2   Neurological and processing-cost based evidence for a linguistic separation between PsychV & AspV

Agentive AspV constructions appear, on the surface, very similar to psychological verb (PsychV) constructions like (7). PsychV constructions, like (7), seem to contain information about some activity involving the complement (eating, etc.) that is not morphosyntactically present in the sentence.

(7)   Sam enjoyed the cake.

          Sam enjoyed *eating/…* the cake.

It is for the similarity between sentences like (1) and (7) that agentive AspV constructions that lead linguists to consider them members of the umbrella class of "complement coercive" constructions (Jackendoff (1997), McElree, Traxler, Pickering, Seely & Jackendoff (2001), Pustejovsky (1991, 1995)).

In the analysis of complement coercive constructions set forth first by Jackendoff (1997) and later supported by McElree , Traxler, Pickering, Seely & Jackendoff (2001), the complement of (1) and (7), *the cake,* is reinterpreted as an event *involving the cake*, with the structure of (1b):

(1)   [Sam [finished [the cake]]]

          reinterpreted as:

(1b)   [Sam [finished [*eating/… the cake*]]]

In other words, the *complement* is *coerced* into a metonymic reinterpretation; it is for this reason that these sentences were named *complement coercive* constructions.

In data presented in McElree et al. (2001), sentences like (1) are shown to be costly to process; the reason set forth by the paper is that *complement coercive* sentences must take an event or an *event-denoting complement* as their object. However, *the cake* is not an event-*denoting complement*; it is merely a cake, an *entity*. Therefore, due to type-mismatch, direct processing of the sentence fails and an additional event of changing the type of *the cake* from an *entity-denoting complement* to some *event-denoting complement* takes place; this failure and type-shifting event accounts for the costly processing:

(1)   Sam finished the cake.   *type-shifted event-denoting complement*: eating/… the cake

However, this explanation through type-shifting is shown through an eye-tracking experiment in Katsika, Argyro, Braze, Deo & Piñango (2012), to be an insufficient account of *complement coercion* due to disparities in behavior during processing between PsychV and AspV — namely AspV sentences took longer to read than PsychV. In combination with data and analysis presented by Lai, Lacadie, Constable, Deo & Piñango (in press), it is shown that only *aspectual verbs* — those like [complete], [finish], [started], etc. — not *psychological verbs* —like [enjoyed] —

exhibit the processing cost shown in McElree et al. (2001). Furthermore, Lai et al. (in press) shows distinctly different neurological patterns of activation for AspV (with internal similarities between constitutive and agentive readings of AspV) from PsychV.

Given the complement coercion analyses of Jackendoff (1997) and McElree et al. (2001), both AspV and PsychV constructions would be expected to have equal processing costs due to the identical events of reanalysis of the complement. However, given the disparity in processing cost and neurological activation between AspV and PsychV, a new linguistic explanation that differentiates between the two is required. Therefore the linguistic analysis proposed by complement coercion (1b) — which supports a uniform classification of these verbs as *complement coercive* — is strongly un-supported. However, linguistic analysis which proposes a structure like (1a) is strongly supported:

(1a)   [Sam [finished (*eating)* [the cake]]] Process: encoded in *verb*

If the event is encoded in the verb, then the change between psychological verbs like [enjoyed] or [savored] and aspectual verbs like [complete] or [finish] could be due to a difference in the way an event is encoded within the verb. In other words, something about the way AspV select and encode events within themselves is different linguistically, neurologically, and in terms of processing than PsychV. This is the analysis set forth by Piñango & Deo (2015).

Note that due to the evidence provided here, PsychV will be considered linguistically, conceptually, and neurologically different from AspV. Therefore, PsychV will no longer be discussed in this paper: the focus of this paper will be AspV, namely *agentive* AspV constructions.

1.3   Piñango & Deo (2015): the structured individual analysis of agentive AspV

Piñango & Deo (2015) set forth a new semantic framework, grounded in cognition, that accounts for the experimental data for a separate linguistics for PsychV and AspV; it incorporates the structural analysis seen in (1a). In their analysis of agentive readings of AspV, the paper builds off of the core intuition of the *type-shifting* hypothesis; that some event is occurring to the complement of the AspV. However, unlike the *type-shifting* hypothesis, Piñango & Deo (2015) argue that the entity-denoting complements in agentive AspV constructions are not *replaced* by an *event-denoting complement*.

Let's return to (1) and place it in a context that supports an agentive reading, to build intuition to how Piñango & Deo (2015)'s analysis is constructed:

(1)   Sam finished the cake

Context: She got a birthday cake for her birthday. She ate the whole thing!

Piñango & Deo (2015) propose that *finished* selects for a *structured individual* complement. This complement, similar to Krifka (1992:98)'s incremental theme, is an individual conceptualized as the set of its parts.

However, in the agentive reading, the set of parts to be used by the verb are determined by the event occurring to the complement. This event is selected for by the AspV and largely determined by context (but restricted by the properties of the complement).[2] In this case, due to context, the contextually salient event occurring to the cake is one of *eating*. Therefore, the structured individual *the cake* is processed by means of the event *eating* to be a set of *bites of cake*.
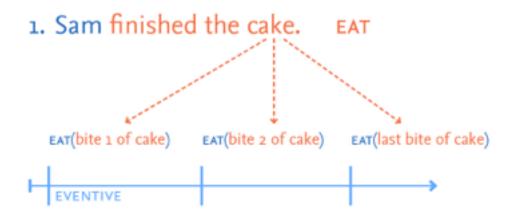
(1)   Sam finished the cake

Context: Sam got a birthday cake for her birthday. She ate the whole thing!
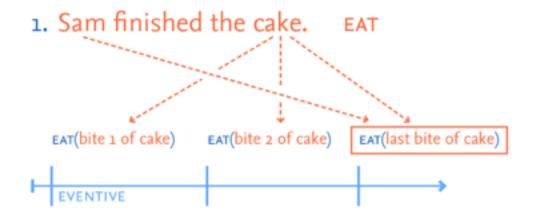*Event:*   Eating
Complement: The cake
Structure: {bite 1, bite 2, bite 3, …, bite k}

The AspV finish then selects a homomorphic function which maps the discrete parts of *the cake* along an axis (a directed path structure, or DPS) with an eventive dimension (also selected for by the verb) in the order established by the eating event — more specifically, the function maps parts of the cake to discrete subevents of eating which are ordered along an eventive dimension.

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[2] For example, a difficult interpretation for an event involving *the cake* would be a reading or writing event. However, given a strong enough context these events could be successfully obtained. For example, say Sam is writing a brochure about a famous bakery that makes one type of pie and one type of cake. He was writing a beautiful description regarding the cake. He wrote the final sentence of the description and smiled. He had *finished* the cake, now all that was left was the pie.

Given the cake is broken up into parts with regards to the event determined by context (is a structured individual with respects to the eating event) and that it is mapped along an eventive DPS with regards to event determined by context, *finish* then maps John, by a separate function, to the position of the smallest, final sub-event, in the macroscopic eating event.

(1) is true iff John is an agent performing the final sub-event in the eventive dimension.

This description of the semantic processing of (1) can be more rigorously described by Piñango & Deo (2015)'s generalized formal semantics for end-point denoting AspVs (like *finish*, *complete*, and *end*), below:[3]

$$[[\text{AspV}_{\text{end-point denoting}}]] = \lambda x_\tau \, \lambda y_\sigma : \text{structured-ind}_{fc}(x). \, \exists f'[f'(y) <_{\text{small–fin}} f_c(x)]$$

AspV$_{\text{end-point denoting}}$(x)(y) is defined iff x is a structured individual with respect to the contextually determined function f_c. If defined, AspV$_{\text{end-point denoting}}$(x)(y) is true iff there is some function f′ (possibly identical to f) such that f′(y) is a 'small' final subpart of f_c(x).

In Piñango & Deo (2015)'s analysis for agentive AspV constructions, f_c and f′ are homomorphic functions that are *inverse thematic functions*. These are defined as functions that map individuals and times to the smallest event that the individual bears its thematic role at that time, in a given context;[4] f_c maps the structured individual to the smallest event in which it is the *theme*, and f′ maps the subjects to the smallest event in which it is the *agent*.

Crucially, Piñango & Deo (2015)'s semantics capture the structure set forth in (1a); the complement selected for by the aspectual verb is one that is *entity-denoting*. However, the verb also selects for an event from context to which the structured individual is mapped by means of its parts by the function f_c. With this interpretation, Piñango and Deo (2015) show that it is not, therefore, the responsibility of the complement to shift its type (type-shifting

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[3] Note that this semantic analysis holds for both the agentive and constitutive reading. Please refer to Piñango & Deo (2015) or Lai et al. (in press) for how the homomorphic functions can be defined along dimensions in the constitutive reading.

[4] Paraphrased from Piñango & Deo (2015)

hypothesis), instead, the aspectual verb must break up the complement and choose a direction/order by which to map its complement onto the DPS; these choices of how to break up the complement and which direction/order to map the complement is determined by the encoded event.

Furthermore, the entailed content being evaluated for truth is simply whether the agent performs some sub-event to the complement at some critical position along the eventive axis. For end-point denoting AspV's (like *finish, complete,* and *end*), this is the final subpart of the event. For start-point denoting AspV's (like *start* and *began*), this is the initial subpart of the event, and for medial-point denoting AspV's (like *continue*), this is some medial (non-final or non-initial) subpart of the event.
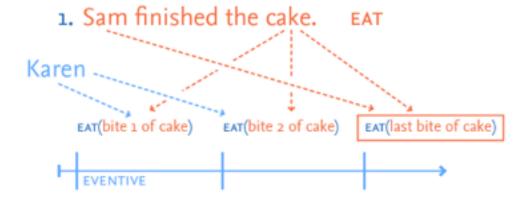
$$[[AspV_{\text{start-point denoting}}]] = \lambda x_\tau \, \lambda y_\sigma : \text{structured-ind}_{fc}(x). \, \exists f' [f'(y) <_{\text{small–initial}} f_c(x)]$$

AspV$_{\text{start-point denoting}}$(x)(y) is defined iff x is a structured individual with respect to the contextually determined function f_c. If defined, AspV$_{\text{start-point denoting}}$(x)(y) is true iff there is some function f' (possibly identical to f) such that f'(y) is a 'small' initial subpart of f_c(x).

$$[[AspV_{\text{medial-point denoting}}]] = \lambda x_\tau \, \lambda y_\sigma : \text{structured-ind}_{fc}(x). \, \exists f' [f'(y) <_{\text{small–medial}} f_c(x)]$$

AspV$_{\text{medial-point denoting}}$(x)(y) is defined iff x is a structured individual with respect to the contextually determined function f_c. If defined, AspV$_{\text{medial-point denoting}}$(x)(y) is true iff there is some function f' (possibly identical to f) such that f'(y) is a 'small' medial (non-initial and non-final) subpart of f_c(x).

With this semantics, an agentive interpretation of *finish(x)(y)* would allow for a different agent to perform sub-events prior to the final sub-event — in the example of *Sam finished the cake* where the contextually salient event is one of eating, *Karen* could eat the first few bites of cake, but the sentence holds true if Sam eats the last bite of cake.

1.4   Using context to determine f_c and f'

The semantic analysis above presupposes an event, from which we derive f_c and f'. While these events are morphosyntactically-absent, we are very much aware of them and are required to select for one in order to use agentive AspV constructions. However, when stated outside of context, the precise event involving the cake is highly ambiguous. However, when we place the sentence in a context like (A), the contextually-salient event becomes specified:

Context: *A French pastry chef (Sam) has been working for hours on a triple layer chocolate cake. Finally, after putting the final decorations on the cake, Sam declares the cake ready to serve.*

(1)   Sam finished the cake.   event: *baking*

In (1), we interpret the chef (Sam) as performing some final act of a *baking* event on the cake. It is crucial to note, however, that while some event involving cake is semantically presupposed by the AspV *finished*, the specific *baking* event is simply *contextually-salient* — or strongly implied by context. Based on context, f_c is taken to be some macroscopic baking event, and f' is taken to be the placement of the final decorations on the cake.

