

The discussion is organized as follows. In chapter 1 I introduce the semantic background, summarizing various arguments that have led to the view that sentences are descriptions of events.

In chapter 2 I turn to focus and its effect on quantification, in particular its effects on the tacit quantification over events introduced in chapter 1. I propose that focus at LF reshapes the quantificational structure of unary quantifiers by making the nonfocused material in their scope part of not only their scope but also their restriction (focal mapping). I use the structured Davidsonian decomposition that results from focal mapping to explain certain pragmatic consequences of focusing. A central feature of the proposed analysis is that it maintains a simple, two-valued semantics, one that does not rely on semantic presupposition. In this context I also consider in some detail the interaction between focus and negation. In an appendix to the chapter I look at the difference between contrastive and noncontrastive focus, attributing it not to the existence of different kinds of focus, but to the pragmatic properties of varying the intonation contours with which focus can be pronounced.

Having dealt with covert quantification over events in chapter 2, in chapter 3 I examine overt event quantification involving adverbs, showing that the analysis proposed in chapter 2 carries over straightforwardly to this phenomenon. I explore several predictions the analysis makes with respect to the quantificational variability of indefinites. I also propose an account of so-called second occurrence focus that is consistent with the overall idea that the quantificational structure of adverbial quantifiers is very directly shaped by focus.

Gradually moving from covert and overt adverbial quantifiers to determiners, in chapter 4 I take up the interpretation of *only* and its close relative *even*, which resemble adverbs in some respects, but determiners in another. I address various questions regarding their semantics—for example, whether *only* has existential force, whether *only* is conservative, and whether *even* is lexically ambiguous. Extending the analysis of focus and quantification developed in chapters 2 and 3, I propose that *only* and *even* are adverbial-like at LF; should they not surface in an adverbial position, they covertly move to such a position by a process of Q-raising.

Q-raising also plays an important role in chapter 5, where I investigate how focus affects the interpretation of determiners. I show that weak noun phrases are more susceptible than strong noun phrases to the effects of focus. I propose that this is so because weak determiners can take their scope through Q-raising, whereas strong determiners always have to take

their scope through (an equivalent of) QR. I argue that the definiteness effect is intrinsically tied to Q-raising.

## 1.2 Sentences as Descriptions of Events

The analysis of focus and quantification that I propose in this monograph assumes that sentences are best thought of as descriptions of events (where “event” is meant in a generous sense that also includes states). Developing an analysis of focus that relies on event semantics, I try to provide a further argument for this general claim. In what follows I briefly summarize some of the arguments in favor of an event-based semantics.

Traditionally, we think of a sentence like (1) as a predication where the verb *love* is a two-place predicate taking *Mary* and *John* as its arguments, as shown in (2).

(1) John loves Mary.

(2) Love(john,mary)

Although (2) is simple and gives an intuitively correct interpretation, it has been argued that sentences should be accorded more involved interpretations than assumed in (2). The proposal is that the verb decomposes into a “subatomic” semantics (e.g., Parsons 1990). The sentence *John loves Mary* now describes an event (again, in the loose sense) of loving where John is the lover and Mary is the loved one.

(3)  $\exists e$  (Love(e) & Lover(e,john) & Loved-one(e,mary))

On this view all verbs translate as one-place predicates of events, regardless of whether they are syntactically unaccusative, intransitive, transitive, or ditransitive. Like verbs, adverbial modifiers are direct predicates of events (see below). Now that verbs are analyzed as one-place predicates, what are traditionally considered the arguments of the verb (e.g., *John* and *Mary* in (2)) are tied to the verb only indirectly through a relation that links an event described by the verb to the participants in that event. In (3) this relation is expressed by “Lover” and “Loved-one,” respectively. More standardly, the relations are provided by theta-roles, as in (4) (see Parsons 1990).

(4)  $\exists e$  (Love(e) & Experiencer(e,john) & Theme(e,mary))

Even though (4) makes use of theta-roles, it is worth noting that a full-fledged event semantics is not committed to the existence of a general

definition of the individual theta-roles agent, experiencer, theme, and so on. All that is needed is that the event participants can be distinguished relative to each verb (see Parsons 1990, 101ff., Schein 1993, 331ff.). This is just as well, because a general definition of the individual theta-roles is notoriously difficult, perhaps even impossible (see Dowty 1989).

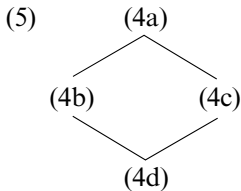
Why should we accept this more elaborate way of analyzing *John loves Mary* when the traditional “Love(john,mary)” seems to do the job? In chapters 2 and 3 I show that the semantics of focus and adverbial quantification makes event decomposition attractive because it allows for a simple and empirically detailed analysis of the effects of focus. In what follows here I discuss some of the independent reasons indicating that it makes sense to analyze sentences as descriptions of events. This includes both Davidson’s (1967) classical argument and a more recent argument for treating the arguments of the verbs as forming their own conjuncts (“separation”).

