

## Telicity and event culmination in Hindi perfectives

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### Abstract

We report the results of an experimental study of Hindi speakers' judgments of telic perfective predicates describing events that either do or do not come to completion. We discuss the results in terms of a semantic vs. pragmatic treatment of telicity, as well as cross-linguistic differences in verb representation.

### 1 Introduction

The proper treatment of telicity has long been debated. Whether or not a predicate is telic apparently depends on a combination of factors. One important factor is the presence or absence of a feature (quantity) on the verb's complement. But while this may be a necessary condition (cf. *She walked to the store in an hour*), it is not sufficient: in, e.g., *push the cart*, the object is quantized but the predicate is nevertheless atelic. Other properties, such as whether the predicate involves a process component, are also relevant.

But context is also important in the calculation of telicity. Folli & Harley (2006), for example, note the contrast between (1a-b):

- (1) a. John lengthened a rope  
(\*in 2 minutes / for 2 minutes).  
b. The tailor lengthened a pair of trousers  
(in 2 minutes / for 2 minutes).

See also Borer (2005) for examples in which telicity results not from reaching a natural endpoint, but rather meeting a certain threshold.

These facts raise the question of how to understand the interplay between featural properties of the predicate (e.g., Vendler classes, quantization of object) and contextual/pragmatic factors for calculating telicity.

Adding to the complexity is a related puzzle, the one we pursue in the current study. This is the phenomenon whereby languages differ in whether telicity seems to co-occur with completion of the event. In a range of languages including Japanese (Ikegami, 1985), Tamil (Pederson, 2007), and Hindi (Kothari, 2008; Singh, 1998), a verb does not entail completion of the event it describes. In the Hindi sentence (2), for example, the verb appears in the perfective, but the event can end at some arbitrary endpoint before the apple is completely eaten. This is true even though (a) the verb's complement is quantized, and (b) the event is one, unlike *push the cart*, which has a natural endpoint (i.e. when the apple is completely eaten). (The English counterpart is infelicitous.) Note, however, that the default interpretation, without the cancellation, is still that the event has arrived at its natural endpoint.

- (2) Maya-ne biskuT-ko khaa-yaa  
(par use puuraa nahiin khaa-yaa)  
Maya-ERG cookie-ACC eat-PERF  
but it-ACC full not eat-PERF  
Maya ate a cookie #(but not completely)

In (3), a light verb appears on the main verb; it is infelicitous unless the event ends at its natural endpoint.

- (3) Maya-ne biskuT-ko khaa-li-yaa  
#(par use puuraa nahiin khaa-yaa)  
Maya-ERG cookie-ACC eat-take-PERF  
but it-ACC full not eat-PERF  
Maya ate a cookie #(but not completely)

One account for these facts would be to say that simple verb (SV) predicates as in (2) are atelic, and that a telicity feature is contributed by the light verb. Standard telicity tests asking whether SV predicates are atelic show mixed results, but do support this hypothesis. But if SV predicates are atelic, it remains to be explained why the default interpretation—if event culmination is not explicitly cancelled—involves full completion. Event completion appears to be im-

plicated, but not entailed, by the SV, and entailed by the complex verb construction (CV) in (3).

This phenomenon raises important questions. First, if the difference between the Hindi SV and CV is one of implication vs. entailment, rather than, e.g., the presence/absence of a quantity feature on the verb's complement, is a semantic (rather than pragmatic) treatment necessary?

Second, is there a parametric difference between Hindi-type and English-type languages? Syntactically, of course, English uses the SV sentence type for describing eventualities like these, but the unavailability of cancellation of event culmination suggests a meaning more like the Hindi CV. Are we to say that verbs in Hindi have a different meaning from their translation-equivalent English counterparts? (Ikegami (1985), for example, proposes that an English accomplishment or achievement is interpreted more like an activity in Japanese.)

The only full treatment of this phenomenon in Hindi that we are aware of is from Singh (1998). Singh posits a new thematic relation relating the event and the affected object, couched in a homomorphism approach; the difference between the SV and CV constructions lies in how much of the "theme" object is affected. This account makes several predictions, among them: (1) Only accomplishment predicates with incremental themes should show the SV-CV distinction, (2) *All* accomplishment predicates with incremental themes should show the distinction.

To test these predictions, we undertook an experimental study of Hindi speakers' interpretations of predicates that in English are construed as telic and entail completion of their endstates. We included accomplishment predicates with incremental themes, as well as achievement predicates, in a variety of contexts.

An experimental method served two functions. First, the judgments in question are often subtle, and experiments allow us to obtain a large number of judgments without speakers being aware of our theoretical interests. Second, the experimental method allowed us to carefully control the real-world context surrounding the events, such that only the relevant variables (whether events completed, and SV vs. CV syntax) varied.

## 2 Experimental Study

We showed Hindi speakers video clips of actions that either fully completed (e.g., woman eating a cookie), or partially completed (e.g., woman eating most of a cookie). At the conclusion of each

video clip participants heard an SV or CV sentence describing the video and were asked to provide a true/false judgment.

### Methods

**Participants.** Twenty-four adults participated.

**Materials.** For each of 8 predicates, we filmed pairs of short video clips. One video of each pair depicted a fully-completed event and the other depicted a partially-completed event.

At the end of each clip, participants heard a recording of a native speaker describing the event. Participants heard either an SV sentence (e.g., *us-ne biskut-ko khaa-yaa*, "She ate the cookie"), or a CV sentence (e.g., *us-ne biskut-ko khaa li-yaa*). They were asked to give a true/false judgment as to whether the sentence described the event they had viewed.