Now let's put (1) in a different context:

Context: *Sam got a birthday cake for her birthday. She ate the whole thing!*

(1)   Sam finished the cake (and wiped his mouth)   event: *eating*

In (1), we now interpret the Sam as performing some final act of an *eating* event on the cake. Based on context, f_c is taken to be some macroscopic eating event, and f' is taken to be the eating of the last bite of cake.

In the two examples above, we noticed that change of *context* resulted in different interpretations of different events, when we stuck *the same sentence* in that context. Therefore, context directly effects the interpreted event. We can therefore conclude that agentive AspV constructions, in different contexts, can be interpreted as encoding different contextually-salient events.

The semantics set forth by Piñango & Deo (2015), however, simply presuppose an event from which f_c and f' are derived — there are no restrictions on the types of events that agentive AspVs can select for. Furthermore, the semantics entail only that the agent subject has performed some sub-event at a critical position along the eventive axis. This means, given the broad semantics set for by Piñango & Deo (2015) that all end-point denoting AspVs (like *finish, end* and *complete*) should be semantically equivalent. They should be able to be used to describe the same events, and therefore be able to be used in the same contexts, given that those contexts support a reading where the subject is performing some final sub-event of some macroscopic contextually-salient event. However, as presented in the next section, this conclusion is shown not true, by appealing to different domains of acceptable contexts for the end-point denoting AspVs *finish* and *complete*.

1.5   Presentation of experimental phenomenon

Given the generalized semantics for AspVs in Piñango & Deo (2015), *complete* and *finish* are semantically equivalent, since they are both end-point denoting aspectual verbs. As a result, they should be perfectly interchangeable. More specifically, the distributions of contexts in which they are considered acceptable should be identical. However, as seen in the examples below, the acceptable-context distributions (and therefore acceptable presupposed macroscopic event distributions) of *complete* and *finish* differ significantly:

Context 1.1:

A French pastry chef (Sam) has been working for hours on a triple layer chocolate cake. Finally, after putting the final decorations on the cake, Sam declares the cake ready to serve.

(a)   Sam finished the cake   *event supplied by context* = baking
(b)   Sam completed the cake   *event supplied by context* = baking

Context 1.2:

Sam loves cake. She got a birthday cake for her birthday. She ate the whole thing!

(c)   Sam finished the cake   *event supplied by context* = eating
(d)   Sam completed the cake   #   *event supplied by context* = eating

Context 2.1:

After months of work, Sam, a famous author, wrote the last, beautiful sentence of her 500 page novel. She is done, at last!

(e)   Sam finished the book   *event supplied by context* = writing
(f)   Sam completed the book   *event supplied by context* = writing

Context 2.2:

Sam, a student has just read all of "A Tale of Two Cities" for class.

(g)   Sam finished the book   *event supplied by context* = reading
(h)   Sam completed the book   #   *event supplied by context* = reading

Context 3.1:

> Sam is a contractor and he is building a new bathroom in a house. He tears down all the walls, and puts up new drywall. He then installs all the new fixtures and tiles the floor and wall. He then tests the plumbing, and declares the bathroom ready for use! His work is done!

(i)	Sam finished the bathroom	*event supplied by context* = building
(j)	Sam completed the bathroom	*event supplied by context* = building

Context 3.2:

> Sam is cleaning his bathroom. He wipes down the floor and walls. He then uses bleach to clean the shower and toilet. He washes down the sink and mirror. Done, he washes his hands and does something better with his day.

(k)	Sam finished the bathroom		*event supplied by context* = cleaning
(l)	Sam completed the bathroom	#	*event supplied by context* = cleaning

Therefore, we can conclude with reasonable certainty that the semantic analysis of end-point denoting aspectual verbs in Piñango & Deo (2015) requires adjustment to account for the difference in acceptable contexts, and as a result, acceptable presupposed macroscopic events.

In light of the examples and conclusion above, the question of investigation for the experiment performed and discussed in the following section is:

(Q)   *Is there a pattern to the different acceptable presupposed events for agentive* complete *and* finish, *and is there a corresponding semantic analysis that accounts for these differences?*

However, this question is inherently difficult to investigate scientifically. Therefore, the question must be re-worded in order to better prompt investigation. Summarizing the conclusion above, we know that the presupposed event, often the contextually-salient event, for agentive aspectual verb constructions changes based on context. Therefore, if *only certain types of events* are able to be presupposed with a verb, then we would expect sentences to be acceptable only in those contexts that result in interpretations of that type of event:

(Qb)   *Is there a pattern to the different acceptable contexts for agentive* complete *and* finish*, and is there a corresponding semantic analysis that accounts for these differences?*

Given (Qb), we can now more thoroughly structure an experiment that *measures and compares acceptability of sentences in specific contexts.*

2. Experiment contrasting acceptable contexts for [complete] and [finish]

2.1   Presentation of experimental phenomenon[5]

Let's return to the following quadruples:

(a)	Sam finished the cake		*event supplied by context* = baking
(b)	Sam completed the cake		*event supplied by context* = baking
(c)	Sam finished the cake		*event supplied by context* = eating
(d)	Sam completed the cake	#	*event supplied by context* = eating
(e)	Sam finished the book		*event supplied by context* = writing
(f)	Sam completed the book		*event supplied by context* = writing
(g)	Sam finished the book		*event supplied by context* = reading
(h)	Sam completed the book	#	*event supplied by context* = reading
(i)	Sam finished the bathroom		*event supplied by context* = building
(j)	Sam completed the bathroom		*event supplied by context* = building
(k)	Sam finished the bathroom		*event supplied by context* = cleaning
(l)	Sam completed the bathroom	#	*event supplied by context* = cleaning

As the data in this study (discussed extensively in the RESULTS section of this paper) show, *finish* is almost always universally acceptable in end-point-denoting agentive AspV constructions. However, as seen in both the data in this study and the sentences above, *complete* has a more restricted domain than *finish*. This immediately offers preliminary evidence for the fact that *complete* and *finish* do not have identical semantics, nor identical conceptualizations.

Therefore, the primary goal of this experiment is to provide evidence for the fact that these self-generated examples (a-l) follow a strict pattern and that they do, in fact, follow a corresponding pattern of acceptability (depending on context) when presented to a large set of subjects, which matches my own intuitions. To conclude from my own intuitions would be largely insufficient, and would not truly show the magnitude of difference between *complete's* and *finish's* domains of acceptable use.

2.2   Overview of study

As a result, the experiment herein investigates the acceptability of sentence —that differ minimally in their use of *complete* and *finish* — based on context. Since *acceptability* is the primary metric of the experiment, a Likert scale survey was used where subjects were asked to rate sentences' acceptabilities on a scale from 1–5, where 5 was acceptable and 1 was unacceptable. The details of the experimental method will be discussed further in the sections below.

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[5] Note that only the experiment herein deals specifically with the agentive reading of AspV constructions.

2.3   Hypothesized analysis

Let us return to the semantics set forth by Piñango & Deo (2015). The proposed analysis here hypothesizes that *finish* has identical semantics to those given to end-point denoting AspV by Piñango & Deo (2015):

$$[[\text{finish}]] = \lambda x_\tau \, \lambda y_\sigma : \text{structured-ind}_{fc}(x). \, \exists f'[f'(y) <_{\text{small-fin}} f_c(x)]$$

finish(x)(y) is defined iff x is a structured individual with respect to the contextually determined function f_c. If defined, finish(x)(y) is true iff there is some function f′ (possibly identical to f) such that f′(y) is a 'small' final subpart of $f_c(x)$.

The semantics above for *finish* has both presupposed and entailed content; let's separate these and define them more clearly for *agentive finish*, as their distinction will prove highly important for the hypothesized analysis of *complete:*

finish(x)(y)   in the agentive reading

Presupposes:
x is a structured individual with respect to a contextually-determined macroscopic event.

Entails:
a 'small' final subpart of the event (taking x as its complement) is instantiated, and y performs it.

In analyzing the different acceptable events for *completed*, we see 2 requirements for *complete* to be acceptable. First, upon instantiation of the final sub-event (performed by y), x must be *whole*. By *whole*, I mean that the degree to which the structured individual is a *whole* object — i.e. has all of its necessary parts, in the proper arrangement — reaches or exceeds some contextual standard for *whole*-ness, determined by context. Therefore, a scale of degrees in which *whole*-ness (as opposed to degree of *separation into parts*) is crucially considered in constructions where *complete* is acceptable. In (b), *the cake* is brought-about (baked) as a *whole* cake at the end of the eventuality; in (f) *the book* is brought-about (written) as a *whole* book at the end of the eventuality; in (j) *the bathroom* is brought-about (built) as a *whole* bathroom at the end of the eventuality. If we were to evaluate a sentence like (m) in context, we would find (m) unacceptable based solely on the fact that the complement is not *whole* upon instantiation of the final sub-event:

Context: *Sam was working on homework. She answered 12 of the 13 problems and decided she was done. She gets up and leaves.*

(m)   #Sam *completed* the homework   event: *filling out*

Therefore, whereas *finish* only Entails that y performs some final sub-event on x, *complete* Entails the *additional content* that x is *whole* upon instantiation of that final sub-event.[6]

As seen in (h & l), even though *the bathroom* and *the book* are whole upon instantiation of the final sub-event of the *cleaning* and *reading* events, use of *complete* is still semantically anomalous. This clarifies the second key difference in the semantics of *complete*. When we look at the acceptable uses of *complete*, it is in contexts where the contextually salient event is one that critically leads to the increasing *whole*-ness of the structured individual complement. In the unacceptable contexts the complement is either destroyed or left mereologically unaffected by the event. Therefore, the hypothesized analysis of *complete* also requires additional content regarding the presupposed event selected from context — namely, the event must be one that increases the wholeness of the structured individual complement. Therefore, in broader terms, the proposed, adjusted semantics for agentive *complete* is as follows:

> *complete(x)(y)   in the agentive reading*
>
> *Presupposes:*
> x is a structured individual with respect to a contextually-determined macroscopic event, increasing degrees of wholeness for x.
>
> *Entails:*
> a 'small' final subpart of the event (taking x as its complement) is instantiated, y performs it, and x is whole upon instantiation of that subinterval.

In the formal semantics set forth by Piñango & Deo (2015), care must be given to properly describe how we can track a change in property of *wholeness* for the complement. In this case we need the scale to be degrees of wholeness *for the complement* to which changes occur due to the occurrence of discrete subevents of the macroscopic event.

This can be modeled as a degree axis of wholeness with dense units of increasing *degrees* to which the complement, *x*, can be considered whole. There must exist a homomorphic mapping function g_{deg_whole} which maps the subevents in the eventive dimension established by f_c to the degree axis of increasing degrees of wholeness (for the structured individual complement) *while maintaining the precedence relation* between the subevents in the eventive dimension. This must be the case in order to guarantee that the event is processed as *increasing degrees of wholeness* as it progresses through its subevents.

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[6] The example in (m) is interesting in that the same sentence using *finished* can either be acceptable or unacceptable in the same context, depending on speaker. This issue will be discussed more fully in the conclusion of this paper, as it offers great insight into how a more uniform semantics of *finish* may actually be more like *complete* than hypothesized here.

event_{fc}:   <sub-event1, sub-event2, …, sub-eventk>

$g_{deg\_whole}(\text{event}_{fc})$: <$g_{deg\_whole}$(sub-event1), g_{deg_whole}(sub-event2), …, g_{deg_whole}(sub-eventk)>

Therefore, using the broader semantic description of complete(x)(y) above, we can formalize the semantics of agentive *complete* as follows:

$$[[\text{complete}]] = \lambda x_\tau \, \lambda y_\sigma : \text{structured-ind}_{fc}(x) \, \& \, [\forall e', e'' \in \text{event}_{fc} : e' < e'' \text{ iff } g_{deg\_whole}(e') < g_{deg\_whole}(e')].$$

$$\exists f' [[f'(y) <_{small-fin} f_c(x)] \, \& \, [g_{deg\_whole}(f'(y)) \geq CS_{whole}]]$$

> complete(x)(y) is defined iff x is a structured individual with respect to the contextually determined function f_c — the elements of the eventive axis to which f_c must be mapped by g_{deg_whole} to an axis of dense degrees of increasing wholeness with respect to x in a way such that the precedence relational structure of the event axis is maintained by the mapping by g_{deg_whole}. If defined, complete(x)(y) is true iff there is some function f′ (possibly identical to f) such that f′(y) is a 'small' final subpart of $f_c(x)$ and the degree of wholeness for x to which f′(y) is mapped to by g_{deg_whole} exceeds some contextual standard for wholeness.