### 1.3 Adverbials as Predicates of Events

Davidson’s (1967) original argument for thinking of sentences as descriptions of events stems from the semantics of adverbs. He proposes to treat adverbs like *silently*, *yesterday*, *with a knife* as predicates that apply to an event introduced by the verb. The empirical reason behind this proposal is that it allows us to explain certain entailment patterns that we find with adverbs.

Notice first that (4a) entails all of (4b), (4c), and (4d). Moreover, (4b) and (4c) entail (4d).

- (4) a. Brutus stabbed Caesar in the back with a knife.  
 b. Brutus stabbed Caesar in the back.  
 c. Brutus stabbed Caesar with a knife.  
 d. Brutus stabbed Caesar.



This entailment pattern, represented in the diamond in (5), is explained if verbs describe events and adverbs are predicated of these events because,

simply put, the longer conjunctions entail the shorter ones. If there was a stabbing where Brutus was the agent, Caesar was the theme, it was a stabbing in the back, and it was done with a knife, then it follows that there was a stabbing where Brutus was the agent, Caesar was the theme, this stabbing was a stabbing in the back; and so on.

- (6) a.  $\exists e$  (Stab(e) & Past(e) & Agent(e,brutus) & Theme(e,caesar) & In-the-back(e) & With-a-knife(e))

“There was a stabbing whose agent was Brutus, whose theme was Caesar, which was a stabbing in the back, and which was a stabbing with a knife.” (cf. (4a))

- b.  $\exists e$  (Stab(e) & Past(e) & Agent(e,brutus) & Theme(e,caesar) & In-the-back(e))

“There was a stabbing whose agent was Brutus, whose theme was Caesar, and which was a stabbing in the back.” (cf. (4b))

- c.  $\exists e$  (Stab(e) & Past(e) & Agent(e,brutus) & Theme(e,caesar) & With-a-knife(e))

“There was a stabbing whose agent was Brutus, whose theme was Caesar, and which was a stabbing with a knife.” (cf. (4c))

- d.  $\exists e$  (Stab(e) & Agent(e,brutus) & Theme(e,caesar))

“There was a stabbing whose agent was Brutus and whose theme was Caesar.” (cf. (4d))

Similarly, the analysis accounts for the fact that (4a) entails the conjunction of (4b) and (4c); if there was a stabbing of Caesar by Brutus with a knife in the back, it follows that there was a stabbing of Caesar by Brutus in the back and that there was a stabbing of Caesar by Brutus with a knife. Conversely, it also follows that the conjunction of (4b) and (4c) does not entail (4a). This is so because (4b) and (4c) may refer to two different events, one where Caesar was stabbed in the back (with an ice pick) and one where he was stabbed with a knife (in the thigh), whereas (4a) requires there to be one single event of stabbing Caesar such that the instrument used was a knife and the place he was stabbed was in the back.

A competing analysis of adverbs, the “polyadic” analysis, accords each adverb its own argument place in the verb. Compared with the Davidsonian account, this one is less attractive because it is committed to the claim that (for instance) the verb in (4a) (*Brutus stabbed Caesar in the back with a knife*) is a four-place predicate, whereas the verb in (4d) (*Brutus stabbed Caesar*) is a different (but homophonic) two-place predicate.

Multiplying verb meanings, this analysis obscures the logical entailment between (4a) and (4d).

Actually, there is one way to treat adverbs as arguments of the verb and still capture the entailment between (4a) and (4d): if we assume that (4d) contains a four-place predicate, just like (4a), and that, unlike the predicate in (4a), the one in (4d) is elliptical. Even though (4d) contains no visible modification for time or place, it would mean “Brutus stabbed Caesar somewhere, with something.”

Including *somewhere* and *someone* in the interpretation of (4d) would get the meaning right in (4d) and would capture the logical relation between (4a) and (4d). Still, it would not work in the general case because, in principle, a great many adverbs can be added (*at seven, in front of everyone, on a night in March, etc.*). However, this makes it impossible to state how many adverbial argument places a given verb has, and we would not know how to interpret it semantically.

