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The Role of Verb Meaning in the Calculation of Aspectual Interpretations

Abstract

A compositional approach to semantic interpretation bases itself on the contribution of each individual lexical and morphological item contained in a sentence. This paper focuses on the role of the dictionary meaning of verbs in the compositional approach to aspect. Lexicography can benefit from the analysis proposed as it makes it possible to better distinguish the semantics intrinsic to a particular verb from the semantics of its syntactic context.

This paper¹ shows that the meaning of individual verbs plays an important role in aspectual interpretations of sentences. The study of the interplay between a verb and the aspectual context in which it may occur can serve as the basis for determining a verb's meaning more precisely. One of the most marked outcomes of the proposed analysis is that many properties of verbs, usually associated with their dictionary meaning, may have to be attributed to their syntactic context. The present analysis ventures into an area of research in lexical semantics that has received relatively little attention (Bondarko 1991).

Using a compositional approach, the semantic interpretation of a sentence depends on the contribution of each individual lexical and morphological unit contained in that sentence. The contribution of a specific unit can only be determined when we differentiate aspects of meaning intrinsic to it from aspects of meaning that are inherent to its syntactic or morphological context. Taking into account the subtle interplay between an individual lexical or morphological unit and its context prevents an analysis that puts too much semantic content into a single unit and makes it possible to better understand the meaning of this unit.

Following Verkuyl (1972) and (1993), I assume that aspectual interpretations are calculated compositionally and are based on the elements of meaning contributed by each lexical and morphological unit contained in a sentence. Aspectual classifications of verbs, like those of Vendler (1967) and Dowty (1979), are largely noncompositional and do not establish a relationship between the semantics of individual verbs and the various aspectual contexts in which they may occur. For instance, many verbs can occur in a syntactic context having an agentive interpretation and in one having a nonagentive achievement interpretation (Voorst 1993). It is

difficult to find an explanation in the literature for why this should be the case. However, the empirical necessity to include the dictionary meaning of individual verbs in aspectual classifications surfaced very early. Verkuyl (1972) employs the notion of additivity to distinguish perception verbs like *see* from action verbs like *eat*. *See*, unlike *eat*, does not become an accomplishment in the presence of a definite direct object.

- (1a) He saw the turnip *in an hour/for an hour
 (1b) He ate the turnip in an hour/*for an hour

The calculation of a sentence's aspectual interpretation results in only a limited number of outcomes, and the numerous studies using the ideas originally proposed in Vendler (1967) generally restrict themselves to 3 to 5 interpretations. The model I will use to define these outcomes is that of Voorst (1993a, 1993b) which limits their number to five. All 5 interpretations involve contextual information as they apply to complete sentences. The model is defined by a continuum that is based on the increasing magnitude of closeness between the 'subject'–participant and the 'object'–participant. The closeness relevant to the model must be a direct consequence of the energy generated by the 'subject'–participant when it sets the event in motion. A higher level of closeness goes hand in hand with a higher level of influence of the 'subject'–participant on the 'object'–participant. The 5 classes can be defined as follows:

- (2a) *States*: no closeness established → the subject does not produce energy:
 Le buffet domine toute la chambre
 'The buffet dominates the room'
- (2b) *Achievements*: closeness but no control → the subject produces energy to include the direct object in its realm:
 Il a entendu les enfants dans le couloir
 'He heard the children in the hallway'
- (2c) *Activities I*: exterior contact → the subject can control the direct object but it cannot affect its substance:
 Il a roulé la balle sur le tapis
 'He rolled the ball on the carpet'
- (2d) *Activities II*: partial interior contact → the subject controls the direct object and affects part of its substance:
 Il a distribué des bonbons aux enfants
 'He distributed candies to the children'
- (2e) *Accomplishments*: complete interior contact → the subject controls the direct object and affects its substance completely (telicity):
 Il a distribué les bonbons aux enfants
 'He distributed the candies to the children'

Following Ruhl (1989), I will assume that lexical items are basically monosemous. This implies that the occurrence of a particular verb in one or more of the five aspectual contexts must depend on the compatibility of a verb's dictionary meaning with the semantic interpretation of the elements surrounding it.

The verb *savoir* 'to know', the epitome of a state, is defined by Franckel and Lebaud (1990) as identifying the location (i.e., the one who knows) of a certain amount of knowledge. Any implication of the presence of energy seems to be markedly absent from the verb's meaning, which means that the construction in which the verb occurs cannot involve the creation of 'closeness'. This destines the verb to the aspectual category of state (2), which again excludes the creation of closeness.

Vandeloise (in print) defines *toucher* 'to touch' as an energy transmission that is minimal. This transmission is not necessarily controlled (3a), although it may be (3b).