It is imperative to note that this semantics for [[complete]] is one that looks for an *eventive* dimension to map to the degree dimension — this proves problematic for the constitutive readings of *complete*. Therefore this semantic analysis for [[complete]] is really one for [[complete_{agentive}]]. The solution is fairly straightforward; instead of selecting for the event progressing along the eventive dimension, described by f_c, the broader semantics for [[complete]] would select for the axial, ordered set created by f_c along some dimension determined by context (temporal, spatial, eventive, informational, …). For the sake of this study — which deals *only with the agentive reading of complete* — we will keep f_c specified to the eventive dimension (as written above).

Therefore, since the function *finish*(x)(y) will remain as written by Piñango & Deo, but *complete*(x)(y) will contain additional restrictions on both the macroscopic event presupposed by the AspV and the mereological properties of the object up instantiation of the final sub-interval of that event, we would expect the domains of acceptable use of *finish* to be a super-set of those for *complete*. More specifically, from this hypothesized semantics, the following predictions, in terms of context and acceptability, can be extended:

(P1)   [finish] will be acceptable in all end-point supporting contexts

(P2)   [complete] will be acceptable a subset of those contexts where:

   i.   The contextually-salient event is increasing the "wholeness" of the object

   ii.   The object is "whole" at the end-point

2.4   Methods

2.4.1   Subjects

46 subjects were tested, all native speakers of American English, aged 18–30. 16 males were tested and 30 females were tested.

2.4.2   Materials

The survey was constructed as a 2x2 comparison: two identical sentences except for the *aspectual verb —completed* and *finished —* were tested for acceptability (on a 1–5 Likert scale) in two contexts — *making-whole context* and *not-making-whole context.* Therefore questions generated were in sets of 4:

[complete] in *making-whole* context	[complete] in *not-making-whole* context
[finish] in *making-whole* context	[finish] in *not-making-whole* context

The set up for each acceptability judgement task had a context — kept constant across context pairs in the quadruples — and a target sentence being judged for acceptability — kept constant (to a degree, as will be discussed below) across quadruples (except for the changing verb) — as seen below:

Consider the following context:

Context would go here.
"Subject [finished/completed] Object."

How acceptable is the sentence above on the scale from 1 to 5 below?

i.   **Sentence construction**

The sentences tested for acceptability were constructed as follows, with *finish* and *complete* in the past tense.

SUBJECT [completed/finished] OBJECT.

As seen below in the *Sample Quartet* section, within each question quartet, object was kept constant.[7] Sentences' subjects were changed between a quartet's contexts to enforce the interpreted event denoted by the aspectual verb. In cases where the sentence's subject was not crucial to the interpretation of the sentence, the subject was changed to avoid the appearance of repetition within the survey. The subject, however, remains both singular and agentive in all sentences. For each the quartet, the only change evaluated within the sentence is the change in *aspectual verb*.

ii.   **Context**

As stated above, two *contexts* were created for each target sentence pair. The *making-whole* context was one in which the contextually-salient event was one that increased the degrees of wholeness of the structured individual object, and where the object was whole upon instantiation of the end point. Therefore, the context supports an interpretation where the aspectual verb denotes an event which leads up to and yields, at its endpoint, the making whole of its structured individual object.

The *not-making-whole* context was one in which the object's making whole is not crucial to or mutually exclusive with the interpretation of the sentence. Therefore, the context does not support an interpretation where the aspectual verb denotes an event which builds up to and then yields, at its endpoint, the making whole of its structured individual object.[8]

As seen below, within each question quartet, *making-whole* context and *not-making-whole* context were kept constant. Furthermore, given the nature of [complete] and [finish], which are end-point denoting aspectual verbs, *all* contexts supported an end-of-event interpretation.

_____

[7] In some cases the object is changed slightly to a more formal synonym. As shown by the slightly lower acceptability ratings of *completed* in the data in a pilot study, aspectual verb structures using *completed* seem to be slightly marked in discourse — this is most likely due to the register (particularly the formality) of the word *complete*. Therefore, particular care must be taken in order to prevent a subject's acceptability judgement from being swayed because of a mismatch of formality/register between the context and target sentence. These changes address these concerns with formality/register.

[8] Note: in some not-making-whole contexts, the object was still whole at the final sub-event.

iii.   Sample quartet

[complete] in *making-whole* context	[complete] in *not-making-whole* context
Consider the following context:	Consider the following context:
A French pastry chef has been working for hours on a triple layer chocolate cake. Finally, after putting the final decorations on the cake, the chef declares the cake ready to serve.	Clara loves cake. She gets a birthday cake for her birthday. She ate the whole thing.
"The chef completed the cake." _____	"Clara completed the cake." _____
object: cake made whole: yes process: baking whole @ end: yes	object: cake made whole: no process: eating whole @ end: no
[finish] in *making-whole* context	[finish] in *not-making-whole* context
Consider the following context:	Consider the following context:
A French pastry chef has been working for hours on a triple layer chocolate cake. Finally, after putting the final decorations on the cake, the chef declares the cake ready to serve.	Clara loves cake. She gets a birthday cake for her birthday. She ate the whole thing.
"The chef finished the cake." _____	"Clara finished the cake." _____
object: cake made whole: yes process: baking whole @ end: yes	object: cake made whole: no process: eating whole @ end: no

iv.   **Total number of sentences/events & quartets**

A total of 15 sentences were distributed across question quartets; as a result there were 15 sentence pairs —1 with [complete] as its *aspectual verb,* and 1 with [finish] as its *aspectual verb* — which were then each tested in two contexts — 1 *Making-whole,* and 1 *Not-Making-whole*. Therefore the total number of questions tested was 15x2x2 = 60. The table below lists all sentences tested, and the *event* interpreted by *context* (see Appendix for *contexts)*:

COMPLETE IN making-whole CONTEXT	COMPLETE IN not-making-whole CONTEXT
The chef **completed** the cake | Event supplied by context: BAKING	Clara **completed** the cake | Event supplied by context: EATING
The author **completed** the novel | Event supplied by context: WRITING	The student **completed** the book | Event supplied by context: READING
You **completed** the survey | Event supplied by context: FILLING OUT	You **completed** the survey | Event supplied by context: WRITING-UP
The student **completed** the movie | Event supplied by context: FILMMAKING	Kevin **completed** the movie | Event supplied by context: WATCHING
Steve **completed** the drink | Event supplied by context: CONCOCTING	Henry **completed** the drink | Event supplied by context: DRINKING
Lexi **completed** the song | Event supplied by context: RECORD-/MAKING MP3	Harry **completed** the song | Event supplied by context: LISTENING TO
Carrie **completed** the milk carton | Event supplied by context: PAINTING	Kristy **completed** the milk carton | Event supplied by context: EMPTYING
DRAW: The child **completed** the card | Event supplied by context: DRAWING	Fred **completed** the card | Event supplied by context: READING
Romy **completed** the bookshelf | Event supplied by context: BUILDING	Thomas **completed** the bookshelf | Event supplied by context: DUSTING
The engineer **completed** the left hand | Event supplied by context: ASSEMBLING	Paul **completed** the left hand | Event supplied by context: MANICURING
Hank **completed** the bathroom | Event supplied by context: CONSTRUCTING	Tyler **completed** the bathroom | Event supplied by context: CLEANING
Mozart **completed** the symphony | Event supplied by context: COMPOSING	The orchestra **completed** the symphony | Event supplied by context: PERFORMING
Paula **completed** the cigar | Event supplied by context: ROLLING	Paula **completed** the cigar | Event supplied by context: SMOKING
The weaver **completed** the blanket | Event supplied by context: WEAVING	Pat **completed** the blanket | Event supplied by context: DRY-CLEANING

FINISH IN making-whole CONTEXT	FINISH IN not-making-whole CONTEXT
The chef **finished** the cake | Event supplied by context: BAKING	Clara **finished** the cake | Event supplied by context: EATING
The author **finished** the novel | Event supplied by context: WRITING	The student **finished** the book | Event supplied by context: READING
You **finished** the survey | Event supplied by context: FILLING OUT	You **finished** the survey | Event supplied by context: WRITING-UP
The student **finished** the movie | Event supplied by context: FILMMAKING	Kevin **finished** the movie | Event supplied by context: WATCHING
Steve **finished** the drink | Event supplied by context: CONCOCTING	Henry **finished** the drink | Event supplied by context: DRINKING
Lexi **finished** the song | Event supplied by context: RECORD-/MAKING MP3	Harry **finished** the song | Event supplied by context: LISTENING TO
Carrie **finished** the milk carton | Event supplied by context: PAINTING	Kristy **finished** the milk carton | Event supplied by context: EMPTYING
DRAW: The child **finished** the card | Event supplied by context: DRAWING	Fred **finished** the card | Event supplied by context: READING
Romy **finished** the bookshelf | Event supplied by context: BUILDING	Thomas **finished** the bookshelf | Event supplied by context: DUSTING
The engineer **finished** the left hand | Event supplied by context: ASSEMBLING	Paul **finished** the left hand | Event supplied by context: MANICURING
Hank **finished** the bathroom | Event supplied by context: CONSTRUCTING	Tyler **finished** the bathroom | Event supplied by context: CLEANING
Mozart **finished** the symphony | Event supplied by context: COMPOSING	The orchestra **finished** the symphony | Event supplied by context: PERFORMING
Paula **finished** the cigar | Event supplied by context: ROLLING	Paula **finished** the cigar | Event supplied by context: SMOKING
The weaver **finished** the blanket | Event supplied by context: WEAVING	Pat **finished** the blanket | Event supplied by context: DRY-CLEANING

Sets of filler questions (see Appendix) were included which used [complete] and [finish] in other sentence constructions. As a result, subjects took the survey in an "aspectual soup."[9] This choice was intentional. A pilot study showed an initial hesitation of subjects towards using some constructions with complete due mainly to the unfamiliarity of the constructions in every day speech. However, subjects, when inquired about their thoughts on the pilot survey stated that they saw structures using complete in supporting contexts as perfectly acceptable semantically. The purpose of this "aspectual soup" was therefore to eliminate some detrimental statistical noise created by surface-level discomfort/lack of practice with the use of semantically-acceptable *complete* structures.

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[9] Term coined by Maria M. Piñango during my preliminary finding presentation.

2.4.3   Procedure

i.   **Software used & configuration**

The test was conducted in Yale Qualtrics. The 60 target questions with along with the filler questions were randomized and presented one at a time, with only one question on the test page at a time. Subjects were asked to rate the sentences on a Likert scale from 1 to 5 (see next section for full description of scale):

Sample of question interface

Once a subject had answered a question they could move onto the next question.

Before the target and filler questions were presented, the subject was given a brief introduction to the survey and the Likert scale used to rate the sentences:

In the following survey, you will be asked to evaluate sentences' acceptabilities, in given contexts, on the scale from 1 to 5 below:

1: I would never say this sentence, and I would never hear anyone say this sentence.
2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means.
3: I would most likely not say this sentence, although I could have heard it said.
4: I could say this sentence, and I could have heard it said.
5: I would say this sentence, and I would hear it said.

No question will be repeated, although some sentences will have identical or similar contexts.

The final sentence was added due to results in prior, pilot studies where subjects reported thinking that members of question quartets were simply repeats of other members of that quartet encountered earlier in the study. Therefore,

subjects were alerted to the fact that they should evaluate each sentence/context based solely on the information in front of them, not in way that attempts to correct for some repetition error in the survey. Subjects were asked for their *sex* (*male* or *female)* prior to beginning the survey.

ii.   Likert scale used

       The Likert scale used is one that tests for both comprehension and production. Subjects are asked to judge sentences acceptabilities based on both their likelihood of producing the sentence, as well as the likelihood of hearing the sentence produced by another speaker and understanding what that speaker meant by that sentence (comprehension).