### Predictions

We predicted that if Hindi speakers are sensitive to the SV-CV distinction, participants would show different responses for partially-completed events depending on syntactic condition. Because CV sentences entail completion of the event they describe, we expected 0% acceptance of CVs as descriptions of partially-completed events. SV sentences were expected to have a high acceptance rate, though perhaps not 100%, given that the default interpretation for SVs is still full completion. Because both SV and CV sentences are felicitous descriptions of fully-completed events, we expected 100% acceptance, regardless of syntactic condition.

We made further predictions about the range of predicates to which the SV-CV distinction should apply. If partial completion interpretations arise via a homomorphism between the measuring out of the event and the theme object, then only accomplishments with incremental themes (*cover, draw, eat, fill*) should show the pattern. For all other predicates, both SVs and CVs should only be acceptable for fully-completed events, receiving an acceptance rate of 0% for partially-completed events.

### Results and Discussion

These predictions partially held. For fully-completed events, participants accepted both SV and CV sentences (99.5%). For partially-completed events, participants' responses differed by syntactic condition, with a higher acceptance rate for SV sentences (53%) than CV sentences (29%). An ANOVA on participant means revealed main effects of Event Completion ( $F(1,23) = 134.1, p < .001$ ), and Syntax ( $F(1,23) = 9.6, p < .01$ ), and a significant interaction ( $F(1,$

23) = 11.3,  $p < .005$ ). The same effects are evident in an analysis on predicate means instead of participant means (Event Completion:  $F(1, 7) = 83.9$ ,  $p < .001$ ); Syntax:  $F(1, 7) = 5.8$ ,  $p < .05$ , Interaction:  $F(1, 7) = 7.4$ ,  $p < .05$ ).

These results support the distinction described in the literature whereby SV sentences can describe events with arbitrary endpoints, while CV sentences can only describe events that reach their natural endpoints.

But our predictions about the range of predicates which should show this distinction did not entirely hold. Of the four canonical incremental theme predicates (*cover*, *draw*, *eat*, *fill*), all but *draw* showed the pattern in the expected direction. *Draw* (*a circle / a flower*) showed no difference between the two syntactic conditions, although in both conditions acceptance rates were relatively high (40%), suggesting that partial completion interpretations *are* available.

For the achievement predicates (*extinguish*, and *pluck*), SV sentences were accepted more often than CV sentences as descriptions of partially-completed events, though the differences are not statistically significant. However, all three trials had very low acceptance rates, even for SV sentences. *Pluck*, for example, yielded just a 17% acceptance rate for SV sentences describing partially-completed events, suggesting that most speakers require a plucking event to be fully-completed to be describable with this predicate, regardless of syntactic condition.

For *wake* and *extinguish*, there were trials in which, for partially-completed events, the event reached its natural endpoint, but then retracted to its initial state. For example, in the *wake* trials, the partially-completed video showed a man jostled into some state of wakefulness, slightly opening his eyes, but quickly closing them again and returning to an apparent sleep state. For both of these predicates, the SV-CV distinction manifested, in the predicted direction. This is contrary to our prediction that only predicates with a process component and/or incremental theme should show the SV-CV distinction.

This finding lends further support to the idea that the conditions for the SV-CV distinction are heavily context-based, and not dependent on the amount of the theme object which has been affected, nor on how much of the process has been achieved, but rather on a perception of whether the action has been functionally completed. For CVs, the object must be in the relevant endstate at the time of evaluation (here, when the video ends and the sentence is uttered), even if the end-

state was achieved at some point.

This striking result requires a rethinking of the importance of quantization, process components, incremental themes, and other features with respect to the SV-CV distinction, and has consequences for our understanding of telicity.

### 3 Conclusions

The data confirm that while SV and CV perfectives are equally compatible with natural endpoints, they differ with regards to their relative compatibility with arbitrary endpoints. SV perfectives can be used to describe events with arbitrary endpoints, while CVs cannot. However, the distinction is graded rather than categorical, with SVs only accepted half the time. Our results also show that the SV-CV distinction is not limited to events that involve an incremental theme. Predicates like ‘wake up’, for example, showed the expected SV-CV difference in the Partial condition, even though it is an achievement and in fact involves no incremental theme. Rather, whether or not an event arrived at its intended, pragmatically-determined ending point appears to underlie the SV-CV distinction (Kothari, 2008).

Within and across languages, context mediates interpretation of event completion. Of course, the grammatical distinction between SV and CV contributes to interpretation as well. But what role is there for a semantic/featural approach to telicity? These results support a pragmatic approach in at least two areas. First, we have demonstrated that incremental affectedness of a theme object is not the primary semantic criterion affecting interpretation; a semantic homomorphism treatment is not the whole story. Second, the relatively low acceptance of SVs for partially-completed events supports our hypothesis that the default interpretation is one of full completion. This can be explained pragmatically as well. Because full completion (telic) interpretations *entail* partial completion interpretations, the full completion interpretation is stronger, and therefore speakers may prefer it (acting on Gricean quantity) unless context strongly drives a partial completion interpretation.

The pragmatic approach provides a clear reason why languages like English and languages like Hindi should differ; because Hindi has the syntactic availability of the CV construction, the SV takes over a different function. Pederson (2007) argues that while English has a number of ways to express incompleteness (e.g., *almost*, *halfway*), this is not universal; languages may

use other devices, here the CV, to achieve this semantic function. Translation, then, need not be radical; Hindi and English verbs pick out similar concepts, but the availability of different linguistic and pragmatic factors conspire to make event completion more or less strongly implicated.

## References

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