- (3a) C'est en jetant son manteau par terre qu'elle a touché l'armoire par hasard
 'When she threw her coat on the floor, she touched the cupboard accidentally'
- (3b) Elle a touché l'armoire afin de vérifier la qualité de son vernis
 'She touched the cupboard in order to check the quality of its varnish'

Frapper 'to hit', 'to strike' can be defined as the coming into being of an abrupt impact (i.e. la frappe). This impact must be the result of a transmission of energy that cannot be minimal. Again this interaction does not need to be controlled (4a), although it may be (4b).

- (4a) C'est en jetant son manteau par terre qu'elle a frappé l'armoire de son bras
 'When she threw her coat on the floor, she hit the cupboard with her arm'
- (4b) Elle a frappé la vieille armoire avec un bâton de baseball
 'She hit the old cupboard with a baseball bat'

If we assume that the dictionary meaning of these two verbs does not imply a controlled action, we have to conclude that the agentivity of the subject in (3) and (4) is not inherent in their meaning. In other words, this agentivity is due to the subject, which, as an animate being, can be agentive or not. In addition, the optionality of the action being controlled increases the probability that *toucher* and *frapper* may occur in constructions with the (nonagentive) achievement interpretation (i.e., 2b). This is confirmed by (5b) which shows that both verbs allow the psychological reading that typically coincides with an achievement interpretation (Voorst 1992).

- (5a) Ces événements violents ont beaucoup touché ma mère
 ‘These violent events touched my mother very much’
 (5b) Ces événements m’ont frappé par leur violence
 ‘These events struck me because of their violence’

The state reading is only possible for *toucher*, which is as expected, because a minimal physical interaction may very well lack the energy necessary to establish closeness. *Frapper* cannot have the state reading, as an abrupt impact is not possible in the absence of energy.

- (6a) La pomme touche le panier (Vandeloise (1993))
 ‘The apple touches the basket’
 (6b) Les rideaux frappent le mur
 (*the drapes being stationary against the wall)
 ‘The drapes strike the wall’

The energy transmitted is too small to invoke a change of state when we encounter a minimal transmission of energy. However, an abrupt impact produces a sufficient amount of energy to produce a change of state. For this reason *frapper* (7b), but not *toucher* (7a), allows the accomplishment interpretation.

- (7a) Il a touché le mur (*-> the wall undergoes a change of state)
 ‘He touched the wall’
 (7b) La Monnaie royale canadienne a frappé cette médaille en 1957 (-> the medal undergoes a change of state, i.e. it is produced)
 ‘The Royal Canadian Mint struck this medal in 1957’

Ronger, finally, involves relatively well-defined and willed actions. (8a) shows that we cannot eat something by engaging in actions other than those related to eating (Vendler 1984, Feinberg 1965).

- (8a) *La gerboise a rongé la noix en se la mettant dans la bouche (assuming that no chewing and swallowing took place)
 ‘The gerbil gnawed at the nut by putting it in its mouth’
 (8b) Ces événements violents m’ont beaucoup rongé
 ‘These violent events ate away at me a lot’

These controlled actions are so essential to this verb that an achievement interpretation remains excluded even when the verb is used in a construction with a psychological reading. (8b) continues to retain all the properties of an accomplishment. Consequently, it continues to imply, although in a metaphorical manner, the control the events exert over the entity they affect.

My approach contrasts strongly with those found in lexical semantics, which start with the idea that verbs are polysemous and simply list a verb’s

thematic role properties or its predicate argument structures. These frameworks make it impossible to differentiate between the contribution of a verb and the contribution of its context. Applying these analyses, verbs can have as many theta frames or analyses in terms of semantic predicates, as is necessary to account for all of their uses.

Grimshaw (1990), an example of a lexical semantics approach, proposes that action verbs that can have an agentive as well as a psychological interpretation must be analysed thematically as in (8).

- (8a) Π_{Theme} a frappé son collègue_{Experiencer} par son intelligence
 'He struck his colleague with his intelligence'
 (8b) Π_{Agent} a frappé son collègue_{Theme}
 'He struck his colleague'

In addition, Grimshaw assumes that it is not necessary for a psychological verb to be related to an action verb for it to have an agentive subject.

- (9a) Pierre_{Agent} effrayait l'ours afin de le chasser de sa cour
 'Pierre frightened the bear in order to chase it out of his backyard'
 (9b) Ces débats_{Theme} ont beaucoup effrayé les électeurs de l'ouest du pays
 'These debates frightened the voters in the western part of the country a great deal'

The dictionary meaning of the verb is not drawn into the semantic analysis in the above approach. Grimshaw does not attempt to identify the reasons why a verb like *frapper* can have an agentive as well as a psychological reading.

The dictionary meaning of verbs has an important role to play in the calculation of the aspectual interpretation of a sentence. Although this has been implicitly assumed in certain studies of verb classification, the role that verbs play in this calculation has not been elaborated. Lexicography can benefit from this type of research as it helps us to distinguish more clearly the semantic contribution of the verb from the contribution of its syntactic context.

Notes.

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