       Furthermore the combination of assessing based on production and likelihood of hearing another speaker's production (*hear it said*) avoids a dependence on only the individual subject's biases: they may not like a construction or use it (because they are used to another), but they could envision hearing someone else say it. This mitigates issues of register in evaluating [complete] (which is more formal), and [finish] which is less formal.

       The Likert scale is as follows:

1: I would never say this sentence, and I would never hear anyone say this sentence.

2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means.

3: I would most likely not say this sentence, although I could have heard it said.

4: I could say this sentence, and I could have heard it said.

5: I would say this sentence, and I would hear it said.

Therefore, a rating of 4–5 would be an "acceptable" reading, a rating of 1–2 would be an "unacceptable" reading, and a rating of 3 would be marginally acceptable reading.

2.4.4   Predictions

Let's restate the predictions on acceptability extended from the theoretical hypothesis for the semantics of [complete] and [finish]:

(P1)   [finish] will be acceptable in all end-point supporting contexts

(P2)   [complete] will be acceptable a subset of those contexts where:
     i.   the contextually salient event is increasing the "wholeness" of the object
     ii.   The object is "whole" at the end-point

From (P1) and (P2) we can predict the following pattern in acceptability on the Likert scale from (1–5) discussed above (green signifies a numerical value — 4–5 — corresponding to "acceptable" on the Likert scale, whereas red signifies a numerical value — 1–2 — corresponding to "not acceptable" on the Likert scale):

[complete] in *making-whole* context	[complete] in *not-making-whole* context
[finish] in *making-whole* context	[finish] in *not-making-whole* context

2.5   Results

Two sets of issues with the data set were addressed. The first issue concerns Questions (30 – 33) ([complete]/ [finish] *the card*): the question quartet ([complete] in *Making-whole*, [finish] *Making-whole*, [complete] in *Not-Making-whole,* and [finish] in *not-making-whole*), had an error in the forced-choice structure in its fourth question ([finish] in *not-making-whole*). Qualtrics had added two additional options (blank) before the Likert scale; as a result, the data collected was out of 7, rather than 5. Some participants had chosen Option 2 (now an empty option — not on the Likert scale), meaning that correcting for this error would not be possible. Therefore, since comparison tests would be run, the data for this set of 4 questions was removed before data analysis. The second issue was that on 3 separate questions (with a different subject each time), a subject left their answer blank; the data was left as is, and the non-existent values of the data in these 3 spots was not factored into calculations.

All the data analysis below account for these adjustments. Items and Subject analyses were run to determine the type of statistical analysis required to determine the what effects in the data were statistically significant.

2.5.1   Items Analysis

Table 1.   *Items Analysis for Making-whole Context*

	COMPLETE in Making-whole		FINISH in MAKING WHOLE	
	Mean	SD	Mean	SD
Making-whole CONTEXT				
BAKE: The chef **completed/finished** the cake	4.11	1.12	4.43	0.72
WRITE: The author **completed/finished** the novel	4.54	0.81	4.57	0.81
FILL OUT: You **completed/finished** the survey	4.87	0.62	4.85	0.56
PRODUCE: The student **completed/finished** the movie	4.07	0.98	4.24	0.99
MIX/MAKE: Steve **completed/finished** the drink	3.43	1.19	3.09	1.24
RECORD: Lexi **completed/finished** the song	4.13	0.86	4.43	0.93
PAINT (RENDER): Carrie **completed/finished** the milk carton	3.41	1.24	3.65	1.23
DRAW: The child **completed/finished** the card	4.09	0.84	4.63	0.68
MAKE: Romy **completed/finished** the bookshelf	4.30	0.84	4.65	0.60
ASSEMBLE: The engineer **completed/finished** the left hand	4.33	0.84	4.37	0.80
CONSTRUCT: Hank **completed/finished** the bathroom	4.22	0.96	4.57	0.69
COMPOSE: Mozart **completed/finished** the symphony	4.39	0.88	4.76	0.48
ROLL: Paula **completed/finished** the cigar	3.37	1.32	3.89	1.16
WEAVE: The weaver **completed/finished** the blanket	4.17	0.90	4.72	0.50
CONCOCT: The wizard **completed/finished** the potion	4.02	1.13	4.35	0.82

Table 2.   *Items Analysis for Not-Making-whole Context*

Not-Making-whole CONTEXT	COMPLETE in NOT-Making-whole		FINISH in NOT-Making-whole	
	Mean	SD	Mean	SD
EAT: Clara **completed/finished** the cake	2.02	0.93	4.87	0.40
READ: The student **completed/finished** the book	3.63	1.10	4.96	0.21
WRITE-UP: You **completed/finished** the survey	4.07	1.12	4.39	0.91
WATCH: Kevin **completed/finished** the movie	2.78	1.11	4.78	0.59
DRINK: Henry **completed/finished** the drink	2.13	0.98	4.83	0.49
LISTEN TO: Harry **completed/finished** the song	2.46	0.89	4.26	1.06
EMPTY: Kristy **completed/finished** the milk carton	1.85	0.73	4.27	1.16
READ: Fred **completed/finished** the card	2.43	1.15	QUESTION ERROR	QUESTION ERROR
DUST: Thomas **completed/finished** the bookshelf	2.63	1.25	3.02	1.45
MANICURE: Paul **completed/finished** the left hand	3.35	1.23	4.30	0.99
CLEAN: Tyler **completed/finished** the bathroom	2.65	1.12	3.74	1.16
PERFORM: Orchestra **completed/finished** the symphony	3.20	0.98	4.33	0.76
SMOKE: Paula **completed/finished** the cigar	2.24	1.04	4.48	0.94
DRY-CLEAN: Pat **completed/finished** the blanket	2.37	1.16	3.50	1.22

i.   Brief Discussion of Qualitative Observations in Items Analysis

In Tables (1–2), the data for Questions (30 – 33) (in orange) were included in order to help with qualitative trend analysis. This was the only time when this data was considered.

As seen in the Items Analysis, several problematic observations are observed. First, for several of the question quartets, like the one using "[complete]/[finish] *the drink,*" the acceptability ratings are, in general, lower than that of the other judgements in the data set:

[complete] in *making-whole*:   mean = 3.43, SD = 1.19;

[finish] in *making-whole*:   mean = 3.09, SD = 1.24;

[complete] in *not-making-whole*:   mean = 2.13, SD = 0.98;

[finish] in *not-making-whole*:   mean = 4.83, SD = 0.49;

However, as seen with [finish] in *not-making-whole,* sometimes a single question can have a much higher (or lower) mean acceptability rating with a much narrower SD than the general qualitative trends seen in the data:[complete] in *Making-whole* and [finish] in both contexts are roughly the same (acceptable), and [complete] in *Not-Making-whole* much less acceptable.

Therefore, the data analysis chosen, must account for: 1) consistent variation in a quartet's acceptability ratings; and 2) inconsistent (random) variation of average acceptability ratings at the level of the single question. However, it must also allow for variation due to the presence of *variables* like *aspectual verb* and *context.*
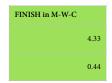
2.5.2   Subject Analysis

	COMPLETE in M-W-C		FINISH in M-W-C		COMPLETE in N-M-W-C		FINISH in N-M-W-C	
SUBJECT NO.	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
1	3.64	1.01	3.71	0.91	2.21	0.58	3.64	1.08
2	4.86	0.36	4.86	0.36	2.50	0.65	4.86	0.36
3	3.29	0.99	3.43	1.02	1.93	0.62	3.43	1.40
4	4.71	0.47	4.86	0.36	3.57	1.22	4.79	0.43
5	4.00	1.04	4.71	0.61	2.86	1.23	4.64	0.84
6	4.79	0.58	4.36	1.01	2.43	0.51	4.29	1.14
7	3.36	0.93	3.86	1.10	1.71	0.83	4.36	1.08
8	4.71	0.73	4.64	0.63	3.43	1.02	4.50	1.09
9	4.00	0.78	3.71	0.73	2.57	0.76	3.71	1.07
10	4.57	0.65	3.93	1.07	2.79	1.12	4.36	0.74
11	4.14	0.77	3.79	0.80	2.79	0.80	4.00	0.00
12	3.79	1.25	4.00	1.24	3.21	1.67	3.64	1.69
13	3.93	1.00	4.57	0.94	2.43	0.76	4.50	0.76
14	4.43	0.65	3.29	1.59	2.14	0.77	4.50	1.09
15	3.86	1.10	4.50	0.52	2.64	1.28	4.21	1.12
16	4.21	0.58	4.79	0.58	1.79	0.70	4.57	0.76
17	3.00	1.41	4.14	1.10	2.79	1.37	4.07	1.21
18	3.86	1.35	4.86	0.53	2.86	1.10	4.64	0.63
19	4.64	0.50	4.21	0.58	3.57	0.76	4.43	0.65
20	4.93	0.27	4.29	1.20	1.64	0.63	4.00	1.04
21	3.00	1.18	4.93	0.27	2.79	1.19	4.38	0.87
22	4.43	1.02	4.79	0.58	3.86	1.23	4.64	0.74
23	3.57	1.02	4.00	1.30	1.93	1.07	3.36	1.69
24	3.64	0.74	4.29	1.14	2.07	1.21	4.86	0.36
25	4.64	0.63	4.43	0.85	3.00	1.04	4.79	0.43
26	4.50	0.65	3.86	0.86	2.71	1.07	4.64	0.63
27	4.93	0.27	4.86	0.53	2.57	0.85	4.79	0.80
28	2.93	1.27	4.43	1.45	1.57	1.28	3.93	1.77
29	3.79	1.05	4.43	0.76	2.79	1.12	4.64	0.63
30	3.57	1.40	4.29	0.99	3.43	1.16	4.29	0.99
31	4.00	0.88	4.21	0.97	2.43	1.09	4.14	0.95
32	4.93	0.27	5.00	0.00	4.79	0.58	4.85	0.55
33	4.07	1.07	4.21	0.97	2.93	0.83	3.71	1.14
34	4.14	0.95	4.00	0.88	3.00	1.24	4.29	0.91
35	4.86	0.53	4.71	0.83	3.36	1.22	4.79	0.43
36	3.93	0.83	3.86	0.95	2.00	1.04	3.93	1.14
37	3.71	0.99	4.57	0.65	2.64	0.84	4.36	1.08
38	4.07	1.54	4.21	1.12	3.21	1.63	4.36	1.28
39	4.50	0.85	4.43	0.65	3.07	1.49	3.86	1.51

40	3.57	1.28	4.93	0.27	1.71	1.07	4.64	0.84
41	3.29	1.86	3.86	1.75	2.43	1.87	3.69	1.75
42	4.71	0.61	4.79	0.58	3.36	1.45	4.71	0.61
43	4.43	0.85	4.71	0.83	2.36	1.39	4.57	0.65
44	4.07	1.07	4.14	0.86	2.57	1.28	4.14	1.35
45	4.86	0.36	4.79	0.43	3.43	0.51	4.43	0.76
46	3.64	0.74	3.79	0.97	2.43	1.09	3.93	1.00

Table 3.   *Average of means in subject analysis and SD of those means*

	COMPLETE in M-W-C	FINISH in M-W-C	COMPLETE in N-M-W-C	FINISH in N-M-W-C
AVG of MEANS	4.10	4.33	2.70	4.30
SD of MEANS	0.57	0.44	0.65	0.41

Table 4.   *Average of value for each aspectual verb in each context and SD of those values (Items Analysis)*

	COMPLETE in M-W-C	FINISH in M-W-C	COMPLETE in N-M-W-C	FINISH in N-M-W-C
AVG	4.10	4.33	2.70	4.30
SD	1.07	0.97	1.24	1.06

i.   *Brief Discussion of Qualitative Observations in Subject Analysis*

As seen in the Subject Analysis, several problematic observations are observed. First, for several of the subjects, like Subject 3, the acceptability ratings are, in general, lower than the average mean across the 4 *aspectual verb/context* quartet:

   [complete] in *making-whole*:   mean = 3.29, SD = 0.99;

   [finish] in *making-whole*:   mean = 3.43, SD = 1.02;

   [complete] in *not-making-whole*:   mean = 1.93, SD = 0.62;

   [finish] in *not-making-whole*:   mean = 3.43, SD = 1.40;

Furthermore, sometimes "acceptable" judgements are higher than the mean, and "unacceptable" judgements are lower than the mean, like is the case with Subject 16:

   [complete] in *making-whole*:   mean = 4.21, SD = 0.52;

   [finish] in *making-whole*:   mean = 4.79, SD = 0.58;

   [complete] in *not-making-whole*:   mean = 1.79, SD = 0.70;

   [finish] in *not-making-whole*:   mean = 4.57, SD = 0.76;

These two findings support the general expectation that subjects will use the Likert scale differently; some will use it more generously, some will use it less generously, and some will use it more in a more polarizing way. This conclusion is supported by the findings in Table 4: that within the set of acceptability judgements across the 4 *aspectual verb/context* quartets, high variation (SD approx. ≥ 1 on a Likert scale of 1–5) is seen in how ratings are given. However, when the SD of the average Subject acceptability ratings across the 4 *aspectual verb/context* quartet are taken into

consideration — Table 3 — the SD is much narrower (SD approx. 0.5 on a Likert scale of 1–5 for "acceptable" judgements,[10] and SD of approx. 0.7 for "unacceptable"). This shows that while subjects may rate individual questions using the scale differently (high variation, seen in Table 4 SDs), the general use of the scale could be fairly consistent. Furthermore, given the shift in SD in Table 3 from approximately 0.5 in "acceptable" judgements to 0.7 in unacceptable judgements, there could be increased variation in user use of the Likert scale when "unacceptable" judgements are made.

