



## 9.4 SYNTACTIC–SEMANTIC INTERFACE: A NEW LOOK TO ASPECTUAL COERCION

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### Abstract

The mechanisms by which the meaning of a sentence is composed was the theme of many psycholinguistics works in the last few years. In regard to Aspectual Coercion, behavioural studies have yielded different kinds of results. The strongest hypothesis is the Iterative Coercion. Recent theories of syntactic-semantic interface as Tenny (1992) look at the semantic properties of an event as a result of the merge of the verb and its internal argument predicting an influence of the object in defining telicity of events. Reviewing some psycholinguistic results, this work propose that aspectual properties are processed in phases.

### Keywords

syntactic-semantic interface, aspect, iterative coercion

### Introduction

In the last few years, Aspectual Coercion constitutes a growing realm of psycholinguistic research, aiming at answering questions as to what mechanisms are involved in the interpretation of some aspectual mismatches such as in (1) below.

(1) *Mary broke the dish the whole day,*

We can describe the mismatch in (1) by stating that there is a punctual event taking place in a durative context. For Talmy (1978) “*Sentence is taken to evoke in the listener a meaning complex, here called a ‘cognitive representation’.* The lexical elements of the sentence, to simplify, by and large specify the content of the cognitive representation, while the grammatical elements specify its structure”. If there is no specific word that encodes the information that it is a series of ‘broke events, this information must be encoded in the grammar. This paper will go over some of the possibilities explored in the literature of this syntactic encoding.

### Aspectual Mismatch Resolution

There are at least four hypotheses of aspectual mismatch resolution (Brennan & Pytkäinen 2008). This work focus on two of them: *Underspecification Hypothesis* and *Iterative Coercion*. Underspecification Hypothesis (Moens & Steedman 1988) argues that (i) there are no representational differences between punctual and durative events, and (ii) that aspectual properties are underspecified.



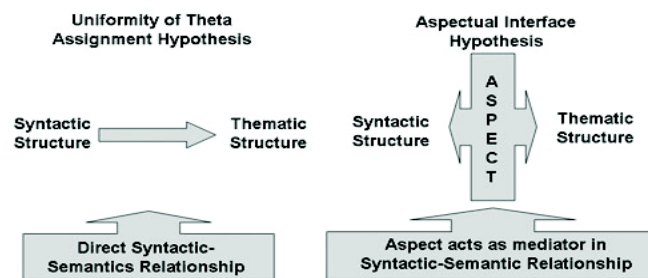
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For compositionality to be possible in Iterative Coercion (Pustejovsky 1995, Jackendoff 1997) it must have a mechanism in semantics applying a meaning shift to the punctual event for it to be compatible with the durative modifier.

Some experiments were built aiming to find the effects of iterative coercion. Piñango et al. (1999) ran a dual task paradigm experiment. The volunteers listened to sentences as those in (2) but, in the moment marked below with a star (\*) a letter sequence was shown to the subjects so that they would judge if it was an English word or not. The results report an increase of RTs in coerced sentences like (2b) with a punctual event and a durative modifier, indicating that coercion does exist.

- (2) a. The man examined the little bundle of fur for a long time \* to see if it was alive.
- b. The man kicked the little bundle of fur for a long time \* to see if it was alive.

The hypothesis in theoretical linguistic could give us some cues of how aspectual properties are processed. Syntactic-Semantics Interface Hypothesis predicts an important role of boundness in defining event classes and event properties. For Tenny (1992) aspectual properties plays a crucial role acting as the mediator of the relation between syntax and semantic roles. Syntactic structure sees only a generalization of thematic structure called *Initiator* and *Event Measurer*, the same as the *Proto-Agent* and *Proto-Patient* (Dowty 1991), the *Object of Origin* and *Object of Termination* (Van Voorst 1991).



Also Leech (1971) and Mourelatos (1978) observed the influence of accountability of internal arguments on event classification. Todorova *et al.* (2000)

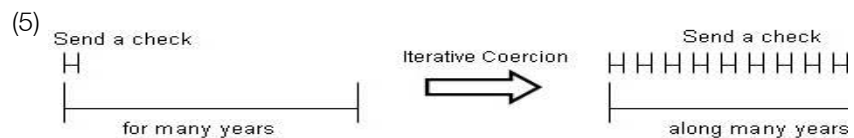




push this same idea in a stop making sense test, expecting singular objects [a large check] delimiting the endpoint of events to show more salient coercion effects than bare plural objects [large checks] that do not delimit events. In their experiment a series of sentences combining these objects to undefined durative modifiers [for many years] and defined durative ones [last year], such as those in (4), is presented to the volunteers who are asked to judge their acceptability. The results show longer reading times and twice as many rejection judgments in sentences with a punctual events and a durative modifier (4a). Through these results we can conclude that internal arguments really influence the events interpretation and that the delay in RTs of iterative events is not associated with the iterative reading itself, but with a coercion effect of single event occurring in a durative context.

- (4) a. Even though / Howard *sent* / a large check / to his daughter / for many years, / she refused to accept his money.
- b. Even though / Howard *sent* / large checks / to his daughter / for many years, / she refused to accept his money.
- c. Even though / Howard *sent* / a large check to his daughter / last year, / she refused to accept his money.
- d. Even though / Howard *sent* / large checks / to his daughter / last year, / she refused to accept his money.

Given these results, we propose that aspectual properties of events are processed in phases. In the first moment, the verb lists which aspectual interpretation could be accepted. In the syntax, the verb merges its internal argument to define boundness and punctual/durative interpretation. Afterwards, a temporal modifier adverb could be inserted specifying a timeline in which the event will be developed. When the verb cannot fulfill that timeline, it will be interpreted as taking place again and again until the timeline is completed (Cf. 5).



On the other hand, Pickering *et al.* (2006) shows a counter-example to these results. The work consists in a self-paced reading and an eye tracker experiment with Piñango's and Todorova's stimuli. No relevant results were found. Pickering





and colleagues argue that aspectual properties could be fully committed when an immediate decision is needed, such as in the dual task used in the other experiments. In normal reading aspectual properties are underspecified.

However, stimuli were modified for their experiments. In Piñango's stimuli, Pickering places the adverb in sentence first place in order to focus a possible coercion effect over a single word (the verb) rather than an adverbial phrase (6).

- (6) a) *For a long time the man examined the little bundle of fur to see if it was alive.*  
b) *For a long time the man kicked the little bundle of fur to see if it was alive.*

In Todorova's stimuli, the durative adverb [for a long time] was substituted for an iterative one [each year]. None of the four experiments found relevant effects (7).

- (7) a) *Howard sent / a large check / to his daughter / every year / but as / usual, she refused / to accept his money.*  
b) *Howard sent / large checks / to his daughter / every year / but as / usual, she refused / to accept his money.*

We consider the findings in Pickering *et al.* (2006) could be not due to the 'normal reading' but of the changes in original stimuli. In Todorova's stimuli the iterative modifier does not define a timeline but it indicates that the event is *punctual once a year*. The durative modifier in the original stimuli however, indicates the event does take place longer than it can, characterizing a coercion to iterative reading. Piñango's stimuli on the other hand defines the timeline before the merge of the verb and its internal argument, resulting no coercion effects.

### Conclusion

There are evidences that aspectual properties are processed in phases and that the temporal modifier could change the first aspectual interpretation resulting the coercion effect. When the adverbial modifier is fronted, the timeline in which the event will occur is processed earlier, thus the aspectual properties of events will be automatically adjusted to fit in the timeline, resulting in no coercion effect. The next step of this research is to build an experimental protocol to test phase aspectual processing.





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