A related shortcoming of this improved version of the polyadic analysis is that many adverbials are genuinely optional (Parsons 1990). Stabbings, for instance, can be described as taking place next to someone, but they do not have to (most stabbings do not take place next to anyone). On a view that treats adverbials as arguments of the verbs and existentially quantifies into the place of the “missing” modifier, this is unexpected; if one stabbing takes place next to a guard, for instance, then every instance of *stab* has to be analyzed as taking place next to someone. On the other hand, if verbs introduce event arguments and if adverbials are analyzed as predicates of these events, it is not problematic that adverbials can, in principle, be iterated forever. Nor is it problematic that many adverbials are genuinely optional in the sense that when they are left out, no implicit existential quantification can be assumed to take the place of the argument within the adverbial.

Thus, analyzing adverbials as predicates of events accounts for the entailment pattern in (5) and captures the fact that adverbial modification can be genuinely optional. A simple polyadic analysis that treats adverbials as arguments of the verb cannot capture the entailment patterns; and although a more elaborate version of this analysis does capture the entailments, it has a hard time accounting for optionality.

But the possibilities have not been exhausted yet. A third account of adverbs—one that treats them neither as arguments nor as predicates—analyzes adverbials as operators that apply to VP meanings and return

VP meanings. Since this account does not treat adverbials as arguments of the verb, it can easily capture their readiness to iterate; in other words, there is no polyadicity problem. Nor is it difficult to do justice to the fact that they can be genuinely optional. The difficulty with this kind of analysis is rather subtle. Although it captures some of the entailments observed in (4), it does not capture all the entailments it should. This is shown by the following argument from Parsons 1990.

Treating (for instance) both *with a knife* and *violently* as operators predicts that one modifier will be able to take scope over the other. (7), for instance, should be scopally ambiguous between (8a) and (8b): in one case *with a knife* takes wide scope, in the other case *violently* does.

(7) Brutus stabbed Caesar violently with a knife.

- (8) a. [with z(violently(stabbed(y)))](x)  
 b. [violently(with z(stabbed(y)))](x)

(8a) entails that x stabbed y violently, but not that x stabbed y with z. In contrast, (8b) entails that x stabbed y with z, but not that x stabbed y violently. The point is that (7) entails both, namely, that x stabbed y violently and that x stabbed y with z. On the operator analysis, this would follow only if we could point to a scopal ambiguity of (7), as shown in (8a) and (8b). Yet speakers do not perceive (7) as being ambiguous in that way. (7) is not scopally ambiguous, and yet it has both entailments. The two entailments follow directly on Davidson's analysis because each adverbial forms its own conjunct. Leaving out the *knife* conjunct, it follows that Brutus stabbed Caesar violently; leaving out the *violent* conjunct, it follows that Brutus stabbed Caesar with a knife.

- (9)  $\exists e$  (Stab(e) & Past(e) & Agent(e,brutus) & Theme(e,caesar) & Violent(e) & With-a-knife(e))  
 "There was an event of stabbing whose agent was Brutus, whose theme was Caesar, which was violent, and which was a stabbing with a knife."

In sum, an analysis that treats adverbials as predicates of events explains all the logical entailments that we find in examples like (4) and (7), and it fits naturally with the facts that adverbials can be iterated freely and that many of them are genuinely optional. Competing analyses of adverbials—the polyadic analysis and the operator analysis—fare less well.<sup>1</sup>

### 1.4 Why So Much Decomposition?

All the entailments in (4) would also be explained on a less radical account: sentences are descriptions of events; only the adverbial modifiers form their own conjuncts; the traditional arguments of the verb are not separated (i.e., the verb remains polyadic). This is in fact the kind of analysis proposed originally by Davidson (1967). On this view, (4a) translates as follows:

- (10)  $\exists e$  (Past(e) & Stab(brutus,caesar) & With-a-knife(e) & In-the-back(e))

In keeping with the principle of least effort, one may wonder why decomposition should be more radical than this, as I have assumed so far and will in fact assume throughout. One reason for full-fledged decomposition involving the separation of arguments into their own conjuncts is that there are theta-marked arguments that are genuinely optional. These arguments do not have to be lexically realized; moreover, they are not semantically “implicit” when they are absent. Thus, in a relevant sense these optional arguments behave like the optional adverbial modifiers that were discussed above.

Parsons (1990, 97ff.) argues that the theme of *stab* is genuinely optional because we can coherently say *Brutus stabbed and missed*. *There is nothing that he stabbed*. Many arguments that are realized as datives are genuinely optional as well. For instance, it is possible to say *Mary wrote a note* without implying that she wrote the note to someone. Similarly, we can say *He said something* without entailing that he said it to anyone. If arguments form their own conjuncts and are tied to the verb only through their theta-roles, we can capture this alternation without having to posit that verbs like *stab*, *write*, and *say* are ambiguous, which certainly seems desirable. This is not possible on a polyadic analysis of verbs; on this view there would have to be two verbs *say*, for instance, *say x* and *say x to y*.<sup>2</sup>

Thus, separation captures the entailment patterns found with genuinely optional arguments. An independent argument for separation comes from sentences like (11) (Schein 1993, chap. 4).