Therefore, the data analysis chosen, must account for: 1) consistent variation in a subject's acceptability ratings; and 2) inconsistent (random) variation of average acceptability ratings at the level of the single question. However, it must also allow for variation due to the presence of *variables* like *aspectual verb* and *context* and also explain whether judgements are, as a whole, fairly consistent within a *aspectual verb/context* quartet subset, or highly variable within the subset.

2.5.3   Determining Statistical Significance and Effect of Variables on Data Set[11]

To answer the qualitative concerns raised in the Items and Subject analyses, the data analysis selected must take into account many variables at once and determine how they individually, and in combination effect trends in the data. Furthermore, it must be able to account for random variability in acceptability judgements due to *subject* and *item*. In the analysis, the specific effects on the data of the variables *context, aspectual verb, and sex* are determined. The observed effect of the interaction of *context* and *aspectual verb* support the paper's hypothesis. *Sex* is considered in order to explain the increased SD in Table 3 for unacceptable judgements (SD = 0.65). Therefore, while the effect of *sex* is not crucial to supporting the hypothesis of the data, it did have an observed statistically significant effect that could support future research into the field of the effect of sex on acceptability judgements or use of Likert Scale.

R (R Core Team 2016) and the *lme4* package was used (Bates, Maechler, Bolker, & Walker 2015) to perform a *linear mixed effects* (LME) analysis on the data. The *linear mixed effects* analysis allows us to compare the effect of multiple variables across large data sets with many items. By starting with a null hypothesis model, which assumes the variables in question (*context, aspectual verb, and sex)* have no effect, we can then compare models in which variables and/or their interaction are assumed to be "fixed effects" — or crucial to the shape of the linear model. By adding different variables, one at a time, into successive models and comparing them to less complex models we can determine the specific relationship between variables and the data, while maintaining a link to the null hypothesis model (since the comparisons can be traced back to it). If there is a statistical difference we can then determine that a new variable or a proposed interaction of variables is in fact playing a role in the way the data is shaped.

Finally, by setting our items and subjects as random effects, we allow for an equalization of dependent variables in the model that accounts for the natural fluctuation in the way subjects use the Likert scale or if a full set of questions ([complete] in *making-whole*, [finish] *making-whole*, [complete] in *not-making-whole,* and [finish] in

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[10] *complete* in making-whole contexts, and *finish* in both contexts.

[11] This section was completed with consulting from Martín Fuchs and Joshua Phillips.

not-making-whole), happens to be rated, as a whole, lower by some amount. This concern was raised in the Subject and Items Analysis sections; while other statistical methods would not necessarily account for this problematic variation, the LME model analysis will allow for fluctuation and determine the global effect of the variables on data trajectories with different intercepts.

The LME Model Set was designed to determine the whether there was a statistically significant effect of: 1) aspectual verb, i.e. [complete] vs. [finish]; 2) context, i.e. *Making-whole* vs. *Not-Making-whole*; 3) sex, i.e. *male* vs. *female* on the data set; and 4) the interaction of these variables.

A null hypothesis LME model (not accounting for fixed effects of *aspectual verb, context and/or sex*) was created, which, for its random effects, allowed for random intercepts for both *subject* and *item (question number)*. The first LME model assigned *aspectual verb* as a fixed effect. For its random effects, it allowed for random intercepts for both *subject* and *item (question number)*.

The second LME model assigned both *aspectual verb* and *context* as separate, fixed effects. For its random effects, it allowed for random intercepts for both *subject* and *item (question number)*.

The third LME model assigned *aspectual verb, context,* and the *interaction between aspectual verb and context* as fixed effects. For its random effects, it allowed for random intercepts for both *subject* and *item (question number)*. This third model, when compared to the other models showed the effect of the *interaction between aspectual verb and context* was statistically significant (χ^2 = 20.472, p = 6.052e-06).

The fourth LME model assigned *aspectual verb, context, sex* and the *interaction between aspectual verb and context* as fixed effects. For its random effects, it allowed for random intercepts for both *subject* and *item (question number)*.

The fifth LME model was created that assigned *aspectual verb, context, sex* and the *interaction between aspectual verb, context, and sex* as fixed effects. For its random effects, it allowed for random intercepts for both *subject* and *item (question number)*. This fifth model, to the other models showed the effect of *interaction between aspectual verb, context, and sex* was statistically significant (χ^2 = 26.538, p =7.36e-06).

Additional tests were run on the subset of the data which showed the statistically significant effect of the interaction between *aspectual verb* and *context* to determine the nature of the effect of the interaction of sex with these interacting variables. It was found that sex had a statistically significant effect *only* in the *not-making-whole* context of the *complete* data subset (χ^2 = 4.5144, p = 0.03361). A post-hoc test with Tukey correction on the this model showed a small, but still statistically significant difference in acceptability judgements for *complete* in *Not-Making-whole* context depending on the *sex* of the subject; *males* rated sentences with *complete* higher than *females* by an estimated additive factor of 0.4161(β = 0.4161, p = 0.0294) in *Not-Making-whole* contexts.

i.   Brief discussion on the effect of sex

Sex played no statistically significant role in the acceptability judgements of sentences with *finish*. Furthermore, *sex* played no statistically significant role in the acceptability judgements of sentences with *complete* in *making-whole* contexts. *Sex* only played a statistically significant role in the acceptability judgements of sentences with *complete* in *not-making-whole* contexts. This finding partially accounts for the increased SD in Table 3 for

complete in *not-making-whole* contexts (SD = 0.65). Given the high acceptability ratings of *finish* in both context types and *complete* in *making-whole* contexts, this finding could support the hypothesis that *sex* does not play a role in acceptability judgements of aspectual verb construction in semantically-supporting contexts. Furthermore, given the statistically significant effect of *sex* on acceptability judgements for *complete* in *Not-Making-whole* contexts, this finding could support the hypothesis that *sex* does play a role in acceptability judgements when the context does not semantically support a certain aspectual verb construction. In this case, the conclusion would be that females find constructions less acceptable in contexts in which the construction is not supported. However, given the small sample size (total *female* = 30, total *male* = 16), more data would need to be processed in order to truly support this hypothesis. Also, in order to support the positive claim about the effect of *sex*, other factors regarding the profile of the subject (such as *dialect* of American English spoken) would need to be shown not statistically significant.

2.6   Conclusions

From the hypothesized semantics of [complete] and [finish], the following predictions were made regarding the data, in terms of context and acceptability:

(P1)   [finish] will be acceptable in all end-point supporting contexts

(P2)   [complete] will be acceptable a subset of those contexts where:

    i.   the contextually salient event is increasing the "wholeness" of the object

    ii.   The object is "whole" at the end-point

From (P1) and (P2) it was predicted that the following pattern in acceptability on the Likert scale from (1–5) discussed above (green signifies a numerical value — 4–5 — corresponding to "acceptable" on the Likert scale, whereas red signifies a numerical value — 1–2 — corresponding to "not acceptable" on the Likert scale) would occur in the data for the experiment:

The averages for each context/verb condition pair, summarized in the table below matches this prediction, where there is no statistically significant difference between the acceptable (green) values but a statistically significant difference between the acceptable and not-acceptable (red) values, as shown LME by Model 3:

[complete] in *making-whole* context 4.10 (1.07)	[complete] in *not-making-whole* context 2.70 (1.24)
[finish] in *making-whole* context 4.33 (0.97)	[finish] in *not-making-whole* context 4.30 (1.06)

In conclusion, the data analysis strongly supports (P1) and (P2).

(P1)   [finish] will be acceptable in all end-point supporting contexts

(P2)   [complete] will be acceptable a subset of those contexts where:

   i.   the contextually salient event is increasing the "wholeness" of the object

   ii.   The object is "whole" at the end-point

Therefore, the hypothesized semantics proposed earlier in the paper are supported. First, the data supports the hypothesized semantics that maintains *finish* as presentented in Piñango & Deo (2015):

$[[\text{finish}]] = \lambda x_\tau\, \lambda y_\sigma : \text{structured-ind}_{fc}(x).\ \exists f'\,[f'(y) <_{\text{small–fin}} f_c(x)]$

finish(x)(y) is defined iff x is a structured individual with respect to the contextually determined function f_c. If defined, finish(x)(y) is true iff there is some function f′ (possibly identical to f) such that f′(y) is a 'small' final subpart of $f_c(x)$.

Presupposes in the agentive reading:
x is a structured individual with respect to a contextually-determined macroscopic event.

Entails in the agentive reading:
a 'small' final subpart of the event (taking x as its complement) is instantiated, and y performs it.

Second, the data supports the hypothesized additional semantic restrictions on the presuppositional and entailed content of agentive *complete*:

$$[[\text{complete}]] = \lambda x_\tau \, \lambda y_\sigma : \text{structured-ind}_{fc}(x) \, \& \, [\forall e', e'' \in \text{event}_{fc} : e' < e'' \text{ iff } g_{deg\_whole}(e') < g_{deg\_whole}(e')].$$
$$\exists f'[[f'(y) <_{small-fin} f_c(x)] \, \& \, [g_{deg\_whole}(f'(y)) \geq CS_{whole}]]$$

complete(x)(y) is defined iff x is a structured individual with respect to the contextually determined function f_c — the elements of the eventive axis to which f_c must be mapped by g_{deg_whole} to an axis of dense degrees of increasing wholeness with respect to x in a way such that the precedence relational structure of the event axis is maintained by the mapping by g_{deg_whole}. If defined, complete(x)(y) is true iff there is some function f' (possibly identical to f) such that $f'(y)$ is a 'small' final subpart of $f_c(x)$ and the degree of wholeness for x to which $f'(y)$ is mapped to by g_{deg_whole} exceeds some contextual standard for wholeness.

Presupposes in the agentive reading
x is a structured individual with respect to a contextually-determined macroscopic event, increasing degrees of wholeness for x.

Entails in the agentive reading:
 a 'small' final subpart of the event (taking x as its complement) is instantiated, y performs it, and x is whole upon instantiation of that subinterval.

The data and conclusions drawn in this study have shown strongly that agentive aspectual verb constructions describe more than just a presupposed event and information about whether a sub-event is occurring at some critical point along the eventive axis. Given the data in this study we must now consider that may be other differences amongst aspectual verbs, which arise beyond the critical position along the eventive axis they describe (such as the end point, start point, or some medial point). Therefore, while *complete* and *finish* were but two examples of differing aspectual verbs, we can hypothesize that there are other potential differences between aspectual verbs previously seen as semantically interchangeable due to the fact that they shared content regarding the location of the critical sub-event performed by the agent.

