

# SEMANTICS

CRITICAL CONCEPTS  
IN LINGUISTICS

Edited by  
JAVIER GUTIÉRREZ-REXACH

# SEMANTICS

Critical concepts in linguistics

*Edited by Javier Gutiérrez-Rexach*

Volume IV

The semantics of predicates and inflection



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# INTRODUCTION

The study of the meaning of predicates can be traced back to the contributions of Aristotle and, in this century, to seminal work by philosophers such as Anthony Kenny, Gilbert Ryle and, most prominently, Zeno Vendler. In his ground-breaking article (47), Zeno Vendler distinguishes four eventuality types or aspectual classes: states, activities, accomplishments, and achievements. Several tests allow us to distinguish the predicates belonging to each class. It can also be the case that a single verb is ambiguous and describes one or more aspectual classes depending on a variety of factors. The interplay between these empirical issues and theoretical considerations fueled an important debate in the following decades.

Another approach to the semantics of predicates, not incompatible with the study of aspectual typology, is to refine their logical forms with the assumption that they make reference to events. Events, following the insight by Donald Davidson, can be encoded in the logical form of an action sentence as an argument of the verb that can be quantified over. Neo-Davidsonian approaches generalized the event argument to all predicate classes and proposed enriched logical forms that included the analysis of thematic relations (cf. 52, 53, and 54). Terence Parsons (48) presents an explicit Neo-Davidsonian treatment of the logical form of English predicates that incorporates an analysis of aspectual classes and adverbials, and a discussion of further problems, such as the individuation of events.

Emmon Bach (49) discusses several parallelisms between events and quantities. Following Link's proposal (41) on the structure of the domain of individuals, he extends the algebraic treatment to the domain of eventualities. He explores the analogy between events and plural individuals, and between bounded processes and portions of matter.

Henk Verkuyl (50) defends the hypothesis that verbal aspect is not only determined by the verb/predicate and its intrinsic characteristics but, more importantly, by the composition of the verb and the noun phrases that it takes as arguments. In other words, aspect is inherently compositional. Aspect composition is asymmetrical in that the verb and its direct-object noun phrase constitute verb-phrase aspect and combine with the subject

noun phrase to yield sentential aspect. He proposes a feature [+ADD TO] and a model-theoretic interpretation for it in terms of a successor function.

James Pustejovsky (51) refines the typology of aspectual classes by introducing the notion of subevent structure. He defines a calculus of aspect where verbs are represented as sequences of events and states. He proposes to divide eventualities in three groups (states, processes, and transitions), as a function of their different subevent structure.

Thematic relations, also called case relations by Fillmore or thematic roles by Jackendoff and others, are very controversial in semantic theory, given that they seem to be superfluous in a system such as the one proposed by Montague. Greg Carlson (52) devises a system in which thematic roles are required, by including events as primitives. He argues that thematic roles have an intermediate status between syntax and semantics.

Malka Rappaport and Beth Levin (53) attempt to clarify the role of theta-roles in grammatical theory, reconciling two opposite positions: one incorporates thematic roles in a variety of rules or principles, the alternative concludes that they are unnecessary. They distinguish two different levels of representation (lexical syntactic and lexical semantic representation), and conclude that theta-roles are not primitive at any level.

David Dowty (54) reduces the theory of thematic relations to the theory of thematic proto-roles. Thematic roles should be viewed as prototypes: proto-Agent and proto-Patient, each one of them associated with different entailments. The contributing properties of the Agent proto-role are volitional involvement, sentience, causing an event or change, movement, etc. The contributing properties of the Patient proto-role are undergoing a change of state, incremental theme, causally affected, etc.

The second part of this volume of the anthology comprises several papers on the semantics of tense and aspect, information that is linguistically encoded in the form of auxiliaries or inflectional morphemes independent of the main lexical verb of a sentence. The standard treatment of the logical form of these expressions is to translate them as tense/modal operators with scope over the clause. Hans Reichenbach (55) proposed a three-dimensional theory of tense interpretation in which natural language tenses are interpreted with respect to three temporal points or intervals: the point of the event (event time), the point of reference (reference time), and the point of speech (speech time). The simple past, past perfect, present perfect, present, simple future, and future perfect are tenses that emerge as different configurations of these points along the time line.

David Dowty (56) studies the effect of aspectual class on the temporal order of discourse and concludes that the proper explanation of discourse ordering has to rely to a considerable degree on pragmatics.

Mürvet Enç (57) argues against the classical conception of tense as an operator manipulating times in the metalanguage and claims that tenses are

referential expressions. This makes it possible to provide a satisfactory semantics for the interpretation of tenses in embedded clauses.

Dorit Abusch (58) presents a theory of tense interpretation in main and embedded clauses. She focuses on the contrast between the sequence-of-tense theory and the independent theory of tense, and develops the notion of a transposing context.

Marc Moens and Mark Steedman (59) propose a temporal ontology based on the notions of causation and consequence rather than on temporal primitives. This system can eliminate some of the anomalies and ambiguities that plague accounts of natural-language tenses based on linear models of time.

Dorit Abusch (60) sketches several problems for Enç's treatment of tense in embedded contexts and proposes that temporal constituents can be interpreted "de re," formalizing this idea along de lines of David Lewis's theory of "de re" belief.

Toshiyuki Ogihara (61) discusses the interaction between tenses and adverbs of quantification in temporal adverbial clauses. He extends a sequence-of-tense rule to these environments and analyzes the scopal relations that emerge.