- (11) Three video games taught every quarterback exactly two new plays. This sentence has various readings. On one interpretation it is construed as saying that each of three video games is such that it taught every

quarterback two new plays, where the plays may vary according to the quarterbacks. On a similar but inverse scope reading it says that for every quarterback it holds true that three possibly different video games taught him two possibly different new plays. Here, the video games can vary relative to each quarterback, and the new plays can vary relative to each of the video games.

Although possible, these readings are not the ones that come to mind first. The most salient reading of (11) seems to be this: As in the first reading, the quantifiers take the scope that corresponds to their surface order. Unlike in the first reading, though, here it is left vague how the video games relate to the quarterbacks. The reading distributes new plays with respect to quarterbacks, but is not committed in any way as to which video game taught what to whom; all that is claimed is that three video games altogether were teaching games. This reading can be paraphrased as follows: “There was a teaching where three video games were the teachers, and that teaching resulted in every quarterback’s learning two new plays each.”

As the paraphrase makes clear, what the video games do (namely, teach) and what happens to every quarterback (he is taught two new plays) have to be treated as separate (though related) matters. The point now is that we can keep what the video games do apart from what the quarterbacks experience if the subject (*three video games*) is separated from the rest into its own little event description—there was an event where three video games did some teaching—and that event results in a related event whereby every quarterback learns two new plays. But if the subject is to describe its own little event, it cannot be a direct argument of the verb. Thus, the third interpretation of (11) offers an independent argument for the separation of arguments.<sup>3</sup>

The claim then is this. Although Davidson’s original arguments only show that sentences are descriptions of events and that adverbs are direct predicates of events, there are reasons to assume even more decomposition. Not only do adverbial modifiers form their own conjuncts; what are traditionally considered the arguments of the verb should also be interpreted as separate conjuncts. The analysis of focus developed in chapters 2 and 3 will make extensive use of this kind of event semantics. I trust it will also provide a further argument showing that the traditional polyadic analysis of verbs is too simple-minded and that investing in a somewhat more complex Davidsonian decomposition has empirical payoffs that more than make up for the initial investment.



One final thing worth noting about separation is this. To make sure that the translations get the truth-conditions right, theta-roles have to be seen as being assigned exhaustively (see, e.g., Larson and Segal 1995, 485). (12), for example, is interpreted as in (13).

(12) Romeo kissed Juliet.

(13)  $\exists e$  (Agent(e,romeo) & Kiss(e) & Past(e) & Theme(e,juliet))

We want (13) to capture that Romeo was the one kissing and that Juliet was the one being kissed by him. The concern now is that unless something further is said, (13) does actually not deliver this result; concentrating on Romeo, (13) only claims that there was a kissing and that Romeo was an agent in it. But this could be true if Romeo persuaded someone else to kiss Juliet and he himself did not kiss her! Clearly, this is not what (12) means. It follows that Romeo is not just some agent or other in the kissing event, but in fact the kisser, if theta-roles are assigned exhaustively such that when a theta-role is assigned to a given noun phrase, the individuals denoted by that noun phrase are all its bearers and its only bearers. Now that Romeo is the sole agent in the kissing event, it correctly follows that he—and not somebody else—kissed Juliet.

## Chapter 2

---

### Negated and Nonnegated Sentences

#### 2.1 Introduction

Pragmatically, it would make sense to utter (1a) in a stretch of discourse where we are discussing who wrote a poem. It would be less felicitous to use this sentence if what we are discussing is what Rosalía wrote; instead, it would be appropriate to use the minimally different (1b).

- (1) a. ROSALIA wrote a poem.  
b. Rosalía wrote A POEM.

The reason (1a) and (1b) are felicitous in different discourse environments is that even though they have the same logical entailments, they are intuitively about different things: (1a) is about writing a poem, (1b) is about what Rosalía wrote.

In this chapter I propose to capture the effect illustrated in (1) by analyzing focus as imposing a certain amount of structure on the event quantification introduced in chapter 1. I do not deny that focus has pragmatic repercussions. However, I argue that these are derivative on the restructuring effect of focus. I also discuss the interaction between focus and negation. Whereas in simple affirmative sentences the quantificational structure that focus imposes only affects what the sentence is about, in negated sentences the very same effect not only shapes the sentence's "aboutness," but also—depending on the way the restricted event quantifier interacts with the scope of the negation—gives rise to different logical entailments.

I would like to make a preliminary point here to delimit the scope of the discussion in this chapter and to perhaps avoid misunderstandings. I will concentrate on the meaning effects of focus, leaving as a separate and largely undiscussed issue its phonological realization through stress.