This initial discrimination between the end-point denoting aspectual verbs *finish* and *complete* is particularly useful to future research due to the fact that it shows that aspectual verbs can differ with respect both to presupposed content and entailed content. Therefore, it shows that both are viable options to offer conceptual semantic theory when evaluating differing domains of use for other aspectual verbs.

This study shows that the linguistic theory set forth by Piñango and Deo (2015), grounded in cognition can use the conceptual item of an *axis* in two ways critically and simultaneously. The first axis used can be *eventive* — in the agentive reading — and the second is one of *degrees*. Since both are presupposed, the data in this study supports the conclusion that in human processing (inherent in acceptability judgements) of sentences using the agentive aspectual verb *complete* require a conceptualization of the changing mereological state of a structured individual (along a degree axis) at all points along the eventive axis. Therefore, particularly with agentive *complete*, we are sensitive to the tracking of the rollout of an event along an eventive axis, and whether or not that rollout of an event is having the desired effect on the structured individual complement (the degree axis).

This conclusion offers additional support for the axis based theory proposed by Piñango and Deo (2015) in showing that English speakers are *conceptually* and *linguistically* sensitive to proper satisfaction of the use of axes in agentive readings of *complete*. More research will need to be performed to see if there is a difference in *neurological* instantiation — or, perhaps, a processing cost difference — between *complete* and other aspectual verbs. The prediction can be made from the data herein that there should be a difference in processing cost, that will be sensitive to context. Agentive *finish,* given it can accept a variety of events may be equally processed in all contexts. However, one would expect *complete* to be processed more slowly in those contexts which prevent an interpretation of some *making-whole* macroscopic event. Furthermore, different neurological activation would be expected for agentive *complete* in comparison to *finish,* as *complete* requires active conceptualization of the *properties* of the theme along the eventive dimension.

3. Concluding discussion

1.   **Overview**

This section will conclude the paper by discussing briefly, several topics brought up after the presentation of this experiment in the Senior Thesis Presentations — the aim of this section is to explore new directions for research given the new abilities in analyzing aspectual verbs (in agentive constructions), as made clear by the discrete differences in use between *complete* and *finish*.

2.   **Contextual standards for wholeness/other properties for *complete* and *finish***

This question was presented by Eliza Scruton (YC 2017) in discussion of the claim addressed in footnote 6 regarding a sentence like (m) in the following context:

Context: *Sam was working on homework. She answered 12 of the 13 problems and decided she was done. She gets up and leaves.*

(m)   #Sam *completed* the homework   event: *filling out*

Eliza Scruton (YC 2017) stated that *finished* would be equally unacceptable — weakening the claim that *complete* is subject to the entailed restriction that its object be *whole* upon instantiation of the final sub-event performed by the agent subject. The assertion earlier in the paper was that, depending on the speaker, *finished* could be acceptable in the context (or not) depending on the speaker. I personally have the intuition that *finished* is *not* acceptable in the context — however, my personal intuitions as to why are subject to a question in and of themselves. My personal intuition is that: 1) Sam did not *finish* the homework, because he did not perform the final sub-event of the *filling out* of the homework; and 2) Sam did not *complete* the homework, because, at the end of it all, the homework is not *whole* (i.e. has every answer). Some may argue that actually Sam did not *finish* the homework due to the fact that the homework is not adequately *filled in* — in this case, the property of (in this case wholeness) is insufficient when compared to a contextual standard. As a result, one could argue that perhaps *finish* tracks the property-effects of events similarly to how *complete* does — only those properties are left undefined by the semantics of the verb (unlike complete which *must* track increasing wholeness). In this case, perhaps we can also evaluate whether *Sam finished (eating) the cake* by tracking how much the cake is *eaten*. However, the separation between *event* and *property* is very narrow here and perhaps interchangeable. The scalar degree systems used by deverbal adjectives, like *eaten* or *finished,* as described by Kennedy & McNally (2005) uses a surprisingly similar semantics to Piñango & Deo (2015), based on Krifka (1992:98)'s incremental theme and MAP-O homomorphic function.

Perhaps, given future research, one can determine whether both events and their output effect on the complement's properties are both being *actively* considered in *finish.* We can only conclude from the data here that this is the case for *complete.*

This question of end-point property sensitivity also warrants addressing an interesting phenomenon in the data. One quadruple looked at the sentences:

1.   You *completed* the survey (Fill-Out)   Making-Whole
2.   You *completed* the survey (Writing-Up)   Not-Making-Whole
3.   You *finished* the survey (Fill-Out)   Making-Whole
4.   You *finished* the survey (Writing-Up)   Not-Making-Whole

Originally, a context yielding a contextually-salient event of *writing up* was hypothesized as being a *not-making-whole* context due to the fact that it did not yield a *whole* form at the end — namely the form was blank (meant to be filled out). However both responses for the complete in the *making-whole* (in which the blank form was filled out) and the *not-making-whole* contexts received average ratings >4. This suggests that perhaps a writing-up context is one which establishes a much lower contextual standard for *wholeness* than the fill-out context. In the case of the writing-up context, the survey is sufficiently whole given it has been sufficiently constructed as a whole (albeit blank) survey.

3.   Potential directions for research into *stop, end, finish* and *complete*

Prof. Maria M. Piñango brought up the question of whether the experimental evidence regarding the distinct linguistic and conceptual differences between *complete* and *finish* offers strong insight into how drawing distinctions between *stop, end, finish* and *complete* can be made (all four are end-point denoting aspectual verbs). In the agentive construction, they have very clear boundaries of use:

a.   Sam stopped Joe (from doing something).
b.   Sam finished Joe (off).
c.   Sam completed Joe.[12]
d.   Sam ended Joe. (Sam killed Joe)

Given the ability to manipulate both presupposed and entailed content we can begin to propose where differences may occur. *Stop* seems to be used in situations where the agent intervenes in some sort of inertial event or activity (that would have continued given no intervention). This gives us readings like:

a.   Sam stopped Joe (from doing something).
e.   Sam stopped traffic.
f.   Sam stopped the engine.
g.   Sam stopped the concert.

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[12] One must be careful not to get the constitutive reading here. In this particular case, this would be Sam adding some part to Joe to make Joe whole.

Stop, therefore is particularly sensitive to the nature of the presupposed event and how its inertial properties or perhaps historical alternatives would rollout, given not intervention. This notion of historical alternatives is best championed by Beaver & Condoravdi (2003):

> h.   Sam stopped the bomb *before it blew up*.

Clearly, as shown in *h*, we are able to conceptualize *to what end* or *in what direction* our presupposed event was going in constructions using *stop.* This activation of the presupposed event and its possible-world inertial properties could be of particular importance to the semantics of *stop*.

     End seems to be different in that is appears to be particularly concerned with the existential properties of the structured individual as a result of the final sub-event. Whereas *complete* seems to require the object be *whole* upon the final sub-interval, *end* seems to require that the structured individual complement not exist beyond the final sub-interval:

> i.   They ended the concert on time/early.
> j.   The author ended the book there.
> k.   He ended him (he's now dead).

In these cases, beyond the final sub-interval on the eventive axis, the structured individual object seems to be entailed to not exist. This aligns nicely with our intuitions with the unaccusative form of *end:*

> l.   The path ends here (it goes no farther)
> m.   The movie ended early.

In this case the structured individual is mapped along a different axes. In (l), this is the spatial dimension, and in (m), this is (given the most common interpretation that the movie reached its conclusion during a showing sooner than expected) an eventive dimension (or perhaps informational). A similar case is seen with the constitutive reading:

> n.   A short poem ends the book.

A short poem is seen as the final part in the informational dimension of the book, *beyond which* the book does not exist. More detail is given in Piñango & Deo (2015) about dimensions and how structured individuals can be mapped along them, but (i-n) offers valuable insight. We are not only sensitive to the properties of the structured individual complement at points along an axis denoted by the aspectual verb (such as at the end-point, as shown by the entailed content in *complete*) or the points that precede it (as is the case with *increasing wholeness* for *complete*), but we are also sensitive to the properties of the individual at points along the axis *after the point described by the aspectual verb*.

While these conclusions are broad stroked generalizations, it is important to note that the base structure supplied by Piñango & Deo (2015) need not be dramatically changed — the core conceptual machinery is the same, however we are sensitive to properties of or that result from that machinery or particular ways in which that machinery is used, and these sensitivities can change dramatically from aspectual verb to aspectual verb.

4.   I've nearly completed

Prof. Laurence Horn brought up the question regarding whether the proposed semantic analysis of *complete* and *finish* supported by the data could account for constructions like:

o.   I've nearly finished.
p.   #   I've nearly completed.

These, he stated, are similar in form for constructions like:

q.   I've tried.
r.   #   I've attempted.

Whereas both (o) and (q) are fine in their bare form, (p) requires an object and (r) requires (minimally) *to* after the verb.

Upon initial inspection, the difference between (o) and (p) could be due to the entailed statement that the complement exceeds a contextual standard for *wholeness* in *complete*. Given *finished* is proposed to only *entail* a mapping of the subject (and entails no information about the complement), we are allowed to remove the complement completely from (o) — we are only concerned with whether the subject, *I,* has performed the final sub-event. In this case, the performing of the final sub-event has nearly happened. With (p), however, given the entailed evaluation of *wholeness* of the complement, all acts of *complete*-ing must be done with explicit reference to a particular complement — this semantic requirement prevents us from syntactically or phonologically dropping the complement. Therefore the conceptual differences between *complete* and *finish,* where *complete* requires an explicitly defined conceptualization of the theme in the entailed content whereas *finish* does not, presents as a linguistic effect here, where the direct object is allowed to be dropped in (o) but not (p).

A similar approach could perhaps explain the difference between (q) and (r); *try* appears to minimally assert that effort was given from the agent subject — *attempted* however may require the additional entailment that effort was given *to do something.* This difference in semantics could result in the differing syntactic constructions and their acceptability in (q) and (r) — (q) minimally asserts "*I applied myself*" allowing for no morphosyntactically present marker denoting *to what end.*

Interestingly, that the ability to say (q) disappears when *try* takes an entity-denoting complement,

q2.   Did you taste the papaya.
q3.   #   Oh yes, I tried.

This sudden change occurs due to a swap in the syntactic and semantic lexical entry for [try]; in [q] *try* is unergative, whereas in [q3] *try* is transitive.

A strong distinction must be drawn in cases like (o-r) between transitive verb constructions with elited complements and unergative constructions with verbs traditionally seen as transitive. My suspicion is that (o) is the former while (q) is the latter, but more research would need to be done in order to better understand how exactly the verbs are functions in all four cases here — and why semantic anomaly occurs in (q2), also transitive, but not (o). The prediction made here is that the complement in (q2) is in some way conceptually required by the conceptual structure of transitive *try* whereas the complement in (o) is less so.

This prediction also leads to the hypothesis that *finish* does not actually require conceptualization of properties of its complement, as is the case in *complete*. Discussed in the section answering Eliza's question, this difference between (q2) and (o) supports an interpretation of agentive *finish* which tracks only events, rather than their output on the properties of their complement. *Finish* would therefore remain as described by Piñango & Deo (2015).

Citations

Beaver, David & Cleo Condoravdi. 2003. A Uniform Analysis of *Before* and *After*.
    Semantics and Linguistic Theory (SALT) 13. 37–54.

Deo, Ashwini, Itamar Francez & Andrew Koontz-Gärboden. 2013. From change to value
difference in degree achievements. *Semantics and Linguistic Theory (SALT)* 23. 97–115.

Jackendoff, Ray. The Architecture of the Language Faculty. MIT Press. Cambridge, MA.

Katsika, Argyro, Dave Braze, Ashwini Deo & Maria M. Piñango. (2012). Complement coercion: distinguishing
    between type-shifting and pragmatic inferencing. *The Mental Lexicon* 7. 58–72.

Kennedy, Christopher & Louise McNally. 2005. Scale structure, degree modification, and
    the semantics of gradable predicates. *Language* 81. 345–381.

 Krifka, Manfred. 1992. Thematic relations as links between nominal reference and temporal constitution. In Ivan Sag
    & Anna Szabolcsi (eds.), *Lexical Matters*. CSLI Publications, Stanford. 29–53.