Henriëtte de Swart (62) extends generalized quantifier theory to cover temporal quantification. She interprets adverbs of quantification as generalized quantifiers and explores what the relevant objects of quantification are and whether the general properties of extension, conservativity, and quantity apply as in the nominal domain. She also considers further linguistic repercussions of this idea.

Angelika Kratzer (63) starts with a characterization of the German modal system and proposes a possible-world account of modality in which this notion is interpreted with respect to a conversational background. Modal operators are evaluated with respect to a modal base, i.e. a set of accessible worlds, and to an ordering on that set or ordering source.

Donka Farkas (64) tackles the issue of the interpretation of the subjunctive in Romance languages (French and Romanian). She argues that mood distribution is not random and that previous approaches are insufficient. She develops an account of modal anchoring in Discourse Representation Theory that allows for a more perspicuous theory of mood selection.

Finally, Paul Portner (65) claims that all natural language clauses are modal and involve quantification over a set of possible worlds in the modal base. The modal base of a sentence is context dependent and requires implementing a formal system in which modal bases are treated as discourse referents.



## Part A

# EVENTS, ASPECT, AND THEMATIC ROLES



# VERBS AND TIMES

*Zeno Vendler*

Source *The Philosophical Review*, 56, 1957, pp 143-160

4.1. The fact that verbs have tenses indicates that considerations involving the concept of time are relevant to their use. These considerations are not limited merely to the obvious discrimination between past, present, and future; there is another, a more subtle dependence on that concept: the use of a verb may also suggest the particular way in which that verb presupposes and involves the notion of time.

In a number of recent publications some attention has been paid to these finer aspects, perhaps for the first time systematically. Distinctions have been made among verbs suggesting processes, states, dispositions, occurrences, tasks, achievements, and so on. Obviously these differences cannot be explained in terms of time alone: other factors, like the presence or absence of an object, conditions, intended states of affairs, also enter the picture. Nevertheless one feels that the time element remains crucial; at least it is important enough to warrant separate treatment. Indeed, as I intend to show, if we focus our attention primarily upon the time schemata presupposed by various verbs,<sup>2</sup> we are able to throw light on some of the obscurities which still remain in these matters. These time schemata will appear as important constituents of the concepts that prompt us to use those terms the way we consistently do.

There are a few such schemata of very wide application. Once they have been discovered in some typical examples, they may be used as models of comparison in exploring and clarifying the behavior of any verb whatever.

In indicating these schemata, I do not claim that they represent all possible ways in which verbs can be used correctly with respect to time determination nor that a verb exhibiting a use fairly covered by one schema cannot have divergent uses, which in turn may be described in terms of the other schemata. As a matter of fact, precisely those verbs that call for two or more time schemata will provide the most interesting instances of conceptual divergence in this respect—an ambiguity which, if undetected, might lead to

confusion. Thus my intention is not to give rules about how to use certain terms but to suggest a way of describing the use of those terms. I shall present some "*objects of comparison* which are meant to throw light on the facts of our language by way not only of similarities, but also of dissimilarities . . . a measuring rod; not as a preconceived idea to which reality *must* correspond."<sup>3</sup>

4.2. Our first task therefore will be to locate and to describe the most common time schemata implied by the use of English verbs. To do this I need some clear-cut examples which, at least in their dominant use, show forth these schemata in pure form. At this stage, I shall try to avoid ambiguous terms and ignore stretched and borderline uses.

I start with the well-known difference between verbs that possess continuous tenses and verbs that do not. The question

What are you doing?

might be answered by

I am running (or writing, working, and so on)

but not by

I am knowing (or loving, recognizing, and so on).<sup>4</sup>

On the other hand, the appropriate question and answer

Do you know . . . ?

Yes, I do

have no counterparts like

Do you run?

Yes, I do.<sup>5</sup>

This difference suggests that running, writing, and the like are processes going on in time, that is, roughly, that they consist of successive phases following one another in time. Indeed, the man who is running lifts up his right leg one moment, drops it the next, then lifts his other leg, drops it, and so on. But although it can be true of a subject that he knows something at a given moment or for a certain period, knowing and its kin are not processes going on in time. It may be the case that I know geography now, but this does not mean that a process of knowing geography is going on at present consisting of phases succeeding one another in time.



First let us focus our attention on the group of verbs that admit continuous tenses. There is a marked cleavage within the group itself. If it is true that someone is running or pushing a cart now, then even if he stops in the next moment it will be still true that he did run or did push a cart. On the other hand, even if it is true that someone is drawing a circle or is running a mile now, if he stops in the next moment it may not be true that he did draw a circle or did run a mile.<sup>6</sup> In other words, if someone stops running a mile, he did not run a mile; if one stops drawing a circle, he did not draw a circle. But the man who stops running did run, and he who stops pushing the cart did push it. Running a mile and drawing a circle have to be finished, while it does not make sense to talk of finishing running or pushing a cart. Thus we see that while running or pushing a cart has no set terminal point, running a mile and drawing a circle do have a “climax,” which has to be reached if the action is to be what it is claimed to be. Accordingly, the question

For how long did he push the cart?

is a significant one, while

How long did it take to push the cart?

sounds odd. On the other hand

How long did it take to draw the circle?

is the appropriate question, and

For how long did he draw the circle?

is somewhat queer. And, of course, the corresponding answers will be

He was pushing it for half an hour

and

It took him twenty seconds to draw the circle

or

He did it in twenty seconds

and not vice versa. Pushing a cart may go on for a time, but it does not take any definite time; the activity of drawing may also go on for a time, but it takes a certain time to draw a circle.