Krifka, Manfred. 1998. The origins of telicity. In Susan Rotheheim (ed.), *Events and Grammar,*
    197-235. Dordrecht: Kluwer.

Lai, Yao-ying, Cheryl Lacadie, Todd Constable, Ashwini Deo & Maria Piñango. (in press).
    Complement coercion as the processing of aspectual verbs: evidence from self-paced
    reading and fMRI. In Paul Bello, Marcello Guarini, Marjorie McShane & Brian Scassellati (eds.),
    Proceedings of the Cognitive Science Society Meeting 2014, Quebec City, Quebec, CA. 2525–30.

McElree, Brian, Matthew Traxler, Martin Pickering, Rachel Seely & Ray Jackendoff. (2001).
    Reading time evidence for enriched composition. *Cognition* 78. B17–25.

Piñango, Maria Mercedes & Ashwini Deo. 2016. Reanalyzing the complement coercion
    effect through a generalized lexical semantics for aspectual verbs. *Journal of
    Semantics* 33(2). 359–408.

Pustejovsky, James. 1991. The generative lexicon. *Computational Linguistics* 17. 409–41.

Pustejovsky, James. 1995. The Generative Lexicon . The MIT Press. Cambridge.

Appendix

Questions in black are focus questions. The last questions, in red, are the filler questions.

Note: Questions are not randomized.

E.S. Survey 3

Q65 What is your sex?
○   Male (1)
○   Female (2)

Q1 Consider the following context:

A French pastry chef has been working for hours on a triple layer chocolate cake. Finally, after putting the final decorations on the cake, the chef declares the cake ready to serve.

"The chef completed the cake."

How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

○   3: I would most likely not say this sentence, although I could have heard it said. (3)

○   4: I could say this sentence, and I could have heard it said. (4)

○   5: I would say this sentence, and I would hear it said. (5)

Q3 Consider the following context:A French pastry chef has been working for hours on a triple layer chocolate cake. Finally, after putting the final decorations on the cake, the chef declares the cake ready to serve."The chef finished the cake."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
○   5: I would say this sentence, and I would hear it said. (5)

Q4 Consider the following context:

Clara loves cake. She gets a birthday cake for her birthday. She ate the whole thing.

"Clara completed the cake."

How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

❍   3: I would most likely not say this sentence, although I could have heard it said. (3)

❍   4: I could say this sentence, and I could have heard it said. (4)

❍   5: I would say this sentence, and I would hear it said. (5)

Q5 Consider the following context:

Clara loves cake. She gets a birthday cake for her birthday. She ate the whole thing.

"Clara finished the cake."

How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍   3: I would most likely not say this sentence, although I could have heard it said. (3)
❍   4: I could say this sentence, and I could have heard it said. (4)
❍   5: I would say this sentence, and I would hear it said. (5)

Q6 Consider the following context:

After months of work, a famous author wrote the last, beautiful sentence of her 500 page novel. She is done, at last!

"The author completed the novel."

How acceptable is the sentence above on the scale from 1 to 5 below?

- ○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
- ○ 4: I could say this sentence, and I could have heard it said. (4)
- ○ 5: I would say this sentence, and I would hear it said. (5)

Q7 Consider the following context:

After months of work, a famous author wrote the last, beautiful sentence of her 500 page novel. She is done, at last!

"The author finished the novel."

How acceptable is the sentence above on the scale from 1 to 5 below?

- ○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
- ○ 4: I could say this sentence, and I could have heard it said. (4)
- ○ 5: I would say this sentence, and I would hear it said. (5)

Q8 Consider the following context:

A student has just read all of "A Tale of Two Cities" for class.

"The student completed the book."

How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

❍   3: I would most likely not say this sentence, although I could have heard it said. (3)

❍   4: I could say this sentence, and I could have heard it said. (4)

❍   5: I would say this sentence, and I would hear it said. (5)

Q9 Consider the following context:

A student has just read all of "A Tale of Two Cities" for class.

"The student finished the book."

How acceptable is the sentence above on the scale from 1 to 5 below?

- ◯   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ◯   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ◯   3: I would most likely not say this sentence, although I could have heard it said. (3)
- ◯   4: I could say this sentence, and I could have heard it said. (4)
- ◯   5: I would say this sentence, and I would hear it said. (5)

Q10 Consider the following context:

You are you, filling out this survey. Finally you've filled it all out!

"You completed the survey."

How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
○   5: I would say this sentence, and I would hear it said. (5)

Q11 Consider the following context:
You are you, filling out this survey. Finally you've filled it all out!
"You finished the survey."
How acceptable is the sentence above on the scale from 1 to 5 below?
❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can
     understand what it means. (2)
❍   3: I would most likely not say this sentence, although I could have heard it said. (3)
❍   4: I could say this sentence, and I could have heard it said. (4)
❍   5: I would say this sentence, and I would hear it said. (5)

Q12 Consider the following context:

You are me, writing up all the questions to this survey. Finally, you plug in the last question. You are ready to send it out!

"You completed the survey."

How acceptable is the sentence above on the scale from 1 to 5 below?
- ○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
- ○ 4: I could say this sentence, and I could have heard it said. (4)
- ○ 5: I would say this sentence, and I would hear it said. (5)

Q13 Consider the following context:You are me, writing up all the questions to this survey. Finally, you plug in the last question. You are ready to send it out!"You finished the survey."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
○   5: I would say this sentence, and I would hear it said. (5)

Q14 Consider the following context:

A film student finally edits all the footage for her movie and adds transitions. The film student is happy; the film is ready to watch!

"The student completed the movie."

How acceptable is the sentence above on the scale from 1 to 5 below?

- ◯ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ◯ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ◯ 3: I would most likely not say this sentence, although I could have heard it said. (3)
- ◯ 4: I could say this sentence, and I could have heard it said. (4)
- ◯ 5: I would say this sentence, and I would hear it said. (5)

Q15 Consider the following context:

A film student finally edits all the footage for her movie and adds transitions. The film student is happy; the film is ready to watch!

"The student finished the movie."

How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

○ 3: I would most likely not say this sentence, although I could have heard it said. (3)

○ 4: I could say this sentence, and I could have heard it said. (4)

○ 5: I would say this sentence, and I would hear it said. (5)

Q16 Consider the following context:

Kevin watched "The Matrix" for fun, one Saturday night. When he was done, he went to bed.

"Kevin completed the movie."

How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

❍   3: I would most likely not say this sentence, although I could have heard it said. (3)

❍   4: I could say this sentence, and I could have heard it said. (4)

❍   5: I would say this sentence, and I would hear it said. (5)

Q17 Consider the following context:

Kevin watched "The Matrix" for fun, one Saturday night. When he was done, he went to bed.

"Kevin finished the movie."

How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

○ 3: I would most likely not say this sentence, although I could have heard it said. (3)

○ 4: I could say this sentence, and I could have heard it said. (4)

○ 5: I would say this sentence, and I would hear it said. (5)

Q18 Consider the following context:Steve is a bartender at a fancy restaurant. He mixes up various liquids and pours them into a beautiful glass: but wait! He forgot the olive, the most important part! He sensuously drops a single olive into the glass."Steve completed the drink."How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
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○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
○ 4: I could say this sentence, and I could have heard it said. (4)
○ 5: I would say this sentence, and I would hear it said. (5)

Q20 Consider the following context:Henry is hanging out at the super chic bar in his neighborhood. He orders a martini and drinks the whole thing. "Henry completed the drink."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

○   3: I would most likely not say this sentence, although I could have heard it said. (3)

○   4: I could say this sentence, and I could have heard it said. (4)

○   5: I would say this sentence, and I would hear it said. (5)

Q21 Consider the following context:Henry is hanging out at the super chic bar in his neighborhood. He orders a martini and drinks the whole thing. "Henry finished the drink."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
○   5: I would say this sentence, and I would hear it said. (5)

Q22 Consider the following context:Lexi is a songwriter working on a new song. She writes the lyrics, records all the vocals and instrumentals, and makes the perfect mix. The song is now ready for her album!"Lexi completed the song."How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
○ 4: I could say this sentence, and I could have heard it said. (4)
○ 5: I would say this sentence, and I would hear it said. (5)

Q23 Consider the following context:Lexi is a songwriter working on a new song. She writes the lyrics, records all the vocals and instrumentals, and makes the perfect mix. The song is now ready for her album!"Lexi finished the song."How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

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○ 4: I could say this sentence, and I could have heard it said. (4)

○ 5: I would say this sentence, and I would hear it said. (5)

Q24 Consider the following context:Harry decides to listen to his iPod. He presses "play" to resume listening to a new hit song from a great boy band. He listens until the end, and totally loves it. "Harry completed the song."How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

○ 3: I would most likely not say this sentence, although I could have heard it said. (3)

○ 4: I could say this sentence, and I could have heard it said. (4)

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Q25 Consider the following context:Harry decides to listen to his iPod. He presses "play" to resume listening to a new hit song from a great boy band. He listens until the end, and totally loves it. "Harry finished the song."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
○   5: I would say this sentence, and I would hear it said. (5)

Q26 Consider the following context:Carrie is an art student who was assigned a project where she has to paint in excruciating detail an object in her refrigerator. She chooses the carton of milk. After hours of work, she adds the final detail to her painting; a little bar-code on the front of the carton. At last, she is done!"Carrie completed the milk carton."How acceptable is the sentence above on the scale from 1 to 5 below?

○　1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○　2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○　3: I would most likely not say this sentence, although I could have heard it said. (3)
○　4: I could say this sentence, and I could have heard it said. (4)
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Q27 Consider the following context:Carrie is an art student who was assigned a project where she has to paint in excruciating detail an object in her refrigerator. She chooses the carton of milk. After hours of work, she adds the final detail to her painting; a little bar-code on the front of the carton. At last, she is done!"Carrie finished the milk carton."How acceptable is the sentence above on the scale from 1 to 5 below?

- ◯ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ◯ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ◯ 3: I would most likely not say this sentence, although I could have heard it said. (3)
- ◯ 4: I could say this sentence, and I could have heard it said. (4)
- ◯ 5: I would say this sentence, and I would hear it said. (5)

Q28 Consider the following context:Kristy is eating cookies. What are cookies without milk? She walks to the fridge and pours the last of the milk into a tall glass and tosses the empty milk carton into the trash. "Kristy completed the milk carton."How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍   3: I would most likely not say this sentence, although I could have heard it said. (3)
❍   4: I could say this sentence, and I could have heard it said. (4)
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◯   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
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◯   4: I could say this sentence, and I could have heard it said. (4)
◯   5: I would say this sentence, and I would hear it said. (5)

Q30 Consider the following context:A young child is making a beautiful mother's day card. The child draws a surprisingly detailed portrait of her mother on the front of the card with crayons. The child pauses for a second and then realizes the card is missing something. She adds a big "I love you" in a heart on the back of the card. The card is now ready to give to her mother!"The child completed the card."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
○   5: I would say this sentence, and I would hear it said. (5)

Q31 Consider the following context:A young child is making a beautiful Mother's Day card. The child draws a surprisingly detailed portrait of her mother on the front of the card with crayons. The child pauses for a second and then realizes the card is missing something. She adds a big "I love you" in a heart on the back of the card. The card is now ready to give to her mother!"The child finished the card."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
○   5: I would say this sentence, and I would hear it said. (5)

Q32 Consider the following context:Fred is a father and it is Father's Day. His daughter hands him a beautiful card with a surprisingly long heart-felt note on it. Frank reads it and is brought to tears. After he reads the last sentence, wipes the tears from his eyes, and hugs his daughter."Fred completed the card."How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍   3: I would most likely not say this sentence, although I could have heard it said. (3)
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❍ Click to write Choice 1 (1)
❍ Click to write Choice 2 (2)
❍ Click to write Choice 31: I would never say this sentence, and I would never hear anyone say this sentence. (3)
❍ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (4)
❍ 3: I would most likely not say this sentence, although I could have heard it said. (5)
❍ 4: I could say this sentence, and I could have heard it said. (6)
❍ 5: I would say this sentence, and I would hear it said. (7)

Q34 Consider the following context:Romy is a carpenter and a great one at that. She is building an intricate bookshelf for her home. She saws the planks, sands them down, and then nails them together. She then carves feet for the bookshelf, and screws them into the bottom. She then sands the whole thing down and varnishes it. Beautiful! It is done!"Romy completed the bookshelf."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
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○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
○ 4: I could say this sentence, and I could have heard it said. (4)
○ 5: I would say this sentence, and I would hear it said. (5)

Q36 Consider the following context:Thomas is cleaning the town's library. He is dusting down the bookshelf of biographies. Finally, he wipes down the last shelf."Thomas completed the bookshelf."How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
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○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

○ 3: I would most likely not say this sentence, although I could have heard it said. (3)

○ 4: I could say this sentence, and I could have heard it said. (4)

○ 5: I would say this sentence, and I would hear it said. (5)

Q38 Consider the following context:An robotics engineer is working on a new humanoid robot. She gathers all the parts and starts with the left hand: she assembles the left hand perfectly on her first try. What dexterity! This will truly be magnificent robot!"The engineer completed the left hand."How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍   3: I would most likely not say this sentence, although I could have heard it said. (3)
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Q39 Consider the following context:An robotics engineer is working on a new humanoid robot. She gathers all the parts and starts with the left hand: she assembles the left hand perfectly on her first try. What dexterity! This will truly be magnificent robot!"The engineer finished the left hand."How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
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❍   4: I could say this sentence, and I could have heard it said. (4)
❍   5: I would say this sentence, and I would hear it said. (5)

Q40 Consider the following context:Paul is working at a nail salon. One of his customers has asked for a manicure. He works his magic on the customer's left hand (done!) and moves on to the right hand. Halfway there!"Paul completed the left hand."How acceptable is the sentence above on the scale from 1 to 5 below?

❍ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍ 3: I would most likely not say this sentence, although I could have heard it said. (3)
❍ 4: I could say this sentence, and I could have heard it said. (4)
❍ 5: I would say this sentence, and I would hear it said. (5)

Q41 Consider the following context:Paul is working at a nail salon. One of his customers has asked for a manicure. He works his magic on the customer's left hand (done!) and moves on to the right hand. Halfway there!"Paul finished the left hand."How acceptable is the sentence above on the scale from 1 to 5 below?

◯   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
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◯   4: I could say this sentence, and I could have heard it said. (4)
◯   5: I would say this sentence, and I would hear it said. (5)

Q42 Consider the following context:Hank is a contractor and he is building a new bathroom in a house. He tears down all the walls, and puts up new drywall. He then installs all the new fixtures and tiles the floor and wall. He then tests the plumbing, and declares the bathroom ready for use! His work is done!"Hank completed the bathroom."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
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○   5: I would say this sentence, and I would hear it said. (5)

Q43 Consider the following context:Hank is a contractor and he is building a new bathroom in a house. He tears down all the walls, and puts up new drywall. He then installs all the new fixtures and tiles the floor and wall. He then tests the plumbing, and declares the bathroom ready for use! His work is done!"Hank finished the bathroom."How acceptable is the sentence above on the scale from 1 to 5 below?

◯ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
◯ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
◯ 3: I would most likely not say this sentence, although I could have heard it said. (3)
◯ 4: I could say this sentence, and I could have heard it said. (4)
◯ 5: I would say this sentence, and I would hear it said. (5)

Q44 Consider the following context:Tyler is cleaning his bathroom. He wipes down the floor and walls. He then uses bleach to clean the shower and toilet. He washes down the sink and mirror. Done, he washes his hands and does something better with his day. "Tyler completed the bathroom."How acceptable is the sentence above on the scale from 1 to 5 below?

❍ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍ 3: I would most likely not say this sentence, although I could have heard it said. (3)
❍ 4: I could say this sentence, and I could have heard it said. (4)
❍ 5: I would say this sentence, and I would hear it said. (5)

Q45 Consider the following context:Tyler is cleaning his bathroom. He wipes down the floor and walls. He then uses bleach to clean the shower and toilet. He washes down the sink and mirror. Done, he washes his hands and does something better with his day. "Tyler finished the bathroom."How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
○ 4: I could say this sentence, and I could have heard it said. (4)
○ 5: I would say this sentence, and I would hear it said. (5)

Q46 Consider the following context:Mozart has been working on his 40th symphony (in G minor!) for months. After much work, he writes all the orchestral parts and chooses the perfect chord by which to end the last movement. He is done!"Mozart completed the symphony."How acceptable is the sentence above on the scale from 1 to 5 below?

❍　1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍　2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
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Q47 Consider the following context:Mozart has been working on his 40th symphony (in G minor!) for months. After much work, he writes all the orchestral parts and chooses the perfect chord by which to end the last movement. He is done!"Mozart finished the symphony."How acceptable is the sentence above on the scale from 1 to 5 below?

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❍   4: I could say this sentence, and I could have heard it said. (4)
❍   5: I would say this sentence, and I would hear it said. (5)

Q48 Consider the following context:An orchestra is performing a concert. They are playing Mozart's 40th symphony (in G minor!). After what seems like forever, they play the last chord. The orchestra stands and bows as the audience goes wild.   "The orchestra completed the symphony."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
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Q49 Consider the following context:An orchestra is performing a concert. They are playing Mozart's 40th symphony (in G minor!). After what seems like forever, they play the last chord. The orchestra stands and bows as the audience goes wild.   "The orchestra finished the symphony."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
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○   4: I could say this sentence, and I could have heard it said. (4)
○   5: I would say this sentence, and I would hear it said. (5)

Q50 Consider the following context:Paula is an artisan cigar maker. She is making a limited edition tobacco-free cigar (made with kale leaves). She rolls the kale into a perfect cylinder and trims the ends. The final touch: an extra layer of purple kale. Now the cigar is done!"Paula completed the cigar."How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
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❍   4: I could say this sentence, and I could have heard it said. (4)
❍   5: I would say this sentence, and I would hear it said. (5)

Q51 Consider the following context:Paula is an artisan cigar maker. She is making a very fancy limited-edition tobacco-free cigar (made with kale leaves). She rolls the kale into a perfect cylinder and trims the ends. The final touch: an extra layer of purple kale. Now the cigar is done!"Paula finished the cigar."How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍   3: I would most likely not say this sentence, although I could have heard it said. (3)
❍   4: I could say this sentence, and I could have heard it said. (4)
❍   5: I would say this sentence, and I would hear it said. (5)

Q52 Consider the following context:Paula is an artisan cigar maker. She lights up a cigar and smokes it. When she is done she tosses the cigar butt into an ashtray."Paula completed the cigar."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
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○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
○ 4: I could say this sentence, and I could have heard it said. (4)
○ 5: I would say this sentence, and I would hear it said. (5)

Q54 Consider the following context:A blanket-weaver is working on weaving an extra-thick wool blanket. At last, the weaver adds the final thread, and takes the blanket off the loom. Say goodbye to cold winter nights!"The weaver completed the blanket."How acceptable is the sentence above on the scale from 1 to 5 below?

❍　1: I would never say this sentence, and I would never hear anyone say this sentence. (1)

❍　2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)

❍　3: I would most likely not say this sentence, although I could have heard it said. (3)

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❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
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❍   3: I would most likely not say this sentence, although I could have heard it said. (3)
❍   4: I could say this sentence, and I could have heard it said. (4)
❍   5: I would say this sentence, and I would hear it said. (5)

Q56 Consider the following context:Pat is working at a dry-cleaner's. A blanket is brought in for special cleaning. Pat cleans the blanket and hangs it up to dry. Pat then packages it in one of those fancy dry-cleaning boxes and moves on to another article to clean. "Pat completed the blanket."How acceptable is the sentence above on the scale from 1 to 5 below?

○   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○   3: I would most likely not say this sentence, although I could have heard it said. (3)
○   4: I could say this sentence, and I could have heard it said. (4)
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Q57 Consider the following context:Pat is working at a dry-cleaner's. A blanket is brought in for special cleaning. Pat cleans the blanket and hangs it up to dry. Pat then packages it in one of those fancy dry-cleaning boxes and moves on to another article to clean. "Pat finished the blanket."How acceptable is the sentence above on the scale from 1 to 5 below?

❍ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍ 3: I would most likely not say this sentence, although I could have heard it said. (3)
❍ 4: I could say this sentence, and I could have heard it said. (4)
❍ 5: I would say this sentence, and I would hear it said. (5)

Q58 Consider the following context:A wizard is working on a magic potion that will cure all types of sneezing. The wizard stirs in mandrake root, a little bit of wolf aura, and lets the cauldron simmer for 45 minutes on low heat. The wizard then adds a lock of unicorn hair and bottles the potion. It is ready! Sneezes beware! "The wizard completed the potion."How acceptable is the sentence above on the scale from 1 to 5 below?

❍   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
❍   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
❍   3: I would most likely not say this sentence, although I could have heard it said. (3)
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Q59 Consider the following context:A wizard is working on a magic potion that will cure all types of sneezing. The wizard stirs in mandrake root, a little bit of wolf aura, and lets the cauldron simmer for 45 minutes on low heat. The wizard then adds a lock of unicorn hair and bottles the potion. It is ready! Sneezes beware! "The wizard finished the potion."How acceptable is the sentence above on the scale from 1 to 5 below?

- ◯ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ◯ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ◯ 3: I would most likely not say this sentence, although I could have heard it said. (3)
- ◯ 4: I could say this sentence, and I could have heard it said. (4)
- ◯ 5: I would say this sentence, and I would hear it said. (5)

Q60 Consider the following context:A wizard is taking a magic potion to stop his horrible bouts of sneezing. However, he will need to pick up more soon: the bottle is almost empty. Later that night, the wizard drinks the last drop of the potion. He will pick up more in the morning."The wizard completed the potion."How acceptable is the sentence above on the scale from 1 to 5 below?

- ◯   1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ◯   2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
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- ◯   4: I could say this sentence, and I could have heard it said. (4)
- ◯   5: I would say this sentence, and I would hear it said. (5)

Q61 Consider the following context:A wizard is taking a magic potion to stop his horrible bouts of sneezing. However, he will need to pick up more soon: the bottle is almost empty. Later that night, the wizard drinks the last drop of the potion. He will pick up more in the morning."The wizard finished the potion."How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
○ 4: I could say this sentence, and I could have heard it said. (4)
○ 5: I would say this sentence, and I would hear it said. (5)

Q66 Consider the following context:A dollop of whipped cream is the necessary, final touch for any cake!"The cake was completed with a dollop of whipped cream."

How acceptable is the sentence above on the scale from 1 to 5 below?
- ○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
- ○ 4: I could say this sentence, and I could have heard it said. (4)
- ○ 5: I would say this sentence, and I would hear it said. (5)

Q67 Consider the following context:A dollop of whipped cream is the necessary, final touch for any cake!"The cake was finished with a dollop of whipped cream."How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
○ 4: I could say this sentence, and I could have heard it said. (4)
○ 5: I would say this sentence, and I would hear it said. (5)

Q68 Consider the following context:

A famous museum was holding an exhibition of paintings, the most important of which was a little oil painting — without the oil painting, the museum exhibit would be totally lacking.

"The exhibition was completed with a little oil painting."

How acceptable is the sentence above on the scale from 1 to 5 below?

○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
○ 4: I could say this sentence, and I could have heard it said. (4)
○ 5: I would say this sentence, and I would hear it said. (5)

Q69 Consider the following context:
A dollop of whipped cream is the necessary, final touch for any cake!
"A dollop of whipped cream completed the cake."
How acceptable is the sentence above on the scale from 1 to 5 below?
- ○ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ○ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ○ 3: I would most likely not say this sentence, although I could have heard it said. (3)
- ○ 4: I could say this sentence, and I could have heard it said. (4)
- ○ 5: I would say this sentence, and I would hear it said. (5)

Q70 Consider the following context:

You collect butterflies. You managed to collect all the butterflies.

"I completed my butterfly collection."

How acceptable is the sentence above on the scale from 1 to 5 below?

- ◯ 1: I would never say this sentence, and I would never hear anyone say this sentence. (1)
- ◯ 2: I would never say this sentence, and I would never hear anyone say this sentence, but I can understand what it means. (2)
- ◯ 3: I would most likely not say this sentence, although I could have heard it said. (3)
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- ◯ 5: I would say this sentence, and I would hear it said. (5)